

LAW OFFICES OF
MICHAEL W. STAMP

Michael W. Stamp
Molly Erickson
Olga Mikheeva
Jennifer McNary

479 Pacific Street, Suite One
Monterey, California 93940

Telephone (831) 373-1214
Facsimile (831) 373-0242

September 17, 2013

Via Hand Delivery

Fernando Armenta, Chair
and Members of the Board of Supervisors
County of Monterey
168 West Alisal Street, 1st Floor
Salinas, CA 93901

Subject: Agenda item 7.1 (added via addendum after 4:15 PM on Friday)
County plans' inconsistency with Fort Ord Reuse Plan

Dear Chair Armenta and Members of the Board of Supervisors:

This Office represents Keep Fort Ord Wild and The Open Monterey Project. We submit these comments on the matter of the 2010 Monterey County General Plan consistency with the Fort Ord Reuse Plan.¹ KFOW and TOMP also join in the comments of LandWatch and the Sierra Club.

The County 2010 General Plan is inconsistent with the Reuse Plan in significant material ways. Some of the problems are explained below.

California Environmental Quality Act (CEQA)

It appears that the County has positioned itself as the lead agency under CEQA for this project. Is it the County position that the County is the lead agency?

Inconsistency #1:

Fort Ord Does Not Have a Long Term Sustainable Water Supply.
Contrary to County General Plan Policy PS-3.1

The County policy PS-3.1, as amended, states that there is a rebuttable presumption that all development in Zone 2C has a long term sustainable water supply. Fort Ord is in Zone 2C. Large parts of Fort Ord, including land designated for the County, are not over a usable groundwater aquifer. Other parts of Fort Ord are over the aquifers that are seawater intruded. Other parts of Fort Ord are over the contaminated groundwater. The rebuttable presumption of a long term sustainable water supply is inconsistent with reality. It also is inconsistent with the Fort Ord Reuse Plan.

¹ The proper name of the document is the Fort Ord Reuse Plan. The County repeatedly and incorrectly refers to the document as the "Base Reuse Plan."

The presumption ignores the very serious water supply issues and limitations in the Reuse Plan and in the County/Army/MCWRA agreement.

Lack of available water supply is a significant issue. The Reuse Plan and the EIR calls water a "scarce resource" and is concerned with water's "scarce resource availability" (p. 197). The Reuse Plan Table 3.11-2, "Allocation of Existing Potable Water Supply by Jurisdiction," states that Monterey County has a "total water allocation" of 545 acre feet per year at the former Fort Ord. That very limited supply is inconsistent with the General Plan's presumption of a long term sustainable water supply. And as we explain elsewhere, the 545 AFY figure is more water than actually exists or has been documented.

- 3.11.5.4 (d) Water Supply Management and Augmentation Programs. The management of existing groundwater supplies, water conservation, and providing alternative sources of water supply are all necessary water management measures required to implement the objectives of the Reuse Plan. Development beyond the limits defined in the DRMP will be allowed only upon the augmentation of existing water supplies.
- 1) Protection of Yield and Quality of Water Supplies. Pumping from the on-site well-water supply for FORA has been shown to [a]ffect the extent of seawater intrusion into the shallow aquifers.

(Republished Fort Ord Reuse Plan, p. 199, underlining added for emphasis.)

The Fort Ord Reuse Plan policies require:

3.11.5.4 Management of Water Supply
Water supply is a central resource constraint for development of Fort Ord. Insuring that development does not exceed the available water supply and safe yield is a major component of the DRMP. The following measures ensure that development is managed within this resource constraint.

(Republished Fort Ord Reuse Plan, p. 196, underlining added for emphasis.)

Land Use Jurisdiction Responsibility. Development projects approved by each land use jurisdiction will require a finding by that land use jurisdiction that the project can be served with their jurisdictional water allocation or by water imported to the former Fort Ord from another available water source.

FORA Responsibility. If projects approved by the land use jurisdictions cannot be served by water supplied by the FORA water purveyor from the jurisdiction's allocation or by water imported to the former Fort Ord from another available water source, the FORA Board will be required to determine that the project is Not Consistent with the Reuse Plan.

(Republished Fort Ord Reuse Plan, p. 197, underlining added for emphasis.)

- Managed Water Supply. Assure a sufficient water supply for the major economic and employment-generating uses, so as to accommodate 16,000 to 18,000 replacement jobs at the former Fort Ord by the time the 6,600 acre feet/year of available water is in use.
- Managed Residential Development. Monitor residential development so that demand for water does not outstrip the available supply for employment-generating uses in the 2015 period.

(Republished Fort Ord Reuse Plan, p. 187, underlining added for emphasis.)

The Plan sets a standard as follows:

Water supply should be guaranteed and available before any building permits are issued.

(Republished Fort Ord Reuse Plan, p. 192, underlining added for emphasis.)

FORA Master Resolution section 8.01.010, subdivision (h) states in pertinent part as follows:

No development will be approved by FORA or any land use agency or local agency . . . unless and until the water supplies, wastewater disposal, road capacity, and the infrastructure to supply these resources to serve such development have been identified, evaluated, assessed, and a plan for mitigation has been adopted as required by

California Environmental Quality Act ("CEQA"), the Authority Act, the Master Resolution, and all applicable environmental laws.

In that same section, subdivision (j) states as follows:

The Authority will record a notice on all property in the Fort Ord Territory advising all current and future owners of property . . . that development of such property is limited by the Reuse Plan, the policies and programs of the Authority, including the Master Resolution, and/or the constraints on development identified in the Reuse Plan, including lack of available water supply . . .

The Reuse Plan alludes to an "existing potable water supply of 6,600 afy" (e.g., p. 197) which is reliance on paper water – the Army/MCWRA agreement from the 1990s. That agreement purported to transfer water rights, but the Army had no right to transfer groundwater rights in that way, and MCWRA, which does not own land at Fort Ord, had no right to hold any overlying groundwater rights at Fort Ord. The 6,600 AFY has been improperly relied on by the agencies. No environmental review has ever been done of the actual amount of water available to Fort Ord, and its sustainability, or lack thereof.

Further, the EIR on the Fort Ord Reuse Plan specifically stated that the 6,600 acre feet could only be used if the pumping did not exacerbate seawater intrusion:

Through an agreement between the Army and MCWRA, 6,600 acre feet per year (afy) of water is available from the Salinas Valley groundwater basin for former Fort Ord land uses, provided that such provisions do not aggravate or accelerate the existing seawater intrusion.

(EIR, p. 4-49.) Of course, since the EIR was certified, the pumping of the Salinas Valley Groundwater Basin has aggravated and accelerated the existing seawater intrusion, as County records demonstrate. For this reason, under the EIR, the 6,600 AF pumping should not be allowed now, even if it were a valid pumping right, which it is not.

The EIR expressed serious concerns with the water supply for Fort Ord, as shown here:

By reason of an Army agreement with the Monterey County Water Resources Agency (MCWRA), a potable water supply of 6,600 afy is assumed to be assured from well water until a

replacement is made available by the MCWRA (provided that such withdrawals do not accelerate the overdraft and seawater intrusion problems in the Salinas Valley groundwater aquifer). The 6,600 afy of well water could support the first phase of development of the proposed project to the year 2015. . . . However, given the existing condition of the groundwater aquifer, there is public concern over the ability of the water wells to "assure" even 6,600 afy.

(EIR, p. 4-53, underlining added.) As a result, the EIR merely "assumed" that groundwater wells on the former Fort Ord would be able to supply 6,600 AFY. The EIR did not investigate whether that assumption was true, or what the environmental impacts would be.

The Reuse Plan required the County to do the following:

Hydrology and Water Quality Policy B-2: The City/County shall condition approval of development plans on verification of an assured long-term water supply for the projects.

(EIR, p. 4-55.) The County General Plan policy's rebuttable presumption (PS-3.1) is inconsistent with the Reuse Plan's requirement of a "verification of an assured long-term water supply."

In the past, Fort Ord got its water supply from the 180-foot and 400-foot aquifers, but those groundwater aquifers became so contaminated with seawater and manmade contaminants from the Army use, that those two aquifers' supply had to be abandoned due to permanently compromised water quality. Currently, Marina Coast Water District provides water to Marina and more than 99% of Fort Ord from the Deep Aquifers. Essentially all Fort Ord water is supplied by the Deep Aquifers.

All foreseeable development on Fort Ord will depend on additional withdrawals from the Deep Aquifers. The Deep Aquifers are at approximately 900 feet and 1200 feet below ground. The only studies of the Deep Aquifers show as follows:

- In the deep aquifers, the volume of stored groundwater is "small."
- Deep Aquifers are ancient water, not sustainable water.
- Recharge to the deep aquifers comes from the overlying shallower aquifers (180' and 400') which are contaminated by seawater intrusion.
- The safe yield of the Deep Aquifers is exceeded by current pumping.

(See enclosed materials on the Deep Aquifers, environmental analysis of development at Fort Ord, and FORA water allocation.)

The baseline groundwater pumping at the three MCWD wells is 2,400 AF [which is a total of] 1,750 AFY from layer 3, and 650 AFY from layer 4. (WRIME, Marina Coast Water District Deep Aquifer Study, 2003, p. 4-1.) All the figures indicate that groundwater heads will continue to decline in almost all aquifer layers if groundwater production from the deep aquifers is increased significantly from baseline levels [of 2400 AF]. (WRIME, Marina Coast Water District Deep Aquifer Study, 2003, p. 4-7, p. 4-1 (baseline).) In 2011, Marina Coast pumped 4,046 AF from the Deep Aquifers. (Marina Coast Water District, 2011 well production summary.) That is more than 1600 AF over the baseline amount of 2400 AF, which, if exceeded, will cause seawater intrusion in almost all aquifer layers.

"Water levels in the Marina area deep aquifers have been substantially below mean sea level since the initiation of extractions." (WRIME, Marina Coast Water District Deep Aquifer Study, 2003, p. 5-1.) Geologic, hydraulic, and geochemical data all suggest the "deep aquifer" to be two distinct aquifers. (WRIME, Marina Coast Water District Deep Aquifer Study, 2003, p. 5-1.) "[S]torage coefficients suggest that the volume of groundwater in storage in the lower [Deep] aquifers is small." (WRIME, Marina Coast Water District Deep Aquifer Study, 2003, p. 5-1.) The Salinas Valley Water Project EIR does not analyze the deep aquifer. The EIR merely makes brief mentions in passing. (Salinas Valley Water Project EIR, 2001 and 2002.)

A safe yield (discussed in the Army's Final EIS, Volume I, page 4-57) is that amount of water that can be pumped annually on a long-term basis without causing undesirable effects, the greatest of which in the Fort Ord area are excessive drawdown which precipitates seawater intrusion. A drawdown associated with well pumping creates a downhill gradient vis-a-vis the seawater. The seawater will then flow (through capillary action) inland and down gradient toward the wells. It is such a situation that occurred over a period of years which precipitated the U.S. Army to relocate its [shallow-aquifer] wells further inland in 1986. (Fort Ord Reuse Plan Final Program EIR, 1997, Volume II, p. 27-28.)

Limiting future development to a safe yield water supply without any regional approach to ameliorate seawater intrusion would require a significant reduction in well pumping along the entire Monterey County coastal area. This would result in massive economic impacts to farmers and would be expected to significantly reduce Fort Ord development opportunities and options. Of course, to not limit use of water to a safe yield level will also result in a similar outcome. (Fort Ord Reuse Plan Final Program EIR, Volume II, p. 28.)

"The exact nature of the connection between the Deep Zone and the ocean is unknown. Seawater intrusion has not been detected in Deep Zone wells, but there is

no evidence indicating that the Deep Zone is not connected to the ocean. Lacking this evidence, it must be assumed that the Deep Zone, like the 180-foot and 400-foot aquifers above it, is connected to the ocean and vulnerable to seawater intrusion if ground water levels fall below sea level. Similarly, the aquitards between the 400-foot and the Deep Zone are subject to leakage of degraded water downward to the Deep Zone as the water level is lowered.” (Fort Ord Reuse Plan Final Program EIR, Volume II, p. 32-33.) “The hydrogeologic interpretation of the deep aquifers raises questions regarding the nature and magnitude of recharge to these aquifers. . . . [T]he low estimates for storage coefficients for this aquifer system suggest that the volume of groundwater that can be removed from storage is not large.” (WRIME, Marina Coast Water District Deep Aquifer Study, 2003, p. 2-32.)

The County General Plan and the Fort Ord Master Plan are inconsistent with these FORA policies described in this letter and other FORA policies because of the County’s presumption of long term sustainable water supply in Zone 2C. The County has failed to state how the presumption can be rebutted in Fort Ord. Monterey County and MCWRA are attempting to use the rebuttable presumption under General Plan policy PS-3.1 in place of proof of actual (wet) sustainable water supplies. The effort fails, and the effort is inconsistent with CEQA, CEQA’s policies and goals, and CEQA case law. These are very serious inconsistencies. As a long line of CEQA cases hold, water is too important to be given such cursory treatment.

Inconsistency #2:

The Fort Ord Area Plan Does Not Comply with the Land Swap Agreement

The Land Swap Agreement is a contract between the County and other agencies. It is a binding agreement. The County and other agencies have relied on the contract to take several actions to implement the land swap agreement. The County General Plan and Fort Ord Master Plan do not reflect the land swap in numerous significant and material ways. The County statements to the contrary are not accurate (e.g., the first and sixth whereas on page two of the proposed resolution). We provide here some specific examples of what the Land Swap Agreement required, the County’s violation of the Land Swap Agreement, the lack of consistency, and the inaccuracy of the proposed County resolution.

Master Plan/Land Swap Violation 2A: The Land Swap Agreement traded residential density at Parker Flats for increased residential density at East Garrison. Pursuant to the Land Swap Agreement, the County increased the residential density at East Garrison, and adjusted the County plans accordingly. However, the County did not reduce the residential density at Parker Flats as the County has agreed in the Land Swap Agreement. That is a breach of contract and a violation of the purpose and terms of the Agreement: a trade.

The Parker Flats area is an area of dense oak woodlands. The Land Swap Agreement was to protect the oak woodlands and adjacent area as habitat, as described in the agreement and the assessment.

To resolve the land use conflicts posed by competing requests in the East Garrison Area, and to meet the County's need for developing work-force housing at former Fort Ord, MPC, the County and FORA have generally agreed to an exchange of uses between the Parker Flats and East Garrison areas. Under the agreement, MPC would locate its law enforcement training center and EVOC facility at Parker Flats. MPC would reuse existing Range 45 just south of Parker Flats and also be granted management responsibility of the former Military Operations/Urban Terrain (MOUT) facility for use in cooperation with other law enforcement agencies. The County would pursue community-based residential development at East Garrison instead of Parker Flats and would accommodate other potential East Garrison stakeholders.

(Land Swap Agreement Assessment, p. 8.) The County accommodated MPC as described in the Agreement, but the County did not transfer away its residential designations or policies applicable to Parker Flats, which violated the Agreement. The Agreement was for Parker Flats Area would have "all housing eliminated" (Land Swap Agreement Assessment, p. 9, § 3.2.2).

The Parker Flats area is comprised of several HMP polygons (E19a series, E21a, E21b series, L23.2) and Base Reuse Plan polygons (19a and 21 a, b, c) that are all designated for development without restrictions. The Parker Flats area occupies about 1200 acres in the central part of the former base generally bounded by Watkins Gate Road, the Multi-Range Area (MRA) and the NRMA on the south, Gigling Road and lands of California State University (CSUMB) on the north, the City of Seaside city limits on the west

(Land Swap Agreement Assessment, p. 9, footnote deleted.) "NRMA" refers to the property of the Bureau of Land Management, and now is the National Monument.

Under the Agreement, the Parker Flats development was to change: residential development was to be eliminated.

The Base Reuse Plan designates the Parker Flats area primarily for low density residential, commercial, office and light industrial development. It also anticipates opportunities for equestrian center, hotel resort and golf course development in the area.

3.3.2 Proposed Parker Flats Land Uses

The modifications proposed for Parker Flats would change the Base Reuse Plan designations for the area by removing the residential, light industrial, golf course and other uses to accommodate the MPC officer training and EVOC facilities.

(Land Swap Agreement Assessment, p. 11.)

The County increased residential density at East Garrison, that increased density would not have happened but for the Land Swap Agreement. After the increase, the East Garrison development ended up larger – more units and with more acreage – than the County had originally planned. The County sacrificed the habitat at East Garrison as a tradeoff for protecting the habitat at Parker Flats. There was no environmental review of the Land Swap Agreement because environmentalists believed that there was an adequate trade. But it is not a tradeoff. The County got what it wanted at East Garrison, but has violated the agreement because the County has not fulfilled its contractual commitment to amend the plans and policies that affect Parker Flats.

After the Land Swap Agreement was executed, the County did not amend its Fort Ord plan. Further, in its General and master plans (former and current), the County did not reduce the allowable development and density at Parker Flats. As a result, the County plans are vertically inconsistent with the County contracts, which is illegal.

The County has not designated its land in Parker Flats pursuant to the Land Swap Agreement.

4.1.2 Parker Flats

The existing HMP land use designation for most of the Parker Flats area is development with no restrictions. The proposed modifications would require boundary adjustments to designate approximately 380 acres adjacent to BLM's NRMA and the central habitat corridor polygon (HMP polygon L20.2.1) as habitat reserve. Approximately 70 acres of oak woodlands within the proposed Monterey Horse

Park area would also need to be designated as habitat reserve . . .

(Land Swap Agreement Assessment, p. 17.)

“Development with no restrictions” means no development, pursuant to the Habitat Management Plan that has been adopted by FORA and the County. (See Habitat Management Plan, p. 19.) In contrast, “Development with Reserve Areas” are “habitat reserve requirements that apply to a portion of a larger area” (Republished Fort Ord Reuse Plan, p. 7.)

The Parker Flats development footprint as proposed (Figure [8]) would result in the preservation of about 249 acres of oak woodland, 196 acres of maritime chaparral and 18 acres of grassland habitats that were not anticipated for preservation in the HMP (Table 3).

(Land Swap Agreement Assessment, p. 19.)

Under the Land Swap contract, the County committed itself to, but failed to carry out, the following action:

The area proposed for use as the Monterey Horse Park, as illustrated on Figure 5 in this report, shall be designated as development with reserve area and restrictions An approximately 150-foot wide section of a proposed cross-country course shall be allowed through the eastern end of oak woodland reserve, or possibly through the oak woodlands and grasslands to the east of the Horse Park area, but shall be sited and designed to minimize vegetation removal and maintain wildlife movement corridors between habitat reserves. Any other trails and courses through habitat reserves shall use existing or realigned roads and trails. No buildings, grandstands, corrals, parking areas or other developments shall be allowed in designated habitat reserves.

(Land Swap Agreement Assessment, p. C-2, underlining added.) The County has not implemented these land designations “as development with reserve area.” Instead of prohibiting development in designated habitat reserves, the County has thrown its full weight behind constructing the Eastside Parkway, a brand new road that would cut across the area that is required to be “designated habitat reserves” under the County contract.

Master Plan/Land Swap Violation 2B: The Land Swap Agreement makes the Eastside Parkway no longer desirable or planned as a primary travel route.

With the proposed modifications, Parker Flats would become less of a destination or source of traffic, almost certainly reducing travel on these connector roads below the levels that would have accompanied HMP buildout.

(Land Swap Agreement Assessment, p. 16, underlining added.)

Inter-Garrison Road and Reservation Road (via the future road corridor connection) are expected to be the primary travel routes servicing East Garrison . . . [not a future Eastside Parkway]

(Land Swap Agreement Assessment, p. 17.)

However, the County plans do not reflect that change or the reduction in Parker flats as a destination and source of traffic. Instead, the County plans still show Eastside Parkway as a major roadway through Parker Flats. And the County and FORA have aggressively push to build Eastside Parkway. The County and FORA approved a specific alignment for the road, and the road's 90% plans have already been prepared by the engineer. FORA's environmental consultant has recommended an EIR due to the major impacts that the proposed road would have.

Master Plan/Land Swap Violation 2C: The Land Swap Agreement says this:

The parties acknowledge that the portion of Eucalyptus Road identified as Segment L20-18 will be closed, and that Eucalyptus Road will be re-routed to avoid habitat around the easterly side of MPC's facilities within Polygons 19a, 21a, 21b and 21c.

(Land Swap Agreement Assessment, p. 4.) This material term of the Agreement has already been significantly violated in two ways: (1) FORA has already extended Eucalyptus Rd. into L20.18 and (2) alignment of the ESP continues to ignore this term of the Agreement.

In fact, Eucalyptus Road was not re-routed around the identified habitat. The location of the newly developed large Eucalyptus Road directly affects the identified habitat. The location also directly affects the designated plant reserve that is protected under Army agreements, called in some documents the "MPC reserve" or similar. (See, e.g., "MPC Reserve" on Figures 5 and 6 of the Agreement Assessment, and p. 11 of the Agreement Assessment, referring to "a relatively small (+15-acre) parcel (HMP

polygon L23.2) is a PBC transfer as a plant reserve and outdoor teaching facility for the MPC Biology Department.”)

As a whole, the County has not conformed its Master Plan to all of the terms of the Land Swap Agreement. The County has cherry-picked the terms of the Agreement that the County has implemented (e.g., intensified development at East Garrison, accommodating MPC uses). At the same time, the County has refused to implement key terms including the elimination of residential development at Parker Flats. Under the doctrine of equal dignities, the County’s highest planning documents – the General Plan and Master Plan – must be amended to reflect the Agreement.

Inconsistency #3:
A Veterans Cemetery Is Not in the Fort Ord Reuse Plan,
Contrary to the 2010 County Fort Ord Area Plan

The County Master Plan includes a Veterans Cemetery. But there is no Veterans Cemetery in the adopted Fort Ord Reuse Plan. This is a significant inconsistency between the plans. A Veterans Cemetery has not been evaluated under CEQA by any agency.

Supervisors Potter, Calcagno and Parker are aware that there is no Veterans Cemetery in the adopted Fort Ord Reuse Plan because they sit on the FORA Board where that omission has been a big issue. This Office made a presentation to the FORA Board. In that presentation, we showed that the adopted 1997 Reuse Plan map was later doctored. The map was doctored to add a designation that said “VC” and to label an area on the map as “VC.” The doctored map was not adopted by the Board and was not evaluated under CEQA. FORA staff has admitted that the doctored map showing the VC has not been adopted by the FORA Board.

We enclose the presentation in which we showed how the doctored map came about. The County documentation is clear that the County relied on the inaccurate and unadopted map on the FORA website in order to create the County’s map in the Fort Ord Master Plan. We have an email from Carl Holm that confirms that when the County prepared the Fort Ord Master Plan in the 2010 General Plan, the County relied on the doctored Land Use Concept Map on the FORA website. That email is dated after the Master Plan was prepared. The email is one of the County public records on this item.

Inconsistency #4
County Still Has Not Complied with Fort Ord Reuse Plan Policies
after Fifteen (15 Years)

The Fort Ord Reuse Plan was adopted in 1997. Now, 15 years later, the County still has not complied with the mandatory policies in the Reuse Plan. The General Plan

and Fort Ord Master Plan are not consistent with the Reuse Plan. As Attachment C admits, the County has not implemented numerous significant Reuse Plan policies and programs. Attachment C is not a complete or accurate list of the policies and programs that have not been implemented. Implementation of the County plans is not a different issue from the consistency of the County plans with the Fort Ord Reuse Plan.

The County deliberately has not complied with the Fort Ord Reuse Plan for 15 years. The County's lack of compliance for one-and-a-half decades with Plan policies and programs cannot be considered "consistent" with the Plan under any interpretation. The County should be embarrassed – both for its lack of compliance for 15 years, and its current brazen and wrongheaded insistence that it is in compliance.

The Last Board Meeting On This Issue

County planning staff emailed to us the planning staff's request for this item to be continued based on the absence of Supervisor Potter from the meeting. We asked Mr. Novo for a clarification of this issue, because it would not be productive for us to drive to Salinas if the item would be continued to a future date. Mr. Novo stated that he had intended that the continuance show on the face of the agenda.

On Friday afternoon, August 23, 2013, John Ford called me, stating that Mr. Novo had asked him to call. Mr. Ford told me: "Our intent is fully that it is to be continued. It did not get marked on the Clerk's agenda as continued. Because the continuance did not get on the agenda, the public hearing may be opened on August 27 in case anyone cannot be there on September 10. But Staff will make sure that the public hearing will stay open through September 10 so that the public can speak then. The full oral staff report will not be made until September 10." (Quoted words taken from my contemporaneous notes, underlining added for emphasis.)

Accordingly, we advised County Planning Staff of our intent not to attend the hearing for that reason. The Board went ahead and acted anyway. The Board took final action. The Board resolution 13-290 had been signed and published. It is a final action by the Board.

Enclosures

Enclosed are various records that have been obtained from files of the County and the Fort Ord Reuse Authority, or have been submitted to the County and FORA in the past. These records contain information referenced in this letter. The County no doubt is familiar with these records, which have been referenced in the past by our Office and by others, including LandWatch. To conserve resources, I enclose them in electronic format on a CD. I also include by reference the County's records showing the East Garrison development density changes, the MPC actions to implement the land swap, and other implementation of the land swap agreement. If the County wants

me to file a paper copy of any of these records with the County, please let me know and I will be happy to do so.

The County frequently provides records on CD. As one example, for today's hearing on this item, the County sent me the brief two-page staff report, and enclosed a CD containing the hundreds and hundreds of pages of attachments. The approach we take here is consistent with the County's approach.

Interests of Keep Fort Ord Wild and The Open Monterey Project


Keep Fort Ord Wild is an unincorporated association under California law. Keep Fort Ord Wild and its members are beneficially interested in the enforcement and application of environmental laws and laws assuring public disclosure and responsible decision making by local governments. Keep Fort Ord Wild and its members are beneficially interested in the way and manner that land use decisions are made and in the environmental consequences of development in Fort Ord, including the impacts of the Eastside Parkway project. Keep Fort Ord Wild has successfully litigated a California Public Records Act lawsuit against the Fort Ord Reuse Authority, resulting in the release of thousands of documents that FORA had kept secret.

The Open Monterey Project is an unincorporated association under California law. The Open Monterey Project and its members are beneficially interested in the enforcement and application of environmental laws and laws assuring public accountability of decision makers in local government. TOMP and its members are beneficially interested in the way and manner that land use decisions are made and in the environmental consequences of development throughout the County of Monterey. For more than ten years, The Open Monterey Project has actively participated in the public processes of Monterey County.

Conclusion

The County Plan is not consistent with the Fort Ord Reuse Plan. The Board should take the appropriate action to amend the County plans to make them consistent.

Very truly yours,


Molly Erickson

Fernando Armenta, Chair
and Members of the Board of Supervisors
September 17, 2013

Enclosures (on CD):

- (1) Presentation to FORA on Original 1997 Land Use Concept Map in Fort Ord Reuse Plan, and How in 2001 Veterans Cemetery was added to "map" without amending Fort Ord Reuse Plan, and therefore Cemetery is not in Plan Map; includes Original 1997 Land Use Concept Map in Fort ord Reuse Plan
- (2) Original 1997 Fort Ord Reuse Plan
- (3) Board approval A-09555 of Land Swap Agreement and Board report dated September 23, 2003
- (4) Assessment of Land Swap (2002)
- (5) Chart and Maps showing parcel numbers at the former Fort Ord
- (7) MCWRA maps showing seawater intrusion of 180' and 400' aquifers
- (8) (A) Records showing that available groundwater in deep aquifers is "small" and finite, has been carbon dated to show age over 10,000 years, is not being recharged, and is not sustainable.
(B) Water supply pumping records from MCWD - showing amount pumped from Deep Aquifer
- (9) MCWRA/Army agreement re Fort Ord
- (10) Eastside Parkway 90% plans (excerpts)
- (11) The Open Monterey Project letter objecting to the General Plan amendments, February 2013
- (12) Monterey County Weekly article
- (13) Monterey Herald article
- (14) Water Allocations at Fort Ord
- (15) Installation- Wide Multispecies Habitat Management Plan (excerpts)

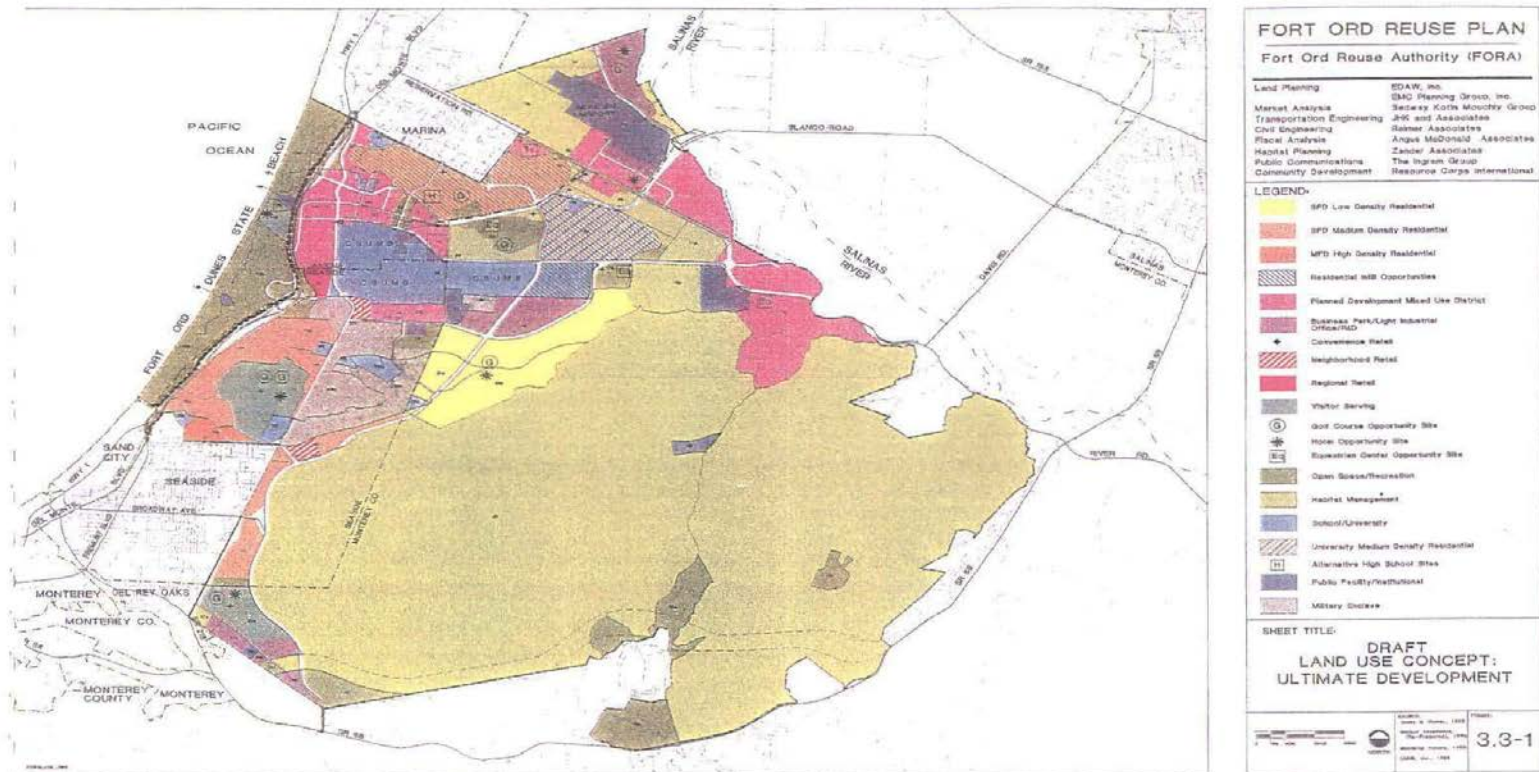
What Kind of Revised Land Use Maps Are Being Used by FORA?

Public Comments

Molly Erickson

Law Offices of Michael W. Stamp
on behalf of Keep Fort Old Wild

Adopted Base Reuse Plan



**But the adopted map is not on
FORA's website.**

**On FORA's website:
another version, not adopted**

Firefox | Fort Ord Reuse Authority | www.fora.org/resources.htm

FORT ORD REUSE AUTHORITY

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Base Reuse Plan | Capital Improvement Program | **Land Use Map** | Property Info Contact List | Building Removal Research |

Base Reuse Plan & Reassessment

FORA is performing a comprehensive reassessment of the 1997 Base Reuse Plan.

- Approximate timeline of the reassessment process

Scoping Report:
 The Scoping Report has been prepared to provide information to FORA and the community about the current status of reuse planning for the former Fort Ord area and related economic conditions. The report also includes public comments/information submitted to FORA and obtained in community workshops.

- Draft
- Addendum (Revised)--includes comments received through October 1, 2012
 Please note that the cover page refers to this document as the "second addendum" to the draft scoping report. The first addendum was Appendix D-2.1 (additional timely email comments)

Public Workshop, August 29, 2012:

- Video
- Transcript

Written comments received through September 4 have been incorporated into the [scoping report addendum](#), which is circulated as part of the current Board packet (Friday, September 7) for review at the Friday, September 14 FORA Board meeting. Any comments received after September 4 will not have time to be incorporated into the current packet, but will be forwarded to the Board as an attachment to the final scoping report. Additional opportunities for public comments on the reassessment will occur with the Reassessment Document publication this fall. Questions or comments? Email to: plan@fora.org

[Map Exhibits](#) from Community Workshops

[Slide presentations](#) from Community Workshops

Community Workshop Tables:

- Water
- Jobs

[www.fora.org/Fig 3_3-1.pdf](#)

RIGHT SIDEBAR:

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Taskbar: Fort Ord Reuse A..., Adobe Acrobat St..., Untitled - Paint | 9:21 AM 10/12/2012

The screenshot shows a web browser window with the address bar displaying "www.fora.org/fig 3_3-1.pdf". The main content area shows a PDF document titled "FORT ORD REUSE PLAN" by the Fort Ord Reuse Authority (FORA). The document includes a large map of the Fort Ord area, color-coded to show different land use zones. A legend on the right side of the map defines the colors and symbols used. Red arrows are drawn on the map, pointing to specific areas: one points to a yellow zone (BFD Low Density Residential) near the center, another points to a green zone (Open Space/Recreation) near the bottom left, and a third points to a pink zone (Planned Development Mixed Use District) near the bottom right. The legend includes categories such as "BFD Low Density Residential", "BFD Medium Density Residential", "BFD High Density Residential", "Redeveloped BTR Opportunities", "Heavy BTR Bypass ROW Development with Residences", "Planned Development Mixed Use District", "Business Park/Industrial Opportunity", "Convenience Retail", "Highway Retail", "Regional Retail", "Village Center", "Golf Course Opportunity Site", "Horse Opportunity Site", "Equestrian Center Opportunity Site", "Open Space/Recreation", "Habitat Management", "School/University", "University Medium Density Residential", "Alternative High School Sites", "Public Multi-Functional", "Military Enduse", and "Veterans Cemetery". The bottom of the page shows the "SHEET TITLE: LAND USE CONCEPT ULTIMATE DEVELOPMENT" and a scale bar.

The 2001 “revised” map adds “VC” (Veterans Cemetery) to the map.

The change was made by EMC Planning, under direction of Executive Officer Houlemard.

FORA has admitted that

**“The FORA Board did not take an
action to adopt Figure 3.3-1
(Rev. 7/30/01).”**

(FORA letter, October 9, 2012)

“Revised” Maps are Inaccurate, Misleading, and Deceptive

FORA Board should:

- 1. Acknowledge that the "revised" figures 3.3-1 and 3.3-2 have never been adopted**
- 2. Direct that the “revised” figures be removed from the FORA website**
- 3. Stop passing off the deceptive figures as the adopted official maps**

**It is a crime for a public official to
alter or falsify maps in his custody.**

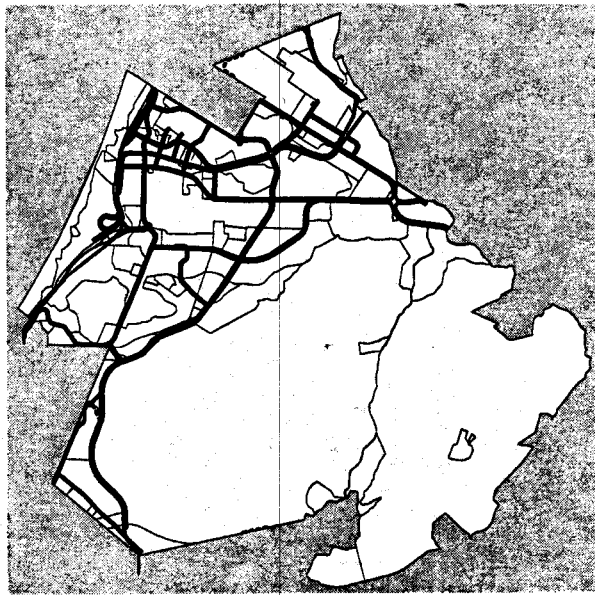
(Gov. Code § 6200)

**It is time for the FORA Board to
put an end to the deception.**

Public Draft

FORT ORD REUSE PLAN

Fort Ord Reuse Authority



May 1996

Draft

ENVIRONMENTAL IMPACT REPORT

EDAW, Inc. and EMC Planning Group, Inc.

TABLE OF CONTENTS

	Page
1.0 INTRODUCTION	
1.1 Background to the Project.....	1-1
1.2 Background and Purpose of the EIR.....	1-2
1.3 Intended Uses of the EIR	1-3
1.4 Focus of the EIR.....	1-4
1.5 Environmental Review Process.....	1-6
1.6 Areas of Known Controversy.....	1-6
1.7 Effects Found Not to be Significant.....	1-7
1.8 Organization of the Document	1-7
1.9 Index to Other Environmental Documents	1-8
2.0 SUMMARY	
2.1 Proposed Project.....	2-2
2.2 Summary of Setting, Impacts and Mitigation	2-3
2.3 Summary of Other CEQA Considerations.....	2-4
2.4 Summary of Alternatives Analysis	2-6
2.5 Summary Table	2-16
3.0 PROJECT DESCRIPTION	
3.1 Project Objectives	3-1
3.2 Land Use Concept	3-2
3.3 Project Plans and Programs	3-7
3.4 Local General Plan Modifications to Incorporate the Former Fort Ord Properties.....	3-9
3.5 Redevelopment Planning for Former Fort Ord Properties.....	3-9
3.6 Potential Changes in City, County and Special District Boundaries	3-6
3.7 Approvals and Permits Required by Local Governments and Regulatory Agencies	3-7
4.0 ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION	
4.1 Land Use	4-3
4.2 Socioeconomics.....	4-20
4.3 Geology and Soils	4-27
4.4 Public Services, Utilities and Water Supply	4-36
4.5 Hydrology and Water Quality	4-45
4.6 Public Health and Safety.....	4-53
4.7 Traffic and Circulation.....	4-65
4.8 Climate and Air Quality	4-90
4.9 Noise.....	4-98
4.10 Biological Resources.....	4-113
4.11 Visual Resources	4-143
4.12 Cultural Resources	4-151
4.13 UCMBEST	4-155

5.0 OTHER CEQA CONSIDERATIONS

5.1 Cumulative Impacts	5-1
5.2 Growth-Inducing Impacts	5-10
5.3 Significant Irreversible Environmental Changes	5-13
5.4 Unavoidable Significant Impacts	5-14

6.0 ALTERNATIVES

6.1 Alternative 6R	6-1
6.2 Alternative 7	6-8
6.3 Alternative 8	6-12
6.4 No Project Alternative.....	6-15

7.0 REPORT PREPARATION

7.1 List of Preparers	7-1
7.2 Persons and Organizations Consulted.....	7-1
7.3 Bibliography.....	7-3
7.4 List of Acronyms.....	7-4

APPENDICES

- A. Notice of Preparation
- B. Traffic: Background Information
- C. Caline 4 Modeling Worksheets

LIST OF FIGURES

After Page

3.1-1 Regional Context Map	3-1
3.2-1 Proposed Project Land Use Concept	3-4
3.2-2 Revised Land Use Areas	3-4
3.6-1 Sphere of Influence and Annexation Requests	3-10
4.1-1 Existing Development Pattern at Fort Ord	4-3
4.1-2 Generalized Land Use Setting	4-3
4.3-1 Major Soil Series and Types at Fort Ord	4-27
4.3-2 Water and Coastal Erosion Potential at Fort Ord	4-27
4.3-3 Soils with Excavation Caving and Piping Potential at Fort Ord	4-28
4.3-4 Soils with Low Strength at Fort Ord	4-28
4.3-5 Soils with High Shrink - Swell Potential at Fort Ord	4-28
4.3-6 Slope Map at Fort Ord	4-28
4.6-1 Groundwater Contaminant Plumes	4-56
4.6-2 Hazardous and Toxic Waste Sites (June 1995)	4-56
4.6-3 Expected Locations of Unexploded Ordnance at Fort Ord	4-59
4.6-4 Seismic Hazards	4-64
4.7-1 Existing Transportation Network	4-68
4.7-2 Proposed 2015 Transportation Network	4-78
4.7-3 Buildout Transportation Network	4-78
4.7-4 Roadway Design Standards	4-87
4.7-5 Proposed Bicycle Network	4-90
4.9-1 1991 CNEL Noise Contours for Monterey Peninsula Airport	4-105
4.9-2 Construction Equipment Noise Ranges	4-106
4.9-3 Forecast Year 2010 CNEL 65dB Noise Contour for Monterey Peninsula Airport	4-113
4.9-4 2015 Noise Contours for Marina Airport	4-113
4.10-1 Biological Communities at Fort Ord	4-118
4.11-1 Existing Views of East Garrison and Silas B. Hayes Hospital	4-145
4.11-2 Existing Views of Coastal Dunes and Land East of SR 1	4-146
4.11-3 Existing View of Main Entrance	4-146
4.12-1 Archaeological Resources Sensitivity	4-152
4.13-1 UCMBEST Land Use	4-157
4.13-2 UCMBEST Parcelization/Land Use Strategy	4-157
4.13-3 UCMBEST Landscape Concept	4-157
4.13-4 UCMBEST Center of Business Development Plan	4-157
6.1-1 Alternative 6R Land Use	6-3
6.2-1 Alternative 7 Land Use	6-8
6.3-1 Alternative 8 Land Use	6-12
6.4-1 No Project Alternative Land Conveyances	6-15

LIST OF TABLES

	Page
1.9-1 Index Table to Other Environmental Documents	1-9
2.4-1 General Characteristics of the Proposed Project and Project Alternatives	2-8
2.4-2 Comparison of Key Distinguishing Impacts of the Proposed Project and Project Alternatives	2-9
2.5-1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan	2-16
3.2-1 Revised Land Use Areas	3-5
4.2-1 Historical and Projected Population of Monterey County and Cities within Monterey County	4-20
4.2-2 1990 Jobs to Housing Units for Monterey County	4-22
4.2-3 Distribution of Employment Among Industrial Sectors	4-22
4.4-1 Estimated Public Services and Utilities Requirements	4-40
4.6-1 Hazardous and Toxic Waste Sites within Fort Ord	4-55
4.7-1 LOS Grades by Facility Type	4-67
4.7-2 2015 Transportation Infrastructure Improvement Summary	4-74
4.7-3 Regional Off-Site Roadway Facilities LOS Summary	4-79
4.7-4 On-Site Facilities LOS Summary	4-81
4.7-5 Roadway Design Standards	4-88
4.8-1 Federal and State Ambient Air Quality Standards	4-93
4.8-2 Attainment Status of the North Central Coast Air Basin	4-94
4.8-3 Thresholds of Significance Criteria for Pollutants of Concern Operational Impacts..	4-98
4.9-1 Weighted Sound Levels and Human Response	4-101
4.9-2 Monterey County's Land Use Compatibility Criteria for Exterior Community Noise	4-102
4.9-3 City of Marina Maximum Allowable Ambient Noise Exposure	4-103
4.9-4 Summary of Traffic Noise Analysis for Existing Conditions (1990-1992)	4-104
4.9-5 Distance Attenuation for Noise Near a Construction Site	4-107
4.9-6 Noise Level Performance Standards for Non-Transportation Noise Sources	4-109
4.9-7 Summary of Noise Modeling for the Draft Fort Ord Reuse Plan in 2015	4-110
4.10-1 Resources Considered in the HMP - "HMP Resources"	4-120
4.10-2 Resources Not Considered in the HMP - "Non-HMP Resources"	4-122
4.13-1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan for UCMBEST	4-157
5.1-1 Reasonably Foreseeable Future Projects in the Fort Ord Vicinity	5-1
5.2-1 Comparison of Baseline Conditions, AMBAG Projections, 2015 Projections, and Ultimate Buildout Projections	5-11

1.0 INTRODUCTION

Introduction

This Draft Environmental Impact Report (Draft EIR) has been prepared by the Fort Ord Reuse Authority (FORA) as the Lead Agency in accordance with the California Environmental Quality Act (CEQA) and implementing guidelines. The proposed project is the adoption of the *Draft Fort Ord Reuse Plan* (Reuse Plan) for the former military base known as Fort Ord.

As established by Senate Bill (SB) 899, FORA is a governing body, formed to accomplish the transfer of former Fort Ord property from the Department of the Army (Army) to the local communities. The Fort Ord Reuse Authority Act (Title 7.85, Section 67651(a)(b)(c)(d) of the Government Code) requires FORA to accomplish the following:

- a) To facilitate the transfer and reuse of Fort Ord with all practical speed;*
- b) To minimize the disruption caused by the base's closure on the civilian economy and the people of the Monterey Bay area;*
- c) To provide for the reuse and development of the base area in ways that enhance the economy and quality of life of the Monterey Bay community; and*
- d) To maintain and protect the unique environmental resources of the area.*

The proposed project is the intended vehicle for achieving these goals.

Section 67652(a) of the Government Code identifies the basis for establishing FORA as follows: "The policy set forth in Section 67651 is most likely to be achieved if an effective governmental structure exists to plan for, finance, and carry out the transfer and reuse of the base in a cooperative, coordinated, balanced, and decisive manner." FORA is governed by a 13-member board consisting of representatives from the following jurisdictions:

- City of Carmel
- City of Del Rey Oaks
- City of Marina
- City of Sand City
- City of Monterey
- City of Pacific Grove
- City of Salinas
- City of Seaside
- County of Monterey

1.1 Background to the Project

The former Fort Ord Base was downsized and realigned in 1991 pursuant to the Defense Base Closure and Realignment Act of 1990, commonly referred to as BRAC. Before former Fort Ord property can be transferred from military to civilian use, a reuse plan and an environmental review document on the reuse plan must be developed. This Draft EIR has been prepared to evaluate potential impacts to the environment under CEQA that may result from implementing the proposed *Draft Fort Ord Reuse Plan*, following disposal of former Fort Ord lands by the Department of the Army (Army).

A FORA Interim Reuse Plan was presented and analyzed in the Army's Final Environmental Impact Statement (FEIS) and approved by the FORA Board on December 12, 1994. The basis of the Interim Reuse Plan was driven in large measure by the desires and needs of the land use agencies involved. Based on early assessments of the Interim Reuse Plan and extensive outreach to the community, a series of plan refinements were developed and incorporated that addressed both the shortcomings in the original plan and the substantial number of refinements initiated by each of the land use agencies. The result is a revised plan, referred to as the *Draft Fort Ord Reuse Plan*.

The *Draft Fort Ord Reuse Plan* represents an ultimate buildout scenario for the reuse of the former Fort Ord over the next 40 to 60 years. The level of development proposed under the proposed project is consistent with the level of projected regional growth (as predicted by AMBAG until the year 2015). Some of the environmental impact analyses (e.g., projected traffic impacts) in Chapter 4.0 of this Draft EIR are based on the year 2015, in cases where specific requirements projected for a 40-60 year buildout could not be realistically determined. A description of the 2015 development scenario is provided in the *Draft Fort Ord Reuse Plan*. Table 5.2-1 in Chapter 5.0 of this Draft EIR also represents 2015 development scenario projections for employment, population, and housing.

1.2 Background and Purpose of the EIR

Since the realignment of the former Fort Ord, the Army has prepared the following documents relating to the disposal and reuse of the military base: the *Fort Ord Disposal and Reuse Final Environmental Impact Statement* (June, 1993) and the *Fort Ord Disposal and Reuse Draft Supplemental Environmental Impact Statement* (December, 1995), herein referred to as the Army's FEIS and DSEIS. Senate Bill 1180 (as amended February, 1995 and contained in CEQA Sections 2100-21178.1 of the California Public Resources Code and the *State CEQA Guidelines* Section 15221) allows FORA to rely in part on the Army's previous analyses in the FEIS and DSEIS for environmental review of the proposed project.

SB 1180 states that the Lead Agency may "utilize an environmental impact statement prepared pursuant to federal law as the environmental impact report for a federal military base reuse plan," as defined by conditions described in SB 1180 Section 21083.8.1(c). Section 21083.8.2 requires that "the draft environmental impact report shall consist of all or part of the environmental impact statement and any additional information that is necessary to prepare a draft environmental impact report in compliance with this division." Therefore, this Draft EIR has two major objectives:

- 1) To supply any missing elements from the NEPA documents required in order to comply with CEQA in adopting the *Draft Fort Ord Reuse Plan*; and
- 2) To evaluate revisions in the Reuse Plan made since December 12, 1994.

This program-level Draft EIR thus incorporates by reference pertinent background information and analysis from the previous NEPA documents, which is relevant to the identification and evaluation of base-wide environmental impacts addressed in this Draft EIR. This Draft EIR is therefore a supplemental document to the FEIS and DSEIS prepared by the Army.

1.2.1 Indexing the Army's FEIS, DSEIS, and Other Documents

An Index has been provided in Section 1.9 in the form of a table (Table 1.9-1), in order to simplify for the reader access to relevant information from the Army's previous documents. The Draft EIR summarizes key information from the FEIS and DSEIS where appropriate. Readers interested in further

particular resource or analysis will need to refer directly to the Army's FEIS and DSEIS. Since so much environmental documentation on the reuse of former Fort Ord is already available to the public, this Draft EIR seeks not to duplicate previous information, nor to provide additional extraneous detail, but to focus on the critical modifications to previous plans in a concise manner.

1.2.2 Baseline Determination

As with the Army's FEIS and DSEIS, this Draft EIR determines whether the proposed project may have a significant impact on the environment based on physical conditions that were present at the time the decision became final to close Fort Ord as a military base (September, 1991). This complies with Section 21083.8.1 of the Public Resources Code and utilizes the extensive research already conducted for the Army's NEPA documents which use the same baseline year. Section 21083.8.1 (b)(1) of the Public Resources Code states:

"When preparing and certifying an environmental impact report for a reuse plan, including when utilizing an environmental impact statement....the determination of whether the reuse plan may have a significant effect on the environment may be made in the context of the physical conditions which were present at the time that the federal decision became final for the closure or realignment of the base or reservation."

1.3 Intended Uses of the EIR

This program-level EIR is intended to be used as the CEQA compliance document for "all public and private actions taken pursuant to, or in furtherance of, a reuse plan [which] shall be deemed a single project (Public Resources Code, Section 21166)." Additional, future CEQA analysis beyond this Draft EIR shall be conducted, however, if any of the events specified in Public Resources Code Section 21166 should occur, as follows:

"When an environmental impact report has been prepared for a project pursuant to this division, no subsequent or supplemental environmental impact report shall be required by the lead agency or by any responsible agency, unless one or more of the following events occurs:

- a) Substantial changes are proposed in the project which will require major revisions of the environmental impact report;*
- b) Substantial changes occur with respect to the circumstances under which the project is being undertaken which will require major revisions in the environmental impact report; or*
- c) New information, which was not known and could not have been known at the time the environmental impact report was certified as complete, becomes available."*

CEQA environmental review conducted for future individual projects that implement the Final Fort Ord Reuse Plan will be tiered to this EIR to the extent this program-level analysis remains adequate for such purposes. Section 15152(b) of the *State CEQA Guidelines* establishes:

"Where an EIR has been prepared for a program, plan, policy, or ordinance consistent with the requirements of this section, any Lead Agency for a later project pursuant to or consistent with the program, plan, policy, or ordinance should limit the EIR on the project to effects which:

- 1) Were not examined as significant effects on the environment in the prior EIR; or
- 2) Are susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means."

Additional CEQA analysis may also be required at the specific project level to give decision makers more information about site-specific issues which are not addressed in this program-level EIR. Agencies that are expected to utilize this Draft EIR in project approvals include the following:

Local Agencies

- County of Monterey
- City of Marina
- City of Seaside
- City of Del Rey Oaks
- Monterey County Local Agency Formation Commission (LAFCO)

State Agencies

- Fort Ord Reuse Authority (FORA)
- California Coastal Commission
- California State Parks Department
- California State University Monterey Bay (CSUMB)
- University of California

Federal Agencies

- United States Bureau of Land Management (BLM)
- United States Army (Army)

It is understood that certain project-specific environmental documents are in preparation for facilities such as UCMBEST and CSUMB. This document is intended to provide guidance for such project-specific documents and also adequate CEQA review of cumulative and base-wide issues, which may not need to be addressed in subsequent tiered documents. In response to comments received on the Notice of Preparation (NOP), this Draft EIR includes a listing of policies, programs, and CEQA-specific mitigations for which key land use agencies would be responsible.

1.4 Focus of the EIR

The Draft EIR focuses on the additional CEQA analysis that is needed to supplement existing analyses in the Army's FEIS and DSEIS. The new information included in this document is highlighted below. [The Army's FEIS and DSEIS should be consulted for all other impact analyses, including impacts associated with the Army's disposal of the former Fort Ord.]

1.4.1 CEQA Considerations Not Present in the Army's FEIS and DSEIS

The FEIS and DSEIS were reviewed for coverage of CEQA issues not required under NEPA, including:

- Areas of known controversy of the proposed project;

- Effects of the proposed project found not to be significant;
- Impacts to resources of local or statewide concern;
- Reasonable mitigation measures;
- Definition of significance criteria in the impact analyses and conclusions regarding the level of significance of each impact;
- Growth inducing impacts of the proposed project;
- Significant irreversible environmental changes resulting from the proposed project; and
- Unavoidable significant impacts of the proposed project.

The above issues are addressed in this document.

1.4.2 Changes in the Proposed Project

The Draft EIR also focuses on the proposed project as a modification of FORA's Interim Reuse Plan of December 12, 1994 (Alternative 7), which is analyzed in the Army's DSEIS. The proposed project includes a land use concept as well as several implementation plans and programs (refer to Chapter 3.0 for a more detailed description). The following project components are addressed in this document:

- *New Draft Fort Ord Reuse Plan* which contains revised land use areas (refer to Figure 3.2-2) that have been modified from the FORA Interim Reuse Plan of December 12, 1994;
- Conservation plan;
- Recreation plan;
- Transportation plan
- Capital improvement program;
- Local general plan modifications to incorporate former Fort Ord properties;
- Redevelopment planning for former Fort Ord properties; and
- Potential changes in city, county and special district boundaries within former Fort Ord.

The revised land use areas contained in the proposed project consist of additional golf, hotel, equestrian, grade school, community park, and convenience retail opportunities. Additional dwelling units and mixed-use areas are proposed, as well as a slight reconfiguration of the Presidio of Monterey (POM) annex, and a smaller and less-costly circulation infrastructure.

Accompanying plans and programs are included as part of the proposed project in order to implement the land use concept. The Draft EIR has been prepared concurrently with the *Draft Fort Ord Reuse Plan* (released May, 1996), so as to maximize opportunities to build necessary environmental mitigations into the project planning process. New policies and programs have been developed for each resource element in order to alleviate potential impacts and make the proposed project as self-mitigating as possible. The policies and programs organized as amendments to local general plans serve as a separation of mitigation responsibilities by jurisdiction. FORA must adopt the Reuse Plan, including all policies and programs incorporated in it, in order to approve implementation of the proposed project. This assumes implementation of the policies and programs as a pre-condition of reuse and represents a commitment embodied in the certification of the EIR by FORA.

1.4.3 Project Alternatives

The Draft EIR evaluates a new No Project Alternative which takes into account the land conveyances that have already been completed. This differs from the No Project Alternative used in the DSEIS, which is primarily a "caretaker alternative" that would occur if the Army was unable to dispose of its property. In this Draft EIR, the No Project Alternative recognizes the current reality of land transfer agreements already in place. [Refer to Section 6.4 in this EIR for a description of lands conveyed under this alternative.]

In addition, the Draft EIR considers three alternatives to the proposed project which were analyzed in detail in the Army's FEIS and DSEIS: Alternatives 6R, 7 and 8. Alternative 6R is evaluated in the FEIS and represents the Revised Anticipated Reuse Plan in that document. Alternative 7 is evaluated as the proposed project in the DSEIS and represents the FORA Interim Reuse Plan of December 12, 1994. Alternative 8 is also evaluated in the DSEIS and represents a slight modification of Alternative 7.

1.5 Environmental Review Process

A Notice of Preparation (NOP) was released on January 8, 1996 for a 30-day public review period. The NOP describes the proposed project that is examined in this Draft EIR (a copy is included as Appendix A). Two Public Information and Comment meetings were held on January 22, 1996 and February 12, 1996 to obtain comments on the scope of the EIR. Each issue that was raised during the scoping process has been considered, and those deemed to be within the scope of this EIR are addressed within the document.

Following public review of this Draft EIR, a Final EIR will be prepared in response to written comments received during the review period. The FORA Board must take the final action to certify the EIR as adequate for decision-making purposes and to approve or deny the proposed Reuse Plan. Specific Findings of Fact pursuant to Public Resources Code Section 21081 will be prepared to reflect the final action of the FORA Board.

FORA has conducted a continuous coordination program with the local community and regulatory agencies in the process of developing the *Draft Fort Ord Reuse Plan* through regular working group sessions. Other methods to involve the public in the EIR process have included and will include: publishing public notices of hearings; mailing public announcements; coordinating media coverage, press releases and feature articles; and creating and updating a mailing list to disseminate information. FORA has also been working to provide the public with an EIR which is as simple to understand and user-friendly as possible, while being consistent with and making reference to previous environmental documents.

1.6 Areas of Known Controversy

As required by Section 15123 of the CEQA Guidelines, the areas of known controversy known to the lead agency are identified below and addressed in this EIR:

- Effects on traffic and the need for an adequate road network to serve the proposed level of development;
- Need for an available and adequate water supply and concern over seawater intrusion into the local groundwater aquifer;
- Need for and effects of economic development and local growth to replace economic losses due to the military base closure;

- Regional need for additional and appropriately-located housing, in order to balance the number of local jobs created and to accommodate projected regional population growth;
- Protection of the visual quality along State Highway 1, the scenic entry to the Monterey Peninsula;
- Preservation of natural resources and open space; and
- Effects on the coastal zone.

1.7 Effects Found Not to be Significant

An Initial Study for the proposed project was not required (pursuant to *State CEQA Guidelines* Section 15063(a) and Public Resources Code Section 21083.8.1), since FORA determined that an EIR would be necessary based on FORA's decision to rely on the Army's FEIS and DSEIS in identifying significant issues. The NOP identified the following areas of potential impact:

- Land Use;
- Socioeconomics;
- Geology and Soils;
- Public Services, Utilities and Water Supply;
- Hydrology and Water Quality;
- Public Health and Safety;
- Traffic and Circulation;
- Climate and Air Quality;
- Noise;
- Biological Resources;
- Visual Resources; and
- Cultural Resources.

The potential for the proposed project to result in significant adverse effects to these environmental resources is analyzed in Chapter 4.0.

Effects on energy resources are discussed in this Draft EIR in terms of gas and electrical requirements under Public Services and Utilities, and as a significant irreversible impact (refer to Section 5.3).

Potential effects of the proposed project on mineral resources were found not to be significant, because former Fort Ord lands do not contain significant mineral resources which would potentially be used for extraction, and proposed reuse activities are not expected to substantially alter landforms containing mineral resources. Effects on mineral resources are therefore not analyzed further in this Draft EIR.

1.8 Organization of the Document

This document is organized into the following sections:

1.8.1 Chapter 1.0 - Introduction

The Introduction provides a context for the EIR and describes the EIR background and scope, the environmental review process leading to approval of the EIR, as well as some assumptions critical to the environmental analysis.

1.8.2 Chapter 2.0 - Summary

This chapter summarizes the environmental impacts that would result from the proposed project and mitigation measures identified to reduce or eliminate these impacts, other CEQA considerations including cumulative impacts, and alternatives to the project and their associated impacts.

1.8.3 Chapter 3.0 - Project Description

The Project Description describes the proposed project, including: its objectives; the policies and programs associated with the project; modifications to local general plans; redevelopment planning for former Fort Ord properties; and potential changes in city, county, and special district boundaries.

1.8.4 Chapter 4.0 - Environmental Setting, Impacts and Mitigation

Chapter 4.0 briefly characterizes baseline conditions for former Fort Ord land (referencing the Army's FEIS and DSEIS), discusses the environmental impacts associated with the proposed project, identifies levels of significance, and identifies mitigation measures to reduce or eliminate the impacts.

1.8.5 Chapter 5.0 - Other CEQA Considerations

Other considerations required by CEQA are analyzed in this section, including cumulative impacts of the project, growth-inducing impacts, significant irreversible environmental changes, and unavoidable significant impacts.

1.8.6 Chapter 6.0 - Alternatives

This chapter discusses the alternatives to the proposed project and the impacts associated with each alternative. It provides a comparison of the impacts of the alternatives with those of the proposed project.

1.8.7 Chapter 7.0 - Report Preparation

Report Preparation lists the document preparers, persons and organizations consulted, bibliography, and acronyms used in the Draft EIR.

1.8.8 Appendices

The Appendices include supporting documentation for the environmental analyses.

1.9 Index to Other Environmental Documents

Table 1.9-1 indexes relevant resource sections of the Army NEPA documents and other key documents, and indicates where these resource sections are used in this Draft EIR. Page numbers refer to the first page of the referenced sections. Where necessary, the Draft EIR repeats or condenses key sections from the referenced documents. In general, the environmental setting descriptions presented in this Draft EIR essentially summarize the environmental setting (in 1991) described in the FEIS. Additional information on the environmental setting provided in the Army's DSEIS is also incorporated where necessary.

The Impacts and Mitigations and Cumulative Impacts sections of this Draft EIR differ in format and some content from similar sections in the other relevant environmental documents. However, the impact discussions contained in this Draft EIR reference the FEIS and DSEIS and incorporate applicable information wherever appropriate. The primary difference in the impact analyses contained in this Draft EIR is that new information pertaining to the proposed project and CEQA criteria are included.

Table 1.9-1 Index Table to Other Environmental Documents

Issue Areas	Fort Ord Reuse Plan Draft EIR (March, 1996)	Army's Draft DSEIS (December, 1995)	Army's Final FEIS-vol. I (June, 1993)	Other Documents (see Key)
1. Land Use				
Environmental Setting	p4-3	p4-1	p4-3	
Impacts and Mitigations	p4-7	p5-12; 5-87	p6-3	
Cumulative Impacts	p5-2	p5-48; 5-92	p6-6	
2. Socioeconomics				
Environmental Setting	p4-20	p4-3	p4-7	
Impacts and Mitigations	p4-24	p5-12; 5-87	p6-7	
Cumulative Impacts	p5-3	p5-49; 5-87	p6-14	
3. Geology and Soils				
Environmental Setting	p4-27	p4-8	p4-31	Soils (entire report); Other (p9-13 and 9-20)
Impacts and Mitigations	p4-29	p5-19	p6-27	
Cumulative Impacts	p5-3	p5-52	p6-31	
4. Public Services, Utilities and Water Supply				
Environmental Setting	p4-36	p4-8	p4-45	
Impacts and Mitigations	p4-39	p5-20	p6-32	
Cumulative Impacts	p5-4	p5-53	p6-37	
5. Hydrology and Water Quality				
Environmental Setting	p4-45	p4-8	p4-53	OPABS (p6-7 and p9-25)
Impacts and Mitigations	p4-47	p5-22; 5-87	p6-52	
Cumulative Impacts	p5-5	p5-55; 5-93	p6-56	
6. Public Health and Safety				
Environmental Setting	p4-53	p4-11	p4-61	
Impacts and Mitigations	p4-56	p5-23	p6-62	
Cumulative Impacts	p5-6	p5-57	p6-62	
7. Traffic and Circulation				
Environmental Setting	p4-68	p4-11	p4-65	
Impacts and Mitigations	p4-76	p5-6; 5-88	p6-71	
Cumulative Impacts	p5-6	p5-58; 5-93	p6-74	
8. Climate and Air Quality				
Environmental Setting	p4-90	p4-12	p4-66	
Impacts and Mitigations	p4-94	p5-26; 5-88	p6-76	
Cumulative Impacts	p5-6	p5-61	p6-76	
9. Noise				
Environmental Setting	p-98	p4-13	p4-72	OPABS (Section 3 and p9-17)
Impacts and Mitigations	p-104	p5-26	p6-77	
Cumulative Impacts	p5-8	p5-65	p6-95	

Issue Areas	Fort Ord Reuse Plan Draft EIR (March, 1996)	Army's Draft DSEIS (December, 1995)	Army's Final FEIS-vol. I (June, 1993)	Other Documents (see Key)
10. Biological Resources				
Environmental Setting	p4-113	p4-23	p4-88	
Impacts and Mitigations	p4-124	p5-32; 5-88	p6-106	
Cumulative Impacts	p5-8	p5-66; 5-93	p6-130	
11. Visual Resources				
Environmental Setting	p4-143	p4-33	p4-120	
Impacts and Mitigations	p4-145	p5-44	p6-132	
Cumulative Impacts	p5-9	p5-85	p6-134	
12. Cultural Resources				
Environmental Setting	p4-150	p4-33	p4-124	
Impacts and Mitigations	p4-151	p5-45	p6-135	
Cumulative Impacts	p5-10	p5-85	p6-136	

Key: FORP 4 = *Draft Fort Ord Reuse Plan*, Chapter 4.0 - Reuse Plan Elements, sections indicated (May, 1996).
 FORP App = *Draft Fort Ord Reuse Plan*, Appendix: The Business and Operations Plan, sections indicated (May, 1996).
 Soils = Soils Baseline Study of Fort Ord, California (April, 1992).
 OPABS = Other Physical Attributes Baseline Study of Fort Ord, California (April, 1992).

2.0 SUMMARY

Introduction

This *Draft Environmental Impact Report* (Draft EIR) has been prepared by the Fort Ord Reuse Authority (FORA) as the Lead Agency in accordance with the California Environmental Quality Act (CEQA) and implementing guidelines. The proposed project is the adoption of the *Draft Fort Ord Reuse Plan* (Reuse Plan) for the former military base known as Fort Ord. The Fort Ord Reuse Authority Act (Title 7.85, Section 67651(a)(b)(c)(d) of the Government Code) requires FORA to accomplish the following:

- a) *To facilitate the transfer and reuse of Fort Ord with all practical speed;*
- b) *To minimize the disruption caused by the base's closure on the civilian economy and the people of the Monterey Bay area;*
- c) *To provide for the reuse and development of the base area in ways that enhance the economy and quality of life of the Monterey Bay community; and*
- d) *To maintain and protect the unique environmental resources of the area.*

The former Fort Ord Base was downsized and realigned in 1991 pursuant to the Defense Base Closure and Realignment Act of 1990, commonly referred to as BRAC. Before former Fort Ord property can be transferred from military to civilian use, a reuse plan and an environmental review document on the reuse plan must be developed. This Draft EIR has been prepared to evaluate potential impacts to the environment under CEQA that may result from implementing the proposed *Draft Fort Ord Reuse Plan*, following disposal of former Fort Ord lands by the Department of the Army (Army).

Since the realignment of the former Fort Ord, the Army has prepared the following documents relating to the disposal and reuse of the military base: the *Fort Ord Disposal and Reuse Final Environmental Impact Statement* (June, 1993) and the *Fort Ord Disposal and Reuse Draft Supplemental Environmental Impact Statement* (December, 1995), herein referred to as the Army's FEIS and DSEIS. Senate Bill 1180 allows FORA to rely in part on the Army's previous analyses in the FEIS and DSEIS for environmental review of the proposed project. This Draft EIR has two major objectives:

- 1) To supply any missing elements from the NEPA documents required in order to comply with CEQA in adopting the *Draft Fort Ord Reuse Plan*; and
- 2) To evaluate revisions in the Reuse Plan made since December 12, 1994.

This program-level Draft EIR thus incorporates by reference pertinent background information and analysis from the Army's FEIS and DSEIS, and essentially serves as a supplemental document to these previous NEPA documents.

As with the Army's FEIS and DSEIS, this Draft EIR determines whether the proposed project may have a significant impact on the environment based on physical conditions that were present at the time the decision became final to close Fort Ord as a military base (September, 1991).

CEQA environmental review conducted for future individual projects that implement the *Final Fort Ord Reuse Plan* will be tiered to this EIR to the extent this program-level analysis remains adequate for such purposes.

Additional CEQA analysis may also be required at the specific project level to give decision makers more information about site-specific issues which are not addressed in this program-level EIR.

2.1 Proposed Project

The proposed project represents an ultimate buildout scenario for the former Fort Ord over the next 40-60 years. Under the proposed project, approximately 27,000 acres of the former Fort Ord would be transferred from the Department of the Army (Army) to a number of government agencies and local organizations which would have land use control within the former Fort Ord. The transfer and redevelopment of such a large area would necessitate substantial restructuring of local jurisdictional boundaries, the incorporation of new local policies and programs to guide development, implementation strategies including capital improvements, and future land management plans. The proposed project addresses all these factors and therefore serves as a long-term, regionally-focused, and comprehensive reuse plan, functioning at the general plan level.

The *Draft Fort Ord Reuse Plan* incorporates substantial development of educational, residential, office, light industrial, commercial, and recreational land uses with the majority of the former Fort Ord managed for open space and habitat protection under the Habitat Management Plan recently agreed to by the involved agencies. Implementation of the proposed project would result in the development of approximately 22,232 dwelling units (including dormitory housing), 45,457 jobs, and a buildout population of approximately 51,773 with an additional 20,000 CSUMB residential students. [For a more detailed description, refer to Chapter 3.0 of this Draft EIR.] Accompanying policies and programs are included as part of the proposed project in order to implement the land use concept. The Draft EIR has been prepared concurrently with the *Draft Fort Ord Reuse Plan* (released May, 1996), so as to maximize opportunities to build necessary environmental mitigations into the project planning process. New policies and programs have been developed for each resource element in order to alleviate potential impacts and make the proposed project as self-mitigating as possible. The policies and programs organized as amendments to local general plans serve as a separation of mitigation responsibilities by jurisdiction. FORA must adopt the Reuse Plan, including all policies and programs incorporated in it, in order to approve implementation of the proposed project.

Significant Differences Between the Proposed Project and Alternatives Presented in the Army's FEIS and DSEIS

The Army's DSEIS analyzes Alternative 7 (FORA's Interim Reuse Plan) and a minor modification of this alternative labeled Alternative 8. The Army's FEIS analyzes Alternatives 1 through 6R and their subalternatives. The proposed project in this Draft EIR is relatively similar to Alternatives 7 and 8, but is significantly different from Alternatives 1 through 6R. The principal differences between the current *Draft Fort Ord Reuse Plan* and previous Alternatives 7 and 8 have resulted in a proposed project that:

- is more economically feasible;
- contains a down-scaled and less-costly circulation infrastructure;
- satisfies the demand for adequate housing in the local region;
- includes increased recreational and tourist opportunities; and
- better integrates land uses.

2.2 Summary of Setting, Impacts and Mitigation

This summary provides an overview of the analysis contained in Chapter 4.0 - Environmental Setting, Impacts and Mitigation. This summary includes discussion of:

- Beneficial impacts;
- Less than significant impacts;
- Significant but mitigable impacts; and
- Unavoidable significant impacts.

The reuse of former Fort Ord under the *Draft Fort Ord Reuse Plan* would result in a number of beneficial impacts in comparison with 1991 conditions. Beneficial impacts include:

- Socioeconomic impacts associated with the improved employment base and jobs:housing balance;
- Visual quality improvements in existing developed or disturbed areas; and
- Cumulative biological resource protection due to implementation of the Habitat Management Plan.

The reuse of former Fort Ord under the proposed project would result in less than significant impacts in the following resource areas:

- Socioeconomics;
- Geology and Soils;
- Hydrology and Water Quality;
- Climate and Air Quality;
- Noise;
- Biological Resources; and
- Cultural Resources.

Under CEQA, a significant effect on the environment is defined as a substantial, or potentially substantial, adverse change in any physical conditions within the area affected by the proposed project. Significant or potentially significant but mitigable impacts under the proposed project would include:

- Land use impacts relating to incompatible land uses and development in the coastal zone;
- Public services, utilities, and water supply impacts relating to the need for new systems, services, and supplies;
- Public health and safety impacts relating to the exposure to hazardous and toxic materials; and
- Visual resources impacts relating to reduced visual quality from increased development within the former Fort Ord and reduced visual quality seen from the Salinas Valley.

Significant impacts which would be unavoidable under the proposed project include:

- Proposed project and cumulative-level public health, and safety impacts relating to the increased demand for law enforcement services and the increased demand for fire protection/emergency services;

- Cumulative public services, utilities, and water supply impacts associated with the need for local water supplies;
- Proposed project and cumulative-level traffic and circulation impacts relating to the increased demand on the regional transportation system; and
- Cumulative visual resource impacts associated with landscape change along the SR1 corridor.

A more detailed summary of the impact analyses contained in Chapter 4.0 is presented in Table 2.5-1 at the end of this chapter. The summary table is arranged in seven columns. The first column registers impacts to the resources of concern that would result from the proposed project. The second column lists the policy and program statements developed in the *Draft Fort Ord Reuse Plan* (Reuse Plan), which are designed to mitigate potential impacts. These policies and programs represent commitments by FORA and its member agencies that are "built in" to the project, and in many cases additional "mitigation measures" are not needed. The level of significance before and after mitigation is also summarized in the table.

Mitigation measures are identified for those impacts which are considered to be significant or potentially significant, after implementation of the Reuse Plan policies and programs. Generally, program-level mitigation for the impacts includes modifications to the *Draft Fort Ord Reuse Plan* or the addition of other requirements. The mitigations recommended to address significant impacts identified in this document form the basis of the mitigation monitoring plan.

2.2.1 Mitigation Monitoring Plan

Mitigation measures are identified for those impacts which are considered to be significant or potentially significant, after implementation of the Reuse Plan policies and programs. In compliance with CEQA Guidelines (Section 21081.6 of the Public Resources Code), a mitigation monitoring and reporting program must be developed as part of the CEQA process prior to project approval. The draft Mitigation Monitoring Plan for the proposed project has been combined with the summary of impacts and mitigation measures into Table 2.5-1 (at the end of this chapter). The mitigation schedule and mitigation responsibility are included as columns six and seven of the summary table.

2.3 Summary of Other CEQA Considerations

This summary provides an overview of the analyses contained in Chapter 5.0 - Other CEQA Considerations. The following discussion summarizes:

- Cumulative Impacts;
- Growth inducing impacts;
- Significant irreversible environmental changes; and
- Unavoidable significant impacts.

2.3.1 Cumulative Impacts

In conformance with CEQA, a cumulative impact of the proposed project is "the change in the environment which results from the incremental impact of the proposed project when added to other closely related past, present and reasonably foreseeable probable future projects (CEQA Guidelines, Section 15355(b))." The cumulative impact analyses in this Draft EIR refer to the combined effects of

both the proposed project and AMBAG projections for regional growth, including reasonably foreseeable future projects in Monterey County and local cities as identified in Table 5.1-1. These impacts are discussed in Section 5.1 of this Draft EIR and identified in Table 2.5-1.

2.3.2 Growth Inducing Impacts

Under CEQA, a growth inducing impact of the proposed project is one that would foster economic or population growth, or the construction of additional housing, either indirectly or directly, in the surrounding environment.

The initial phase of development to the year 2015 would not result in a growth inducing impact. Economic, population, and residential increases occurring until the year 2015, as proposed by the Reuse Plan, would constitute only a recovery to the approximate 1991 levels of activity. Beyond 2015, buildout of the proposed project is intended to absorb a substantial portion of peninsula growth that is already predicted by AMBAG to occur. Because the proposed project is designed to capture much of the future growth, it is not expected that the Reuse Plan would substantially foster growth in the surrounding environment, although a component of additional growth related to education is possible. The establishment of an educational/research center on the former Fort Ord has the potential to attract statewide and nationwide populations to the area which would not otherwise occur; however, the overall Reuse Plan is not expected to remove certain obstacles to growth. The regional water supply shortage in particular would not be solved by the proposed project and would remain a limitation on regional growth.

2.3.3 Significant Irreversible Environmental Changes

Implementation of the proposed project is not expected to involve a large commitment of renewable resources, except for the building materials required to develop new structures. The reuse of existing buildings on the former Fort Ord would decrease the need for these materials. The proposed project would contribute to the permanent conversion of nondeveloped land to residential, business, public facility, educational, and mixed uses on the former Fort Ord. This would commit future generations to developed uses.

The proposed project would result in the irretrievable commitment of energy resources for increased electricity and gas demands and in the form of gasoline for construction vehicles and vehicles commuting to the area. The proposed project would also result in the irretrievable commitment of water resources in the form of potable and non potable water supplies. The proposed project is not expected to pose a high risk of environmental accidents.

2.3.4 Unavoidable Significant Impacts

Under CEQA, a significant and unavoidable impact of the proposed project is one that would cause a substantial adverse effect on the environment and for which no mitigation is available to reduce the impact to a less-than-significant level if the Reuse Plan is approved. These impacts are discussed in Section 5.4 of this Draft EIR and identified in Table 2.5-1.

2.4 Summary of Alternatives Analysis

The four alternatives to the proposed project considered in this EIR consist of:

- Alternative 6R (Revised Anticipated Reuse; as described in the Army's FEIS)
- Alternative 7 (FORA 12-12-94 Interim Reuse Plan; as described in the Army's DSEIS)
- Alternative 8 (Slight modification of Alternative 7; as described in the Army's DSEIS)
- No Project Alternative (New alternative; caretaker status under the Army except for existing conveyances)

Table 2.4-1 compares the general characteristics of Alternatives 6R, 7, 8, and No Project with the proposed project. The table provides a summary comparison of the population, housing, employment, and land use division characteristics of the various reuse scenarios proposed for the former Fort Ord and contained in Chapter 6.0. The five reuse scenarios propose total housing in the range of 4,816-17,132 dwelling units (not including student housing). Total population ranges from 14,388-51,773 (not including student population) and employment ranges from 25,630-58,500. These numbers represent the general levels of development being considered for the former Fort Ord area.

Table 2.4-2 summarizes the key distinguishing impacts of the project alternatives, as evaluated in Chapter 6.0, and compares it to the proposed project impacts (after application of mitigation measures).

2.4.1 The Environmentally Superior Alternative

The reuse scenario under the No Project Alternative would result in the least environmental impacts, and is, therefore, the environmentally superior alternative at a local level. This is based on the acreage of open space and habitat conservation in relation to development, projected population, and the level of construction for development and infrastructure.

Under the No Project Alternative, only 13% of the total former Fort Ord property (or 3,800 acres) would be developed; this would include already-existing development and land remaining under the Army. Approximately 56% of the former Fort Ord would be left undeveloped for habitat management (15,648 acres), 5 % of the land would have little or no development for parks and recreation (1,320 acres), and an additional 26% (7,200 acres) would be left undeveloped under Army caretaker status. The No Project Alternative would have more adverse impacts than the proposed project in terms of jobs:housing ratios and regional traffic. It would have less impact in many categories, as shown in Table 2.4-2.

However, the No Project Alternative would not meet the project objectives of developing an economic/employment recovery to compensate for base closure and accommodate regional growth. At the cumulative level, substantial regional growth would still be projected, with potentially greater impacts on other land (e.g., farmland or open space) should development occur outside the former Fort Ord.

The *CEQA Guidelines* require that an additional environmentally superior alternative be identified in cases where the No Project Alternative represents the environmentally superior alternative. Alternative 6R has been selected as the second environmentally superior alternative. This selection is based on projected population and the assumption that the 3,700 acres (13% of the former Fort Ord) designated as No Proposed Use would not be developed. Under Alternative 6R, approximately 22.5% (6,100 acres) of total former Fort Ord land would be developed, and 53% (17,915 acres) would be left undeveloped for

habitat management and parks and recreation. A comparative discussion with the proposed project is provided in the next section.

2.4.2 Comparisons with the Proposed Project

Table 2.4-2 provides a summary comparison of alternatives. Chapter 6.0 should also be consulted for more details of impacts by alternative.

Compared with Alternative 6R, the proposed project would have less adverse impacts in terms of coastal land use compatibility, jobs:housing ratios, loss of coastal habitat, effects on beach/dune habitat, loss of oak woodland, effects on wetlands, and effects on visual resources. The proposed project would have more adverse impact in terms of potential incompatibility of land uses at East Garrison, increased generation of solid waste, demand for water supply, demand for law enforcement and fire protection services, increased traffic, and increased noise. However, unlike Alternative 6R, the proposed project - contains a comprehensive set of policies and programs which reduce the potential impacts to these resources substantially, as described in Chapter 4.0. Alternative 6R would also not fully meet the project objectives.

Compared with Alternative 7, the proposed project would have less impact in terms of general incompatibility of adjoining land uses within the former Fort Ord, jobs:housing ratios, hydrology and water quality, traffic noise, loss of coastal strand habitat, loss of dune scrub, effects on beach/dune habitat, loss of oak woodland, and effects on wetlands and visual resources. The proposed project would have more adverse impact in terms of potential incompatibility of land uses at East Garrison, increased generation of solid waste, and demand for law enforcement services. However, the project includes a comprehensive set of policies and programs which reduce the potential impacts considerably, as described in Chapter 4.0. Relative to the proposed project, Alternative 7 would have greater cumulative and regional effect on traffic and associated environmental effects due to the creation of over 10,000 more jobs with a population at the former Fort Ord of approximately 10,000 fewer residents.

The anticipated impacts of Alternative 8 would be very similar in general to those described above for Alternative 7 in relation to the proposed project. The principal difference would be that Alternative 8 would produce similar impacts as under the proposed project in terms of jobs:housing ratio and demand for law enforcement services and traffic, although without the benefits of the policies and programs.

2.5 Summary Table

Table 2.5-1 provides a detailed and comprehensive summary of proposed project impacts and mitigation measures.

Table 2.4-1 General Characteristics of the Proposed Project and Project Alternatives

General Characteristics	Proposed Project	Alternative 6R ^a	Alternative 7 ^a	Alternative 8 ^a	No Project Alternative
General population ^a	51,773	22,770	41,500	45,100	14,388
CSUMB residential students	20,000	N/A	20,000	20,000	20,000
General housing (dwelling units) ^b	17,132	10,210	13,800	15,000	4,816
CSUMB residential student housing	5,100	N/A	5,100	5,100	5,100
Employment (jobs) ^c	45,457	27,000	58,500	48,100	25,630
Jobs:housing ratio	2.05	2.64	3.10	3.39	2.59
Land use categories:					
Habitat Management	62%	53%	62%	61%	56%
Educational/Institutional/ Public Facilities (includes airport)	9%	9%	10%	10%	5%
Retail	1%	N/A	1%	1%	N/A
Business/Planned Development/ Light Industrial (commercial)	5%	3%	7%	6%	3%
Residential	7%	0.5%	6%	6%	2%
Parks and Recreation (golf, beach)	10%	11%	6%	7%	5%
Agri-Business (agriculture)	N/A	3%	3%	3%	N/A
Other (ROW, POM annex) ^d	7%	6%+	4%+	5%+	4%
Visitor Serving (tourism)	<1%	1%	1%	1%	<1%
Caretaker Status	N/A	N/A	N/A	N/A	26%
Proposed Use	N/A	13%	N/A	N/A	N/A

- a Population totals for Alternative 7 and Alternative 8 were estimated in the Army's FEIS based on 3 persons per dwelling unit. This methodology did not reflect student populations, and 20,000 CSUMB residential have been added in this table to reflect this difference. Although CSUMB is planning for 25,000 FTE students, it is estimated that 20,000 students will be living within the former Fort Ord.
Population total for the No Project Alternative includes 4,827 military associated with the POM annex and 406 associated with McKinney Act housing, and 9,155 associated with CSUMB faculty, staff and graduate students.
General population totals includes military population.
- b For Alternative 7 and Alternative 8, 5,100 residential student housing units have been added to the total units listed in the Army's FEIS.
General housing total for the No Project Alternative includes 1,590 units for the military POM Annex, 133 McKinney Act housing units, and 3,093 units associated with CSUMB faculty, staff and graduate student housing.
General housing total for the proposed project assumes 1,590 for military POM Annex housing, 12,449 for community housing, 3,093 for CSUMB faculty, staff and graduate housing, and does not include the 1,790 hotel rooms planned for this alternative.
- c Employment total for the No Project Alternative includes 310 military associated with the POM Annex, 3,200 associated with CSUMB, 210 associated with the beach park, golf, and habitat management, 9,737 associated with the City of Marina airport and Business/Planned Development/Light Industrial development, and 12,173 associated with the County of Monterey Planned Development use.
- d The proposed project includes 1,147 acres for rights-of-way infrastructure; figures from the other alternatives account for only around 320 acres of ROW infrastructure and underestimate these total percentages.
- e Land use category percentages have been reaggregated from the Army's FEIS and DSEIS.
N/A = Not Applicable

Table 2.4-2 Comparison of Key Distinguishing Impacts of the Proposed Project and Project Alternatives

Impact Issues	Proposed Project	Alternative 6R	Alternative 7	Alternative 8	No Project Alternative
1. Land Use					
<ul style="list-style-type: none"> Inconsistency with state and local policies 	Required policies/ programs would make local plans consistent with all other policies; revised coastal consistency determination required	Greater than proposed project, inconsistency with policies regarding habitat, infrastructure, land use, groundwater, and Coastal Act	Greater than proposed project, inconsistency with policies regarding habitat, infrastructure, land use, groundwater, and Coastal Act	Greater than proposed project, inconsistency with policies regarding habitat, infrastructure, land use, groundwater, and Coastal Act	Greater than proposed project, without reuse plan, use of transferred properties may be inconsistent with state, local policies
<ul style="list-style-type: none"> Incompatibility between transit center and coastal habitat 	No impact; transit center removed from coastal area	Greater than proposed project; transit center located in coastal natural habitat area	No impact; transit center removed from coastal area	No impact; transit center removed from coastal area	No impact; transit center removed from coastal area
<ul style="list-style-type: none"> Incompatibility between natural area expansion and development 	Potential incompatibilities with natural area expansion reduced by impact with required policies/ programs	Similar to proposed project, but without mitigating policies and programs; impact from Golf course / Hotel/ Business Park on Natural Area Expansion	Similar to proposed project, but without mitigating policies and programs; impact from Golf course/Hotel/ Business Park on Natural Area Expansion	Similar to proposed project, but without mitigating policies and programs; impact from Golf course/Hotel/ Business Park on Natural Area Expansion	No impact; caretaker status in this location
<ul style="list-style-type: none"> Incompatibility between East Garrison uses in historic area 	Potential incompatibility of proposed uses incompatible with each other and with adjacent youth camp; reduced impact with required policies/ programs	Fewer impacts than proposed project due to fewer competing uses	Fewer impacts than proposed project due to fewer competing uses	Fewer impacts than proposed project due to fewer competing uses	No impact; caretaker status in this location

**Table 2.4-2 Comparison of Key Distinguishing Impacts of the Proposed Project
and Project Alternatives (continued)**

Impact Issues	Proposed Project	Alternative 6R	Alternative 7	Alternative 8	No Project Alternative
1. Land Use cont. <ul style="list-style-type: none"> Incompatibility between Highway 68 bypass and adjacent land uses 	Proposed Hwy. 68 incompatible with York School, Laguna Seca; reduced impact with required policies/ programs	Similar to proposed project but without mitigating policies and programs; impact from proposed Hwy. 68 on York School, Laguna Seca	Similar to proposed project but without mitigating policies and programs; impact from proposed Hwy. 68 on York School, Laguna Seca	Similar to proposed project but without mitigating policies and programs; impact from proposed Hwy. 68 on York School, Laguna Seca	No impact; caretaker status in this location
2. Socioeconomics <ul style="list-style-type: none"> General housing (dwelling units - excludes CSUMB students) Employment (jobs) 	17,132 45,457 Jobs:housing ratio of 2.05 is improved over previous alternatives	10,210 27,000 Jobs:housing ratio = 2.64	13,800 58,500 Jobs:housing ratio = 3.10	15,000 48,100 Jobs:housing ratio = 2.39	4,816 25,630 Jobs:housing ratio = 2.59
3. Geology and Soils	Potential impacts on unique soil types, soil fertility, coastal facilities, wind erosion, water erosion, landslide susceptibility, and increased sedimentation would be reduced with required programs and policies	Slightly less than under proposed project; potential for less erosion impacts in East Garrison area; potential for greater long-term loss of soil fertility caused by fire suppression	Similar to proposed project; potential for less erosion impacts in East Garrison area	Similar to proposed project; potential for less erosion impacts in East Garrison area	Less than proposed project; potential for greater long-term loss of soil fertility caused by fire suppression
4. Public Services, Utilities, and Water Supply <ul style="list-style-type: none"> Need for new local water supplies 	18,262 afy Policies/programs and mitigation measures reduce effect on groundwater supplies, but additional water supplies required	12,000 afy Less than proposed project	17,700 afy Similar to proposed project, but without mitigating policies and programs	18,000 afy Similar to proposed project, but without mitigating policies and programs	9,346 afy Substantially less than proposed project

Table 2.4-2 Comparison of Key Distinguishing Impacts of the Proposed Project and Project Alternatives (continued)

Impact Issues	Proposed Project	Alternative 6R	Alternative 7	Alternative 8	No Project Alternative
4. Public Services, Utilities, and Water Supply cont. <ul style="list-style-type: none"> Need for new and upgraded utility systems - Wastewater Generated - Solid Waste Generated - Storm Drainage 	<p>9.8 mgd Capital improvements, policies/ programs, and mitigation measures reduce effect</p> <p>193 tons per day generated at build-out</p> <p>Drainage improvements on 8,701 acres of developed land; capital improvements and policies/ programs reduce effect</p>	<p>Less than pro-posed project; potential impacts associated with utility system deterioration</p> <p>Substantially less than proposed project, based on lower population</p> <p>Less than proposed project, based on fewer acres developed; potential impacts associated with utility system deterioration</p>	<p>Slightly less than proposed project, based on fewer dwelling units</p> <p>Slightly less than proposed project, based on a lower population</p> <p>Similar to proposed project, based on similar acres developed</p>	<p>Slightly less than proposed project, based on fewer dwelling units</p> <p>Slightly less than proposed project, based on a lower population</p> <p>Similar to proposed project, based on fewer acres developed</p>	<p>Substantially less than proposed project, based on a lower population</p> <p>Substantially less than proposed project, based on a lower population</p> <p>Less than proposed project, based on fewer acres developed; additional impacts associated with utility system deterioration</p>
5. Hydrology and Water Quality	Potential impacts associated with site run-off, water quality degradation, and groundwater recharge would be reduced with required programs and policies	Slightly less than proposed project	Slightly greater than proposed project	Slightly greater than proposed project	Less than proposed project
6. Public Health and Safety <ul style="list-style-type: none"> Increased demand for law enforcement 	Demand for increased law enforcement (103 additional law enforcement officers); policies, programs and mitigation measures reduce effect	Less than the proposed project, based on lower population	Less than the proposed project, based on lower population	Slightly less than the proposed project, based on lower population	Substantially less than the proposed project, based on lower population

**Table 2.4-2 Comparison of Key Distinguishing Impacts of the Proposed Project
and Project Alternatives (continued)**

Impact Issues	Proposed Project	Alternative 6R	Alternative 7	Alternative 8	No Project Alternative
6. Public Health and Safety cont.					
<ul style="list-style-type: none"> Increased demand for fire protection 	Increased demand for fire protection; policies/ programs and mitigation measures reduce effect	Less than proposed project	Similar to proposed project, based on similar amount of acres served	Similar to proposed project, based on similar amount of acres served	Less than proposed project
<ul style="list-style-type: none"> Exposure to hazardous and toxic materials 	Potential exposure to hazardous materials reduced by policies/ programs	Less than proposed project	Similar to proposed project	Similar to proposed project	Less than proposed project
<ul style="list-style-type: none"> Long-term exposure to unexploded ordnance 	Long-term exposure to unexploded ordnance reduced by policies/ programs	Similar to proposed project	Similar to proposed project	Similar to proposed project	Similar to proposed project
7. Traffic and Circulation					
<ul style="list-style-type: none"> Daily Vehicle Trips Generated 	390,000	228,000	435,139	425,000-430,000	195,000
<ul style="list-style-type: none"> Increased traffic demand on Fort Ord and regional transportation 	Improved jobs:housing balance would minimize off-site trips; programs and policies assure capacity for on-site trips and reduce but do not eliminate cumulative regional impacts	Substantially lower impact both internally and regionally due to fewer trips	Would generate more trips due to greater jobs:housing imbalance, causing greater impact on regional system without mitigating policies and programs	Would generate slightly more daily trips, but greater jobs:housing imbalance would result in more trips to from points outside the former Fort Ord thus causing greater impact on regional system; impacts not reduced by mitigating policies and programs	Would generate about one-half the number of trips but absence of community housing within the former Fort Ord is expected to result in higher % of trips to or from points outside the former Fort Ord, causing regional impacts without mitigating policies and programs

Table 2.4-2 Comparison of Key Distinguishing Impacts of the Proposed Project and Project Alternatives (continued)

Impact Issues	Proposed Project	Alternative 6R	Alternative 7	Alternative 8	No Project Alternative
8. Climate and Air Quality	Potential violations of ambient air quality standards would be reduced with required programs and policies	Slightly less than proposed project	Similar to proposed project	Similar to proposed project	Less than proposed project
9. Noise					
• Noise from construction	Potential impacts would be reduced with required programs and policies	Less than proposed project because development would be less intense	Similar to proposed project because amount of development would be similar	Similar to proposed project because amount of development would be similar	Substantially less than proposed project because substantially less development would occur
• Noise impacts from traffic	Potential impacts to new and existing noise-sensitive land uses would be reduced with required programs and policies	Less than proposed project because traffic volumes would be lower	Slightly more than proposed project because amount of traffic would be increased, without mitigating policies and programs	Slightly more than proposed project because amount of traffic would be increased, without mitigating policies and programs	Substantially less than proposed project because substantially less traffic would occur
• Noise impacts from airports	Potential impacts to new noise-sensitive land uses would be reduced with required programs and policies	Less than proposed project because development close to airports would be less intense	Similar to proposed project because location and intensity of development would be similar but without mitigating policies and programs	Similar to proposed project because location and intensity of development would be similar but without mitigating policies and programs	Less than proposed project, because fewer sensitive land uses would be exposed to aircraft noise
• Noise from non-transportation sources	Potential impact to new and existing noise-sensitive land uses would be reduced with required programs and policies	Less than proposed project because development would be less intense	Similar to proposed project because development would be similar without mitigating policies and programs	Similar to proposed project because of similar development without mitigating policies and programs	Fewer land uses with sources of noise would be located adjacent to noise-sensitive land uses

**Table 2.4-2 Comparison of Key Distinguishing Impacts of the Proposed Project
and Project Alternatives (continued)**

Impact Issues	Proposed Project	Alternative 6R	Alternative 7	Alternative 8	No Project Alternative
10. Biological Resources					
<ul style="list-style-type: none"> • Loss of sensitive habitats addressed in the HMP - Loss of maritime chaparral (acres) 	Potential impacts on 2,333 acres would be reduced with required policies and programs	Slightly less than proposed project	Slightly less than proposed project	Slightly less than proposed project	Less than proposed project but more potential for habitat degradation/isolation from lack of active habitat management
- Loss of coastal strand	No loss of habitat; potential impacts to special status species would be reduced with required policies and programs	Slightly more than proposed project	Slightly more than proposed project	Slightly more than proposed project	Similar to proposed project
- Loss of dune scrub	Potential impacts on 2 acres would be reduced with required policies and programs	Slightly less than proposed project	Slightly more than proposed project	Slightly more than proposed project	Similar to proposed project
• Effects on beach, blowouts, ice plant mats, disturbed dune	Potential impacts to 71 acres would be reduced with required policies and programs	More than proposed project	Slightly more than proposed project	Slightly more than proposed project	Less than proposed project
• Effects on coastal scrub	Potential impacts on 348 acres would be negligible	Less than proposed project	Less than proposed project	Less than proposed project	Less than proposed project
• Effects on annual grassland	Potential impacts on 1,525 acres would be negligible	Less than proposed project	Less than proposed project	Less than proposed project	Less than proposed project
• Effects on coast live oak woodland and savanna	Potential impacts 1,584 acres would be reduced with required policies and programs	More than proposed project	More than proposed project	More than proposed project	Less than proposed project
• Effects on native perennial grassland	Potential impacts on 6 acres would be negligible	Slightly less than proposed project	Slightly less than proposed project	Slightly less than proposed project	Slightly less than proposed project
• Effects on vernal ponds, riparian corridors, other wetland areas	Potential impacts on up to 5 acres would be reduced with policies and programs	Slightly more than proposed project	Slightly more than proposed project	Slightly more than proposed project	Similar to proposed project

Table 2.4-2 Comparison of Key Distinguishing Impacts of the Proposed Project and Project Alternatives (continued)

Impact Issues	Proposed Project	Alternative 6R	Alternative 7	Alternative 8	No Project Alternative
10. Biological Resources cont.					
<ul style="list-style-type: none"> Removal of sensitive species not addressed in the HMP 	Potential impacts would be reduced with required policies and programs	Slightly less than proposed project	Slightly less than proposed project	Slightly less than proposed project	Less than proposed project but potential for habitat degradation/isolation from lack of active habitat mangmt.
<ul style="list-style-type: none"> Conflict with the goals of the Sanctuary Management Plan for the Monterey Bay National Marine Sanctuary 	Potential impacts of urban run-off or erosion would be reduced with required policies and programs	Similar to proposed project	Similar to proposed project	Similar to proposed project	Less than proposed project
11. Visual Resources	Potential impacts to on-site visual quality, views from State Route 1 and 68, and view from Salinas Valley would be reduced with required policies, programs and mitigation measures	More than proposed project	More than proposed project	More than proposed project	Similar to proposed project but without mitigating policies and programs
12. Cultural Resources					
<ul style="list-style-type: none"> Disrupt Native American resources 	Potential impact due to more intense land use would be reduced with required policies and programs	Less than proposed project because less intense land use	Similar to proposed project	Similar to proposed project	Less than proposed project because less intense land use; impact from loss of federal protection
<ul style="list-style-type: none"> Disrupt historical resources 	Potential impact due to more intense land use, especially in East Garrison area; impact would be reduced with required policies and programs	Less than proposed project because less intense land use	Similar to proposed project regarding Stilwell Hall; slightly less for East Garrison historic district	Similar to proposed project regarding Stilwell Hall; slightly less for East Garrison historic district	Similar impact on Stilwell Hall; greater impact on East Garrison because of loss of federal protection

^a Different methodologies were used for Alternative 7 and the proposed project.

^b Different methodologies were used for Alternative 7 and the proposed project; this figure is underestimated.

N/A Not Available

Table 2.5-1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan

PROPOSED PROJECT IMPACTS				Level of Significance		Mitigation Responseability
Environmental Effects	Policies & Programs That Address Environmental Effects	Before Mitigation	Mitigation Measures	After Mitigation		
4.1 Land Use						
1. Incompatibility of Proposed Developments Adjacent to Open Space Areas	ROLU Policy A-1 Program A-1.1 ROLU Policy B-2 Program B-2.1 Program E-1.6 ILU Policy A-1 Program A-1.4	Potentially significant	Amend Program B-2.1 within the Fort Ord Reuse Plan to state: The County of Monterey shall review each future development project for compatibility with adjacent open space land uses and require that suitable open space buffers are incorporated into the development plan of incompatible land uses as a condition of project approval.	Less than significant	Following conveyance of land and at time of development	Monterey County
2. Development in the Coastal Zone	ROLU Policy E-1 Program E-1.1 Program E-1.2	Potentially significant	FORA and CDPR will coordinate future use of the coastal zone through the CDPR master planning process and shall comply with the requirements of the Coastal Zone Management Act and coastal consistency determination.	Less than significant	Correspond with deed transfer and the CDPR master planning process	FORA and California Department of Parks and Recreation
3. Expansion of School Adjacent to Proposed Transportation Corridor	ILU Policy A-1 Program A-1.4 ILU Policy B-1 Program B-1.1	Less than significant	None required	N/A		
4. Incompatibility of Expanded Regional Park District with Proposed Highway 68 Transportation Corridor	ROLU Policy A-1 Program A-1.1 ROLU Policy B-2 Program B-2.1	Potentially significant	Same as for Impact #1 above.	Less than significant	Following conveyance of land and at time of development	Monterey County
5. Incompatibility Between Land Uses Within the Historic East Garrison District	(RLU) Program C-1.2 Program E-1.2 (ROLU) Program E-1.6 ILU Policy A-1 ILU Policy B-1 Program B-1.1	Potentially significant	Adopt a policy or program for the Fort Ord Reuse Plan that states: The County of Monterey shall review future development projects at East Garrison to ensure compatibility with the historic context and associated land uses.	Less than significant	Following conveyance of land and at time of development	Monterey County
6. Incompatibility of Mixed-Use District Adjacent to Patton Elementary School	ILU Policy A-1 ILU Policy B-1 Program B-1.1 Program B-1.2	Less than significant	None required	N/A		

Table 2.5-1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan (continued)

PROPOSED PROJECT IMPACTS					
Environmental Effects	Policies & Programs That Address Environmental Effects ¹	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation	Mitigation Response ²
4.1 Land Use cont.					
7. Incompatibility of Land Uses Adjacent to University Campus	ILU Policy A-1 Program A-1.1 Program A-1.2 Program A-1.3 Program A-1.4	Less than significant	None required	N/A	
8. Incompatibility Between Equestrian Center and Public Amphitheater Adjacent to Residential Area and University Park	ILU Policy A-1 Program A-1.1 Program A-1.2 Program A-1.3 (ROLU) Program E-1.4	Less than significant	None required	N/A	
9. Possible Location of a New High School Near Incompatible Land Uses in the City of Marina	ILU Policy B-1 Program B-1.1 Program B-1.2 Program B-1.3	Less than significant	None required	N/A	
10. Incompatibility of Residential Developments Adjacent to the Natural Resource Management Area (NRMA)	ROLU Policy B-2 Program B-2.1 Program B-2.2 Program B-2.3 Program B-2.4 RLU Policy B-1 Program B-2.1 Program B-2.2	Less than significant	None required	N/A	
Cumulative Land Use Impacts	As above	Less than significant	None required	N/A	
4.2 Socioeconomics					
1. Increase in Monterey County Population, Employment and Demand for Community Services	N/A	Less than significant	None required	N/A	
2. Increase in Monterey County Housing Capacity	N/A	Less than significant	None required	N/A	
Cumulative Socioeconomics Impacts	N/A	Less than significant	None required	N/A	

Table 2.5-1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan (continued)

PROPOSED PROJECT IMPACTS						
Environmental Effects	Policies & Programs That Address Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation	Mitigation Schedule	Mitigation Responsibility
4.3 Geology and Soils						
1. Loss of Unique Soil Type Supporting Rare Plant Communities and Endangered Threatened Species	SGC Policy C-1 Program C-2.1	Less than significant	None required	N/A		
2. Long-term Loss of Soil Fertility Caused by Fire Suppression	(SGC) Program C-2.1	Less than significant	None required	N/A		
3. Potential Loss of Coastal Facilities Due to Construction in a Zone of High Beach or Coastal Erosion	SGC Policy A-1 SGC Policy A-2 Program A-2.3 SGC Policy A-3 SGC Policy A-4 SGC Policy A-5 Program A-5.2	Less than significant	None required	N/A		
4. Accelerated Wind Erosion	SGC Policy A-2 Program A-2.1 Program A-2.2 Program A-2.3 SGC Policy A-3 SGC Policy A-4	Less than significant	None required	N/A		
5. Accelerated Water Erosion	SGC Policy A-1 SGC Policy A-2 Program A-2.1 Program A-2.2 Program A-2.3 SGC Policy A-3 SGC Policy A-4 SGC Policy A-5 Program A-5.2	Less than significant	None required	N/A		

Table 2.5-1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan (continued)

PROPOSED PROJECT IMPACTS				Mitigation Measures	Level of Significance After Mitigation	Mitigation Schedule	Mitigation Responsibility							
Environmental Effects	Policies & Programs That Address Environmental Effects	Level of Significance Before Mitigation	Mitigation											
4.3 Geology and Soils cont.														
6. Increased Landslide Susceptibility	SGC	Policy A-2 Program A-2.1 Program A-2.2 Program A-2.3	Less than significant	None required	N/A									
		SGC						Policy A-4						
		SGC						Policy A-5						
		SGC						Policy A-6						
								Program A-6.1						
								Program A-6.2						
	7. Increased Sedimentation	SGC						Policy A-2 Program A-2.1 Program A-2.2 Program A-2.3	Less than significant	None required	N/A			
								SGC						Policy A-3
								SGC						Policy A-4
								SGC						Policy A-5
			Program A-5.2											
8. Engineering Limitations on Use of Soils		SGC	Policy A-1 Program A-2.3	Less than significant	None required	N/A								
		SGC	Policy A-5											
			Program A-5.2											
Cumulative Geology and Soils Impacts				None required	N/A									
4.4 Public Services, Utilities and Water Supply														
1. Need for New and Upgraded Utility Systems and Services	HWQC Policy C-5 HWQC Policy C-7 Program C-1.1 Program C-1.2 Program A-1.1	Potentially significant	Write a program to be adopted by the Cities of Marina and Seaside and the County of Monterey that states: the City/County shall comply with Assembly Bill 939, which mandates a reduction in generated solid waste to a target rate of 5.4 lb/cap/day, by developing and enforcing a solid waste reduction and recycling program for the former Fort Ord area.	Less than significant	Prior to implementing the proposed project	Cities of Marina and Seaside and County of Monterey								
								Capital improvements for wastewater, water distribution, and storm drainage						

Table 2.5-1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan (continued)

PROPOSED PROJECT IMPACTS						
Environmental Effects	Policies & Programs That Address Environmental Effects ¹	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation	Mitigation Schedule	Mitigation Responsibility ²
4.4 Public Services, Utilities and Water Supply cont.						
1. cont.			Write a program to be adopted by the Cities of Marina and Seaside and the County of Monterey that states: the City/County shall carry out all actions necessary to ensure that the installation of water supply wells comply with State of California Water Well Standards and well standards established by the Monterey County Health Department.		Prior to implementing the proposed project	Cities of Marina and Seaside and County of Monterey
			Write a program to be adopted by the Cities of Marina and Seaside and the County of Monterey that states: the City/County shall carry out all actions necessary to ensure that distribution and storage of potable and non-potable water comply with State Health Department regulations through Title 22.		Prior to implementing the proposed project	Cities of Marina and Seaside and County of Monterey
2. Need for New Local Water Supplies	HWQC Policy B-1 Program B-1.1 Program B-1.2 Program B-1.3 HWQC Policy B-2 HWQC Policy C-3 Program C-3.1 Program C-3.2	Potentially significant	Write a program to be adopted by the Cities of Marina and Seaside and the County of Monterey that states: the City/County shall adopt and enforce a stormwater detention plan that identifies potential stormwater detention design and implementation measures to be considered in all new development, in order to increase groundwater recharge and thereby reduce potential for further seawater intrusion and augment future water supplies.	Less than significant	Prior to implementing the proposed project	Cities of Marina and Seaside and County of Monterey
Cumulative Public Services, Utilities, and Water Supply Impacts Need for New Local Water Supplies	As above	Significant	Same as for Impact #2 above	Unavoidable significant	Prior to implementing the proposed project	Cities of Marina and Seaside and County of Monterey

Table 2.5-1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan (continued)

PROPOSED PROJECT IMPACTS		Policies & Programs That Address Environmental Effects ¹	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation	Mitigation Schedule	Mitigation Responsibility ²
Environmental Effects							
4.5 Hydrology and Water Quality							
1. Increased Site Runoff		HWQC Policy A-1 Program A-1.1 Program B-1.1 HWQC Policy A-2 Program A-2.1	Less than significant	None required	N/A		
2. Water Quality Degradation from Urban Runoff		(HWQC) Program C-1.1 Program C-1.3 HWQC Policy C-2 Program C-2.1 HWQC Policy C-6	Less than significant	None required	N/A		
3. Water Quality Degradation from Golf Course Adjacent to Natural Area Expansion		ROLU Policy B-2 Program B-2.1 BRC Policy A-8 Program A-8.1 HWQC Policy C-1 Program C-1.1 HWQC Policy C-2 Program C-2.1	Less than significant	None required	N/A		
4. Water Quality Degradation from Increased Erosion During Construction		HWQC Policy C-4 Program C-4.1 Program C-1.3 HWQC Policy C-6 SGC Policy A-2 Program A-2.1 Program A-2.2 Program A-2.3	Less than significant	None required	N/A		
5. Degradation of Water Quality from Hazardous Material Spills During Construction		(HWQC) Program C-1.5	Less than significant	None required	N/A		
6. Changes in Amount and Quality of Groundwater Recharge		HWQC Policy A-1 Program A-1.1 HWQC Policy A-2 Program A-2.1	Less than significant	None required	N/A		
Cumulative Hydrology and Water Quality Impacts		As above	Less than significant	None required	N/A		

Table 2.5-1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan (continued)

PROPOSED PROJECT IMPACTS					
Environmental Effects	Policies & Programs That Address Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation	Mitigation Responsibility
4.6 Public Health and Safety					
1. Increased Demand for Law Enforcement Services	N/A	Significant	FORA, jointly with the local city mgrs. and law enforcement agencies involved, shall develop a regional law enforcement program that promotes joint efficiencies in operations, identifies additional law enforcement needs, and identifies and seeks to secure the appropriate funding mechanism to provide the required services.	Unavoidable significant	Cities of Marina and Seaside and County of Monterey
2. Increased Demand for Fire Protection and Emergency Response Services	FFES Policy A-1 Program A-1.1 FFES Policy A-2 FFES Policy A-3 Program A-3.1 Program A-3.2 FFES Policy A-4 FFES Policy C-1 Program C-1.1 Program C-1.2 Program C-1.3	Significant	FORA, jointly with the local city mgrs. and fire protection agencies involved, shall develop a regional program that promotes joint efficiencies in operations, identifies further sources of funding for additional required fire protection services (such as a special fire district or other standard mechanism) and seeks to secure adequate funding to maintain existing levels of service.	Unavoidable significant	Cities of Marina and Seaside, County of Monterey, and State Department of Forestry and Fire Protection
3. Risk of Damage from Seismic Activity	SGHS Policy A-1 Program A-1.1 Program A-1.2 SGHS Policy A-2 Program A-2.1 Program A-2.2 Program A-2.3 SGHS Policy A-3 Program A-3.1 SGHS Policy B-1 Program B-1.1 SGHS Policy C-1 Program C-1.1	Less than significant	None required	N/A	

Table 2.5-1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan (continued)

PROPOSED PROJECT IMPACTS					
Environmental Effects	Policies & Programs That Address Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation	Mitigation Schedule Mitigation Response Mitigation Responsibility
4.6 Public Health and Safety cont.					
4. Exposure to Hazardous and Toxic Materials	HTMS Policy A-1 Program A-1.1 Program A-1.2 HTMS Policy B-1 Program B-1.1 Program B-1.2 Program B-1.4 HTMS Policy B-2 Program B-2.1 Program B-2.2 HTMS Policy B-3 HTMS Policy C-1 Program C-1.1	Potentially significant	FORA, through consultation with the Army and involved land use agencies, shall ensure that clean-up levels are consistent with all revised land uses proposed in the Fort Ord Reuse Plan.	Less than significant	Prior to implementing the proposed project FORA, Army, Cities of Marina and Seaside, and County of Monterey
5. Long-term Exposure to Unexploded Ordnance	(HTMS) Program B-1.3	Less than significant	None required	N/A	
Cumulative Public Health and Safety Impacts	As above	Potentially significant	Same as for Impacts #1, #2, and #4 above	Unavoidable significant	As above
4.7 Traffic and Circulation					
1. Increased Travel Demand on Regional Transportation System	SRC Policy A-1 Program A-1.1 Program A-1.2 SRC Policy B-1 Program B-1.1 Program B-1.2 TC Policy A-1 Program A-1.1 Program A-1.3 TC Policy B-1 Program B-1.1 TC Policy C-1 Program C-1.1	Potentially significant	Amend Streets and Roads Policy A-1.2 to add the following wording: FORA shall review the options for distributing its fair-share financial contributions to all or selected off-site transportation improvements so as to maximize the effectiveness of these contributions in reducing traffic impacts to the regional roadway system.	Unavoidable significant	Prior to implementing the proposed project FORA

Table 2.5-1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan (continued)

PROPOSED PROJECT IMPACTS					
Environmental Effects	Policies & Programs That Address Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation	Mitigation Responsibility
4.7 Traffic and Circulation cont.					
1. cont.	TDMC Policy A-1 Program A-1.1 Program A-1.2 Program A-1.3 Program A-1.4 AQC Policy A-3 Program A-3.1				
2. Increased Travel Demand Within Former Fort Ord	SRC Policy C-1 Program C-1.1 Program C-1.2 Program C-1.3 Program C-1.4 Program C-1.5 SRC Policy C-2 Program C-2.1 TC Policy A-1 Program A-1.1 Program A-1.2 Program A-1.3 TC Policy C-1 Program C-1.1 AQC Policy A-3 Program A-3.1 PBC Policy A-1 Program A-1.1 PBC Policy B-1 Program B-1.1 Program B-1.2	Less than significant	None required	N/A	
Cumulative Traffic and Circulation Impacts					
Off-site	Same as for Impact #1 above	Significant	Same as for Impact #1 above	Unavoidable significant	Prior to implementing the proposed project
Within Former Fort Ord	Same as for Impact #2 above	Less than significant	N/A	N/A	FORA

Table 2.5-1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan (continued)

PROPOSED PROJECT IMPACTS						
Environmental Effects	Policies & Programs That Address Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation	Mitigation Schedule	Mitigation Responsibility
4.8 Climate and Air Quality						
1. Potential Violation of Ambient Air Quality Standards	AQC Policy A-1 Program A-1.1 Program A-1.2 AQC Policy A-2 Program A-2.1 Program A-2.2 AQC Policy A-3 Program A-3.1 Program A-3.2	Less than significant	None required	N/A		
Cumulative Climate and Air Quality Impacts	As above	Less than significant	None required	N/A		
4.9 Noise						
1. Excessive Noise from Construction Activities	N Policy A-1 Program A-1.1 Program A-1.2 N Policy B-1 Program B-1.1 N Policy B-2 N Policy B-9	Less than significant	None required	N/A		
2. Exposure of Existing Noise-sensitive Land Uses to Excessive Traffic Noise and Substantial Increases in Ambient Noise Levels	N Policy A-1 Program A-1.1 N Policy B-1 Program B-1.1 N Policy B-2	Less than significant	None required	N/A		

Table 2.5-1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan (continued)

PROPOSED PROJECT IMPACTS						
Environmental Effects	Policies & Programs That Address Environmental Effects ¹	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation	Mitigation Schedule	Mitigation Responsibility ²
4.9 Noise cont.						
3. Exposure of New Noise-sensitive Land Uses to Excessive Traffic Noise	N Policy A-1 Program A-1.1 Program B-1.1 N Policy B-2 N Policy B-3 N Policy B-4 N Policy B-5 N Policy B-6 N Policy B-7 N Policy B-8	Less than significant	None required	N/A		
4. Exposure of New Noise-sensitive Land Uses to Noise from Monterey Peninsula Airport and Marina Municipal Airport	N Policy A-1 Program A-1.1 N Policy B-2 N Policy B-3 N Policy B-4 N Policy B-5 N Policy B-6 N Policy B-7 N Policy B-8	Less than significant	None required	N/A		
5. Exposure of Existing and Planned Noise-sensitive Land Uses to Noise from Non-transportation Sources, Including the Proposed Amphitheater, Peace Officers Training Facility, and the Transit Center	N Policy A-1 Program A-1.1 Program A-1.2 N Policy B-1 Program B-1.1 N Policy B-2 N Policy B-3 N Policy B-4 N Policy B-5 N Policy B-6 N Policy B-7 N Policy B-8	Less than significant	None required	N/A		
Cumulative Noise Impacts	As above	Less than significant	None required	N/A		

Table 2.5-1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan (continued)

PROPOSED PROJECT IMPACTS		Level of Significance Before Mitigation		Mitigation Measures		Level of Significance After Mitigation		Mitigation Schedule		Mitigation Responsibility	
Environmental Effects	Policies & Programs That Address Environmental Effects										
4.10 Biological Resources											
1. Loss of Sensitive Species and Habitats Addressed in the Habitat Management Plan (City of Marina)	BRC	Policy A-1				Less than significant		None required		N/A	
		Program A-1.1									
		Program A-1.2									
		Program A-1.3									
	BRC	Policy A-2									
		Program A-2.1									
		Program A-2.2									
		Program A-2.3									
		Program A-2.4									
		Program A-2.5									
		Program A-2.6									
	BRC	Policy A-3									
		Program A-3.1									
		Program A-3.2									
		Program A-3.3									
	BRC	Policy A-4									
		Program A-4.1									
		Program A-4.2									
		Program A-4.3									
	BRC	Policy A-5									
		Program A-5.1									
		Program A-5.2									
	BRC	Policy A-6									
		Program A-6.1									
		Program A-6.2									
	BRC	Policy A-7									
		Program A-7.1									
		Program A-7.2									
		Program A-7.3									
	BRC	Policy A-8									
		Program A-8.1									
	BRC	Policy A-1									
		Program A-1.1									
		Program A-1.2									
		Program A-1.3									
	BRC	Policy A-2									
		Program A-2.1									
(City of Seaside)											

Table 2.5-1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan (continued)

PROPOSED PROJECT IMPACTS		Level of Significance Before Mitigation		Mitigation Measures		Level of Significance After Mitigation		Mitigation Schedule		Mitigation Respon- sibility ²	
Environmental Effects	Policies & Programs That Address Environmental Effects ¹										
4.10 Biological Resources cont.											
1. cont.											
	BRC	Policy A-3									
		Program A-3.1									
	BRC	Policy A-4									
		Program A-4.1									
		Program A-4.2									
		Program A-4.3									
	BRC	Policy A-1									
		Program A-1.1									
		Program A-1.2									
		Program A-1.3									
		Program A-1.4									
	BRC	Policy A-2									
		Program A-2.1									
		Program A-2.2									
		Program A-2.3									
		Program A-2.4									
		Program A-2.5									
	BRC	Policy A-3									
		Program A-3.1									
		Program A-3.2									
		Program A-3.3									
		Program A-3.4									
		Program A-3.5									
		Program A-3.6									
	BRC	Policy A-4									
		Program A-4.1									
		Program A-4.2									
		Program A-4.3									
		Program A-4.4									
		Program A-4.5									
		Program A-4.6									
	BRC	Policy A-5									
		Program A-5.1									
		Program A-5.2									
		Program A-5.3									
		Program A-5.4									
		Program A-5.5									
		Program A-5.6									

Table 2.5-1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan (continued)

PROPOSED PROJECT IMPACTS			Level of Significance			Mitigation Measures			Level of Significance After Mitigation			Mitigation Response		
Environmental Effects	Policies & Programs That Address Environmental Effects		Level of Significance Before Mitigation			Mitigation Measures			Level of Significance After Mitigation			Mitigation Schedule		Responsibility
4.10 Biological Resources cont.														
1. cont.														
	BRC	Policy A-6 Program A-6.1												
	BRC	Policy A-7 Program A-7.1												
	BRC	Policy A-8 Program A-8.1												
	BRC	Policy A-9 Program A-9.1 Program A-9.2 Program A-9.3												
2. Affecting up to Approximately 71 Acres of Beach and Blowouts, Ice Plant Mats, and Disturbed Dune (City of Marina)	BRC	Policy A-8 Program A-8.1	Less than significant			None required			N/A					
(City of Seaside)	BRC	Policy A-3 Program A-3.1												
(Monterey County)	BRC	Policy A-6 Program A-6.1												
3. Affecting up to Approximately 348 Acres of Coastal Scrub	N/A		Less than significant			None required			N/A					
4. Affecting up to Approximately 1,525 Acres of Annual Grassland	N/A		Less than significant			None required			N/A					
5. Affecting up to Approximately 1,584 Acres of Coast Live Oak Woodlands (City of Marina)	BRC	Policy C-2 Program C-2.1 Program C-2.2 Program C-2.3	Less than significant			None required			N/A					
(City of Seaside)	BRC	Policy B-2 Program B-2.1 Program B-2.2												

Table 2.5-1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan (continued)

PROPOSED PROJECT IMPACTS					
Environmental Effects	Policies & Programs That Address Environmental Effects ¹	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation	Mitigation Responsibility ²
4.10 Biological Resources cont.					
5. cont.	BRC Policy C-2 Program C-2.1 Program C-2.2 Program C-2.3 Program C-2.4 Program C-2.5 Program C-2.6 (BRC) BRC Policy B-2 Program B-2.1 Program B-2.2 BRC Policy C-2 Program C-2.1 Program C-2.2 Program C-2.3 Program C-2.4 Program C-2.5 (Monterey County)				
6. Affecting up to Approximately Six Acres of Native Perennial Grassland	N/A	Less than significant	None required	N/A	
7. Loss of Vernal Ponds, Riparian Corridors and Other Wetland Areas	BRC Policy B-3 Program B-3.1 Program B-3.2 Program B-3.3 BRC Policy B-3 Program B-3.1 Program B-3.2 BRC Policy B-3 Program B-3.1 Program B-3.2 Program B-3.3 Program B-3.4	Less than significant	None required	N/A	

Table 2.5-1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan (continued)

PROPOSED PROJECT IMPACTS				Level of Significance		
Environmental Effects	Policies & Programs That Address Environmental Effects ¹	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation	Mitigation Schedule	Mitigation Responsibility
4.10 Biological Resources cont.						
8. Loss of Sensitive Species Not Addressed in the HMP	BRC Policy B-1 Program B-1.1 Program B-1.2 BRC Policy B-2 Program B-2.1 Program B-2.2	Less than significant	None required	N/A		
9. Conflict with the Goals of the Sanctuary Management Plan for the Monterey Bay National Marine Sanctuary	HWQC Policy C-1 Program C-1.1 Program C-1.3 HWQC Policy C-2 Program C-2.1 HWQC Policy C-4 Program C-4.1 HWQC Policy C-6	Less than significant	None required	N/A		
Cumulative Biological Resources Impacts	As above	Less than significant	None required	N/A		
4.11 Visual Resources						
1. Reduced Visual Quality On-site	RLU Policy I-1 Program I-1.1 Program I-1.2 RLU Policy I-2 CLU Policy B-3 CLU Policy F-1 CLU Policy F-2 ILU Policy D-1 ILU Policy D-2 ROS Policy B-1 ROS Policy B-2 ROS Policy G-3	Less than Significant	None required.	N/A		

Table 2.5-1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan (continued)

PROPOSED PROJECT IMPACTS						
Environmental Effects	Policies & Programs That Address Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation	Mitigation Schedule	Mitigation Responsibility
4.11 Visual Resources cont.						
2. Reduced Visual Quality Seen from State Route 1	ROLU Policy D-1 Program D-1.1 Program D-1.2 Program D-1.3 Program D-1.4 Program D-1.5 ROS Policy B-1 Program B-1.1 Program B-1.2	Less than significant	None required	N/A		
3. Reduced Visual Quality Seen from State Route 68	N/A	Less than significant	None required	N/A		
4. Reduced Visual Quality Seen from the Salinas Valley	CRC Policy B-2 Program B-2.2	Significant	Develop policies and programs to implement design guidelines for development on the bluffs to avoid strong visual contrasts seen from the Salinas Valley.	Less than significant	Prior to project implementation	City of Marina and Monterey County
Cumulative Visual Resources Impacts						
	As above	Significant	Develop and implement corridor visual design guidelines outside Fort boundaries. Consistent with those prepared for the former Fort Ord under the Reuse Plan.	Unavoidable significant	As above	Monterey County, Cities of Marina, Seaside, Del Rey Oaks, Sand City, and Monterey
4.12 Cultural Resources						
1. Disturbance of Lands with Potential to Contain Archaeological Resources	CR Policy A-1 Program A-1.1 Program A-1.2 Program A-1.3	Less than significant	None required	N/A		
2. Disturbance of Lands with Potential to Contain Native American Traditional Cultural Properties	CR Policy A-2 Program A-2.1 Program A-2.2	Less than significant	None required	N/A		

Table 2.5-1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan (continued)

PROPOSED PROJECT IMPACTS				
Environmental Effects	Policies & Programs That Address Environmental Effects ¹	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation Mitigation Schedule Mitigation Responsibility ²
4.12 Cultural Resources cont.				
3. Disturbance of Lands with Potential to Contain Historically Significant Resources	CR Policy B-1 Program B-1.1 Program B-1.2 Program B-1.3 Program B-1.4 CR Policy B-2 Program B-2.1 Program B-2.2 Program B-2.3	Less than significant	None required	N/A
Cumulative Cultural Resources Impacts			As above	N/A

Key: 1 = In most cases where a particular agency is not identified in parentheses, the policies and programs apply to the Cities of Marina and Seaside and the County of Monterey.
2 = The mitigation responsibilities apply only to those impacts which are considered significant or potentially significant before mitigation.

RLU	Residential Land Use section of the Land Use Element, <i>Draft Fort Ord Reuse Plan</i>
CLU	Commercial Land Use section of the Land Use Element, <i>Draft Fort Ord Reuse Plan</i>
ROLU	Recreation/Open Space Land Use section of the Land Use Element, <i>Draft Fort Ord Reuse Plan</i>
ILU	Institutional Land Use section of the Land Use Element, <i>Draft Fort Ord Reuse Plan</i>
SRC	Streets and Roads section of the Circulation Element, <i>Draft Fort Ord Reuse Plan</i>
TC	Transit section of the Circulation Element, <i>Draft Fort Ord Reuse Plan</i>
PBC	Pedestrian and Bicycles section of the Circulation Element, <i>Draft Fort Ord Reuse Plan</i>
TMDC	Transportation and Demand Management section of the Circulation Element, <i>Draft Fort Ord Reuse Plan</i>
ROS	Recreation section of the Recreation and Open Space Element, <i>Draft Fort Ord Reuse Plan</i>
SGC	Soils and Geology section of the Conservation Element, <i>Draft Fort Ord Reuse Plan</i>
HWQC	Hydrology and Water Quality section of the Conservation Element, <i>Draft Fort Ord Reuse Plan</i>
BRC	Biological Resources section of the Conservation Element, <i>Draft Fort Ord Reuse Plan</i>
AQC	Air Quality section of the Conservation Element, <i>Draft Fort Ord Reuse Plan</i>
CR	Cultural Resources section of the Conservation Element, <i>Draft Fort Ord Reuse Plan</i>
N	Noise section of the Noise Element, <i>Draft Fort Ord Reuse Plan</i>
SGHS	Seismic and Geologic Hazards section of the Safety Element, <i>Draft Fort Ord Reuse Plan</i>
FFES	Fire, Flood and Emergency Management section of the Safety Element, <i>Draft Fort Ord Reuse Plan</i>
HTMS	Hazardous and Toxic Materials Safety section of the Safety Element, <i>Draft Fort Ord Reuse Plan</i>

3.0 PROJECT DESCRIPTION

Introduction

The proposed project being evaluated in this Draft EIR is the land use development plan and related implementation components contained in the *Draft Fort Ord Reuse Plan* (Reuse Plan). The Reuse Plan includes a "land use concept" as well as the following related components:

- Conservation plan;
- Recreation plan;
- Transportation plan;
- Capital improvement program;
- Local general plan modifications to incorporate former Fort Ord properties;
- Redevelopment planning for former Fort Ord properties; and
- Potential changes in city, county and special district boundaries within the former Fort Ord.

The land use concept is the primary focus of the impact analyses contained in this Draft EIR. For the purpose of describing the comprehensive plan, the project components listed above are briefly summarized in this chapter. This chapter also describes the project objectives and the approvals and permits required by local governments and regulatory agencies to implement the proposed project.

The *Draft Fort Ord Reuse Plan* is summarized in this chapter and is herein incorporated by reference. The Draft Fort Ord Reuse Plan document should be read in conjunction with this Draft EIR.

Project Site

The project site is the former Department of the Army (Army) military facility known as Fort Ord. The former Fort Ord occupies approximately 27,964 acres of land along the Pacific Ocean, 100 miles south of San Francisco, California. The site is located in northern Monterey County and is adjacent to the Cities of Marina, Seaside, Sand City, Del Rey Oaks, and Monterey (refer to Figure 3.1-1).

Under the proposed project, approximately 27,000 acres of former Fort Ord would be transferred from the Army to a number of government agencies and local organizations that would have land use control within former Fort Ord. The transfer and redevelopment of such a large area would necessitate substantial restructuring of local jurisdictional boundaries, the incorporation of new local policies and programs to guide development, implementation strategies including capital improvements, and future land management plans. The proposed project addresses all these factors and therefore serves as a long-term, regionally-focused, and comprehensive reuse plan.

3.1 Project Objectives

With the closure of the former Fort Ord, the local region has lost a substantial portion of its population, jobs, and amount of economic activity previously supplied by the Army. At the same time, however, the local region has gained a well-located and environmentally-rich piece of property, which has effectively been unavailable to the community since 1917. The *Draft Fort Ord Reuse Plan* endeavors both to satisfy local community needs, and take advantage of new opportunities by replacing lost jobs and revenue and preserving the natural beauty and biological resources of the property. FORA's vision for the proposed

project is a reuse and development strategy focused on "the three Es:" economic development, the environment, and education.

The Fort Ord Reuse Authority Act (Title 7.85, Section 67651(a),(b),(c),(d) of the Government Code) declares the following goals for the reuse of former Fort Ord to be the policy of the State of California:

- a) To facilitate the transfer and reuse of Fort Ord with all practical speed;*
- b) To minimize the disruption caused by the base's closure on the civilian economy and the people of the Monterey Bay area;*
- c) To provide for the reuse and development of the base area in ways that enhance the economy and quality of life of the Monterey Bay community; and*
- d) To maintain and protect the unique environmental resources of the area.*

The Fort Ord Reuse Authority Act indicates that all former Fort Ord property that has been transferred from the federal government must be used in a manner that is consistent with the FORA Board's Reuse Plan, except for property transferred to the California State University or the University of California that is used for education related or research-oriented purposes, and excluding property transferred to the California Department of Parks and Recreation.

The *Draft Fort Ord Reuse Plan* represents an ultimate buildout scenario for the former Fort Ord over the next 40 to 60 years. The level of development proposed under the proposed project is consistent with the level of projected regional growth (as predicted by AMBAG until the year 2015). It is the intent of the proposed project to accommodate a substantial portion of this regional growth, and also to share in the funding of regional expenditures such as circulation infrastructure improvements.

The proposed project, as considered within the context of the overall *Draft Fort Ord Reuse Plan*, is also intended to be self-mitigating. Policy and program statements included in Chapter 4.0 - Reuse Plan Elements of the *Draft Fort Ord Reuse Plan* are designed to mitigate potential adverse effects of the proposed project.

3.1.1 Basis of the Revised Draft Fort Ord Reuse Plan

FORA's Interim Reuse Plan was presented and analyzed in the Army's DSEIS and approved by the FORA Board on December 12, 1994. The basis of the Interim Reuse Plan was driven in large measure by the desires and needs of the land use agencies involved. Early assessment of the plan concluded the following:

- *Market Support.* The balance of land uses in the plan did not match the market on the Peninsula for these uses. There was a significant oversupply of industrial/business park land uses and an insufficient amount of residential land uses.
- *Circulation Capacity.* The extent of new circulation network in the plan appeared to be significantly out of balance with the land served resulting in serious coast considerations. In addition, the roadway network pattern resulted in a significant impact on State Highway 1 by overloading the 12th Street interchange and under-utilizing the capacity of the Main Gate intersection.



- *Infrastructure Costs.* The cost estimates prepared during the FORIS Infrastructure Study completed in January 1995 indicated a potentially significant burden on the land that threatened the financial feasibility of the plan.

Plan Refinements

Based on the early assessments and on extensive outreach to the community, a series of plan refinements were developed. A Community Vision Session was sponsored by FORA to provide a forum to identify issues and concerns. Plan refinements were incorporated that addressed both the shortcomings in the original Interim Reuse Plan, and the substantial number of refinements prompted by the Community Vision Session and initiated by each of the land use agencies. The revised *Draft Fort Ord Reuse Plan* maintains the fundamental elements of the original community vision through incorporation of the following:

- *Environmental Protection.* The Habitat Management Plan (HMP) was respected and only minor refinements of the boundary within the U. S. Bureau of Land Management (BLM) habitat lands were incorporated into the Land Use Concept.
- *Mix of Land Uses.* The same mix of land uses is retained. The proportional representation of each land use has been changed to reflect the Peninsula real estate market and a reuse strategy that leveraged the housing market to enhance the attractiveness of the former Fort Ord as a jobs center.
- *Circulation System.* Several changes were made to the circulation network to reduce land committed to roadways, reduce the size of the roadway, and take advantage of existing improvements to reduce costs.

Development Strategies

As a result of the refinement process, the focus shifted to the implementation strategies that could optimize the financial viability of the Reuse Plan. Development strategies were articulated for the market, circulation, infrastructure extension, community-building synergies, and fiscal strategies.

3.1.2 Significant Differences between the Proposed Project and Alternatives presented in the Army's FEIS and DSEIS

The Army's DSEIS analyzed Alternative 7 (FORA's Interim Reuse Plan) and a minor modification of this alternative labeled Alternative 8. The Army's FEIS analyzed Alternatives 1 through 6R and their subalternatives. The proposed project in this Draft EIR is relatively similar to Alternatives 7 and 8, but is significantly different from Alternatives 1 through 6R. The principal differences between the current *Draft Fort Ord Reuse Plan* and previous Alternatives 7 and 8 have resulted in a proposed project that:

- is more economically feasible;
- contains a down-scaled and less-costly circulation infrastructure;
- satisfies the demand for adequate housing in the local region;
- includes increased recreational and tourist opportunities; and
- better integrates land uses.

A more detailed description of the differences between the proposed project and Alternatives 7 and 8 is presented in Table 3.2-1.

3.2 Land Use Concept

Figure 3.2-1 shows the ultimate development land use concept for the proposed project. Implementation of the proposed project would result in the development of approximately 22,232 dwelling units (including 5,100 CSUMB on-campus housing), 45,457 jobs, and a buildout population of approximately 51,773 plus 20,000 CSUMB on-campus students. The appropriate division of total acreage on the former Fort Ord by land use category would be as follows:

- 62% Habitat Management;
- 9% Educational/Institutional/Public Facilities (includes airport);
- 1% Retail;
- 5% Business Park/Light Industrial/Planned Development;
- 7% Residential;
- 10% Parks and Recreation (beach, golf);
- 0% Agri-Business;
- 7% Other (rights-of-way 4%; POM annex 3%); and
- <1% Visitor Serving.

Under the proposed project, 62% (or 17,367 acres) of the former Fort Ord would be left undeveloped and would be included as part of a habitat management program. The BLM would manage approximately 15,000 acres and the remainder would be managed by the California Department of Parks and Recreation (CDPR), the University of California Natural Reserve System, Monterey County, and the City of Marina. Under the proposed project, approximately 782 acres would stay under the Army as a military enclave (i.e., POM annex, reserve center). The remaining approximately 29% of former Fort Ord (or 7,919 acres) would be developed according to the urban land uses described above, and 10% of land (or 2,692 acres) would be developed or left undeveloped for parks and recreation. Consistent with the analysis in the Army's DSEIS, the easement for potential future SR 68 improvements in the southern portion of former Fort Ord is treated as an open space and habitat management area (refer to Figure 3.2-1).

3.2.1 Proposed Project Land Uses

The proposed project is a modification of FORA's Interim Reuse Plan of December 12, 1994 (Alternative 7). Compared to Alternative 7, the proposed project represents lower land use densities associated with commercial and industrial uses, fewer overall jobs created, and a down-scaled circulation plan. The proposed project also represents an overall increase in dwelling units and mixed-use development, in order to create a more balanced jobs-housing ratio. The proposed project is more economically feasible than Alternatives 7 and 8 and responds to the lack of adequate housing in the local communities, while still providing educational opportunities, economic recovery, environmental protection, and recreational opportunities.

The primary land use differences between Alternative 7 and the proposed project are described in Table 3.2-1 and shown in Figure 3.2-2, and are represented as either substantially revised or slightly revised areas. Three polygon areas revised under the proposed project differ substantially from reuse alternatives considered in the Army's FEIS and DSEIS; these are polygons 1c, 4 and 1b. Polygon 1c is a light

Fort Ord Reuse Plan
Draft EIR

EDAW, Inc. May, 1996

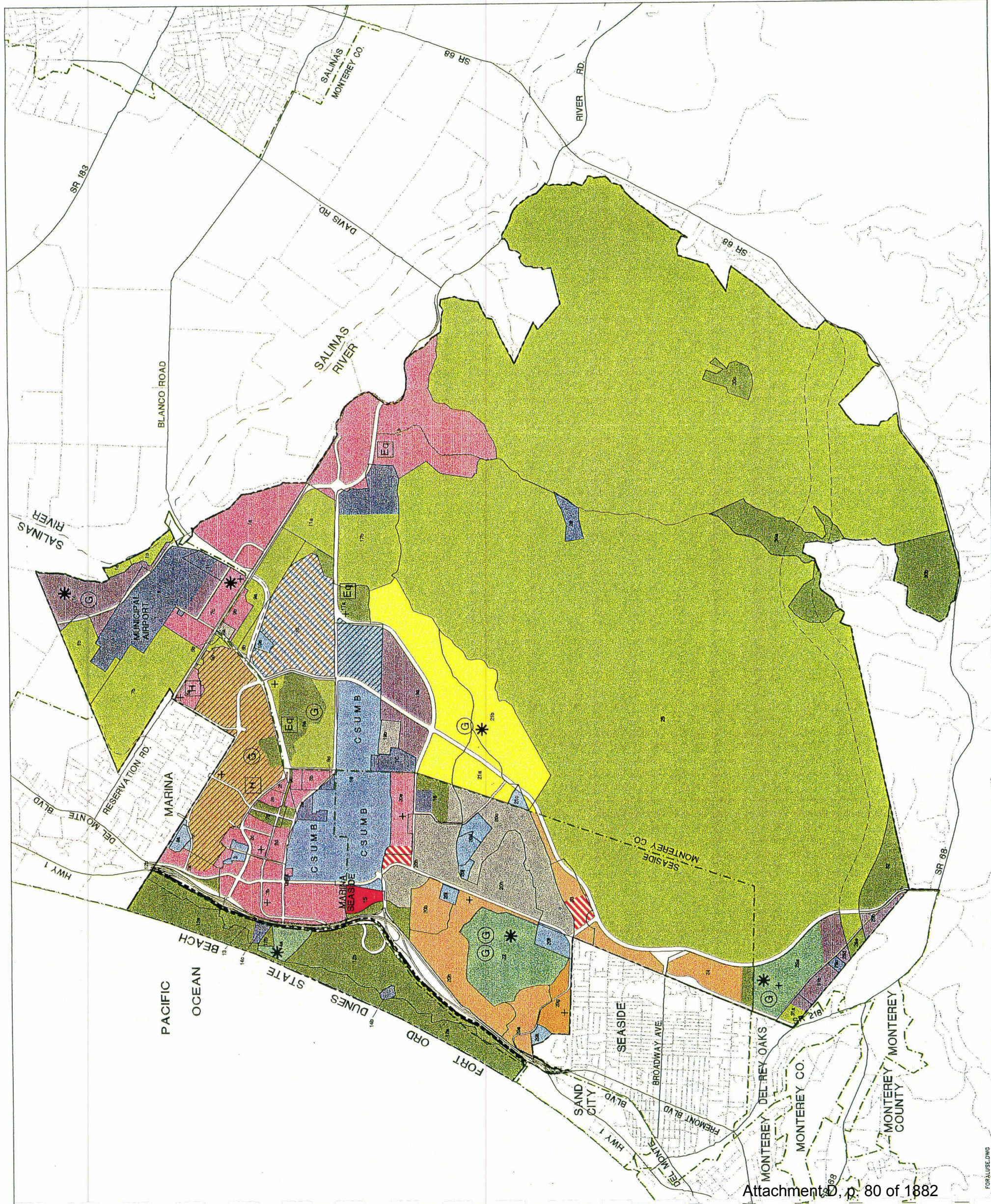
LEGEND:

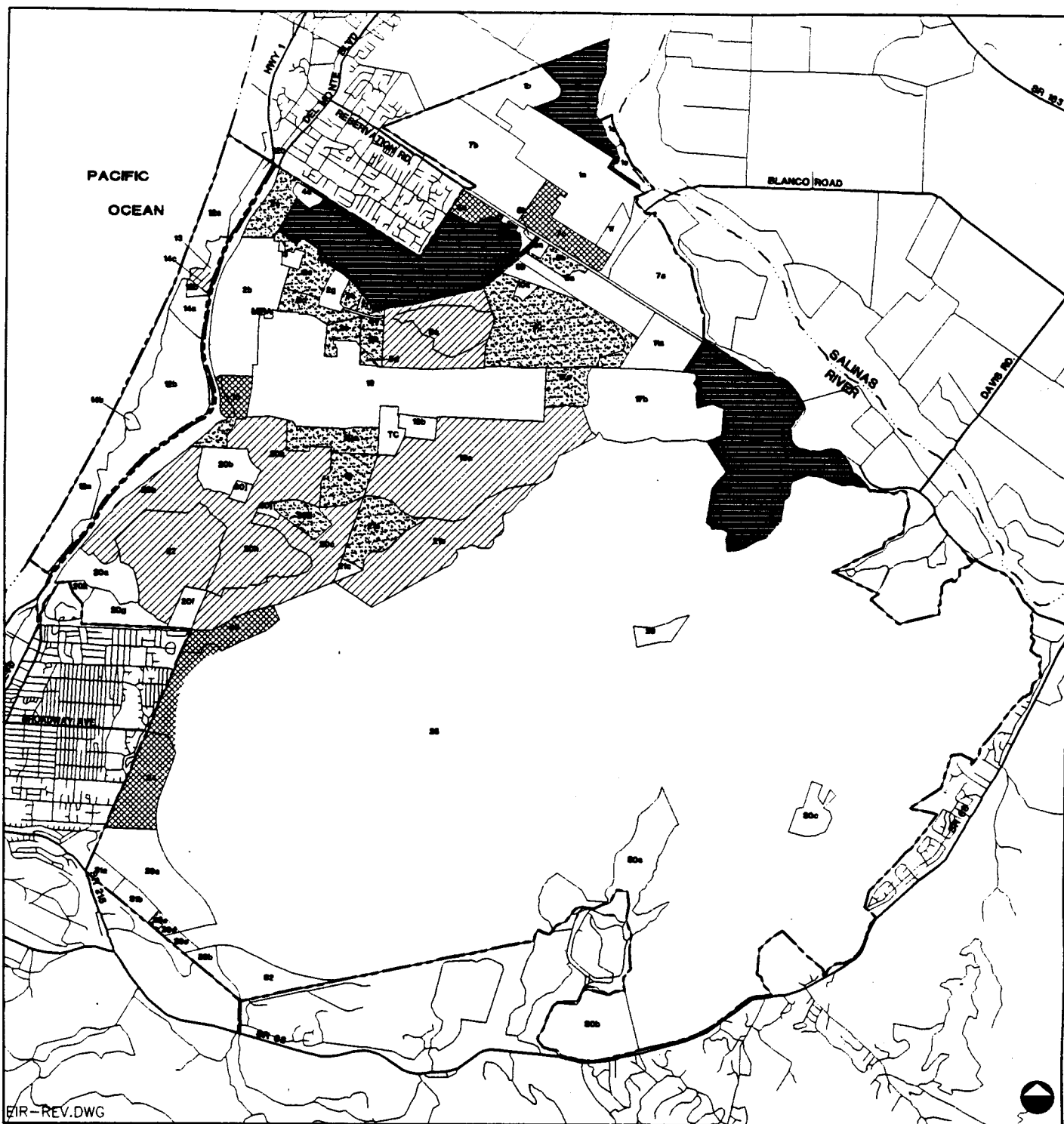
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|---|---|---|---------------------------------------|
|  | SFD Low Density Residential |  | Open Space/Recreation |
|  | SFD Medium Density Residential |  | Habitat Management |
|  | MFD High Density Residential |  | School/University |
|  | Residential Infill Opportunities |  | University Medium Density Residential |
|  | Planned Development Mixed Use District |  | Alternative High School Sites |
|  | Business Park/Light Industrial Office/R&D |  | Public Facility/Institutional |
|  | Convenience Retail |  | Military Enclave |
|  | Neighborhood Retail | | |
|  | Regional Retail | | |
|  | Visitor Serving | | |
|  | Golf Course Opportunity Site | | |
|  | Hotel Opportunity Site | | |
|  | Equestrian Center Opportunity Site | | |
| | | | |



Figure 3.2-1
Proposed Project Land Use Concept

Source: EDAW, Inc. 1996; Jones & Stokes, 1995;
Reimer Associates (Re-Projected), 1995;
Monterey County Water District, 1995





SOURCE: Jones & Stokes, 1995; Reimer Associates, (Re-projected), 1995; Monterey Co., 1995; EDAW, 1996.

LEGEND:

- | | | | |
|-------|--|--|---|
| ----- | Former Fort Ord Boundary | | Slight difference in land use intensity |
| | Polygon Number (Corresponds with data in Table 4.1-1 and Figure 4.1-2) | | Slight difference in land use type |
| | Substantial difference in land use type and intensity | | Slight difference in both land use intensity and type |



industrial use area in both Alternative 7 and the proposed project, but opportunities for golf and hotel are included under the proposed project. Polygon 4 is modified from low density to medium density residential, with opportunities for a golf course, high school, community park, and convenience retail. Polygon 11b is designated for agri-business use under Alternative 7 and has been changed to business park development with equestrian use opportunities.

Several other polygons represent slightly different changes in land use intensity or type, and are associated primarily with residential, mixed-use areas, and recreational uses. A potential site for a desalination plant (polygon 14c) is assumed for purposes of the impact assessment. The reconfiguration of the military enclave is also considered a slight revision from Alternative 7.

Table 3.2-1 Revised Land Use Areas

Polygon Number	Land Use Under Alternative 7/Alternative B	Land Use Under the Proposed Project	Source of Difference
1a	Airport (AIR)	BP/LI/O/R&D	Land uses are consistent
1b	Habitat Preserve (HAB)	Habitat Management	Slight Boundary Shift
1c	Business Park (AIR/BP)	BP/LI/O/R&D with Hotel and Golf Course Opportunity Sites	Hotel and Golf Course
1d	This polygon was eliminated by the Blanco Road right-of-way reserve.		
1e	Habitat Preserve (HAB)	Habitat Management	Land uses are consistent
1f	High Tech Business Park (TECH)	Public Facility/Institutional and BP/LI/O/R&D	Land uses are consistent
2a	Retail (RET)	Mixed-Use District, Med. Residential and Open Space/Recreation	Med. Residential
2b	Multiple Uses (HR/CBUS)	Mixed-Use District	Land uses are consistent
2c	High Tech Business Park (TECH)	Mixed-Use District with Convenience Retail	Difference in predominant uses
2d	Retail (RET) and High Density Residential	Mixed-Use District and Open Space/Recreational	Difference in predominant uses
2e	Corporation Yard (CORP)	Half of Polygon Now Considered Mixed-Use District	Portion of polygon considered mixed-use district
2f	Bus Transfer Center (BTC)	Mixed-Use District	Difference in predominant uses
2g	Equestrian Center	Equestrian Center	Expansion of use to the south
3	University Community College (UNIV/CC)	School/University	Land uses are consistent
4	Low Density Residential (LR)	Med. Residential with Residential Infill, Golf Course, and High School opportunities; Open space/recreation; and convenience retail	Increase in housing density; potential golf course and high school; park
4a	School (SCH)	School/University	Land uses are consistent
5a	Retail (RET)	Mixed-Use District with Convenience Retail and High School Opportunity	Potential difference in predominant uses and potential high school
5b	Business Park (BP)	Habitat Management	Difference in predominant uses
5c	University Research Area (HAB)	Habitat Management	No Change
6a	Reserve Center (RC)	Military Enclave	No Change
6b	University Research Area (HAB)	Habitat Management	No Change
7a	University Science Office (USO)	Mixed-Use District	Land uses are consistent; new road alignment
7b	University Research Area (HAB)	Habitat Management	Slight boundary shift
7c	University Science Office (USO)	Mixed-Use District with Convenience Retail and Hotel Opportunity	Potential difference in predominant uses and potential hotel
8a	Landfill Research Area (LFRA); Golf Course Considered Under	Open Space/Recreation; Habitat Management; Convenience Retail; Equestrian; Golf Course;	Potential Equestrian and public amphitheater; convenience retail

Polygon Number	Land Use Under Alternative 7/Alternative 8	Land Use Under the Proposed Project	Source of Difference
	Alt. 8; Area Potentially Removed from HMP	and Public Amphitheater Considered	
8b	University Science Office ((USO)	Mixed-Use District	Potential difference in predominant uses
8c	Bus Transfer Center (BTC)	Mixed-Use District	Potential difference in predominant uses
8d	University Community College (UNIV/CC)	Public Facility/Institutional	Potential difference in predominant uses
9a	University Research Area (HAB)	Habitat Management	Slight boundary shift
9b	University Science Office (USO)	Mixed-Use District	Potential difference in predominant uses; slight boundary shift
10	University (UNIV)	Med. Housing with residential infill opportunities	Potential increased housing density
10a	School	School/University	No Change
11a	Habitat Preserve	Habitat management and open space/recreational	Land uses are consistent with Alt. 8
11b	Agri Center; Residential (AGRI); Public Safety Training Center (POST)	Mixed-Use District with Equestrian Center; Potential Business Park	Change in Land Uses
12a	Coastal Dune Zone (CDZ)	Open Space/Recreation	Land uses are consistent
12b	Disturbed Habitat Zone (DHZ)	Open Space/Recreation with Proposed Beach through Road	Land uses are consistent except for Beach Through Road
13	Aquaculture/Marine Research (AQ/MRC) and Desalination Facility	Open Space/Recreation	Removal of Developed Uses
14a	Multi-Use/Asilomar (MUA/ATF)	Visitor Serving with Hotel Opportunity Site	Land uses are consistent
14b	Service Area (SA)	Public Facility/Institutional	Land uses are consistent
14c	Not Identified in SEIS	Public Facility/Institutional (Desalination)	Specific location not determined.
15	Retail (RET) and Central Business District (CBUS)	Regional Retail and Open Space/Recreation	Regional Retail may be an unanalyzed use
16	University (UNIV)	School/University	No Change
17a	Community Park	Open Space/Recreation; Convenience Retail; Equestrian Opportunity	Convenience Retail and Equestrian Opportunity
17b	RV Park (RV)	Habitat Management and Public Facility/Institution	No Change
18	Office Park (OP) and Med. Residential (MR)	Public Facility/Institution; Open Space/Recreation/Military Enclave	Public Facility/Institution and open space/recreation (Military enclave considered consistent with MR)
19a	Alt. 7 = Light Industrial (LI); Alt. 8 = Golf; Residential; and	Low Density Residential with Golf Opportunity; and BP/LI/Office/R&D	Low density residential adjacent to NRMA
20a	Med. Residential (MR) and Resort Hotel (RH)	Med. Residential	Absence of Resort Hotel
20b	Med. Residential (MR)	Med. Residential	No Change
20c	Med. Residential (MR)	Military Enclave	Land Uses are consistent
20d	Institutional (INST) and Office Park (OP)	School/University	Potential difference in predominant uses
20e	Office Park (OP)	Mixed-Use District with Convenience Retail and Neighborhood Retail	Difference in predominant uses
20f	School (SCH)	School/University	No Change
20g	High Density Residential (HR)	High Density Residential with Convenience Retail	Convenience retail
20h	Army's POM Annex (Army)	Med. Residential with Convenience Retail;	Land Uses are consistent

Polygon Number	Land Use Under Alternative 7/Alternative 8	Land Use Under the Proposed Project	Source of Difference
		Army Enclave	
20i	School (SCH)	School/University	No Change
20j	School (SCH)	School/University	No Change
20k	School (SCH)	School/University	No Change
21a	Med. Residential (MR)	Low Density Residential	Reduction in housing density
21b	Light Industrial (LI)	Low Density Residential with Hotel Opportunity	Low density residential adjacent to NRMA; hotel opportunity
21c	School Habitat Preserve (HAB)	School/University	No Change
22	Golf Course (GOLF)	Visitor Serving; 2 Golf Course and 1 Hotel Opportunity	Hotel Opportunity
23	Resort Hotel (RH) and Low Density Residential (LR)	Med. Residential and Neighborhood Retail	Neighborhood Retail; increased housing density; exclusion of resort hotel; residential adjacent to NRMA
24	Office Park (OP)	Med. Residential and Open Space/ Recreation	Change in Land Uses and Residential Adjacent to NRMA
(portion of 25)	Natural Resource Management Area (NRMA)	(refer to the small portion of the southwest part of polygon 25, located east of North/South Road and north of Broadway Ave. extended) Med. Residential	Residential development proposed for portion of polygon
25	Natural Resource Management Area (NRMA)	Habitat Management	No Change
26	Peace Officers Training (POST)	Public Facility/Institutional	No Change
29a	Office Park (OP) and Golf Course Resort Hotel (GOLF/RH)	Visitor Serving with Convenience Retail; Golf Course and Hotel Opportunity; BP/LI/O/R&D	Convenience Retail
29b	Office Park (OP)	BP/LI/O/R&D	Land uses are consistent
29c	Office Park (OP)	Public Facility/Institutional	Potential difference in predominant uses
29d	Office Park (OP)	BP/LI/O/R&D	Land uses are consistent
29e	Community Park (CPRK)	Open Space/Recreation	No Change
30a	Recreation Area Expansion (RAE)	Open Space/Recreation	No Change
30b	Recreation Area Expansion (RAE)	Open Space/Recreation	No Change
30c	Recreation Area Expansion (RAE)	Open Space/Recreation	No Change
31a	Natural Area Expansion (NAE)	Habitat Management	No Change
31b	Office Park (OP)	BP/LI/O/R&D	Land Uses are consistent
32	School Expansion (SE)	Open Space/Recreation	Land Uses are consistent
40	Monterey Institute for Research in Astronomy (MIRA)	MIRA	No Change
41	Transit Center (TC)	TC-Public Facility/Institutional	No Change

3.3 Project Plans and Programs

Section 67675(c) of the Government Code (Senate Bill 80) requires that the *Draft Fort Ord Reuse Plan* include the following components in association with the land use concept: a conservation plan; a recreation plan; a transportation plan; and a capital improvement program.

3.3.1 Conservation Plan

A conservation plan is described in the Conservation Element of the *Draft Fort Ord Reuse Plan* (refer to Chapter 4.0 - Reuse Plan Elements). The Conservation Element conveys goals and policies related to soils and geology, hydrology and water quality, biological resources, and air quality. The Conservation

Element, which is state-mandated, requires that the natural resources within the boundaries of former Fort Ord are supervised in perpetuity and that these resources are not diminished. It identifies important natural resources at former Fort Ord, recognizes their irreplaceable value and limited quantities, and provides specific strategies for their preservation. The Conservation Element's contents respond to California environmental laws, including the Clean Water Act and the Clean Air Act.

3.3.2 Recreation Plan

A recreation plan is described in the Recreation and Open Space Element of the *Draft Fort Ord Reuse Plan* (refer to Chapter 4.0 - Reuse Plan Elements). The Recreation and Open Space Element provides goals, policies, and programs for recreational uses of open space. Recreational opportunities at former Fort Ord include golf, baseball, tennis, track and field, mountain biking, stadium use, equestrian activities, and use of numerous neighborhood parks and playgrounds. Recreation standards for two types of community-oriented recreation facilities were considered in the reuse planning effort: Neighborhood Parks and Community Parks. Ample quantities of regional parkland are provided in the Reuse Plan, due to the development of Fort Ord Dunes State Beach and the BLM lands, so standards for regional park demand were not developed.

3.3.3 Transportation Plan

A transportation plan is described in the Circulation Element of the *Draft Fort Ord Reuse Plan* (refer to Chapter 4.0 - Reuse Plan Elements). The Circulation Element defines the long-term vision for a comprehensive circulation network for the movement of people, goods, and vehicles within and through former Fort Ord. It focuses on the system of freeways, arterials, bus and rail transit, and bicycle and pedestrian routes to determine the most effective design possible, while enhancing the community and protecting the environment. The Circulation Element also recognizes the close relationship between the transportation system and land use plan.

3.3.4 A Capital Improvement Program

A capital improvement program is included within the Public Facilities and Implementation Plan of the *Draft Fort Ord Reuse Plan* (refer to the Appendix A). Capital improvements required to implement the proposed project have been developed based on a 20-year horizon to the year 2015, even though Section 67675(c)(5) of the Government Code only requires that a five-year capital improvement be developed. Capital improvement projects are identified for the following areas: Regional Transportation Improvements, Off-site and On-site Roadway Improvements, Potable Water Supply and Distribution Improvements, Wastewater Collection System and Pump Station Improvements, Existing Drainage Systems Modifications, and Habitat Management Improvements. The *Draft Fort Ord Reuse Plan* also plans for Community and Neighborhood Park Improvements to be financed by local jurisdictions. All infrastructure improvements would be developed through phasing as buildout of the former Fort Ord lands occurs.

3.3.5 Habitat Management Plan

In addition, the proposed project accommodates the installation-wide Habitat Management Plan (HMP), as approved by the US Fish and Wildlife Service (USFWS) in February 1994. The HMP was developed as a mitigation measure for impacts on vegetation, wildlife, and wetland resources identified in the Army's FEIS. The HMP is intended to establish a regional conservation program for the HMP resources and

thereby to obviate the need for review of individual projects by the USFWS and CDFG, and project-specific mitigation measures to protect such resources. For the HMP to be implemented in a manner that meets the requirements of relevant federal and state regulations, an Implementing/Management Agreement has been developed that establishes the conditions under which FORA and its member agencies will receive certain long-term permits and authorizations from the USFWS and the CDFG.

The Implementing/Management Agreement (Agreement) defines the respective rights and obligations of FORA and its member agencies with respect to implementation of the HMP. Specifically, the Implementing/Management Agreement will ensure implementation of the conservation measures outlined in the HMP, contractually bind FORA and its members to fulfill and faithfully perform the obligations, responsibilities, and tasks assigned to it pursuant to the terms of the HMP and Agreement; and provide remedies and recourse should FORA or any member agency fail to perform their obligations, responsibilities, and tasks as set forth in the HMP and the Agreement.

3.4 Local General Plan Modifications to Incorporate the Former Fort Ord Properties

Upon the FORA Board's adoption of the *Draft Fort Ord Reuse Plan* for the future use and development of the land occupied by former Fort Ord, an agency that is a member of FORA may adopt and rely on the Reuse Plan as its local general plan for land in its jurisdiction that is also within the territory of former Fort Ord. The FORA Act indicates that all former Fort Ord property that has been transferred from the federal government must be used in a manner that is consistent with the Board's Reuse Plan, except for property transferred to the California State University or the University of California that is used for educationally-related or research-oriented purposes, and property transferred to the California Department of Parks and Recreation.

Modifications to the local general plans are incorporated into the Reuse Plan Elements chapter of the *Draft Fort Ord Reuse Plan*. These modifications are embodied as policy and program statements, by jurisdiction. Goals, objectives, policies and programs for several resources of concern have been developed into the following elements: Land Use Element, Circulation Element, Recreation and Open Space Element, Conservation Element, Noise Element, and Safety Element. These elements focus on the specific provisions of the three land use jurisdictions with responsibility for controlling development of former Fort Ord lands: the City of Marina, the City of Seaside, and Monterey County.

The applicable policies and programs included in the Reuse Plan Elements are identified in Chapter 4.0 of this Draft EIR under the impact section of each resource area. The policies and programs serve as mitigation measures to lessen or alleviate the potential impacts of the proposed project. The policies and programs are, in effect, a separation of mitigation responsibilities by jurisdiction and can be considered in that light when general plan amendments and master plans are proposed for adoption. The *Draft Fort Ord Reuse Plan* will assist local governments in determining what changes may need to be made to their local general plans so that the former Fort Ord properties may eventually be incorporated into the boundaries of local cities or Monterey County.

3.5 Redevelopment Planning for Former Fort Ord Properties

Specific redevelopment plans have not been prepared as part of the overall Fort Ord reuse planning process. If future redevelopment plans are completed for areas inside former Fort Ord or for the former Fort Ord property as a whole, these plan(s) should be reviewed for consistency with the *Draft Fort Ord Reuse Plan* and the local general plan amendments. Pursuant to Section 15168 of the *State CEQA*

Guidelines, this program-level EIR would provide the basis for the required environmental review of these subsequent plans. If it is determined that no new effects would occur or no new mitigation would be required, these subsequent plan could be approved as within the scope of this EIR, and no separate environmental documentation would be necessary. However, if the proposed plans would result in effects not covered in this EIR, subsequent CEQA documentation would be needed. This documentation may include: an Initial Study; Negative Declaration; or a Subsequent EIR.

3.6 Potential Changes in City, County and Special District Boundaries

Within the boundaries of former Fort Ord, the City of Seaside currently has jurisdiction over 4,028 acres, the City of Marina has jurisdiction over 3,115 acres, and Monterey County has jurisdiction over 20,565 acres. Sphere of influence expansion and annexation requests submitted by the cities of Marina, Seaside, Del Rey Oaks, and Monterey would change the jurisdictional boundaries within former Fort Ord. The Local Agency Formation Commission (LAFCO) has a policy not to process any sphere of influence changes until a final Fort Ord reuse plan is approved and environmental documentation is provided. Figure 3.6-1 reflects sphere of influence expansion and annexation requests that would be necessary to incorporate former Fort Ord land into the local cities and the County, and to set up special service districts, such as fire, water and sewer districts. These requests are summarized below (refer to Figure 3.2-1 for the location of polygons referenced below).

3.6.1 City of Marina

The City Council approved a request on May 26, 1992 to expand the City's sphere of influence at the eastern boundary of former Fort Ord and in the dune area west of State Highway 1. This action has not reached the status of a formal application due to the LAFCO policy of not processing any Fort Ord requests.

3.6.2 City of Seaside

In September 1991, the City submitted two separate requests to amend its sphere of influence, with the goal of defining its former Fort Ord sphere of influence for general planning purposes. The proposed Seaside sphere of influence boundaries would extend to the dunes area west of State Highway 1 and 10,000 feet into Monterey Bay, as well as east and south of the City's existing and general plan sphere of influence. As with all other requests related to former Fort Ord, the City's request to LAFCO is on hold pending certification of the EIR and adoption of the Reuse Plan.

3.6.3 City of Del Rey Oaks

The City is currently meeting informally with LAFCO officials, the Cities of Monterey and Seaside, and its general plan consultants regarding sphere of influence extensions and annexations of former Fort Ord polygons 29a, 31a and 31b.

3.6.4 City of Monterey

The City passed a resolution in 1983 to expand its sphere of influence to include the former Fort Ord planning area between South Boundary Road and Ryan Ranch. It is still planning to request sphere of influence expansions and annexations of former Fort Ord polygons 29 b, c, d and e within the next 20 years.

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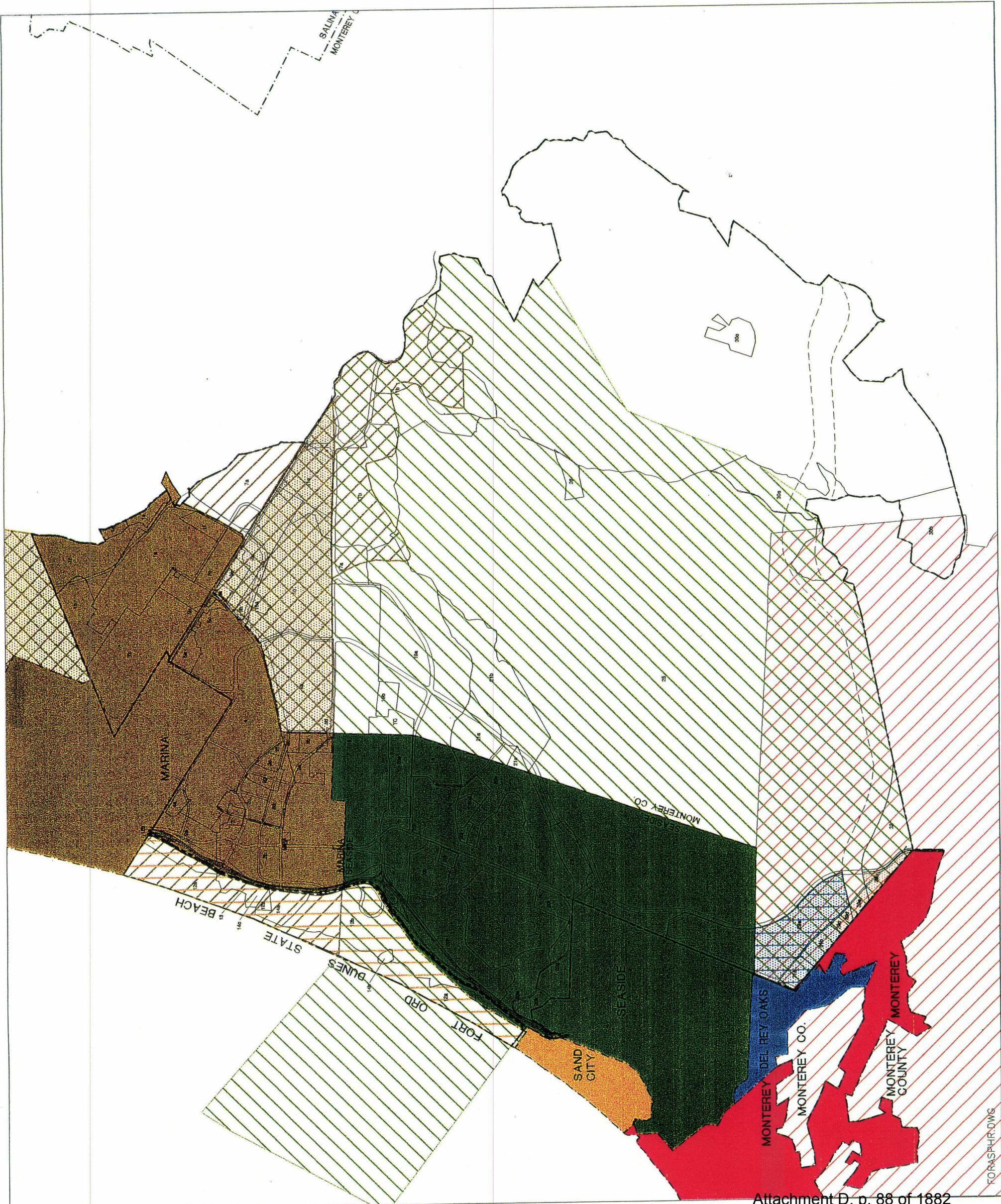
- | | |
|---|---|
|  | CITY OF MARINA |
|  | Sphere of Influence-Adopted |
|  | Sphere of Influence-Proposed |
|  | CITY OF SEASIDE |
|  | Sphere of Influence-Proposed |
|  | CITY OF SAND CITY |
|  | Sphere of Influence-Proposed |
|  | CITY OF DEL REY OAKS |
|  | Sphere of Influence and Annexation-Proposed |
|  | CITY OF MONTEREY |
|  | Sphere of Influence-Proposed |
|  | Sphere of Influence and Annexation-Proposed |



Figure 3.6-1
Sphere of Influence and Annexation
Requests

Source: EDAW, 1996; Jones & Stokes, 1995; Reimer Associates, 1995; Monterey County Water District, 1995



While these sphere adjustments and annexations act as an overlay to the proposed land use map, and are considered a required approval of the proposed project, they do not include any adjustments to the proposed land uses. The jurisdictional changes, therefore, are not the focus of attention in this Draft EIR. Most of the effects of boundary adjustments will be financial in nature or will relate to the detailed provision of public services and utilities.

3.7 Approvals and Permits Required by Local Governments and Regulatory Agencies to Implement the Proposed Project

The following approvals and permits will be required by local governments and regulatory agencies in order to implement the proposed project:

3.7.1 City of Marina

- General Plan Amendment
- Area Plan Amendment
- Zoning Amendment
- Sphere of Influence Amendments and Annexations
- Use Permit Approval
- Map Approval

3.7.2 City of Seaside

- General Plan Amendment
- Area Plan Amendment
- Zoning Amendment
- Sphere of Influence Amendments and Annexations
- Use Permit Approval
- Map Approval

3.7.3 County of Monterey

- General Plan Amendment
- Area Plan Amendment
- Zoning Amendment
- Sphere of Influence Amendments and Annexations
- Use Permit Approval
- Map Approval

3.7.4 California Coastal Commission

- Local Coastal Plan Amendment
- Proposed project activities must comply with the nonpoint source pollution control plan developed by the California Coastal Commission and the SWRCB (pursuant to Section 6217 of the Federal Coastal Zone Management Act Reauthorization Amendments of 1990), if any stormwater would be discharged into the ocean.

3.7.5 State Water Resources Control Board

- A stormwater discharge permit must be obtained for construction and industrial activities prior to discharging stormwater.

3.7.6 California Regional Water Quality Control Board

- Sewage treatment facilities must comply with waste discharge requirements.

3.7.7 State of California Health Department

- Distribution and storage for potable and non-potable water must comply with State Health Department (Title 22) regulations.
- The installation of water supply wells must comply with State of California Water Well Standards and well standards established by the Monterey County Health Department.

3.7.8 Air Quality Management District

- Consistency Determination with 1994 Air Quality Management Plan

3.7.9 Monterey Bay National Marine Sanctuary

- The Marine Protection, Research, and Sanctuaries Act of 1972 requires that entities discharging to the bay comply with a management plan aimed at protecting the bay's national marine sanctuary resources.

4.0 ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION

Introduction

This chapter contains an analysis of each environmental issue and identifies the significant environmental impacts of the proposed project in accordance with the requirements of the California Environmental Quality Act (CEQA) and *State CEQA Guidelines*. Sections 4.1 through 4.13 describe for each environmental issue area: the Environmental Setting and the Environmental Impacts and Mitigation.

The Setting sections describe physical and socioeconomic conditions at former Fort Ord that were present at the time the decision became final to downsize or close former Fort Ord as a military base (September, 1991). The Setting section also provides reference sources.

The Environmental Impacts and Mitigation section first establishes the significance criteria for determining impacts. Specific criteria used for determining the significance of a particular impact are identified prior to the impact discussion in each subsection and are consistent with significance criteria set forth in the *State CEQA Guidelines*.

The Environmental Impacts and Mitigation section then identifies impacts of the proposed project. Impacts are numbered consecutively within each section. In most sections, the initial impact discussion is followed by a listing of relevant policies and programs built into the proposed project (found in Chapter 4.0 - Reuse Elements of the *Draft Fort Ord Reuse Plan*) for the purpose of minimizing environmental impacts. A determination of these impacts which are significant or potentially significant, taking into account the applicable policies and programs, is then provided. Discussion of consistency with existing plans and policies is provided in section 4.1 - Land Use. Discussion of cumulative impacts can be found in Chapter 5.0 - Other CEQA Considerations.

For all project impacts that are determined to be significant adverse environmental impacts, the *State CEQA Guidelines* require an EIR to describe feasible mitigation measures to avoid or substantially lessen such impacts [Section 15021(a) and 15126(c)]. Because of the general nature of the Reuse Plan, many of the impacts cannot be precisely quantified, and therefore identifying specific mitigation measures to address such undefined impacts is impractical. In such cases, CEQA case law has endorsed an approach that permits an agency to defer specific mitigation measures until later, if the agency commits to satisfying specific performance criteria articulated at the time of project approval.

If a significant impact of the proposed project cannot be reduced to a less-than-significant level through the application of feasible mitigation measures, it is categorized as a "significant unavoidable" impact and as such must be given special attention in considering approval of the proposed project. In preparing the required findings, FORA must provide an explanation as to why no feasible mitigation is available. It should be noted that pursuant to CEQA statutes and the *State CEQA Guidelines*, FORA may balance the benefits of the proposed project against its unavoidable significant environmental impacts in determining whether to approve the project. If the benefits are found to outweigh the impacts, the adverse effects may be considered "acceptable." In this scenario, FORA would have to adopt a "Statement of Overriding Considerations" in determining to approve the project.

Table 2-5.1 in Chapter 2.0 provides a summary of applicable environmental impacts, policies and programs, mitigations, and residual impacts. Mitigation responsibilities under the mitigation monitoring

plan provided in Table 2.5-1 are specified in terms of the measure to be undertaken, the date for implementation, and agencies responsible. Those mitigations apply mainly to the three jurisdictions responsible for adopting general plan amendments under the *Draft Fort Ord Reuse Plan*, i.e. Monterey County, City of Marina and City of Seaside. However, state agencies with autonomy for land use decisions, e.g., University of California, California State University Monterey Bay (CSUMB), and California Department of Parks and Recreation (CDPR) may exercise their jurisdiction over the planning and approval of certain projects on their lands. In such cases, this EIR assumes that programs and policies in the *Draft Fort Ord Reuse Plan* and mitigation measures identified in this chapter will need to be adopted and implemented by the state agencies, in order for these agencies to gain the benefit of this EIR and *Draft Fort Ord Reuse Plan*.

This program-level Draft EIR is essentially a supplement to the Army's 1993 FEIS and 1995 DSEIS, which analyzed the potential environmental impacts associated with the disposal and reuse of former Fort Ord. This Draft EIR is focused on the additional CEQA-required analysis which pertains to the reuse of Fort Ord, following the Army's disposal of the property, and on changes in the Reuse Plan since December 12, 1994. This Draft EIR incorporates by reference pertinent background information and analysis from the previous documents which are relevant to the identification and evaluation of environmental impacts addressed in this Draft EIR. CEQA environmental review conducted for future individual projects that implement the *Draft Fort Ord Reuse Plan* as amended, will be tiered to the FEIS, Final SEIS, and the Final EIR to the extent this combined program-level analysis remains adequate for such purposes.

Approach to Program-level Environmental Analysis

The appropriate level of analysis required by CEQA is guided by the principle that EIR requirements must be sufficiently flexible to encompass very different projects with varying levels of specificity. As a result, a program-level EIR that addresses proposed amendments to a long range development plan need not be as precise as an EIR on the specific projects which might follow. The degree of specificity in an EIR need only correspond to the degree of specificity involved in the underlying activity which is described in the EIR, i.e. adoption of the Reuse Plan.

The *Draft Fort Ord Reuse Plan* is intended to serve as a general plan to guide physical development on former Fort Ord and is not a commitment to any specific project, construction schedule, or funding priority. Each specific development project that implements the Reuse Plan will continue to be approved individually and will be accompanied by a tiered environmental analysis in accordance with CEQA. Future tiered environmental review prepared for individual projects will focus on environmental impacts that have not been fully addressed in the program-level environmental review prepared for the *Draft Fort Ord Reuse Plan*.

The existing conditions described in this EIR will continue to evolve over time. Consistent with the direction of the *State CEQA Guidelines* for early preparation of EIRs, and with CEQA case law that indicates preparation need not await the conclusion of all potentially relevant studies, this EIR presents reasonable assumptions about those elements of the project that could affect the environmental analysis. These assumptions, where necessary, are identified. To the extent these assumptions may prove to be inaccurate in the future, additional environmental review at that time will be required.

4.1 Land Use

4.1.1 Environmental Setting

This section describes existing land uses and relevant plans and policies for former Fort Ord and the local jurisdictions approving development within the former Fort Ord. Currently, this responsibility lies with the Cities of Marina and Seaside, and the County of Monterey.

The information incorporates by reference information from the *Land Use Baseline Study of Fort Ord, California* (US Army Corps of Engineers, Sacramento District, 1992b), the FEIS, and the DSEIS.

Land Use Context

Fort Ord

General Characteristics. The former Fort Ord is bounded by Marina on the north; unincorporated county land on the east; Del Rey Oaks, Monterey, and unincorporated land on the south; and Sand City, Seaside, and Monterey Bay on the west (see Figure 4.1-1).

Most of the approximately 28,000-acre former Fort Ord area consists of undeveloped training and open space areas, with approximately 82% (23,000 acres) undeveloped and 18% (5,000 acres) developed. The three major developed areas within former Fort Ord are the former Main Garrison and East Garrison areas and the Marina Municipal Airport, formerly known as Fritzsche Army Airfield. (See Figure 4.1-2.)

City of Marina

General Characteristics. The City of Marina is located immediately north of former Fort Ord and south of the Salinas River. The City was incorporated in 1975 and consists of approximately 6,400 acres. The area located within former Fort Ord encompasses approximately 55% of the total number of acres within the City. The Marina planning area, which excludes former Fort Ord but includes a substantial area north of the City, totals 6,145 acres (*City of Marina General Plan*, 1982). A large portion of the land is undeveloped, but the predominant land use in the incorporated area is single-family residential.

Marina's sphere of influence (SOI) extends north and east of the existing city limits. The northern portion of the SOI lies within the planning area, while the eastern portion includes former Fort Ord and is outside the planning area. A portion of Marina is located in the coastal zone, primarily the incorporated area west of Highway 1. The Local Coastal Program (LCP) is the controlling plan in these areas.

Existing Land Use. The City of Marina's predominant land use is residential. Another major land use is the approximately 320-acre Armstrong Ranch. Located partially within the northern portion of the city boundaries, the ranch is currently undeveloped and used as cattle grazing land. The part of Armstrong Ranch which is located in Marina is designated in the general plan as a single family use. The remainder of the Armstrong Ranch is located within the City's sphere of influence (SOI) in unincorporated Monterey County. This adjoining portion is designated in the general plan as single family residential and parks and open space land use. The Monterey County General Plan designates the area as permanent grazing. CSUMB is an existing land use with housing, academic, and support facilities.

Located north of Reservation Road is the 1,395-acre former Fritzsche Army Airfield, now renamed Marina Municipal Airport. The City of Marina received a public benefit conveyance from the Army of

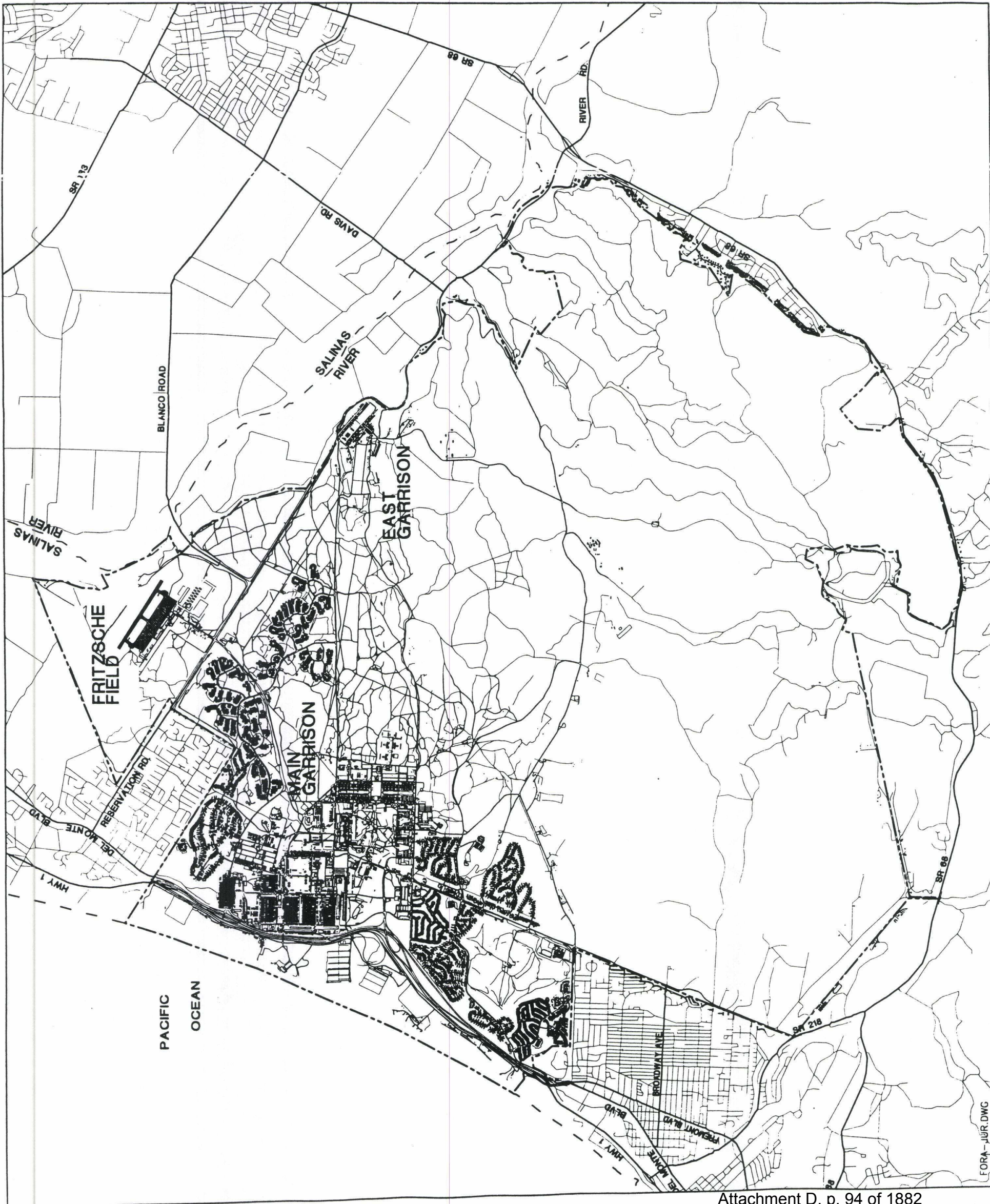
Fort Ord Reuse Plan
Draft EIR

EDAW, Inc. May, 1996



Figure 4.1-1
Existing Development Pattern
at Fort Ord

Source: EDAW, 1996; Reimer Associates
(Re-projected), 1995; Monterey County, 1995;
Jones & Stokes, 1995



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EDAW, Inc. May, 1996

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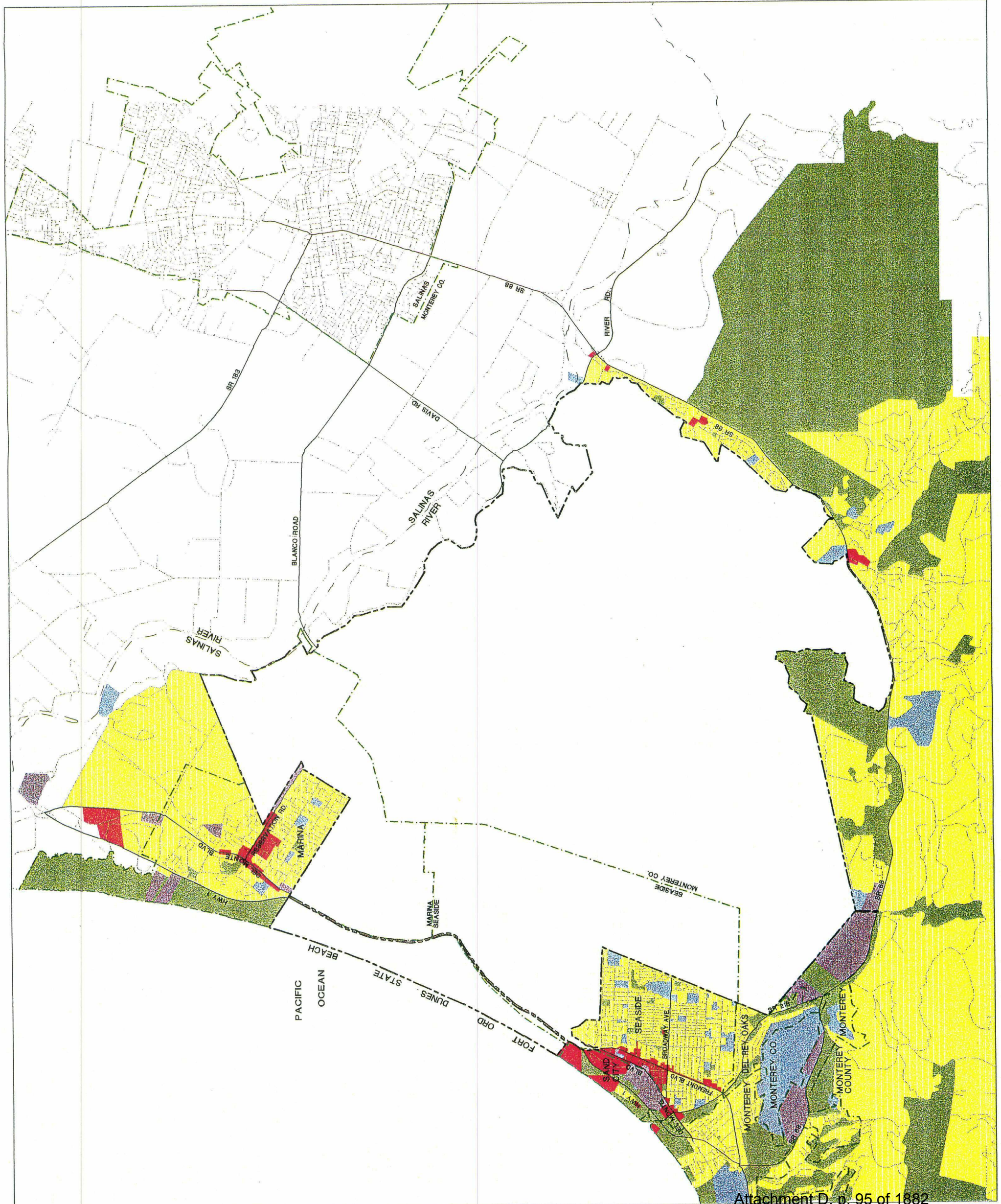
- | Residential | Parks/OpenSpace/Recreation | Public/Institutional | Business Park/Industrial | Commercial/Retail |
|---|---|---|---|---|
|  |  |  |  |  |



Figure 4.1-2
Generalized Land Use Setting

Source: EDAW, 1996; Reimer Associates (Re-projected), 1995; Monterey County, 1995; Jones & Stokes, 1995



approximately 845.5 acres for public airport use. The remainder of the site is the subject of a public benefit conveyance request by the University of California for the Monterey Business, Education, Science and Technology Center (UCMBEST).

South of Reservation Road in the urbanized area of the City, land adjacent to former Fort Ord is developed with single family homes, except at Highway 1, where office and public buildings are located on the east side and Marina State Beach is on the west side. Commercial land uses front Reservation Road and Del Monte Avenue.

City of Seaside

General Characteristics. The City of Seaside is located in Monterey County near the south end of Monterey Bay, bordered by the Cities of Monterey and Del Rey Oaks to the south, Sand City to the west and former Fort Ord to the east and north. The City was subdivided in 1890 as a resort and incorporated in 1954. The City encompasses a total area of approximately nine square miles. It is divided into two distinct portions; Seaside proper consists of 2.69 miles, while former Fort Ord, which comprises 70% of land within Seaside's city boundaries, consists of 6.44 square miles (*Seaside General Plan Update Program/Preliminary General Plan, November 1993*). Seaside's SOI is currently the same as its city limits.

Existing Land Use. The current area occupied by Seaside proper is essentially built out. Over 800 acres, or almost 50% of its land, are devoted to residential use, predominantly single-family housing.

Seaside proper is characterized by a wide range of uses including residential, commercial, public, vacant land, and limited industrial/wholesale uses. Of these, residential is the largest single land use, making up 48.4% of all land use. The second largest use of land is rights-of-way for streets and the Southern Pacific Railroad, with 28.4% of all use. CSUMB is an existing land use with housing, academic, and support facilities.

Seaside contains 500 feet of ocean frontage. The City's beach area adjacent to Monterey Bay (Del Monte Beach) is approved for visitor serving commercial use, parking and beach access in the Local Coastal Plan (LCP). The California Department of Parks and Recreation (CDPR) has purchased and improved the area adjacent to the water for inclusion in the State Parks System. Other areas covered by the LCP include Roberts Lake and Laguna Grande, both located in the southern part of the City adjacent to Canyon Del Rey and Del Monte Boulevards. In addition, Seaside covers the area adjacent to the beach which will be transferred to CDPR.

The Central Business District and retail/commercial areas are located in the western part of the City between and adjacent to Del Monte and Fremont boulevards, as well as on the section of Broadway close to the commercial center.

The existing areas adjacent to former Fort Ord are primarily developed with single-family homes (up to 9.9 units per acre). A retail shopping center is located at the Fremont Boulevard/Military Avenue intersection near Highway 1. The Mission Memorial Park cemetery, which also includes the Monterey Peninsula Mortuary, is located along North-South Road. A few neighborhood parks are also located in the residential areas adjacent to former Fort Ord.

The amount of vacant land currently available in the City is approximately 53 acres, or 3% of the total land within Seaside proper. Of the total, 24.67 acres (46%) are located in residential zones; 23.12 acres

(44%) are in commercial zones; and 5.14 acres (10%) are in special treatment, or multi-zone areas. As Seaside proper is essentially built out, any new residential growth here will come on the few remaining vacant lots, through redevelopment, or through expansion into former Fort Ord lands or through density changes.

County of Monterey

General Characteristics. The County consists of 2,127,400 acres (3,324 square miles), of which 10% includes military reservations, and 22% is in the Los Padres National Forest and the Ventana Wilderness. Among the prominent geographic features in the County are the Santa Lucia and Gabilan Ranges, the Salinas and Carmel Valleys, and 100 miles of California's central coast.

The County is divided into eight planning areas. The former Fort Ord is located in the Greater Monterey Peninsula Area Plan (GMPAP), adjacent to the Greater Salinas and Toro planning areas. The GMPAP consists of 140,222 acres and includes seven incorporated cities that constitute 15% of the total acreage. They are: Marina, Seaside, Sand City, Del Rey Oaks, Monterey, Pacific Grove, and Carmel. The former Fort Ord represents 27,954 acres of the total GMPAP area (*Monterey County Peninsula Area Plan, 1984*).

Existing Land Uses. Public and quasi-public use is the largest category of existing land use in the County's unincorporated area, accounting for a total of 45,458 acres. The largest components of this land use category are military (primarily former Fort Ord), natural resource management (US Bureau of Land Management, portions of Los Padres National Forest, and the Salinas River Wildlife Area), recreational/cultural (primarily Jacks Peak Park, Laguna Seca Recreation Area, Garland Ranch Regional Park, Point Lobos State Reserve, and various public and private golf courses), transportation (primarily the Monterey Peninsula Airport, which has self-government status under state law, and State Highway 1 and US Highway 101, which link the north and south county), education, and emergency services facilities. CSUMB is another existing land use with housing, academic, and support facilities.

Unincorporated Monterey County includes the coastal zone of approximately 1,050 acres adjacent to former Fort Ord, extending 4 miles along Monterey Bay. Vacant/unimproved lands in Monterey County total 41,480 acres, much of which is located in the steeper southern portions of the GMPAP. Lands in this use category have traditionally sustained development pressure, primarily for residential purposes. Agricultural, grazing and rangeland uses total 25,603 acres and are primarily grazing land and range land north of the City of Marina, in the hillside areas north and south of Carmel Valley, and to the east of Carmel Valley Village. Some row crops are grown north of the City of Marina near the Salinas River and on the floor of the Carmel Valley at the mouth and in the mid-valley area. Agricultural uses in the flatter areas have come under pressure for development of residential, commercial and industrial uses. Grazing land and range land areas have come under development pressure also, primarily for residential purposes.

Residential development in the County totals approximately 5,029 acres, of which 4,576 acres are developed in single-family residential units and 453 acres in multiple units. Most residential development in the unincorporated area is found in the Del Monte Forest, the Carmel Highlands, the Carmel Valley, the Aquajito area, and to a lesser extent, Hidden Hills, Toro Park and Laguna Seca Ranch.

Commercial land uses in the County total 188 acres and include businesses which serve both residents and the large number of tourists who visit the former Fort Ord. Most of the major commercial uses in the unincorporated area are located in Carmel Valley.

Industrial uses total 187 acres and include a variety of facilities such as the Dole processing and packaging plants near the Salinas River on State Highway 1 and near Soledad off State Highway 101, the Monterey Peninsula Regional Sanitation District landfill northeast of Marina, the Carmel Sanitary District sewage plant at the mouth of the Carmel Valley, and mineral extraction (sporadic) facilities in the Del Monte Forest area.

Streets, highways and railroads in the GMPAP cover 1,760 acres. Major water bodies in the planning area total 55 acres and are all constructed water storage facilities. Included in this total is a portion of the San Clemente Reservoir. The other facility is the Forest Lake Reservoir in the Del Monte Forest (currently drained).

Plans and Policies

The following documents were reviewed to determine project consistency with relevant plans and policies pertaining to environmental issues:

Local Land Policies

- Monterey County General Plan;
- Greater Monterey Peninsula Area Plan;
- City of Marina General Plan and Coastal Plan Land Use/Open Space Element;
- City of Seaside General Plan Update Program;

Regional Plans and Policies

- California Coastal Act of 1976, Chapter 3;
- Association of Monterey Bay Area Governments Regional Land Use Element;
- Monterey County Local Agency Formation Commission Spheres of Influence Policies and Criteria;
- Sand City Local Coastal Program Land Use Plan;
- City of Del Rey Oaks General Plan Land Use/Open Space Element;
- City of Monterey General Plan Land Use/Open Space Element; and
- City of Monterey Highway 68 Plan.

The above documents and relevant policies are described briefly in the FEIS, Vol. II. Section II.1, Table II.1-1. The entire text of these policies is contained in the appendices of the *Land Use Baseline Study of Fort Ord* (US Army Corps of Engineers, 1992). It is important to note that these plans and policies were developed before it was known that the former Fort Ord would be closed, and that local plans that would otherwise be applied to former Fort Ord would be superseded by the Reuse Plan Elements proposed for adoption as part of this proposed project. The physical environmental consequences of applying these new plans and policies to former Fort Ord are described in the impact sections for each resource, which follow in the remainder of this chapter. The impact of applying the existing local land use and environmental plans and policies to former Fort Ord is described under the No Project Alternative in Chapter 6.0 - Alternatives.

4.1.2 Environmental Impacts and Mitigation

Significance Criteria

In accordance with the *State CEQA Guidelines* and other professional standards, this analysis assumes that the proposed project would have a significant impact on land use if it resulted in:

- substantial conflicts between proposed land uses;
- substantial conflicts between proposed and existing adjacent land uses; or
- substantial conflicts with adopted land use goals and policies of the jurisdictions that encompass former Fort Ord.

Comparison of FORA's Interim Reuse Plan of December 12, 1994 (Alternative 7) to the Proposed Project

Compared to Alternative 7 in the Army's DSEIS, the proposed project's land use concept represents lower densities associated with commercial and industrial uses, but greater densities associated with housing, as well as a substantial increase in dwelling units, mixed-use development, and recreational opportunities. Among the revised land uses, shown in Figure 3.2-2 and summarized in Table 3.2-1 within Chapter 3.0 - Project Description, are three significantly altered uses which are described as follows:

- *Airport Planning Area:* Polygon 1c continues be designated as a light industrial use area, but opportunities for golf and hotel are included under the proposed project.
- *Existing City of Marina Neighborhoods:* Polygon 4 is modified from low density to medium density residential, with opportunities for a golf course, high school, community park, and convenience retail.
- *Reservation Road Planning Area:* Polygon 11 b (East Garrison area) has been changed from agri-business use to business park development with equestrian use opportunities.

The proposed project's slightly revised land uses include:

- *Existing City of Marina Neighborhoods:* Polygon 2a is modified from retail to a mixed use district, with medium density residential use added. Polygon 5a has the same modification, with a potential high school site as an additional use.
- *Airport Planning Area:* Polygon 7c has changed from University Science Office to a mixed use district, with an added potential hotel site.
- *Recreational Planning Area:* Polygon 8a has added a potential equestrian center, public amphitheater and convenience retail to its open space/recreation use.
- *Fort Ord Dunes State Park:* A desalination plant was relocated more specifically within Polygon 14c. The lodging unit numbers were reduced from 80 to 40. The proposed Aquaculture use was consolidated with the proposed State Parks maintenance yard.
- *Recreational Planning Area:* Polygon 17a was modified to include convenience retail and an equestrian opportunity site, in addition to an open space/recreation use.

- *Eucalyptus Road Planning Area:* The new land use under the proposed project on Polygon 21b is low density residential instead of the previous light industrial use. This land is located next to the Natural Resource Management Area (NRMA) and includes a hotel and golf course opportunity site.
- *Seaside Residential Planning Area:* A hotel opportunity site was added to the golf course designation on Polygon 22. In the planned residential extension in polygon 23, added land uses are neighborhood retail, increased housing density, exclusion of a resort hotel, and residential adjacent to the NRMA. Polygon 24 has been changed from office park to medium residential and open space/recreation, with residential land use located adjacent to the NRMA.

Potential land use impacts from changes in these polygons are analyzed below. The FEIS and DSEIS address the same impact types, although they reflect differences in land use described above. The mitigation measures herein replace those identified in the FEIS and DSEIS. Discussion of potential land use conflicts from trespassing into areas with unexploded ordinance is provided in Section 4.6 - Public Health and Safety.

Policy Consistency

Consistency analysis has been conducted at the local level and the regional level. The Reuse Elements in Chapter 4.0 of the *Draft Fort Ord Reuse Plan* provide policy guidance to enable each of the local jurisdictions responsible for planning land uses at former Fort Ord (i.e. Marina, Seaside, and Monterey County) to reach their goals and visions for base reuse. The Fort Ord Reuse Authority Act indicates that upon the FORA Board's adoption of a Reuse Plan, an agency that is a member of FORA may adopt and rely on the Reuse Plan as its local general plan for land in its jurisdiction that is also within the territory of former Fort Ord. The FORA Act indicates that all former Fort Ord property that has been transferred from the federal government must be used in a manner that is consistent with the Board's Reuse Plan, except for property transferred to the California State University or the University of California that is used for educationally-related or research-oriented purposes, and except for property transferred to the California Department of Parks and Recreation. Thus, the *Draft Fort Ord Reuse Plan* effectively replaces all environmental policies of the individual, adopted general plans of the local jurisdictions as they apply to former Fort Ord, so that policy consistency is ensured. No significant policy inconsistency is therefore anticipated at the local level.

At the regional policy level, analysis of the documents identified above indicates that implementation of the *Draft Fort Ord Reuse Plan* would not result in significant policy inconsistencies impacts, with the potential exception of a conflict with the existing coastal consistency determination (described in Impact #2 below) in relation to environmental effects of development in the coastal zone.

Land Use Compatibility Impacts

The following impact analysis applies both to potential land use incompatibilities within former Fort Ord and between former Fort Ord properties and surrounding areas. No significant land use impacts of former Fort Ord reuse affecting adjoining, off-site land have been identified.

1. Impact: Incompatibility of Proposed Developments Adjacent to Open Space Areas

Several developments included as part of the proposed project would be potentially incompatible with adjacent open space uses, upon implementation of the proposed project. They are all located on former Fort Ord lands under Monterey County jurisdiction, as follows:

- In the South Gate Planning Area (polygon 31a), a 22-acre expansion of the Regional Park District for park use and habitat protection would expand the "Frog Pond," which is already an open space protected area under the Monterey Peninsula Regional Park District. This use may be incompatible with the following planned surrounding uses: in the South Gate Planning Area, a 48-acre Office Park/R&D District that will accommodate 415,000 square feet of development; and in the adjacent York Road Planning Area, a 147-acre Office Park/R&D District with up to 413,000 square feet of development, and a 33-acre site for public facilities to be used as a future Monterey City corporation yard. Incompatibility could result from noise, visible activity, and air pollution adversely affecting recreation activities at the park.
- In the BLM habitat management/recreation area (polygon 25), approximately 39 acres are projected for Police Officer Safety Training (POST) under the Monterey Peninsula Community College direction. The training program would use the existing Military Operations Urban Terrain (MOUT) facility for various police training activities. For planning purposes, the *Draft Fort Ord Reuse Plan* assumes a combined program and some training activities (including SWAT team, KP, and chemical training but excluding firing ranges and emergency vehicle programs) with an employment center program. These uses may be incompatible with the surrounding open space/habitat management land which is set aside for habitat conservation and passive recreational activities.
- The Reservation Road Planning Area includes the Youth Camp District (polygon 17b), a 125-acre public recreational facility subject to a public benefit conveyance by the County. One of the projected land uses in the adjacent East Garrison District calls for a Mixed Use Urban Village and Employment Center with approximately 85 acres dedicated to Office/R&D and Business Park/Light Industrial land uses. These manufacturing and possibly labor-intensive uses could create nuisances including increased noise, traffic, and air pollution, which may adversely affect the recreational opportunities and experiences at the Youth Camp District. The MOUT facility would also potentially conflict with the Youth Camp District due to noise and public safety risks.

The following policies and programs developed for the *Draft Fort Ord Reuse Plan* for Monterey County relate to both the protection of open space and compatibility of open space areas with adjacent areas:

Land Use Element

Recreation/Open Space Land Use Policy A-1: The County of Monterey shall encourage the conservation and preservation of irreplaceable natural resources and open space at former Fort Ord.

Program A-1.1: The County of Monterey shall identify natural resources and open space, and incorporate them into Greater Monterey Peninsula Area Plan and zoning designations.

Recreation/Open Space Land Use Policy B-2: The County of Monterey shall use open space as a buffer between various types of land use.

Program B-2.1: The County of Monterey shall review each development project at former Fort Ord with regard to the need for open space buffers between land uses.

Recreation /Open Space Land Use: Program E-1.6: The Youth Camp District in the Reservation Road Planning Area is intended for rehabilitation of the existing travel camp. The County of Monterey shall assure that this planned use is compatible with adjacent land uses which may include a public safety agency training facility with shooting ranges in the East Garrison area located to the East.

Institutional Land Use Policy A-1: The County of Monterey shall review and coordinate with the universities, colleges and other school districts or entities the planning of both public lands designated for university-related uses and adjacent lands.

Program A-1.4: The County of Monterey shall minimize the impacts of proposed land uses which may be incompatible with public lands, such as major roadways near residential or university areas, location of the York School augmentation area adjacent to the habitat management area, and siting of the Monterey Peninsula College's Military Operations Urban Terrain (MOUT) law enforcement training program in the BLM Management/Recreation Planning Area.

Further policies regarding the general protection of open space areas can be found in Section 4.3 - Recreation and Open Space Element of the *Draft Fort Ord Reuse Plan*. Additional policies and programs to protect natural habitat resources and implement the HMP are listed in Section 4.4.3 - Biological Resources section of the Conservation Element.

While these policies and programs require the identification of open space and natural habitat areas and review of compatibility with adjacent uses, they provide no mechanism for assuring that incompatible land uses will not be introduced. Therefore, significant adverse impacts on adjacent open space areas may occur. Implementation of the following mitigation measure would reduce potential impacts to the extent that they would be considered less than significant.

Mitigation: Amend Program B-2.1 within the Fort Ord Reuse Plan to state: The County of Monterey shall review each future development project for compatibility with adjacent open space land uses and require that suitable open space buffers are incorporated into the development plan of incompatible land uses as a condition of project approval.

2. Impact: Development in the Coastal Zone

Implementation of the proposed project would result in development of the coastal zone. In the Fort Ord Dunes State Park Planning Area, the *Draft Fort Ord Reuse Plan* proposes a 59-acre multi-use area, a 23-acre future desalination plant, and 919 acres reserved for park and open space. This coastal area, which contains significant environmental and natural resources, would be managed by the California Department of Parks and Recreation (CDPR) for habitat restoration and limited visitor-serving activities. Development of the proposed multi-use area, which would potentially include a 40-room lodge (including Stilwell Hall) and other associated facilities, has the potential to destroy or disturb a portion of these resources. The following policy and programs relate to protection and appropriate use of the coastal area:

Land Use Element

Recreation/Open Space Land Use Policy E-1: The County of Monterey shall limit recreation in environmentally sensitive areas, such as dunes and areas with rare, endangered, or threatened plant or animal communities to passive, low-intensity recreation, dependent on the resource and compatible with its long term protection.

Program E-1.1: The County of Monterey shall assist the CDPR to develop and implement a Master Plan for ensuring the management of the former Fort Ord coastal dunes and beaches for the benefit of the public by restoring habitat, recreating the natural landscape, providing public access, and developing appropriate day use and overnight lodging facilities (limited to a capacity of 40 rooms).

Program E-1.2: The County of Monterey shall assist CDPR to carry out a dune restoration program for the Fort Ord Dunes State Park.

Additional policies and programs to protect natural habitat in the coastal zone and to implement the HMP are described in Section 4.10 and are listed in the Biological Resources section of the Conservation Element. Any development in the coastal zone would need to be consistent with the base-wide multispecies HMP, the State Parks General Plan, and the Coastal Zone Management Act, all of which provide protection for the affected species.

While the policies and programs described above would protect coastal resources in general, the proposed project contains modified land uses that may be inconsistent with California Coastal Commission Determination CD-16-94. This potential inconsistency with the California Coastal Act would constitute a potentially significant impact. Implementation of the following mitigation measure would ensure consistency and reduce this potentially significant impact to a less-than-significant level.

Mitigation: FORA and CDPR will coordinate future use of the coastal zone through the CDPR master planning process and shall comply with the requirements of the Coastal Zone Management Act and coastal consistency determination.

3. Impact: Expansion of School Adjacent to Proposed Transportation Corridor

Implementation of the proposed project would result in the expansion of a school adjacent to the proposed transportation corridor. The proposed project includes a 66-acre expansion to the York School campus to provide additional low-intensity educational activities associated with the school's athletic program, primarily cross country sports activities. The expansion, which is located in the BLM/Recreation Area, extends north of the existing campus into the inland range area. The proposed Highway 68 bypass transportation corridor would be located immediately adjacent and north of the expansion area. This creates potential incompatibility between the proposed school expansion and transportation corridor uses due to safety, noise, and air pollution concerns. The following policies and programs in the *Draft Fort Ord Reuse Plan* relate to land use compatibility when planning for public lands designated for, or adjacent to, educational uses:

Land Use Element

Institutional Land Use Policy A-1: The County of Monterey shall review and coordinate with the universities, colleges and other school districts or entities on the planning of both public lands designated for university-related uses and adjacent lands.

Program A-1.4: The County of Monterey shall minimize the impacts of proposed land uses which may be incompatible with public lands, such as major roadways near residential or university areas, location of the York School expansion area adjacent to the habitat management area, and siting of the Monterey Peninsula College's Military Operations Urban Terrain (MOUT) law enforcement training program in the BLM Management/Recreation Planning Area.

Institutional Land Use Policy B-1: The County of Monterey shall provide a safe environment for schools serving Fort Ord areas when planning land use and infrastructure improvements.

Program B-1.1: The County of Monterey shall review all planning and design for Fort Ord land use and infrastructure improvements in the vicinity of schools and ensure appropriate compatibility, including all applicable safety standards for development near schools, as a condition of project approval.

Because these policies and programs require compatible land use planning for lands adjacent to educational facilities and provide for a safe environment for schools, this impact is considered less than significant.

Mitigation: None required.

4. Impact: Incompatibility of Expanded Regional Park District with Proposed Highway 68 Transportation Corridor

Implementation of the proposed project would potentially result in incompatible uses related to the expanded regional park district and the proposed Highway 68 corridor. A potentially conflicting use in the BLM/Recreation Area would be the augmentation of the Laguna Seca Regional Park District which would extend north of the current park facilities. Approximately 591 acres are set aside for uses associated with the park, including hiking, ecology, parking, and passive and active recreational uses. The proposed Highway 68 corridor would pass through this expansion area, separating its northern extension from the existing Laguna Seca Regional Park facilities. This creates a potential incompatibility between the proposed expansion and transportation corridor uses, because the highway would act as a physical or perceived barrier for recreational access and could potentially cause noise, air quality, and safety concerns. The following policies and programs relate to the protection of park land and other open space areas and their compatibility with adjacent areas:

Land Use Element

Recreation/Open Space Land Use Policy A-1: See Impact #1 above for description of policy.

Program A-1.1: See Impact #1 above for description of program.

Recreation/Open Space Land Use Policy B-2: See Impact #1 above for description of program.

Program B-2.1: See Impact #1 above for description of program.

While these policies and programs encourage protection of open space areas and their compatibility with adjacent uses, they provide no mechanism for assuring that incompatible land uses will not be introduced. Therefore, significant adverse impacts on adjacent open space may occur. Implementation of the following mitigation measure would reduce this potentially significant impact to a less-than-significant level.

Mitigation: Amend Program B-2.1 within the Fort Ord Reuse Plan to state: The County of Monterey shall review each future development projects for compatibility with adjacent open space land uses and require that suitable open space buffers are incorporated into the development plan of incompatible land uses as a condition of project approval.

5. Impact: Incompatibility Between Land Uses Within the Historic East Garrison District

Implementation of the proposed project may result in conflicting uses in the historic East Garrison District. The proposed project provides for several uses to accommodate competing visions for the development of the East Garrison District.

A Mixed Use Urban Village and Employment Center is under evaluation by the County. This concept would include an East Garrison Village with an arts district, agricultural showcase and open space areas, as well as a 30-acre office park and 55-acre business park. A 150-room hotel and winery annex would be located on 33 acres in the District's Conservation Area. The remaining 550 acres would be protected habitat as provided for in the HMP.

The Monterey Peninsula College (MPC) District has submitted a competing public benefit conveyance request for reuse of the East Garrison as a Police Officer Safety Training Center (POST). Existing training opportunities in the area would be continued by the college for the CDPD personnel and others, and could include firearms and high-speed pursuit training.

For planning purposes, the *Draft Fort Ord Reuse Plan* assumes a program that combines some of the POST activities, without the firing ranges and emergency vehicle program, with an employment center program. Even with the reduced program for POST uses, the combined program may not constitute compatible use for this historic area, depending on whether POST uses are planned to encroach upon or abut the historic district. SWAT team, K-9 and chemical training would still be proposed for the site, making this use potentially incompatible with the other proposed uses of the historic area, including business and office park and a specialty retail center. The POST activities may also compromise the setting of the East Garrison historic district, which is discussed further in the Section 4.12 - Cultural Resources. The following programs relate to required planning and zoning procedures for various uses in the East Garrison District, and compatibility of uses in the East Garrison District and adjacent areas:

Land Use Element

(Residential Land Use) Program C-1.2: The County of Monterey shall amend the Greater Monterey Peninsula Area Plan and zone for the development of new housing and other use in the East Garrison historic district in the County Reservation Road Planning Area, to be designated as

a Planned Development Mixed Use District. This district may include a residential component, perhaps in a village setting incorporated into the designated historic district, depending on the ultimate location of the POST facilities within former Fort Ord.

Program E-1.2: The County of Monterey shall prepare one or more specific plans for the East Garrison District and incorporate provisions to support transportation alternatives to the automobile.

(Recreation/Open Space Land Use) Program E-1.6: See Impact #1 above for description of program.

The following additional policies and program address the consideration of facilities proposed by Monterey Peninsula College for the East Garrison District.

Land Use Element

Institutional Land Use Policy A-1: See Impact #3 above for description of policy.

Institutional Land Use Policy B-1: See Impact #3 above for description of policy.

Program B-1.1: See Impact #3 above for description of program.

The future status of the East Garrison District will remain unclear until the conflicting land use requests have been resolved. The policies and programs listed above require Monterey County to amend its planning process related to the East Garrison District and to consider compatibility of land uses and the special educational needs of Monterey Peninsula College. However, they do not assure that land uses incompatible with the historic character and proposed associated uses would be introduced, and therefore significant adverse effects of land use incompatibility may occur. These would be mitigated to a less-than-significant level through implementation of the mitigation measure identified below. Any further impacts should be addressed in greater detail during separate environmental review of individual development projects as they are proposed.

Mitigation: Adopt a policy and/or program within the Fort Ord Reuse Plan that states: The County of Monterey shall review future development projects at East Garrison to ensure compatibility with the historic context and associated land uses as a condition of project approval.

6. Impact: Incompatibility of Mixed-Use District Adjacent to Patton Elementary School

Implementation of the proposed project would result in locating a mixed use district adjacent to Patton Elementary School. The Del Monte mixed use district is located on the extension of Del Monte Blvd., north of the 12th Street Gate, and shares a boundary with the existing City of Marina Neighborhoods Planning Area, including Patton Elementary School. This district is an extension of the existing commercial uses within the City of Marina and would provide the transition to the new Town Center for Marina. Permitted uses for this location include residential, office, and retail. Proximity of this district to the school may impact the safety of the students because of traffic and high levels of human activity. The following policies and programs for the City of Marina relate to land use compatibility and school safety:

Land Use Element

Institutional Land Use Policy A-1: The City of Marina shall review and coordinate with the universities, colleges and other school districts or entities, the planning of both public lands designated for university-related uses and adjacent lands.

Institutional Land Use Policy B-1: The City of Marina shall provide a compatible and safe environment for schools serving Fort Ord areas when planning land use and infrastructure improvements.

Program B-1.1: The City of Marina shall review all planning and design for land use and infrastructure improvements in the vicinity of public school or college facilities, especially with respect to land use compatibility (expected impacts of residential and other development), school safety and ensure appropriate compatibility, including all applicable safety standards for development near schools, as a condition of project approval.

Program B-1.2: The City of Marina shall inform the Monterey Peninsula Unified School District and Monterey Peninsula College of all proposed land use and infrastructure improvements which may impact school and college sites.

Because these policies and programs require the City of Marina to ensure land use compatibility and safety in the vicinity of schools, this impact is considered less than significant.

Mitigation: None required.

7. Impact: Incompatibility of Land Uses Adjacent to University Campus

Implementation of the proposed project would result in locating potentially incompatible land uses adjacent to the California State University Monterey Bay (CSUMB) campus. The Town Center Planning Area is a planned development mixed use area that wraps around the CSUMB campus from State Highway 1 to the Imjin/12th Street corridor. Several planned uses in this area may constitute an incompatible use with the adjacent university area, including an equestrian center as a part of the proposed project in the Marina Village District, the 23-acre Marina City Corporation Yard, and a potential transit station. These uses could result in noise, traffic (including heavy vehicles), air pollution, odors, and other potential nuisance effects to an area designated for learning activities. The following policy and programs have been developed for the City of Marina to assure that planning in this area incorporates compatible, university-related uses.

Land Use Element

Institutional Land Use Policy A-1: The City of Marina shall review and coordinate with the universities, colleges and other school districts or entities the planning of both public lands designated for university-related uses and adjacent lands.

Program A-1.1: The City of Marina shall be included in the master planning efforts undertaken by the University of California and California State University, and jointly with those agencies ensure compatible land uses between university lands and non-university land.

Program A-1.2: The City of Marina shall designate the land surrounding the UCMBEST Center and CSUMB planning areas for compatible use, such as Planned Development Mixed Use Districts, to encourage use of this land for a university and research oriented environment and to prevent the creation of pronounced boundaries between the campus and surrounding communities.

Program A-1.3: The City of Marina shall review and, if necessary, revise its zoning ordinance regulations on the types of uses allowed in areas adjacent to the MBEST Cooperative Planning District and the CSUMB Planning Area District, so as to ensure compatibility of uses; the City will adopt zoning standards to ensure a suitable transition of land use types, density, design, circulation and roadways to the areas designated for university-related uses.

Program A-1.4: The City of Marina shall minimize the impacts of or eliminate land uses which may be incompatible with public lands, such as a public maintenance yard and a bus transfer station, and an existing equestrian center located in the Marina Village District north of the CSUMB campus.

Locating the proposed transit center in this area may expose existing and proposed noise-sensitive land uses, such as student housing, class rooms, and libraries, to excessive noise. For noise impacts related to the proposed transit center, Section 4.5 - Noise Element of the *Draft Fort Ord Reuse Plan* identifies the following policies and programs that address the effects of noise on existing and proposed noise-sensitive land uses: Policy A-1, Programs A-1.1, A-1.2, Policy B-1, Program B-1.1, and Policies B-2 through B-8. See Section 4.9 - Noise of this Draft EIR for a description of these policies and programs.

Because these policies and programs, through extensive coordination between the City of Marina and the universities, require designation of compatible land uses adjacent to the campus, minimize impacts or eliminating land uses which are not compatible, and limit transit center noise levels to a normally acceptable level, this impact is considered less than significant.

Mitigation: None required.

8. Impact: Incompatibility Between Equestrian Center and Public Amphitheater Adjacent to Residential Area and University Park

Implementation of the proposed project would result in locating an equestrian center (described above in Impact 7) and public amphitheater adjacent to a residential area and university park. The Monterey County Recreational/Habitat District, located to the north of and immediately adjacent to the CSUMB campus, includes 141 acres reserved for parks and open space on a former landfill site. Uses considered for this site, following clean-up by the Army, incorporate an amphitheater, a golf course, and a region-serving equestrian center which may be potentially incompatible with each other and with adjacent land uses, including: the existing residential community to the north (in the City of Marina), the University housing area to the east, and University lands to the south and west. The equestrian center could also introduce potential nuisance effects of noise, odors, etc. and safety concerns due to horses and heavy vehicles in the vicinity.

The following policies and programs for the County of Monterey relate to this area:

Land Use Element

Institutional Land Use Policy A-1: The County of Monterey shall review and coordinate with the universities, colleges and other school districts and entities in the planning of both public lands designated for university-related uses and adjacent lands.

Program A-1.1: The County of Monterey shall be included in the master planning efforts undertaken by the University of California and California State University and jointly with those agencies ensure compatible land uses in the transition between university and non-university lands.

Program A-1.2: The County of Monterey shall review and, if necessary, revise its zoning ordinance regulations on the types of uses allowed in areas adjacent to the MBEST Cooperative Planning District and the CSUMB Planning Area District, so as to ensure compatibility of uses; the County will adopt zoning standards to provide a suitable transition of land use types, density, design, circulation and roadways to the areas designated for university-related uses.

Program A-1.3: The County of Monterey shall designate the land surrounding the UCMBEST Center and CSUMB planning areas for compatible use, such as Business Park/Light Industrial/Office/R&D and Planned Development Mixed Use, to encourage use of this land for a university and research oriented environment and to prevent the creation of pronounced boundaries between the campus and surrounding communities.

(Recreation/Open Space Land Use) Program E-1.4: The County of Monterey shall work with and support the Army to investigate clean-up of the Recreation/HMP District in the Recreation Planning Area (Polygon 8a). This area is proposed to be used for remediation and reuse research, habitat management, open space/recreation (including an equestrian center, a golf course opportunity site, and an amphitheater), and a convenience center. This proposed use is subject to capping of the landfill and remediation of groundwater beneath it. A minimum of 120 acres will require mitigation measures by the Army. The polygon is considered for an annexation request by the City of Marina. Drainage, slumping, toxic fumes or gases associated with old landfill need to be considered.

Locating the proposed amphitheater in this area may expose existing and proposed noise-sensitive land uses, such as residences, to excessive noise. The Noise Element of the *Draft Fort Ord Reuse Plan* identifies the following policies and programs that address the effects of noise from non-transportation sources on existing and proposed noise-sensitive land uses: Policy A-1, Programs A-1.1, A-1.2, Policy B-1, Program B-1.1, and Policies B-2 through B-8. See Section 4.9.2 - Noise of this document for a description of these policies and programs. [Also see Section 4.6.2 - Public Health and Safety of this document for a description of potential impacts, policies, and programs related to risks associated with hazardous materials, and Section 4.11.2 - Visual Resources for a discussion of potential aesthetic effects of the amphitheater. The Recreation and Open Space Element of the Reuse Plan also contain policies and programs related to open space impacts].

Because these policies and programs, through coordination of land uses with adjacent universities, require the proper management of open space and park lands and implementation of policies and programs to limit theater noise levels to a normally acceptable level, this impact is considered less than significant.

Mitigation: None required.

9. Impact: Possible Location of a New High School Near Incompatible Land Uses in the City of Marina

Implementation of the proposed project would result in potentially locating a new high school near incompatible land uses in the City of Marina. The City of Marina is considering siting of a new high school at several optional locations at former Fort Ord. There is potential for the school to be located adjacent to land uses associated with noise, traffic, light industrial activity, and other safety or nuisance concerns. The following policy and programs for the City of Marina address this potential impact.

Land Use Element

Institutional Land Use Policy B-1: The City of Marina shall provide a compatible and safe environment for schools serving former Fort Ord areas when planning land use and infrastructure improvements.

Program B-1.1: The City of Marina shall review all planning and design for land use and infrastructure improvements in the vicinity of public school or college facilities, especially with respect to land use compatibility (expected impacts of residential and other development), school safety and ensure appropriate compatibility, including all applicable safety standards for development near schools, as a condition of project approval.

Program B-1.2: The City of Marina shall inform the Monterey Peninsula Unified School District and Monterey Peninsula College of all proposed land use and infrastructure improvements which may impact school and college sites.

Program B-1.3: The City of Marina shall designate the location of a new high school in accordance with state and local safety and siting standards.

Implementation of this policy and its programs will provide for proper planning in locating the new high school to avoid substantial land use conflicts; therefore, this impact is considered less than significant.

Mitigation: None required.

10. Impact: Incompatibility of Residential Developments Adjacent to the Natural Resource Management Area (NRMA)

Implementation of the proposed project would result in locating residential developments adjacent to the proposed NRMA. Potential incompatibility between residential land use and the NRMA may occur in newly added land uses in the County's Eucalyptus Road Planning Area, and in the Seaside Residential Planning Area. In general, residential development is considered to be a less-desirable land use adjacent to this sensitive area compared to open space and other less intensive uses, because of potential trespass activities, disturbance by residents, and possible conflicts between wildlife and humans. The following policy and programs address the need to designate open space areas and open space buffers and ensure compatible zoning in planning for the development of residential areas adjacent to the NRMA.

Land Use Element

Recreation/Open Space Land Use Policy B-2 (County of Monterey): The County of Monterey shall use open space as a buffer between various types of land use.

Program B-2.1: The County of Monterey shall review each development project at former Fort Ord with regard to the need for open space buffers between land uses.

Program B-2.2: The County of Monterey shall require clustering of all types of land uses, where appropriate, to allow for a portion of each project site to be dedicated as permanent open space.

Program B-2.3: The County of Monterey shall designate open space areas, wherever possible, on the perimeter of all development undertaken at former Fort Ord.

Program B-2.4: The County of Monterey shall designate a fire-resistant buffer between BLM lands and residential land use.

Residential Land Use Policy B-1 (Seaside and Monterey County): The City/County shall encourage land uses that are compatible with the character of the surrounding districts or neighborhoods and discourage new land use activities which are potential nuisances and/or hazards within and in close proximity to residential areas.

Program B-2.1: The City/County shall revise zoning ordinance regulations on the types of uses allowed in districts and neighborhoods, where appropriate, to ensure compatibility of uses in the former Fort Ord planning area.

Program B-2.2: The City/County shall adopt zoning standards for the former Fort Ord lands to achieve compatible land uses, including, but not limited to, buffer zones and vegetative screening.

For further policies and programs regarding the development of residential areas adjacent to the NRMA, refer to Policy A-4 and Programs A-4.1 and A-4.2, as well as Policy A-5 and Programs A-5.1 and A-5.2 of the Biological Resources section in Section 4.4 - Conservation Element of the *Draft Fort Ord Reuse Plan*.

Because implementation of these policies and programs in combination requires special siting considerations and measures to protect the habitat protection areas from negative impacts associated with residential development, this impact is considered less than significant.

Mitigation: None required.

4.2 Socioeconomics

This section presents the socioeconomic conditions of former Fort Ord in 1991 and the potential for socioeconomic impacts resulting from the proposed project. The impact analysis addresses the proposed project's effect on population, housing, employment, personal income, social services, military retiree benefits, and schools. Monterey County has been established as the region of influence (ROI) for the purpose of this analysis. For some issue areas, the Cities of Marina and Seaside, which are within and contiguous to the boundaries of former Fort Ord, are specifically discussed because of particular impacts on these communities.

4.2.1 Environmental Setting

The discussion of the affected environment for socioeconomics is summarized from the Army FEIS, Section 4.2, which is incorporated herein by reference.

Population

In 1991, Monterey County's population was 361,560 residents, most of whom lived in urban areas of the Monterey Peninsula including: Monterey, Marina, Sand City, Seaside, Carmel-by-the-Sea, Pacific Grove, and Salinas Valley cities. The former Fort Ord lies within the incorporated areas of Monterey County, and the western portions lie within the incorporated boundaries of the Cities of Marina and Seaside. Table 4.2-1 shows the Historical and Recent Population of Monterey County.

Table 4.2-1 Historical and Projected Population of Monterey County and Cities within Monterey County

County Area	Estimated Population				Average Annual Growth Rate 1980-1990	Average Annual Growth Rate 1990-2010
	1980 ^a	1990 ^a	2000 ^{b,c}	2010 ^{b,c}	%	%
All Monterey County	290,444	355,660	394,171	478,623	2.33	1.47
Carmel-by-the-Sea	4,707	5,160	4,671	4,846	0.92	-0.31
Del Rey Oaks	1,557	1,661	1,671	1,709	0.65	.14
Gonzales	2,891	5,180	7,200	8,200	5.83	2.30
Greenfield	4,181	7,290	10,800	12,000	5.56	2.49
King City	5,495	8,581	10,190	11,140	4.46	1.30
Marina	20,647	26,436	18,950	35,410	2.47	1.46
Monterey	27,558	31,954	32,727	34,826	1.48	0.34
Pacific Grove	15,755	16,117	16,758	17,630	0.23	0.45
Salinas	80,479	108,777	141,521	175,995	3.01	2.41
Sand City	182	200	592	975	0.94	7.92
Seaside	36,567	38,901	28,650	39,432	0.62	0.07
Soledad	5,928	8,090	20,380	22,200	3.11	5.05
Unincorporated County	83,914	103,095	100,058	113,080	2.06	.46

^aSource: U.S. Bureau of the Census 1990 (1980 and 1990 county and city population).

^bSource: U.S. Bureau of Economic Analysis 1990 (2000 and 2010 projections for Monterey County).

^cSource: Association of Monterey Bay Area Governments 1994(2000 and 2010 projections for cities).

The Cities of Seaside and Marina, which stand to experience the most direct population impacts as a result of the realignment and reuse of the former Fort Ord, are the second and fourth largest cities in the county respectively. In 1991, the population of Seaside was 40,288, while the population of Marina was 26,830.

In total, the resident population of former Fort Ord was 31,270 during fiscal year (FY) 1991. Approximately 85% or 26,580 of the permanent military personnel and transient military and military family members resided on the former Fort Ord. The former Fort Ord's permanent military population during FY 1991 totaled 14,372 personnel, including 1,281 officers, 267 warrant officers, and 12,824 enlisted personnel. Former Fort Ord's civilian population totaled 3,855 resident employees, including 1,550 civilian employees, 879 Army-Air Force exchange service employees, 524 nonappropriated fund employees, 136 commissary employees, 585 medical and dental department employees, and 113 information management employees. Former Fort Ord also supported a total of 18,283 personnel and family members, including 1,026 transient military personnel, 219 other active military personnel, and 17,038 family members of active duty personnel.

On-base and off-base military and civilian personnel represented a substantial portion of the total population of local cities. Over 50% of Marina's population, 25% of Seaside's population and 5% of Monterey's population was comprised of former Fort Ord military and civilian personnel and their families. The largest number of former Fort Ord personnel residing off-base lived in the Cities of Marina and Monterey. During FY 1991, 1,251 former Fort Ord military personnel lived in Marina, 1,351 lived in Monterey and 231 lived in Seaside, representing 33%, 30%, and 6% respectively of total off-base personnel. In FY 91, 22% of former Fort Ord's civilian personnel resided in Marina, while 24% lived in Monterey and 13% lived in Seaside.

Over 10,000 retired military lived within a 60-mile radius of former Fort Ord. Former Fort Ord personnel estimates indicate that 20,000 retirees and family members continued to use such facilities as the commissary and post exchange at former Fort Ord in 1991.

Housing

Characteristics of existing housing supply include the following:

- In 1990, the U.S. Bureau of the Census recorded 112,965 housing units in Monterey County, comprised of single family and multifamily units.
- Vacancy Rates: The county-wide 1990 vacancy rate was 6.8%, while the Cities of Seaside and Marina experienced a 4.3% and 5.3% vacancy rate respectively.
- Jobs-to-Housing Balance: Jobs:housing ratios demonstrate to what degree a community is providing sufficient housing to meet the needs of a local work force. Communities are generally considered to be in balance when the ratio of jobs to housing units lies within the range of .75 -1.25 (Sedway and Associates, 1992). Achieving a jobs-to-housing balance reduces excessive commute distances, automobile-related air pollution, and traffic congestion. Table 4.2-2 shows the 1990 ratio for jobs:housing units for total Monterey County and selected housing market areas.

According to this table, none of the cities maintains an optimum jobs:housing balance. The Cities of Marina and Seaside have historically provided housing for military personnel and civilians working at former Fort Ord, as indicated by their low ratios of jobs:housing. The Cities of Salinas and Monterey serve as employment centers within Monterey County, as indicated by their high ratios of jobs:housing.

The total county jobs:housing ratio is based on 165,000 jobs and 112,965 housing units and reflects a moderate imbalance in the need for more housing overall.

Former Fort Ord in 1991 held a large regionally significant supply of housing, supporting 23,716 housing units. This includes 6,365 family housing units and 9745 barracks for unaccompanied military personnel. The on-base jobs: housing ratio was approximately 0.77, taking into account the full complement of military employees.

Table 4.2-2 1990 Jobs to Housing Units for Monterey County

Housing Market Area	Jobs/housing Ratio	Med. Single Family Housing Value	Rent
Marina	0.13	\$172,500	\$607
Monterey	1.35	\$266,600	\$654
Seaside	0.55	\$150,000	\$565
Salinas	1.54	\$161,500	\$528
Total Monterey County	1.46		

Source: Fort Ord Disposal and Reuse Final EIS, Volume I, June 1993

Employment

Monterey County's economy has historically relied on three main employment sectors: tourism, agriculture, and the military. The distribution of employment is shown in Table 4.2-3. The government, including federal, state, and local agencies, accounts for almost 20% of county-wide employment. Not included in government employment figures are an estimated 21,600 military jobs (noncivilian positions at former Fort Ord, Camp Roberts, Fort Hunter-Liggett, the Defense Language Institute, the Naval Postgraduate school, the Presidio of Monterey, and the County of Monterey). Another large employment sector is retail trade (17%).

Former Fort Ord in 1991 employed a total work force of 18,227, including 14,372 permanent military personnel, 3,855 civilian personnel, and a varying number of contractual workers.

Table 4.2-3 Distribution of Employment in Monterey County, 1990

Employment Sector	Percentage of Work Force in 1990
Agricultural	21%
Services	20%
Retail Trade	17%
State and Local Government	13%
Federal Government	6%
Manufacturing	7%
Wholesale Trade	4%
Mining and Construction	3%
Finance, Insurance, and Real Estate	4%
Transportation and Public Utilities	3%

Source: California Employment Development Department, 1991

Personal Income

The most recent personal income data for Monterey County was published in 1989 and reflects 1988 personal income levels. Personal income within Monterey County totaled approximately \$6.8 billion in 1988, resulting in a per capita personal income of \$19,500.

Social Services

Social services are provided by Monterey County, local organizations, and the Army. Family-related services provided by Monterey County include basic subsistence, emergency services, services for adults and the elderly, services for children, family planning, and financial planning. These services are funded primarily by state and federal transfer payments.

Support services available in Monterey County include substance abuse services, senior systems, suicide prevention, armed services retiree services, and disability services. The primary support organization for seniors (retired military) was Silas B. Hayes Army Community Hospital, which is currently closed but was operating in 1991. Specific numbers of individuals in substance abuse treatment were not available. Between 10% and 15% of the clients serviced by adult services were retired military, and 10% were family members of retired military. Almost 39,000 retired military, 23,286 active military, and 40,226 military family members used some type of family-related services, according to responses to a human services survey conducted by the Fort Ord Community Task Force (1992).

A variety of job development and job placement resources exist within Monterey County, including the Private Industry Council, the Center for Employment Training, Joblink, Mission Trails Regional Occupation Program (ROP), and the county Office of Employment Training.

Over 55,000 county residents (about 15.5% of total county population) were considered economically disadvantaged in 1990. Economically disadvantaged persons are defined as those persons whose income or family income was below the Federal Poverty Guideline (\$12,700 for a family of four) and/or below 70% of the Lower Living Standard Income Level which varies by county of residence (\$15,130 for a family of four in Monterey County). In May of 1990, almost 17,000 people within the County (5% of total county population) received basic assistance in the form of Aid to Families with Dependent Children. Almost 20,000 individuals received food stamps, 367 received general relief, and 22 received refugee cash assistance.

About 250 emergency shelter bed spaces in Monterey County were available for the homeless on 1991. Of these, only 30 were located on the Monterey Peninsula. There are currently no transitional housing programs for the homeless in Monterey County (Fort Ord Community Task Force, 1992). An estimated 1,300-2,200 homeless adults and 370-630 homeless children reside in Monterey County. The following represents the approximate distribution of the homeless population in the County: Salinas area 47%, Monterey Peninsula area 22%, North County area 8%, South County 15%, and unknown 8%.

Military Retiree Benefits

Access to free or low-cost medical treatment on a space-available basis at Silas B. Hayes Army Community Hospital was an important service available to retired military personnel in 1991. Other major services available to retirees at former Fort Ord included the commissary, post exchange, library, athletic facilities, and social clubs. The commissary served active-duty personnel, reservists, and their family members, in addition to retirees. It served an estimated 8,000 retirees and 12,000 of their family

members in the local area. Details of military retiree benefits affected by realignment of the former Fort Ord are provided in the FEIS Section 4.2, which is incorporated herein by reference.

Schools

The Monterey Peninsula Unified School District (MPUSD) serves the former Fort Ord and the Monterey Peninsula. 1991 district-wide school enrollment was 14,152, and capacity was at 17,606. The MPUSD operated five schools at former Fort Ord on land leased from the Army. More than half of the students at two elementary schools in the City of Marina were from military families. Seaside High School's students were predominantly from military families. Approximately one-third of all enrolled students were children of military personnel or civilians who worked at former Fort Ord. The MPUSD received reimbursement from the federal government for each child of a former Fort Ord military or civilian family that attended a MPUSD school (\$1,400 for resident child of Fort Ord, \$14 for nonresident child).

The City of Salinas has four elementary school districts: Salinas City, Alisal, Santa Rita, and Washington. All four districts were operating above capacity in 1991. There were plans to construct several facilities within the districts to increase capacity and decrease overcrowding, but funding has not been available. Through interdistrict agreements, approximately 185 students from former Fort Ord families attend classes in one of the elementary school districts in Salinas.

Approximately 300 students from former Fort Ord families attended a Salinas Union High School District facility (RKG Associates 1992). By 2000, the district expects to more than double its enrollment. Growth plans include the addition of Alvarez High School. This facility would increase the district's capacity by 2,000 students. However, even if the district begins construction on Alvarez High School within the next 3 years, the district will still need another high school.

The North County Unified School District (NCUSD) had an enrollment of approximately 4,900 students in 1991, and a capacity of approximately 200 additional students. NCUSD's current administration estimate that a maximum of approximately 75 students attending NCUSD facilities in 1991 were from former Fort Ord families.

At least one-third of the students enrolled at Monterey Peninsula College in 1991 were not military personnel, but they attended that campus because of its convenient location. Approximately 20% of Golden Gate University's student body and their family members were military personnel.

4.2.2 Environmental Impacts and Mitigation

Significance Criteria

The significance criteria for socioeconomic impacts were formulated in accordance with Appendices G and I of the *State CEQA Guidelines*. The proposed project would result in a significant effect on the environment if it would:

- induce growth or change in concentration of population and employment resulting in substantial increases to existing jobs:housing imbalances; or
- substantially increase demand for additional public assistance programs, beyond available capacity, resulting in physical effects on the environment.

The impacts and mitigations addressed in the FEIS and DSEIS have generally been incorporated into the proposed action. The DSEIS concluded that no mitigations were required for socioeconomic impacts of Alternative 7, the alternative most similar to the proposed project.

1. Impact: Increase in Monterey County Population, Employment and Demand for Community Services

Implementation of the proposed project would induce a change in concentration of population and employment, potentially resulting in adverse physical effects on the environment. The proposed project through total buildout is projected ultimately to increase Monterey County's total population by 51,773 residents plus 20,000 residential CSUMB students. This would include 12,837 residents in the City of Marina and 20,356 residents in the City of Seaside. At buildout, this would represent an increase of 40,503 over the 1991 population at former Fort Ord. When distributed over a buildout period of approximately 40-60 years, this growth represents an average increase of approximately 810 persons per year. It is anticipated that approximately 28,859 residents plus 10,000 CSUMB students would be present at former Fort Ord in the year 2015. This would represent an increase of approximately 7,000 over 1991 baseline conditions and would be substantially lower than the Association of Monterey Bay Area Government (AMBAG) projections for former Fort Ord at 2015 (66,612 residents plus 20,000 CSUMB students).

The proposed project would generate 45,457 jobs in contrast to the total work force of 18,227 (including 3,855 civilian jobs) which formerly existed at former Fort Ord. The largest proportion (11,350) of newly generated jobs would occur with the development of Office Park and Industrial land uses upon implementation of the proposed project. The remainder would occur in smaller increments with the development of retail, visitor serving, public facilities, parks and open space, and educational land uses. Because regional personal income is closely tied to the change in the number of jobs, it would experience increases commensurate with job increases generated by the proposed project. These would be beneficial impacts and no mitigation is required.

A balance between the number of jobs and housing units available in a specific area reduces excessive commute distances, automobile-related air pollution and emissions, and traffic congestion, which in turn imparts beneficial impacts to the surrounding environment. Implementation of the proposed project would produce a jobs:housing ratio of 45,457 jobs to 22,232 dwelling units or 2.05 within the project area. This would reverse the historically imbalanced jobs:housing ratios for the City of Seaside (.55 in 1991) and the City of Marina (.13 in 1991). It would create a surplus of jobs for the project area population and reverse the strong local job shortage, while improving the overall housing supply which would benefit Monterey County. It is a major improvement over the Alternative 7 jobs:housing ratio, especially in the City of Marina and the City of Seaside (see Table 4.2-2 and Table 2.4-1 in this Draft EIR). Thus, it is considered a beneficial impact.

Implementation of the proposed project would result in some decreased demand for community services and job development programs because of decreased unemployment and increased economic activity in the region. Additionally, increased economic development would result in some reduction in the demand for services such as welfare and crisis intervention programs. Reduced demand for job development and welfare services is considered a less-than-significant impact.

Buildout of the proposed project would result in a (school-age) student population of 7,250 in the former Fort Ord area. This number includes approximately 1,450 high school students, 1,450 middle school students, and 4,350 elementary students. Some of these students would attend private schools. Existing

public schools at former Fort Ord include Marshall, Hayes, Stilwell, and Patton elementary schools and Fitch Middle School. One new high school, one new elementary and the expansion of Patton Elementary School would be constructed as a result of the proposed project. Capacity of these and existing former Fort Ord schools would be 6,820 students. The increased population of school age youth in the region would be served by the existing and planned schools in the former Fort Ord region. Effects on educational services are considered less than significant, since capacity would be increased in step with demand for services.

Mitigation: None Required.

2. Impact: Increase in Monterey County Housing Capacity

Buildout of the proposed project would result in 17,132 dwelling units plus an additional 5,100 dormitory units for CSUMB at former Fort Ord. This figure assumes that approximately 4,066 currently existing dwelling units would remain and be reused, and 13,066 new housing units and 5,100 dormitory units would be developed.

Compared with the 1991 housing stock at former Fort Ord, this represents a slight decrease in the number of dwelling units (from 23,716 to 22,232), but an overall substantial increase in housing capacity (from a residential population of 31,270 to 71,773). This is explained by the fact that many of the dwelling units at former Fort Ord in 1991 were barracks for enlisted personnel, whereas the majority of new housing units proposed under the proposed project would be single family dwellings and would be able to accommodate a greater number of persons per dwelling unit. The majority of existing dwelling units at former Fort Ord are not suitable for family housing, are in poor condition, and would be demolished under the *Draft Fort Ord Reuse Plan*.

The Residential Land Use section of the Land Use Element of the *Draft Fort Ord Reuse Plan* contains policies and programs regarding density of residential development. Based on improvements in the supply of housing and policies/programs to accommodate increased densities and numbers of residents, the impact of housing development is considered less than significant, and may be beneficial in restoring an improved jobs:housing balance in the region. [Refer to discussion under Impact #1 for additional information on jobs: housing balance.]

The physical effects of construction of the additional housing under the proposed project are discussed in Sections 4.1 - Land Use, 4.3 - Geology and Soils, 4.8 - Air Quality and Climate, and 4.10 - Biological Resources of this Draft EIR.

Mitigation: None required.

4.3 Geology and Soils

4.3.1 Environmental Setting

This section of the Draft EIR provides a general description of soils, geology, and topography at former Fort Ord. A more detailed description of these conditions is included in the *Soils Baseline Study of Fort Ord, California* and the setting section in the Army's FEIS (Vol. I).

Soils

Most soils at former Fort Ord were formed by deposition of sand during the rising and falling sea levels associated with the ice ages of the mid- and late Pleistocene Epoch. Nearly 200 feet of sand were deposited in some areas, creating the sandstone and compacted sandy soils common throughout the base. More recently, very high dunes have developed along the coast as coastal beach and recent-age dune deposits.

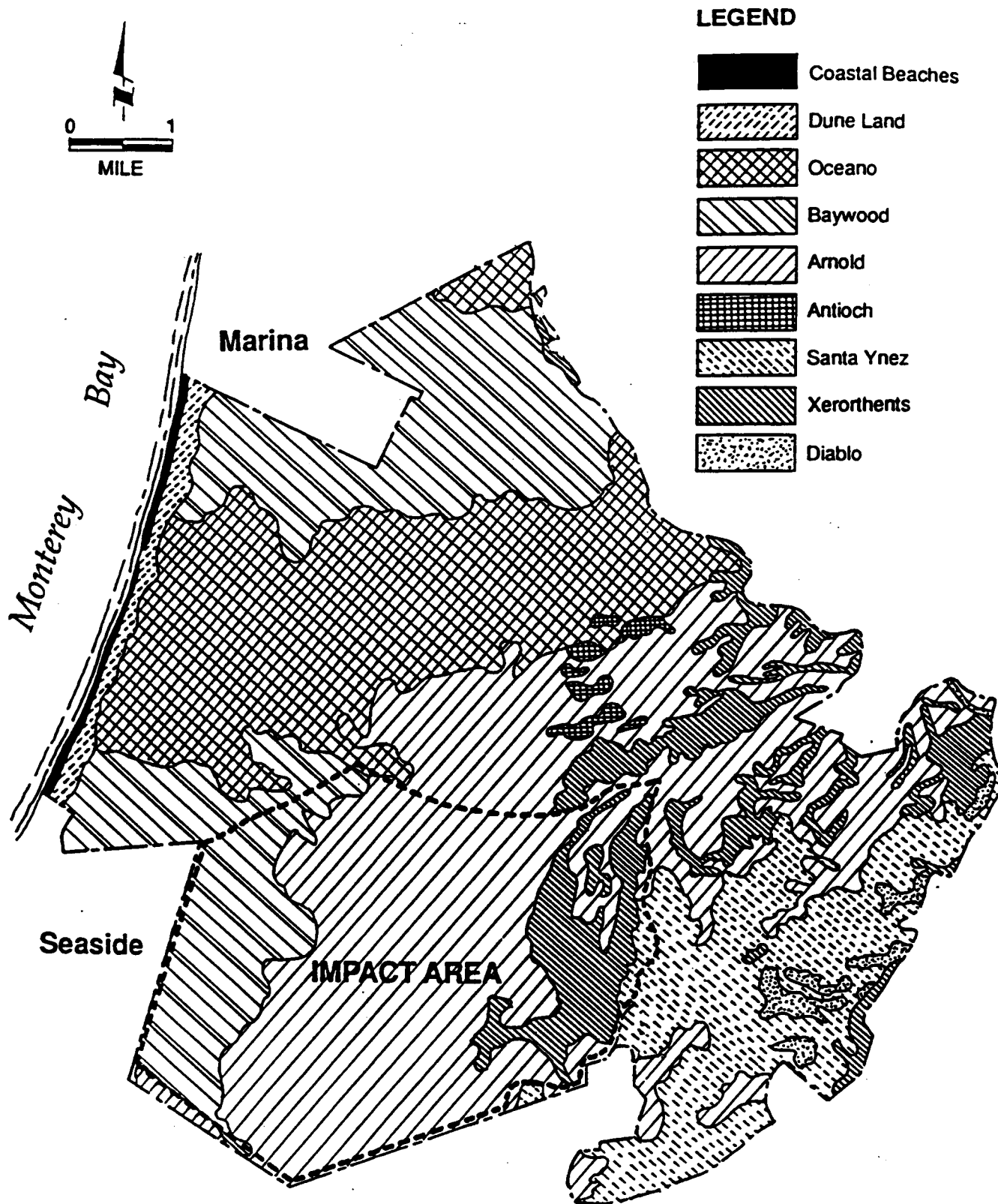
The soils at former Fort Ord are characteristically medium-grained sand of low organic content. The soils are low in fertility and water-holding capacity, highly erodible, and excessively well drained. Although there are some minor inclusions of other soils, most of the soils at former Fort Ord are represented in seven soil series (Oceano, Baywood, Santa Ynez, Arnold, Antioch, San Andreas, and Diablo) and three general classifications (Coastal beaches, Dune land, and Xerorthents) (Figure 4.3-1).

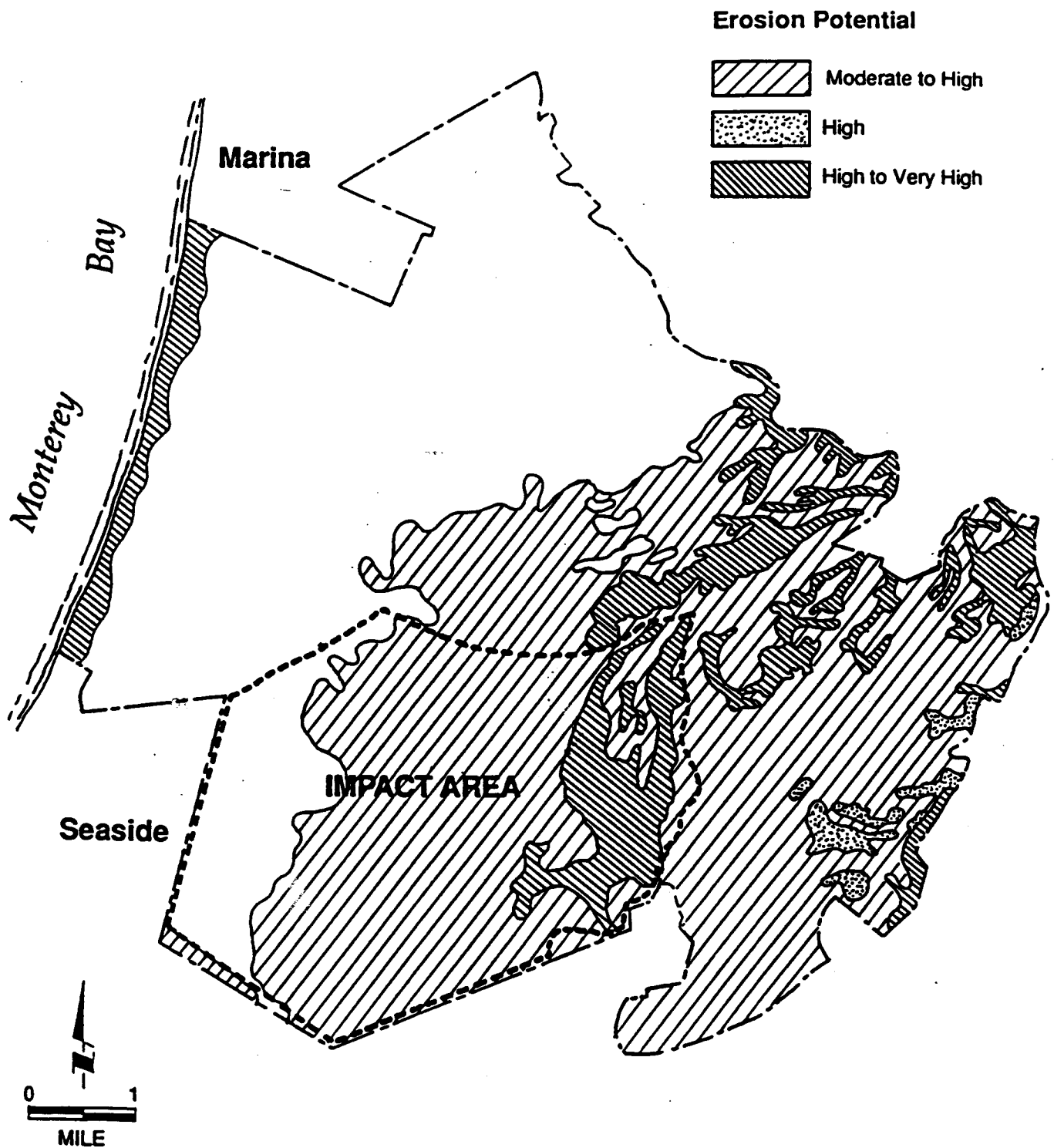
Erosion

The severe coastal erosion at former Fort Ord is a natural process that has been occurring for at least several thousand years. Some of the causes are the postglacial sea level rise and the wave patterns and geomorphic structure of Monterey Bay. The erosion rate has accelerated in this century from about 1.5 feet per year up to 7.0 feet per year in 1983. This increase is the result of reduced sediment supply from sand mining along the coast and sediment trapping in reservoirs in the Salinas River watershed, and loss of vegetation in shoreline dunes.

Wind erosion can affect Dune land, Oceano, and Baywood soils, and wind and water erosion can affect Arnold soil if vegetation is removed and the ground surface is disturbed. Organic matter accumulation or minimal development of soil structure in the surface horizons of the Oceano and Baywood soils may retard wind erosion and lower the erosion hazard if the topsoil has not been disturbed or removed. Sand blown from exposed soils damages existing and replanted vegetation and accumulates in areas from which it must be removed. Wind erosion continues until the source areas are stabilized and revegetated. Removing trees that act as windbreaks increases the wind erosion potential.

Two regions of former Fort Ord are highly susceptible to water erosion: the Arnold and Xerorthents soils of the Aromas formation and the Santa Ynez and Diablo soils of the Paso Robles formation (Figure 4.3-2). The red sandstone layer characteristic of the Aromas formation, and most evident in ridgetop edge outcrops, are slowly eroding. Rill and gully erosion sufficient to produce palisade or badlands-like features is a naturally occurring process. Excavations in this profile produce immediate springs above the sandstone layer where it is exposed. Such induce surface runoff accelerates the natural erosion process. Disturbances of this formation, such as by roadcuts, further accelerates erosion. The Paso Robles formation also has a high potential erosion hazard. The Santa Ynez soil series may include an infiltration-impeding layer of clay accumulation or may be underlain by unconsolidated alluvial deposits and sandstone. Under disturbed conditions, especially when concentrated in stream channels, induced





erosion in the Paso Robles formation can be more extensive and dramatic than under the Aromas formation.

Soil Limitations

Some soils on former Fort Ord have limitations as substrates for engineering and construction purposes. These limitations are primarily related to piping, low-strength, and shrink-swell potential.

Soils with high piping potential are unconsolidated sands with very little organic or clay binders. Unconsolidated soils have large pore spaces between the soil particles. When water flows in these large pores, sand particles are washed away, which enlarges the pores further until they coalesce and form a continuous pipe-like passage. The flow rate accelerates, causing sand particles to break away and the pipe to enlarge. Concentrated flows of water or natural infiltration causes piping. Large amounts of soil material can be washed away below the soil surface without being detected until the surface collapses. Most of the soils at former Fort Ord have high piping potential, and special consideration must be given to this soil hazard when developing these areas (Figure 4.3-3).

Soils with low strength lack adequate cohesion between the soil particles to support the weight of the soil. Sandy soils typically have low strength because of the lack of organic or clay materials to bind the grains together. When moisture is added to the soil, the weight may exceed the cohesive bonds. Low-strength soils typically fail on cut and fill banks that are excessively steep. Sandy soils, such as Baywood, Oceano, and Dune land, may be subject to low-strength conditions (Figure 4.3-4). In addition, soils with high shrink-swell potential contain clay minerals that expand when wet and shrink when the moisture content is reduced. These soils also have low-strength properties. High shrink-swell potential in soils typically causes seasonal uplifting of roads and foundations that result in cracking. Clay soils, such as Diablo and Santa Ynez, have limitations caused by both low-strength and shrink-swell potential (Figure 4.3-5).

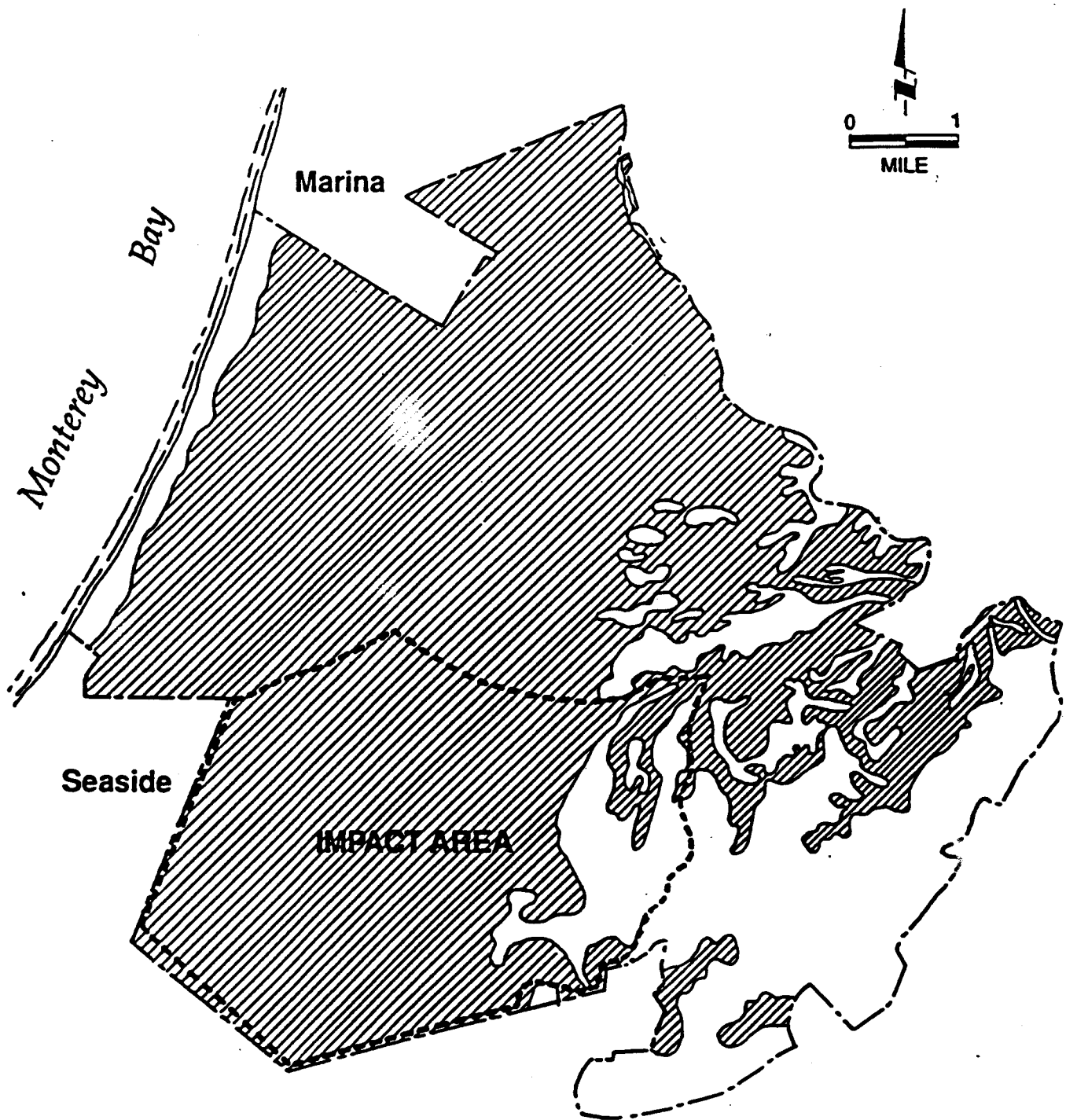
Topography

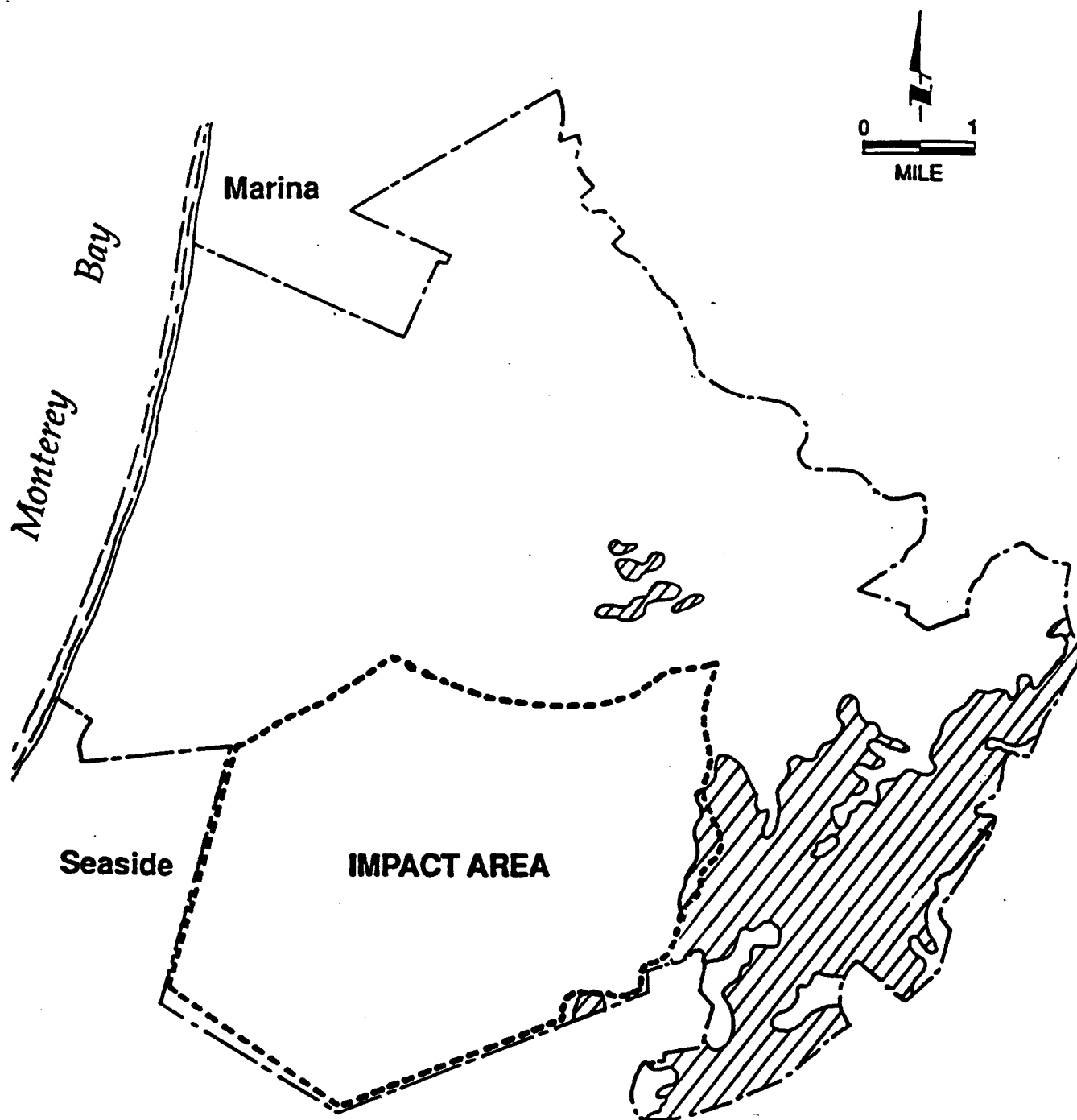
Extensive areas in the southwestern quadrant of former Fort Ord have slopes in excess of 30% (Figure 4.3-6). Certain areas have slopes approaching vertical. Development has been limited in these areas because of the severe erosion and landslide hazard that exists.

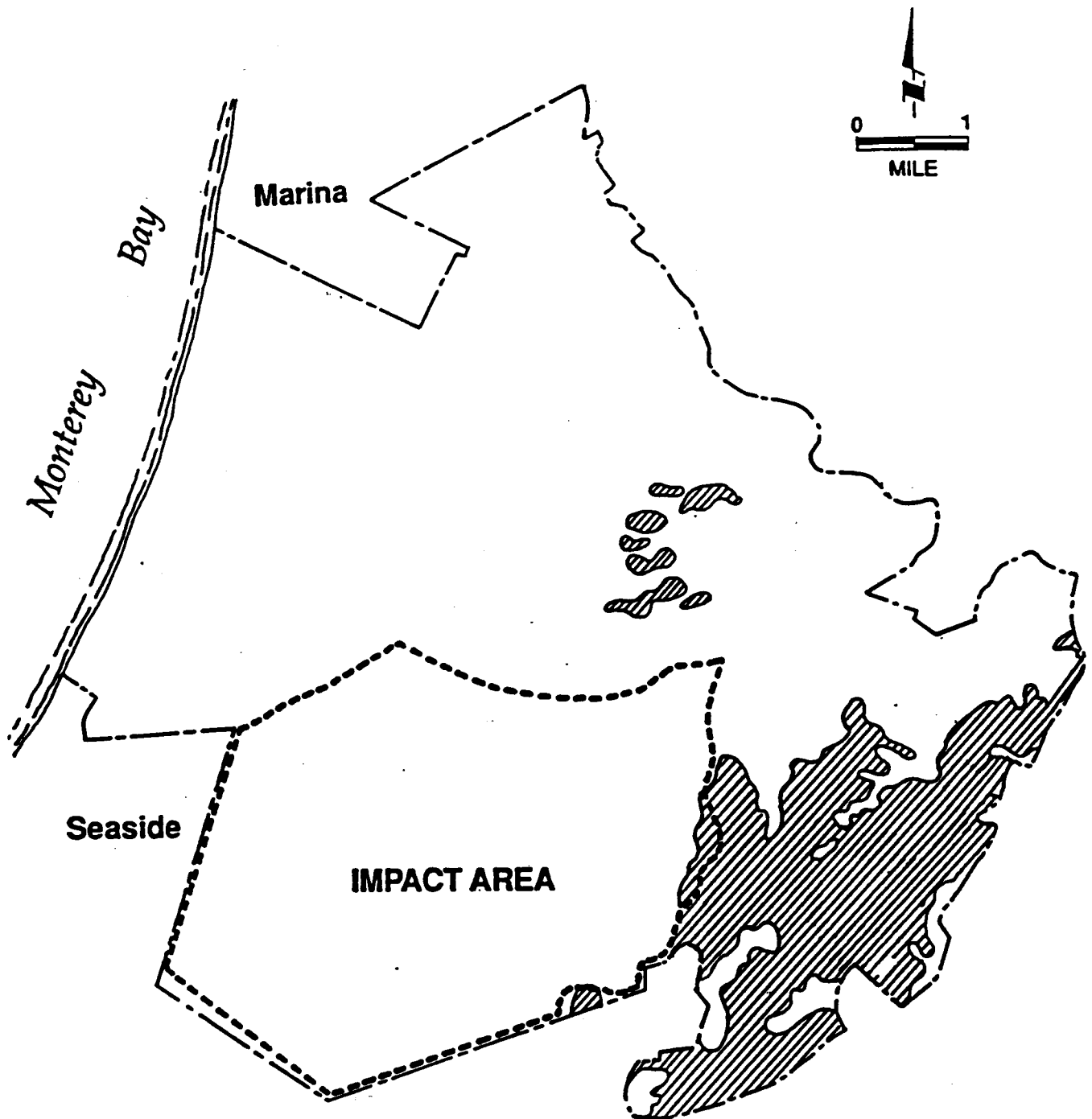
Agriculture/Horticulture

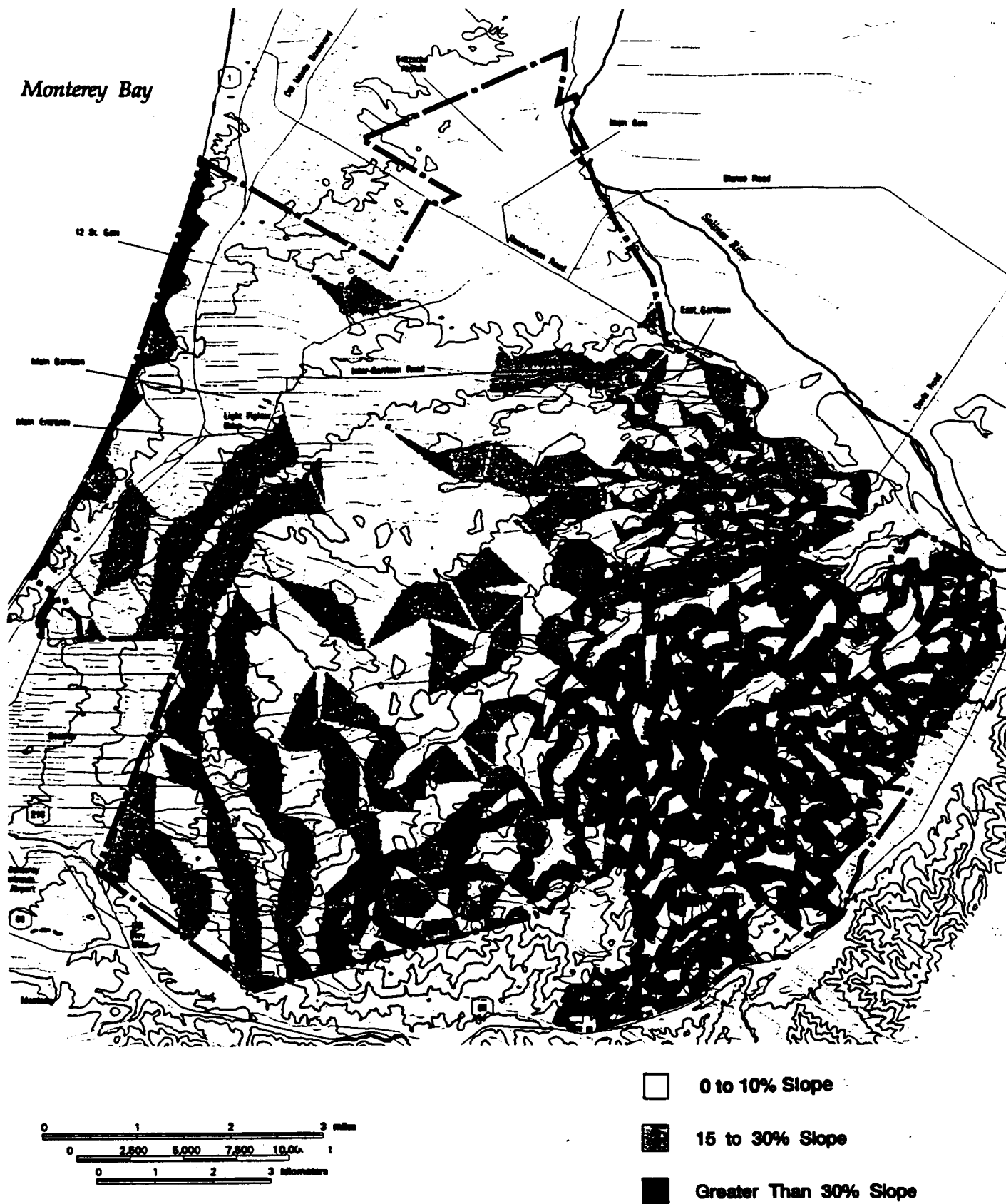
Before former Fort Ord was established as a military base, only limited agriculture was practiced on the property. Tomatoes and other vegetables were grown on the alluvial flats along Toro Creek; dryland spring peas were grown on the dunes at the north end of former Fort Ord; and hay may have been grown on the grassy flats amidst the sand dunes. Most of the soils on former Fort Ord are generally unsuitable and severely limited for agriculture.

A small portion of former Fort Ord, less than 50 acres in the segment along the northeast boundary that extends out to and encompasses the Salinas River, consists of soils suitable for prime farmland. Extensive areas of Oceano soils and very limited areas of Antioch and Arnold soils are suitable as soils of statewide (farmland) importance. Extensive acreage in the southeast quadrant of former Fort Ord has value as grazing land and is presently used for that purpose.









4.3.2 Environmental Impacts and Mitigation

Significance Criteria

The following significance criteria for soils and geology impacts were formulated based on Appendices G and I of the *State CEQA Guidelines*, professional judgment, and knowledge of the project area. The proposed project would result in a significant effect on the environment if it would result in:

- destruction of a substantial portion of any unique soil type or geologic feature;
- construction in a zone of high beach or coastal erosion;
- accelerated wind or water erosion, resulting in a substantial reduction in on-site soil productivity, revegetation potential, or erosion/sedimentation of receiving waters;
- exposure of people or property to erosion-related hazards such as landslides, surface collapse from piping, or other ground failures; or
- a substantial change in topography or ground surface relief features.

The Army's FEIS and DSEIS address the impacts identified below. Implementation of the policies and programs identified below replace the mitigations incorporated in the FEIS and DSEIS.

1. Impact: Loss of Unique Soil Type Supporting Rare Plant Communities and Endangered and Threatened Species

Implementation of the *Draft Fort Ord Reuse Plan* would result in disturbance or destruction of the soil component of the natural ecosystem supporting rare plant communities and endangered and threatened species at former Fort Ord. This loss would result from grading, paving, excavating, contouring, and landscaping of undeveloped lands. These areas are proposed for urban development and are within the city boundaries of Marina and Seaside and the western area of Monterey County within former Fort Ord, the East Garrison area, Laguna Seca satellite parking areas, and the southwest annexation areas west of the proposed North/South Road. The following policy and program for the Cities of Marina and Seaside and Monterey County address the conservation of natural soil ecosystem components.

Conservation Element

Soils and Geology Policy C-1: The City/County shall support and encourage existing state and federal soil conservation and restoration programs within its borders.

Program C-2.1: The City/County shall require that the land recipients of properties within the former Fort Ord implement the Fort Ord Habitat Management Plan.

In addition, policies and programs from the Biological Resources section of the Conservation Element of the *Draft Fort Ord Reuse Plan* are also applicable. (See Section 4.10.2. of this Draft EIR for a description.) These policies and programs, especially those related to implementation of the HMP, require the preservation, management, and enhancement of habitat management areas and the resources within those areas to offset impacts associated with future development of the former Fort Ord (see section 4.10.2 for more details). The habitat management areas comprise 62% of the former Fort Ord. The HMP was developed as part of the Army's FEIS process for disposal and reuse to mitigate impacts to biological resources and associated soil ecosystem in such a way that there would be no net loss for species and biological resources specifically addressed in the HMP. Because these policies and programs require the preservation, management, and enhancement of natural areas and resources and

potentially affected areas, they mitigate potential destruction of the soil component. This impact is considered less than significant.

Mitigation. None required.

2. Impact: Long-term Loss of Soil Fertility Caused by Fire Suppression

The suppression of low-temperature natural wildfires could result in a buildup of fuel and the eventual occurrence of a high-temperature wildfire, which could severely deplete the soil surface horizon reserve of organic matter on undeveloped lands. In sandy soils with very low clay content, such as in the Oceano, Baywood, and Arnold series, organic matter represents the only reserve of soil fertility, and its loss could severely reduce the soil's ability to support rare plant communities. The loss of organic matter, caused by a high-temperature wildfire, could result from the suspension of fire management activities caused by the proximity of development to natural areas or the decision of natural land managers not to utilize wildfire as a habitat management tool. The following program for the Cities of Marina and Seaside and Monterey County addresses the use and management of wildfires in natural areas:

Conservation Element

(Soils and Geology) Program C-2.1: The City/County shall require that the land recipients of properties within the former Fort Ord implement the Fort Ord Habitat Management Plan.

In addition, policies and programs from the Biological Resources section of the Conservation Element are applicable. (See Section 4.10.2 of this Draft EIR for a description of these policies and programs.)

The HMP includes habitat management requirements for parcels identified as "habitat preserve areas." For some of these parcels, controlled burning is specifically required as a habitat management tool. For those parcels in which controlled burning is not included as a specific requirement in the HMP, the HMP calls for implementation of actions to maintain special-status species populations. These actions would require controlled burning or other forms of fuel management. Because these policies and programs require controlled burning and implementation of actions to maintain special status populations, this impact is considered less than significant.

Mitigation. None required.

3. Impact: Potential Loss of Coastal Facilities Due to Construction in a Zone of High Beach or Coastal Erosion

Implementation of the proposed project would result in construction in a zone of high beach or coastal erosion. Facilities proposed in the coastal zone, including reuse of Stilwell Hall as a visitor's center in the multi-use area (polygon 14a) and development of public/institutional uses in the proposed service area (polygon 14b) would be subject to coastal erosion and may be harmed or destroyed. The following policies and programs for the Cities of Marina and Seaside and Monterey County address the prevention of coastal erosion.

Conservation Element

Soils and Geology Policy A-1: In the absence of more detailed site specific information, the City/County shall use the Natural Resources Conservation Service's Soil Survey of Monterey County in determining the suitability of soil for particular land uses.

Soils and Geology Policy A-2: The City/County shall require developers to prepare and implement erosion control and landscape plans for projects that involve high erosion risk. Each plan shall be prepared by a registered civil engineer or certified professional in the field of erosion and sediment control and shall be subject to approval of the public works director for the City/County. The erosion component of the plan must at least meet the requirements of Storm Water Pollution Prevention Plans (SWPPPs) required by the California State Water Resource Control Board.

Program A-2.3: The City/County shall develop and make available a list and description of feasible and effective engineering and design techniques that address the soil limitations characteristic of the former Fort Ord.

Soils and Geology Policy A-3: Through site monitoring, the City/County shall ensure that all measures included in the developer's erosion control and landscape plans are properly implemented.

Soils and Geology Policy A-4: The City/County shall continue to enforce the Uniform Building Code to minimize erosion and slope instability problems.

Soils and Geology Policy A-5: Before issuing a grading permit, the City/County shall require that geotechnical reports be prepared for developments proposed on soils that have limitations as substrates for construction or engineering purposes, including limitations concerning slope and soils that have piping, low-strength, and shrink-swell potential. The City/County shall require that engineering and design techniques be recommended and implemented to address these limitations.

Program A-5.2: The City/County shall designate areas with severe soil limitations, such as those related to piping, low-strength, and shrink-swell potential, for open space or similar use if adequate measures cannot be taken to ensure the structural stability of these soils. This shall be designated at the project-specific level through a geotechnical study.

Because these policies and programs require the analysis of soil and slope conditions prior to development, the implementation of measures to prevent coastal erosion, and the exclusion of development in areas where adequate measures cannot be taken to ensure the structural stability of soils and slopes, this impact is considered less than significant.

Mitigation. None required.

4. Impact: Accelerated Wind Erosion

Development of relatively undisturbed areas at former Fort Ord would remove vegetation and disrupt the soil surface horizon in areas where soils are highly susceptible to wind erosion (areas with Dune land, Oceano, Baywood, and Arnold soils, as shown in Figure 4.3-1). Sediment and sand blown from exposed

soils could damage structures and existing and replanted vegetation and would accumulate in wetlands and natural and developed areas. This could occur with both short-term construction impacts and long-term erosion where vegetative cover is not re-established. The following policies and programs for the Cities of Marina and Seaside and Monterey County relate to the prevention of wind erosion:

Conservation Element

Soils and Geology Policy A-2: See Impact #3 above for a description of this policy.

Program A-2.1: The City/County shall develop and make available a list and description of feasible and effective erosion control measures for various soil conditions within the City/County to be used by all future development at former Fort Ord.

Program A-2.2: The City/County shall develop and make available a list of recommended native plant species, application rates, and planting procedures suitable for erosion control under various soil, slope, and climatic conditions that may be encountered in the City's/County's sphere of influence.

Program A-2.3: See Impact #3 above for a description of this policy.

Soils and Geology Policy A-3: See Impact #3 above for a description of this policy.

Soils and Geology Policy A-4: See Impact #3 above for a description of this policy.

Because these policies and programs require that soil conditions be analyzed prior to development and that appropriate measures be taken to prevent wind erosion, this impact is considered less than significant.

Mitigation. None required.

5. Impact: Accelerated Water Erosion

Development under the *Draft Fort Ord Reuse Plan* would remove vegetation and disrupt the soil surface horizon over areas with soils highly susceptible to water erosion (areas with Arnold, Xerorthent, Santa Ynez, and Diablo soils, as shown in Figure 4.3-2). Soil disturbance associated with construction and the concentration of run-off from impermeable surfaces could result in greatly accelerated water-induced erosion. Results of accelerated water erosion could include gulying, channel incisions, sedimentation in wetlands or stream channels downslope from erosion sites, and landslides in some areas. Severe erosion could ultimately jeopardize the stability of the proposed developments.

Under the *Draft Fort Ord Reuse Plan*, polygon 11b is proposed as a planned development mixed use district with equestrian opportunities and possible business park and light industrial uses. Although earlier versions of the Reuse Plan limited development of this polygon to the northern portion of the area, the proposed project allows development of the southern portion of this area, which contains steep slopes and soils highly susceptible to water erosion. If development in the southern portion of polygon 11b occurs, implementation of extensive engineering and design measures and erosion control techniques would be required to prevent adverse effects. The following relevant policies and programs for the Cities of Marina and Seaside and Monterey County address erosion control:

Conservation Element

Soils and Geology Policy A-1: See Impact #3 above for a description of this policy.

Soils and Geology Policy A-2: See Impact #3 above for a description of this policy.

Program A-2.1: See Impact #4 above for a description of this program.

Program A-2.2: See Impact #4 above for a description of this program.

Program A-2.3: See Impact #3 above for a description of this program.

Soils and Geology Policy A-3: See Impact #3 above for a description of this policy.

Soils and Geology Policy A-4: See Impact #3 above for a description of this policy.

Soils and Geology Policy A-5: See Impact #3 above for a description of this policy.

Program A-5.2: See Impact #3 above for a description of this program.

Because these policies and programs require consideration of soil conditions prior to development, the implementation of appropriate erosion control and design techniques to prevent water erosion, and the exclusion of development in areas where adequate measures cannot be taken to ensure the structural stability of soils, this impact is considered less than significant.

Mitigation. None required.

6. Impact: Increased Landslide Susceptibility

Implementation of the proposed project could result in development occurring on slopes susceptible to landslides. The risk of landslides is related to several factors including slope, soil type, and previous landslide history. The following policies and programs for the Cities of Marina and Seaside and Monterey County address slope instability problems:

Conservation Element

Soils and Geology Policy A-2: See Impact #3 above for a description of this policy.

Program A-2.1: See Impact #4 above for a description of this program.

Program A-2.2: See Impact #4 above for a description of this program.

Program A-2.3: See Impact #3 above for a description of this program.

Soils and Geology Policy A-4: See Impact #3 above for a description of this policy.

Soils and Geology Policy A-5: See Impact #3 above for a description of this policy.

Soils and Geology Policy A-6 (Seaside and Monterey County): The City/County shall require that development of lands with a prevailing slope above 30% include implementation of adequate erosion control measures.

Program A-6.1: The City/County shall prepare and make available a slope map to identify locations in the study area where slope poses severe constraints for particular land uses.

Program A-6.2: The City/County shall designate areas with extreme slope limitations for open space or similar use if erosion control measures and engineering and design techniques cannot be implemented.

Because these policies and programs minimize or eliminate the susceptibility of development to landslides through the analysis of soil conditions prior to development, the implementation of appropriate design techniques to accommodate soil conditions and limitations, and the exclusion of development in areas where adequate measures cannot be taken to ensure the structural stability of soils, this impact is considered less than significant.

Mitigation: None required.

7. Impact: Increased Sedimentation

Increased erosion and landslide susceptibility as a result of proposed developments could result in increased creek channel sedimentation downslope and downstream of developments. Sedimentation reduces a creek's water carrying capacity and increases the risk of the creek overflowing its banks during storms. Affected creeks would include those in Impossible Canyon, Barloy Canyon, Pilarcitos Canyon, other small drainage in the southeast quadrant of former Fort Ord, and the small drainage near the southwestern boundary of former Fort Ord. Toro Creek presents the greatest hazard because sedimentation already creates a potential flood hazard to developments outside the former Fort Ord boundary. The following policies and programs for the Cities of Seaside and Marina and Monterey County address the prevention of sediment accumulations in creek channels.

Conservation Element

Soils and Geology Policy A-2: See Impact #3 above for a description of this policy.

Program A-2.1: See Impact #4 above for a description of this program.

Program A-2.2: See Impact #4 above for a description of this program.

Program A-2.3: See Impact #3 above for a description of this program.

Soils and Geology Policy A-3: See Impact #3 above for a description of this policy.

Soils and Geology Policy A-4: See Impact #3 above for a description of this policy.

Soils and Geology Policy A-5: See Impact #3 above for a description of this policy.

Program A-5.2: See Impact #3 above for a description of this program.

Because these policies and programs reduce erosion caused by wind, water, and other factors, they also reduce the deposition of sediment in stream channels. Implementation of these policies and programs would reduce this impact to a less-than-significant level.

Mitigation. None required.

8. Impact: Engineering Limitations on Use of Soils

Areas of proposed development on Baywood, Oceano, and Arnold soils, as shown in Figure 4.3-1, have severe limitations to engineering as a result of excavation caving and slope and embankment piping potential. Development proposed in these areas would require the implementation of engineering techniques that can be costly.

Proposed development on Baywood, and Dune land soil would have engineering limitations because of low strength. Santa Ynez and Diablo soils would have limitations due to shrink swell properties. Soils with low strength and shrink swell limitations are primarily located in the southeast portion of former Fort Ord. The high potential for erosion, landslides and sedimentation as a direct consequence of the Highway 68 roadway extension planned for construction on Santa Ynez and Diablo soils, together with low strength and shrink-swell limitations, could make road construction costly and hazardous. The following policies and programs for the Cities of Seaside and Marina and Monterey County address engineering limitations associated with the soil series at former Fort Ord:

Conservation Element

Soils and Geology Policy A-1: See Impact #3 above for description of this policy.

Program A-2.3: See Impact #3 above for description of this program.

Soils and Geology Policy A-5: See Impact #3 above for description of this policy.

Program A-5.2: See Impact #3 above for description of this program.

Because these policies and programs ensure that engineering limitations associated with site-specific soil conditions are identified and addressed prior to construction, this impact is considered less than significant.

Mitigation. None required.

4.4 Public Services, Utilities and Water Supply

This section describes the public services, utilities infrastructure, and water supply conditions that existed at former Fort Ord in 1991 when the military was present. Potential impacts to services, utilities and water supply that would result from the proposed project are also addressed. [For a more detailed discussion, refer to the Army's FEIS (vol. I, p.4-4 and p.4-56).]

Most of the infrastructure described below has, since 1991, been deactivated by the Army and put into long-term storage (closed status) pending transfer of the facilities from the Army to the new landowners. Some portions of this infrastructure are still active in support of properties that have already been transferred, are under an interim lease, or are still being used by the Army or Army contractors pending transfer. The Army has agreed to provide for the reservation of easements where required for infrastructure and utilities in conjunction with disposal or transfer of property. In addition, the Army will conduct periodic maintenance for utilities and infrastructure until the systems components are disposed of, transferred, or abandoned.

4.4.1 Environmental Setting

Wastewater

The former Fort Ord lies within the service boundary of the Monterey Regional Water Pollution Control Agency (MRWPCA). Wastewater is collected on former Fort Ord by a system of mains and pump stations owned and operated by the Army and is treated by MRWPCA's regional treatment plant and the East Garrison sewage treatment plant. MRWPCA's regional treatment plant is located north of Marina. This plant has a design capacity of 29.6 million gallons per day (mgd), is permitted to treat 27 mgd, and received average flows of 20 mgd in 1991. Former Fort Ord purchased 3.3 mgd of capacity at this plant, of which it consumed an average of approximately 2.4 mgd. The East Garrison sewage treatment plant treated up to 0.03 mgd in 1991. The FEIS predicted that the treatment of more than these flows may not allow the plant to comply with Central Coastal Regional Water Quality Control Board standards.

Maintenance of all wastewater collection facilities has been hampered by a lack of telemetry equipment to monitor pump station operation and pipe condition and by insufficient maintenance staff. Treatment plants on the installation that are no longer in use include the Ord Village (only a pump station remains), Main Garrison (in a state of disrepair), and Fritzsche Army Airfield wastewater treatment (no longer in existence).

Solid Waste

Solid waste generated on former Fort Ord is collected by Monterey Disposal Company and is deposited in the Monterey Regional Waste Management District's landfill in Marina. The Marina landfill has a capacity of approximately 32 million tons and accepted 1,000 tons of refuse per day in 1991. Approximately 94 tons-per-day of this amount originated at former Fort Ord. Incorporating anticipated growth and waste reduction measures, the landfill life was estimated in 1991 to be approximately 100 years. Recyclable materials are also collected and stored at the landfill. A waste transfer station is operated at former Fort Ord by the Directorate of Engineering and Housing with a permitted capacity to store approximately 100 cubic yards of material.

Some unauthorized dumping of solid waste has occurred at former Fort Ord. Unauthorized disposal of waste concrete and asphalt has occurred, and tree trimmings from Toro Park, a subdivision located adjacent to the eastern boundary of former Fort Ord, have been dumped into adjacent former Fort Ord property. There have been no known incidences of hazardous waste dumping.

Telephone Service

The former Fort Ord maintains its own telephone system, which is networked into the Pacific Bell telephone system. Former Fort Ord's switching center on North-South Road (Building 4250) is served by underground copper cables delivered from the Pacific Bell Seaside station. Pacific Bell provides substantial support to former Fort Ord through a lease signed in 1976, which allows for the reciprocal use of telephone infrastructure. Service in 1991 was provided under a modified version and extension of this lease.

Pacific Bell provides direct telephone service to the following areas from two switching centers: the Seaside switching center servicing Hayes Park, Fitch Park, Thorson Village, Brostrom Mobile Home Park, Marshall Park, two child development centers, and the Fort Ord Credit Union. The Marina switching center serves Patton Park, Abrams Park, Frederick Park, Schoonover Park, and a minimart post exchange. Pacific Bell leases poles and conduit to serve portions of the residential areas and the Army switching center. No Pacific Bell facilities are in the East Garrison area or at Fritzche Army Airfield.

Gas and Electric Service

In 1991, Pacific Gas and Electric Company (PG&E) provided gas and electric service to former Fort Ord under a general services agreement. In addition, two modifications to the general services agreement covered gas service to the Army's commercial-type uses at former Fort Ord. These two modifications extend until August, 1993 and cover the Presidio of Monterey (POM) annex and former Fort Ord. The facilities serving former Fort Ord are divided into three categories: transmission, regulation/substation, and distribution.

Transmission of gas occurs through two PG&E lines that traverse the installation and serve former Fort Ord and surrounding cities within the Monterey Bay area. The 1991 rate of consumption of gas on the installation was 146 million cubic feet per hour (MCFH). Two electric transmission line systems traverse former Fort Ord. An easement for a future Neponset transmission exists adjacent to the easement for the existing 60-kV line. Annual electricity consumption on the installation in 1991 was approximately 105,000 megawatts (MW).

Gas is regulated at various metering stations on former Fort Ord. The distribution lines are primarily Army owned, and the condition of the lines varies depending on the age and composition of gas mains. Some of the lines do not meet California Public Utility Commission standards. The substation equipment, belonging to PG&E, is on Army property but is secured by an easement. All seven Army owned and operated distribution feeders begin from this station. The Army's distribution and metering systems provide gas and electric service to the entire former Fort Ord, except for several parks and schools.

Cable Television

Cable television service to former Fort Ord is provided and maintained primarily by Coastside Cable TV, doing business as WestStar Cable TV. Cable infrastructure exists throughout former Fort Ord but is

primarily at two facilities. A 15-year nonexclusive franchise use contract composed of two leases was initiated with the Army on October 1, 1989. Two contracts servicing former Fort Ord and the POM allowed Coastside to serve 6,500 customers in 1991.

Storm Drainage System

An extensive design of storm sewer branches, separate from the sanitary sewer lines, feed into major lines running either to Monterey Bay or inland to the Salinas River basin. Surface runoff is directed to catch basins or pipe inlets from housing and recreational areas, motor pools, maintenance yards, and industrial facilities.

The primary storm drain lines for the Main Garrison area discharge at three outfalls in the dune and beach areas, and four additional storm drain lines discharge directly into Monterey Bay. The three major outfalls draining the East Garrison discharge into agricultural land south of the Salinas River. The Fritzsche Army Airfield is drained by a storm drain line that also discharges into agricultural land south of the Salinas River. The remainder of former Fort Ord is drained by minor outfalls discharging into depressions or open fields. The existing drainage system functions without any major problems. Army maintenance consists of periodic clearing of sediment and debris from culverts and drain site areas. The condition of some portions of the existing storm drainage system is unknown.

Water Distribution System

Wells provide the sole source of water supply for former Fort Ord. The main potable supply wells are located in the Salinas Valley groundwater basin, and one supply well is located in the Seaside groundwater basin. These wells are within the Cities of Marina and Seaside near the northwest and southwest corners of former Fort Ord, respectively. A total of 29 wells in the Salinas Valley groundwater basin have been used at various times for water supply, but only four were in regular use in 1991. Because of seawater intrusion in the 180-foot aquifer, the City of Marina obtains all of its water from one well completed in the 400-foot aquifer and three wells perforated in the 900-foot aquifer. The City of Seaside Water System receives water supplies from local groundwater and surface water from the Carmel River distributed by the Cal-Am Water Company.

The former Fort Ord's water storage and distribution system includes 13 reservoir/tanks, with a combined capacity of 10.3 mg, and six pump stations and distribution mains covering a 20 square-mile area. Most of former Fort Ord's water mains have been inconsistently maintained; 10% of water pumped is assumed lost due to leaks in the system. Since 1991 conditions, the existing water distribution system has been found to have operational deficiencies.

Water Supply

Two regional water management agencies have jurisdiction at former Fort Ord. The Monterey County Water Resources Agency (MCWRA) is responsible for regulation and supply of water from the Salinas Valley, and the Monterey Peninsula Water Management District (MPWMD) is responsible for regulation and supply of water from the Seaside Valley. Through an agreement between the Army and MCWRA, 6,600 acre feet per year (afy) of water is available from the Salinas Valley groundwater basin for former Fort Ord land uses, provided that such provisions do not aggravate or accelerate the existing seawater intrusion. The Seaside Valley groundwater basin supplies an additional 400 afy of water, which is used for the City of Seaside golf course.

Regulatory Issues

The general stormwater discharge permitting system, adopted by the SWRCB in 1991, requires that a stormwater discharge permit be obtained for construction and industrial activities prior to discharging stormwater.

Assembly Bill 939 (AS 939) mandates a reduction in Monterey County's generated solid waste by setting a target rate of 5.4 pounds per person per day (lb/cap/day) of solid waste.

Waste discharge requirements must be complied with for the operation of sewage treatment facilities, as established by the California Regional Water Quality Control Board.

The installation of water supply wells must comply with State of California Water Well Standards and well standards established by the Monterey County Health Department.

Distribution and storage for potable and non-potable water must comply with State Health Department regulations through Title 22.

Proposed project activities must comply with the nonpoint pollution control plan developed by the California Coastal Commission and the SWRCB, pursuant to Section 6217 of the Federal Coastal Zone Management Act Reauthorization Amendments of 1990, if any stormwater is discharged into the ocean.

4.4.2 Environmental Impacts and Mitigation

Significance Criteria

In accordance with the *State CEQA Guidelines*, this analysis assumes the proposed project would have a significant impact on public services, utilities and water supply if it would:

- result in the need for new systems or supplies exceeding capacity, or substantial alterations to: water distribution, stormwater, or wastewater utility systems, or telephone, cable, gas and electric services;
- substantially decrease landfill life relative to projected capacity; or
- result in the need for new systems or supplies exceeding capacity, related to local or regional water supply.

1. Impact: Need for New and Upgraded Utility Systems and Services

Implementation of the proposed project would result in the need for new systems and supplies and substantial alterations to wastewater, solid waste, water distribution and stormwater infrastructure systems, as well as telephone, cable, gas and electric services, as a consequence of development and associated increases in population. The current capacities of these systems serving former Fort Ord are inadequate to handle the future needs generated by the proposed project. Table 4.2-1 summarizes the estimated public services and utilities requirements needed to support ultimate buildout of the proposed project. As shown in this table, the proposed project would result in increased requirements for all systems and services.

Table 4.2-1. Estimated Public Services and Utilities Requirements

Public Services and Utilities Issue of Concern	Original Condition (Army Present in 1991)	Total Requirements for Ultimate Buildout of the Proposed Project
Wastewater generated (mgd)	2.4	9.8
Solid waste generated (tpd)	94	193
Landfill life reduction (years)	100	less than 10 years
Telephone service area (developed acres)	5,190	8,701
Gas service (MCFH)	146	1562
Electric service (MW)	18	114
Cable television area (developed acres)	5,160	8,701
Storm drainage (developed acres)	4,960	8,701
Water distribution (acres)	1,700	8,701

Key: mgd = million gallons per day
 tpd = tons per day
 MCFH = million cubic feet per hour
 MW = megawatts
 N/A = not applicable
 afy = acre feet per year

To serve reuse activities under the proposed project, the existing services and utilities would require expansion and upgrading. The *Draft Fort Ord Reuse Plan* (Appendix A: Public Facilities Implementation Plan) includes capital improvement projects recommended for construction between 1996 and 2015. The need for additional improvements to public services and utilities beyond the year 2015 would be evaluated and necessary improvements would be implemented on a project-by-project basis. Capital improvement projects are identified for those utility systems with limited facility or service capacities, including: Potable Water Supply and Distribution Improvements, Wastewater Collection System and Pump Station Improvements, and Existing Drainage Systems Modifications.

Telephone, cable, and gas and electric services would need to be expanded as necessary to accommodate increased demand. The increased demand for these public services is not considered to be a significant impact of the proposed project, because needs generated by the project would not exceed existing capacity. All structural improvements necessary to provide these services at former Fort Ord would be considered costs of the project. The *Draft Fort Ord Reuse Plan* (Appendix A: Public Facilities Implementation Plan) also includes transition strategies for transferring utilities systems from the Army to private service providers.

The second significance criterion relates to the decrease in landfill life. The reduction in landfill life would be less than ten years. Solid waste generation of 193 tons per day at buildout was estimated for the proposed project based on a population of 71,773 and a generation rate of 5.4 lb/cap/day, the target rate mandated by Assembly Bill 939. This calculation rate assumes a solid waste reduction and recycling program for former Fort Ord. The decrease of landfill life resulting from the increase in solid waste generated by the proposed project would not be considered a significant impact.

The *Draft Fort Ord Reuse Plan* contains the policies and programs below for the Cities of Marina and Seaside and Monterey County which address wastewater and stormwater drainage systems. [See also

Section 5.5 - Hydrology and Water Quality for a discussion of Policy C-2 and Program C-2.1, which both address stormwater drainage as it relates to water quality impacts.]

Conservation Element

Hydrology and Water Quality Policy C-5: The City/County shall support all actions necessary to ensure that sewage treatment facilities operate in compliance with waste discharge requirements adopted by the California Regional Water Quality Control Board.

Hydrology and Water Quality Policy C-7: The City/County shall condition all development plans on verification of adequate wastewater treatment capacity.

Program C-1.1: The City/County shall comply with the nonpoint pollution control plan developed by the California Coastal Commission and the SWRCB, pursuant to Section 6217 of the Federal Coastal Zone Management Act Reauthorization Amendments of 1990, if any stormwater is discharged into the ocean.

Program C-1.2: The City/County shall comply with the General Industrial Storm Water Permit adopted by the SWRCB in November 1991 that requires all storm drain outfalls classified as industrial to apply for a permit for discharge.

Program A-1.1: The City/County shall develop and make available a description of feasible and effective best management practices and site drainage designs that could be implemented in new development to ensure adequate stormwater infiltration.

These policies and programs do not adequately address all the regulatory requirements identified above, and therefore the following programs should be added to the *Draft Fort Ord Reuse Plan*.

Mitigation: Write a program to be adopted by the Cities of Marina and Seaside and the County of Monterey that states: the City/County shall comply with Assembly Bill 939, which mandates a reduction in generated solid waste to a target rate of 5.4 lb/cap/day, by developing and enforcing a solid waste reduction and recycling program for the former Fort Ord area.

Mitigation: Write a program to be adopted by the Cities of Marina and Seaside and the County of Monterey that states: the City/County shall carry out all actions necessary to ensure that the installation of water supply wells comply with State of California Water Well Standards and well standards established by the Monterey County Health Department.

Mitigation: Write a program to be adopted by the Cities of Marina and Seaside and the County of Monterey that states: the City/County shall carry out all actions necessary to ensure that distribution and storage of potable and non-potable water comply with State Health Department regulations through Title 22.

Because these policies, programs, and mitigation measures include regulatory compliance and planning for wastewater capacity and stormwater infiltration measures, and because proposed capital improvements support development under the proposed project until at least 2015, the impact is considered less than significant.

2. Impact: Need for New Local Water Supplies

Implementation of the proposed project would result in the need for new water supplies, as a consequence of development and the associated increases in demand. The current water supply yields serving former Fort Ord are inadequate to handle the future needs generated by the proposed project.

It is estimated that ultimate buildout of the proposed project would result in a water demand of approximately 18,262 afy (this figure allows for a 10% loss due to leaks). This demand represents a significant increase in comparison with 1991 conditions, when water demand averaged 4,700 afy, and conditions between 1986 and 1989, when water demand averaged 5,100 afy. Future demand also exceeds the current permitted water allowance for former Fort Ord of 6,600 afy from the Salinas River Basin and 400 afy from the Seaside Valley Basin. In light of the existing, region-wide water supply shortage, this increased demand is the primary constraining factor for the proposed project.

By reason of an Army agreement with the Monterey County Water Resources Agency (MCWRA), a potable water supply of 6,600 afy is assumed to be assured from well water until a replacement is made available by the MCWRA (provided that such withdrawals do not accelerate the overdraft and seawater intrusion problems in the Salinas Valley groundwater aquifer). The 6,600 afy of well water could support the first phase of development of the proposed project to the year 2015. Development to 2015 would result in a water demand of 6,469 afy; this figure accounts for a 10% distribution loss due to leaks and does not include an additional demand of 1,952 afy expected to be supplied by reclaimed water. However, given the existing condition of the groundwater aquifer, there is public concern over the ability of the water wells to "assure" even 6,600 afy.

Assuming groundwater wells on former Fort Ord were able to supply 6,600 afy, an additional 11,662 afy of water would need to be secured to support ultimate buildout of the proposed project. It is estimated that approximately 3,330 afy could be supplied from reclaimed water, which would include recycled water used for parks and golf courses and approximately 1,200 afy of water reclaimed from institutional and public facility water use. [Contrary to the Army's DSEIS, this EIR does not assume there would be significant water recharge in the newly developed areas from leaks in underground pipes.] In addition, 400 afy of water needed for the existing City of Seaside golf course could continue to be supplied by the Seaside Valley basin, which has historically supported this golf course without exceeding the basin's safe yield. The remaining 7,932 afy would need to be supplied by other sources. Other water supply sources being considered include an on-site desalination plant, on-site recharge ponds, on-site storage facilities, and the importation of water from other sources. A desalination plant opportunity site (west of State Route 1) has been included as part of the proposed project and could potentially satisfy the remaining water demand. This is a costly alternative, however, and additional evaluation of water supply alternatives would be necessary before 2015.

If groundwater wells were unable to supply the projected 2015 demand of 6,600 afy of water for former Fort Ord land uses, e.g., if pumping caused further seawater intrusion into the Salinas Valley aquifer, the desalination plant could be developed earlier than the year 2015. It is recommended that an alternate water supply source, such as on-site storage facilities, be considered.

In order to ensure the water supply issue is resolved and the proposed project does not aggravate or increase the seawater intrusion problem, policies and programs have been developed that would need to be adopted before development of the proposed project could proceed. The following policies and programs for the Cities of Marina and Seaside and Monterey County relate to water supply. [Also refer to the policies and programs related to groundwater recharge in Section 4.5.2].

Conservation Element:

Hydrology and Water Quality Policy B-1: The City/County shall ensure additional water to critically deficient areas.

Program B-1.1: The City/County, with input from the MCWRA and MPWMD, shall identify potential reservoir and water impoundment sites on the former Fort Ord and zone those areas for watershed use, which would preclude urban development.

Program B-1.2: The City/County shall work with the appropriate agencies to determine the feasibility of developing additional water supply sources for the former Fort Ord, such as water importation and desalination, and actively participate in implementing the most viable options(s).

Program B-1.3: The City/County shall adopt and enforce a water conservation ordinance, which includes requirements for plumbing retrofits and is at least as stringent as Monterey County's ordinance, to reduce both water demand and effluent generation.

Hydrology and Water Quality Policy B-2: The City/County shall condition approval of development plans on verification of an assured long-term water supply for the projects.

Hydrology and Water Quality Policy C-3: The City/County shall prevent further seawater intrusion, to the extent feasible.

Program C-3.1: The City/County shall work with the MCWRA and MPWMD to estimate the current safe yields of those portions of the former Fort Ord overlying the Salinas Valley and Seaside groundwater basins to determine available water supplies.

Program C-3.2: The City/County shall work with the appropriate agencies to determine the extent of seawater intrusion into the Salinas Valley and Seaside groundwater basins and shall participate in developing and implementing measures to prevent further intrusion.

These programs and policies serve to define the local jurisdictions' involvement in future water supply planning for former Fort Ord, identify potential water supply sources on- and off-site, and affirm the local jurisdictions' commitment to preventing further harm to the local aquifers. They also ensure that water supply remains the primary constraining factor for ultimate buildout of the proposed project, by limiting development in accordance with the availability of secured supplies. However, these programs and policies do not adequately address groundwater recharge; therefore, the following mitigation measures have been recommended for consideration.

Mitigation: Write a program to be adopted by the Cities of Marina and Seaside and the County of Monterey prior to implementing the proposed project that states: the City/County shall adopt and enforce a stormwater detention plan that identifies potential stormwater detention design and implementation measures to be considered in all new development, in order to increase groundwater recharge and thereby reduce potential for further seawater intrusion and augment future water supplies.

Because a number of reasonable, new water supply sources have been identified to support the proposed project, including the siting of an on-site desalination plant assuming adoption of the policies, programs,

and mitigations identified above, the increased demand for water would be considered a less than significant impact at the project level. (See Section 5.1 for a discussion of water demand as a significant cumulative impact.)

4.5 Hydrology and Water Quality

This section contains a brief discussion of hydrology and water quality at former Fort Ord. A more detailed discussion of these systems can be found in the setting sections in the Army's FEIS (vol. I) and DSEIS.

4.5.1 Environmental Setting

Surface Water Hydrology

The former Fort Ord, located between the Salinas and Carmel River watersheds, covers approximately 44 square miles. The area has a moderate Mediterranean climate, receiving 90% of its 14.2 inches of annual precipitation from November through April. The topography of former Fort Ord is characterized by stabilized sand dunes in the western half of the base, transitioning to rolling hills and canyons in the eastern half. The sandy soils in the western half of the base are highly permeable and absorb much of the rainfall and runoff without forming distinct creek channels. The streams in the canyons in the eastern part of the base are small and intermittent. A number of creeks drain into the Salinas River. Canyon Del Rey drains the southern portion of the base and empties into Monterey Bay, a designated national marine sanctuary.

Groundwater Hydrology

Three distinct geological and hydrological regions exist at former Fort Ord (see Figure 4.5-1 in the Army's FEIS vol. I). The northwest part of former Fort Ord overlies a small part of the Salinas Valley groundwater basin, which contains several aquifers separated by aquicludes or clay layers. Beneath the Salinas Valley Aquiclude in the Main Garrison area is the 180-foot aquifer, the shallowest of the aquifers in former Fort Ord used for water supply. The aquiclude is absent along a strip near the coast and in an area extending south from East Garrison. In these areas, recharge from the surface can percolate down to the 180-foot aquifer. Beneath the 180-foot aquifer are two deeper aquifer zones referred to as the 400-foot and 900-foot aquifers.

Historically, most pumpage from former Fort Ord and the City of Marina came from the 180-foot aquifer. By the early 1980s, seawater intrusion caused by pumping extended approximately 2.5 miles into the 180-foot aquifer and 1.2 miles into the 400-foot aquifer in the vicinity of Marina. Intrusion has slowed if not stabilized in the aquifers since the 1980s as the result of decreases in the number of Army personnel, conservation, changes in well depths and locations, and drought-related decreases in total pumpage.

The southwest part of former Fort Ord overlies the Seaside groundwater basin. Former Fort Ord overlies most of the northern part of the basin and supplies a substantial amount of total recharge to the basin. The only pumpage from this basin by former Fort Ord is for irrigation at the golf course. Most of the remaining pumpage is by municipal wells in Seaside and Sand City. With the exception of one shallow well near the shoreline, seawater has not intruded into wells in this basin. The historical amount of pumping appears to be close to the safe yield of the basin.

The eastern part of former Fort Ord is hilly and lacks the surficial dune deposits that cover the western part of former Fort Ord. Although the geological formations of the eastern part of former Fort Ord are less permeable than the sands of the western part, they are capable of supporting water wells. The recharge that occurs in the eastern part of former Fort Ord contributes groundwater inflow to the western part.

Surface Water Quality

Surface water quality of drainage channels within the base varies with the seasons. During the first strong rains of the season, ditches and storm drainage systems draining the urban areas of the base receive the highest concentration of urban pollutants, such as oils, grease, heavy metals, pesticide residues, and coliform bacteria. In general, surface waters of this region are hard and high in total dissolved solids. Streams may contain elevated levels of sulfates, bicarbonates, calcium, magnesium, and sodium, depending on local conditions.

Urban stormwater runoff discharging into the ocean may locally impair coastal water quality. Because Monterey Bay is designated as a national marine sanctuary, resource protection is assigned a higher priority than research, education programs, and visitor use. The Marine Protection, Research, and Sanctuaries Act of 1972 requires a management plan to protect the sanctuary's resources.

Winter storms contribute to erosion and gullyng in some areas, particularly the drainage of the eastern half of the installation. Surface erosion can cause high concentrations of suspended sediment loading in streams causing increased siltation, turbidity, and accompanying high total dissolved solids.

Groundwater Quality

Groundwater quality within former Fort Ord is variable, depending on the location and depth of the well. The safe yield of the Seaside basin in the vicinity of former Fort Ord approximately equals historical pumpage, and any increase in pumpage in the southern part of former Fort Ord could cause total pumpage to exceed the Seaside basin's safe yield. Safe yield is the amount of groundwater that can be pumped annually on a long-term basis without causing undesirable effects. The concept of safe yield is usually applied to an entire groundwater basin. However, overdraft can result in seawater intrusion locally, with other parts of the basin maintaining a positive groundwater balance. In the Salinas Valley groundwater basin, recent pumpage in former Fort Ord exceeded safe yield in the 180-foot and 400-foot aquifers, as indicated by seawater intrusion and water levels below sea level. Conditions in the 900-foot aquifer are uncertain, although seawater has not intruded into any of the Marina wells there.

Seawater intrusion from groundwater pumping has caused the water to be unacceptable for drinking in most wells in the 180-foot and 400-foot aquifers in the Main Garrison area. Water quality data for other active and standby potable supply wells in the East Garrison area and the golf course well in the Seaside basin have shown some concentrations of dissolved solids that exceed the recommended limit for drinking water. However, water from wells with high salinity can be blended with higher quality water to meet drinking water standards. [Refer to section 4.4.1 - Water Supply for additional information on groundwater quality and supply.]

Regulatory Issues

A number of regulations designed to protect water resources from the impacts of urbanization are applicable to the former Fort Ord area:

Section 6217 of the Federal Coastal Zone Management Act of 1972, Reauthorization Amendments of 1990, requires local entities that discharge any stormwaters into the ocean to participate in a non-point-pollution control plan developed by the California Coastal Commission and the State Water Resources Control Board (SWRCB).

The general stormwater discharge permitting system, adopted by the SWRCB in 1991, requires that a stormwater discharge permit be obtained for construction and industrial activities prior to discharging stormwater.

The Marine Protection, Research, and Sanctuaries Act of 1972, as amended, and its implementing regulations require that entities discharging to the bay comply with a management plan aimed at protecting the bay's national marine sanctuary resources. Under this act, the Marine and Estuarine Management Division of the National Oceanic and Atmospheric Administration can regulate all substances that enter the sanctuary from outside sources that can injure sanctuary resources.

4.5.2 Environmental Impacts and Mitigation

Significance Criteria

In accordance with Appendix G of the *State CEQA Guidelines*, this analysis assumes the proposed project would have a significant impact on hydrology and water quality if it has the potential to:

- substantially degrade water quality;
- contaminate a public water supply;
- substantially degrade or deplete groundwater resources;
- substantially interfere with groundwater recharge; or
- cause substantial erosion or siltation.

The Army's FEIS and DSEIS address these same impacts described below. The policies and programs below replace the mitigations incorporated in the FEIS and DSEIS.

1. Impact: Increased Site Runoff

Implementation of the proposed project would result in the conversion of land from open space to urban and other uses, which would alter site runoff peaks and duration. This could reduce the volume of groundwater infiltration by increasing the area of impervious surfaces and causing runoff to move across areas suitable for infiltration at a faster rate, which could interfere with groundwater recharge. The *Draft Fort Ord Reuse Plan* identifies the following policies and programs for the Cities of Marina and Seaside and Monterey County related to site runoff:

Conservation Element

Hydrology and Water Quality Policy A-1: At the project approval stage, the City/County shall require new development to demonstrate that all measures will be taken to ensure that runoff is minimized and infiltration maximized in groundwater recharge areas.

Program A-1.1: The City/County shall develop and make available a description of feasible and effective best management practices and site drainage designs that shall be implemented in new development to ensure adequate stormwater infiltration.

Program B-1.1: The City/County, with input from MCWRA, shall identify potential reservoir and water impoundment sites on the former Fort Ord and zone those areas for watershed use that precludes urban development.

Hydrology and Water Quality Policy A-2 (Monterey County): To avoid adverse effects on groundwater recharge or surface water users in downstream areas, the County shall ensure that land use and drainage facilities on newly developed lands do not decrease the magnitude and duration of flows less than the mean annual flow in creeks downstream of the development sites.

Program A-2.1: The County shall implement a stream gauging program for creeks in the eastern part of former Fort Ord if proposals are submitted for development in that area. The gauging program should be partially or entirely funded by development fees.

Because these policies and programs require minimization of runoff and maximization of infiltration and the identification of potential water impoundment sites, this impact is considered less than significant.

Mitigation: None required.

2. Impact: Water Quality Degradation from Urban Runoff

The proposed project would cause an increase in urban runoff and associated urban runoff pollutants. Runoff from urban areas can carry a variety of accumulated pollutants such as oil, grease, heavy metals (lead, cadmium, copper), sediment, pesticide residues, fertilizers, and coliform bacteria from roadways, parking lots, rooftops, and other surfaces. The highest concentrations of these pollutants are typically found during fall when pollutants accumulated during the dry period are washed away by the first storms of the season. Increases in urban runoff would degrade downstream water quality, aquatic habitat, and resources in surface waterways (Salinas River, El Toro Creek, and Canyon Del Rey) and in Monterey Bay, a designated marine sanctuary. The following policies and programs for the Cities of Marina and Seaside and County of Monterey address water quality degradation from urban runoff:

Conservation Element

(Hydrology and Water Quality) Program C-1.1: The City/County shall comply with the nonpoint pollution control plan developed by the California Coastal Commission and the SWRCB, pursuant to Section 6217 of the Federal Coastal Zone Management Act Reauthorization Amendments of 1990, if any stormwater is discharged into the ocean.

Program C-1.3: The City/County shall comply with the management plan to protect Monterey Bay's resources in compliance with the Marine Protection, Research, and Sanctuaries Act of 1972, as amended, and its implementing regulations.

Hydrology and Water Quality Policy C-2: At the project approval stage, the City/County shall require new development to demonstrate that all measures will be taken to ensure that on-site drainage systems are designed to capture and filter out urban pollution, to the extent feasible.

Program C-2.1: The City/County shall develop and make available a description of feasible and effective measures and site drainage designs that could be implemented in new development to minimize water quality impacts.

Hydrology and Water Quality Policy C-6: In support of Monterey Bay's national marine sanctuary designation, the City/County shall support all actions required to ensure that the bay and intertidal environment will not be adversely affected, even if such actions should exceed state and federal water quality requirements.

These policies and programs, in addition to compliance with applicable water quality regulations, would require development of on-site drainage systems for new developments and protection of Monterey Bay. This impact is therefore considered less than significant.

Mitigation: None required.

3. Impact: Water Quality Degradation from Golf Course Adjacent to Natural Area Expansion

Implementation of the proposed project may result in water degradation from the golf course which would be adjacent to a natural area expansion. An 18-hole golf course is proposed on 164 acres (including a 300-room hotel) adjacent to the 22-acre augmentation of the Regional Park District, which includes the Frog Pond. Although golf courses offer a park-like setting that would be more compatible with the natural area than some urban uses, landscape management may require the heavy use of chemical fertilizers and pesticides, which can introduce water pollution into the adjacent natural area. These adjoining uses may potentially be incompatible. The following policies and programs in the *Draft Fort Ord Reuse Plan* relate to the protection of open space and use of buffers between adjacent land uses and address runoff into the Frog Pond:

Land Use Element

Recreation/Open Space Land Use Policy B-2 (Monterey County): The County of Monterey shall use open space as a buffer between various types of land use.

Program B-2.1: The County of Monterey shall review each development project at former Fort Ord with regard to the need for open space buffers between land uses.

Conservation Element

Biological Resources Policy A-8 (Monterey County): The County shall maintain the quality of the habitat in the Frog Pond Natural Area.

Program A-8.1: The County shall prohibit development in Polygon 31b to discharge stormwater or other drainage into the ephemeral drainage in this parcel that feeds into the Frog Pond.

Hydrology and Water Quality Policy C-1 (Marina, Seaside and County of Monterey): The County shall comply with all mandated water quality programs and establish local water quality programs as needed.

Program C-1.1: The City/County shall comply with the nonpoint pollution control plan developed by the California Coastal Commission and the State Water Resources Control Board, pursuant to Section 6217 of the Federal Coastal Zone Management Act Reauthorization Amendments of 1990, if any stormwater is discharged into the ocean.

Hydrology and Water Quality Policy C-2: At the project approval stage, the City/County shall require new development to demonstrate that all measures will be taken to ensure that on-site drainage systems are designed to capture and filter out urban pollution, to the extent feasible.

Program C-2.1: The City/County shall develop and make available a description of feasible and effective measures and site drainage designs that could be implemented in new development to minimize water quality impacts.

Non-point source groundwater contamination from fertilization of landscaped areas and should be addressed in greater detail during separate environmental review of individual development projects as they are proposed.

Because the above policies and programs require open space protection, compliance with applicable water quality regulations, and development of on-site drainage systems for new developments, this impact is considered less than significant.

Mitigation: None is required.

4. Impact: Water Quality Degradation from Increased Erosion During Construction

Implementation of the proposed project would require extensive construction and grading throughout the watersheds and possible disturbance of existing drainage channels. Construction and grading activities could temporarily cause significant increases in site erosion associated with storm runoff. Sediment-laden runoff entering nearby drainage causes increased channel siltation. Increased erosion may degrade downstream aquatic habitat in streams and in Monterey Bay. The following policies and program for the Cities of Marina and Seaside and County of Monterey address water quality degradation related to construction and erosion control:

Conservation Element

Hydrology and Water Quality Policy C-4: The City/County shall prevent siltation of waterways, to the extent feasible.

Program C-4.1: The City/County, in consultation with the National Resources Conservation Service, shall develop a program that will provide, to owners of property near waterways and other appropriate entities, information concerning vegetation preservation and other best management practices that would prevent siltation of waterways in or downstream of the former Fort Ord.

Program C-1.3: See above for description of program.

Hydrology and Water Quality Policy C-6: See above for description of policy.

Conservation Element

Soils and Geology Policy A-2: The City/County shall require developers to prepare and implement erosion control and landscape plans for projects that involve high erosion risk. Each plan shall be prepared by a registered civil engineer or certified professional in the field of erosion and sediment control and shall be subject to the approval of the public works director for the City/County. The erosion component of the plan must at least meet the requirements of Storm Water Pollution Prevention Plans (SWPPPs) required by the SWRCB.

Program A-2.1: The City/County shall develop and make available a list and description of feasible and effective erosion control measures for various soil conditions within the City/County to be used by all future development at former Fort Ord.

Program A-2.2: The City shall develop and make available a list of recommended native plant species, application rates, and planting procedures suitable for erosion control under various soil, slope, and climatic conditions that may be encountered in the City/County's sphere of influence.

Program A-2.3: The City/County shall develop and make available a list and description of feasible and effective engineering and design techniques that address the soil limitations characteristic of the former Fort Ord.

Because these policies and programs require the implementation of siltation control measures and protection of Monterey Bay, this impact is considered less than significant.

Mitigation: None required.

5. Impact: Degradation of Water Quality from Potential Hazardous Material Spills During Construction

Construction related to implementation of the proposed project would require the use of gasoline and diesel-powered heavy equipment, and hazardous materials could potentially spill on-site and wash into nearby drainage. Bulldozers, backhoes, water pumps, air compressors, and construction materials would be on-site during construction activities. Chemicals such as gasoline, diesel fuel, lubricating oil, hydraulic oil, lubricating grease, automatic transmission fluid, paints, solvents, glues, and other substances would also be on-site during grading and construction activities. An accidental spill of any of these substances could degrade the water quality of surface water in the drainage systems on- and off-site. Hazardous spills entering adjacent waterways and groundwater may lead to degradation of downstream aquatic habitat and other beneficial uses. The following program for the Cities of Marina and Seaside and County of Monterey relate to water quality degradation from hazardous material spills:

Conservation Element

(Hydrology and Water Quality) Program C-1.5: The City/County shall adopt and enforce a hazardous substance control ordinance that requires that hazardous substance control plans be prepared and implemented for construction activities involving the handling, storing, transport, or disposal of hazardous waste materials.

Because this program requires adoption and enforcement of a hazardous substance control ordinance, this impact is considered less than significant.

Mitigation: None required.

6. Impact: Changes in the Amount and Quality of Groundwater Recharge

The increase in impervious area, related to implementation of the proposed project, could decrease direct rainfall recharge, as noted under Impact #1. Much of the rain that falls on impervious areas would still become recharge if it runs off to adjacent pervious areas or if it is routed to stormwater detention ponds that allow it to percolate into the ground. Urbanization of former Fort Ord would also tend to increase

groundwater recharge from leaky pipes and irrigation return flow in landscaped areas. By concentrating recharge in small areas, thereby decreasing evapotranspiration losses, a net increase in overall recharge could potentially be achieved with urbanization.

Increased recharge from urbanization would not be able to directly reach the 180-foot aquifer in areas underlain by the Salinas Valley aquiclude. However, the aquiclude is discontinuous along the coast and in the vicinity of the East Garrison, and recharge would eventually flow to the 180-foot aquifer in those areas. Increased recharge near the coast would elevate the existing low-water level and thereby tend to repel seawater intrusion near the Main Garrison. Increased recharge near the East Garrison would increase the availability of water to existing potable supply wells in that area.

Under the proposed project, urbanization would occur in areas overlying both the Salinas Valley and Seaside groundwater basins. The increase in recharge would increase the local safe yield of both groundwater basins. The amount of increase cannot be estimated accurately until details regarding landscaping, stormwater disposal, and water conservation measures are known.

Groundwater recharge from urban areas could contain contaminants that would deteriorate existing water quality. Most of the proposed urban development would require new construction. Regulations that apply to new construction would reduce potential contamination from point sources, such as underground storage tanks and handling or hazardous materials transfer areas. Non-point-source contaminants would be most likely to significantly impair groundwater quality, particularly nitrate from leaky sewer pipes and fertilization of landscaped areas. This is a secondary impact and should be addressed during separate environmental review of individual development projects as they are proposed. The following policy and program for the Cities of Marina and Seaside and County of Monterey address changes in groundwater recharge:

Conservation Element

Hydrology and Water Quality Policy A-1: See above for description of policy.

Program A-1.1: See above for description of program.

Hydrology and Water Quality Policy A-2 (Monterey County): See above for description of policy.

Program A-2.1: See above for description of program.

The proposed project would result in a beneficial impact associated with an increase in the quantity of recharge, and an adverse but mitigatable impact associated with deterioration of the quality of recharge. Because the policies and programs listed above require that runoff be minimized and infiltration maximized, the overall impact to groundwater recharge is considered less than significant.

Mitigation: None required.

4.6 Public Health and Safety

This section addresses the potential public health and safety effects of the proposed project as they relate to the provision of law enforcement services, fire protection services, emergency medical services, and seismic safety. This section also discusses existing hazardous materials contamination.

4.6.1 Environmental Setting

Law Enforcement

Law enforcement for former Fort Ord was provided by the Army's Law Enforcement Command, which employed 144 federal civilian and 10 military patrol personnel who responded to crimes at the installation. Other law enforcement agencies in the vicinity of former Fort Ord included the Monterey County Sheriff's Department, the Marina Public Safety Department, and the Seaside Police Department. The Army will continue to provide law enforcement services to former Fort Ord until these responsibilities are transferred to the appropriate agencies that will have jurisdiction. While large portions of former Fort Ord are presently closed to the public, isolated incidents of trespassing have been reported.

Fire Protection

Fire protection services at former Fort Ord were provided by the Fort Ord Fire Prevention and Protection Division, Directorate of Engineering and Housing, which operated two fire stations and a total of 12 fire vehicles. The fire stations were staffed by 40 firefighters, and responded to an average of 2,243 calls per year. The eastern portion of the property is located in the Salinas Rural Fire Protection District, which maintained an automatic aid agreement with former Fort Ord for fire response. The Salinas Rural Fire Protection District operates three fire stations; the closest to the former base is located in the Toro area. Other fire protection agencies in the vicinity of former Fort Ord include the Marina Public Safety Department and the Seaside Fire Department.

Fire protection services at former Fort Ord are currently provided by the U.S. Navy under an inter-service support agreement with the Army until responsibilities are transferred to the appropriate agencies that will have jurisdiction. The automatic aid agreement with the Salinas Rural Fire Protection District is also still in effect.

Emergency Medical Services

Emergency medical services at former Fort Ord were previously provided by the Silas B. Hays Army Community Hospital, which has since been converted to non-medical use, and other regional facilities. At present, emergency medical services are provided exclusively by civilian hospitals in neighboring communities. These include Natividad Medical Center and Salinas Valley Memorial Hospital located in the City of Salinas, and the Community Hospital of the Monterey Peninsula located in the City of Monterey. Limited non-emergency out-patient medical services are provided at the Presidio of Monterey (POM) clinic during normal working hours.

Seismic Safety

Several inferred or concealed earthquake faults (i.e., the Reliz or Gabilan, Chupines, Ord Terrace, and Seaside faults) either cross or are adjacent to former Fort Ord. The Palo Colorado-San Gregorio and

Monterey Bay faults are within 14 miles and lie offshore of former Fort Ord, respectively. None show activity in the last 10,000 years, but the potential cannot be ruled out. The San Andreas fault, historically active in the last 200 years, is within 25 miles of former Fort Ord. The potential of earthquake damage from ground shaking is moderate to very high, with the highest potential in the coastal dune zone. Most buildings on former Fort Ord were built before modern seismic safety provisions were incorporated into the California building codes and Army technical manuals, and therefore do not comply with current local buildings codes.

Other earthquake-related hazards of concern include liquefaction and landslides. High to very high liquefaction potential exists on recent alluvial sediments along Toro Creek. Landslide potential as an earthquake effect is present in landslide-prone areas, including the Aromas formation and the shoreline dune cliffs. (See Section 4.3 - Geology and Soils of the Draft EIR for further discussion of landslides. Further discussion of safety issues is found in section 4.3 of the Army's FEIS, which is incorporated herein by reference.)

Hazardous Materials

The Army is currently conducting separate, but overlapping clean-up actions for hazardous, toxic and radioactive waste (HTRW) and ordnance and explosives (OE). Under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Army is required to remediate chemical contamination of soil and groundwater. The Army is also clearing OE from the multi-range area and other locations.

Former Fort Ord was added to the National Priorities List of Hazardous Waste Sites (Superfund List) on February 21, 1990. The identification, remediation, and disposal of hazardous waste associated with the Superfund clean-up process at former Fort Ord is regulated by the Resource Conservation and Recovery Act (RCRA); CERCLA; the Superfund Amendments and Reauthorization Act; California Code of Regulations (CCR), Titles 22 and 23; the California Water Code; and other relevant requirements. Under the Federal Facilities Agreement (FFA), the Army is responsible for conducting the Superfund clean-up process, and the U.S. Environmental Protection Agency (EPA) is the lead agency for regulatory enforcement and oversight of Superfund activities. However, the Army must also submit findings to the Department of Toxic Substances Control (DTSC) and the Central Coast Regional Water Quality Control Board (RWQCB), both of which are part of the California EPA (Cal EPA). The Central Coast RWQCB also regulates non-hazardous wastes that have affected groundwater. The FFA, as well as the Army's Record of Decision (ROD) on the FEIS, identify the Army's responsibility for long-term monitoring and clean-up.

The site characterization and Remedial Investigation/Feasibility Study (RI/FS) process associated with the CERCLA clean-up process has progressed at former Fort Ord since certification of the FEIS and adoption of the ROD by the Army.

A RI/FS was completed in 1993 for the former Fort Ord landfills, and a remedial action ROD was issued for clean-up in August 1994. Clean-up will include extracting and treating contaminated groundwater and capping the landfills to limit future infiltration and minimize additional leaching.

Potentially hazardous sites have been characterized in the *Basewide Remedial Investigation/Feasibility Study for Fort Ord, California* (Harding Lawson Associates 1994). After initial characterization by the *Basewide RI/FS*, the sites were categorized as remedial investigation (RI) sites, interim-action sites, or

Table 4.6-1 Hazardous and Toxic Waste Sites in Fort Ord

SITE NO.	SITE NAME	ACTION CATEGORY
2	Main Garrison sewage treatment plant	remedial investigation
3	Beach trainfire ranges	remedial investigation
5	Range 36A (east of 39)	remedial investigation
6	Range 39 (abandoned car dump)	interim action
8	Range 49 (Molotove cocktail range)	interim action
9	Range 40A (flame field expedient training area (part of 39)	remedial investigation
10	Burn pit	interim action
12	Lower meadow, automotive yard, parts salvage yard	remedial investigation
14	707 maintenance facility	interim action
15	Directorate of Engineering and Housing yard	interim action
16	Maintenance yard and Pete's Pond	remedial action
17	1400 block motor pool	remedial action
20	South parade grounds, 3800 block motor pool, and 519 motor pool	interim action
21	4400/4500 block motor pool, east block	interim action
22	4400/4500 block motor pool, west block	interim action
23	3700 motor pool	interim action
24	Old Directorate of Engineering and Housing yard	interim action
30	Driver training area	interim action
31	Former dump site	remedial investigation
34	FAAF fueling facility	interim action
39	Multi-range area (includes sites 5, 6, and 9)	remedial investigation
39A	East Garrison ranges	interim action
39B	Inter-Garrison training area	interim action
40	FAAF defueling area	interim action
41	Crescent Bluff fire drill area	interim action

Notes: The locations of the sites listed above are shown in Figure 4.6-2. Sites where no further action is required (sites 1, 4, 7, 11, 13, 18, 19, 25, 26, 29, 32, 33, 35, 36, 37, and 38) are not shown in the table or in Figure 4.6-1.

Source: Based on the Basewide Remedial Investigation/Feasibility Study Site Characterization Draft Final (Harding Lawson Associates 1994).

no-action sites. No-action sites have been determined not to warrant remedial action under CERCLA. Interim-action sites have a limited volume and extent of contaminated soil and, as a result, are easily excavated and remediated without further investigation. RI sites have sufficient contamination to warrant full remedial investigations, baseline human health risk assessments, ecological risk assessments, and feasibility studies. Figure 4.6-1 shows the location of groundwater contaminant plumes and Figure 4.6-2 shows the location of hazardous and toxic waste sites. Sites shown in Figure 4.6-2 are listed in Table 4.6-1 below. Buildings and areas at former Fort Ord that potentially were used to store or maintain licensed radioactive equipment or materials were identified in a memo *Revised List of Buildings at Fort Ord Recommended for Radiological Decommissioning* (Chmar 1993). Radiological surveys, conducted in accordance with Nuclear Regulatory Commission (NRC) *Regulatory Guide CR 5489*, began in January 1994 and were completed in April 1994 for buildings located in the BRAC priority parcels 1, 2, 3, and 5. Surveys are continuing in buildings outside the priority parcels. Surveys were conducted by the U.S. Army Environmental Hygiene Agency. Minor remediation was performed by the survey teams. Major remediation, if needed, will be performed by the Army Material Command, Low-level Radioactive Waste Office (Harding Lawson Associates 1994).

Section 4.1 of the DSEIS should be consulted for details of remedial investigations, risk assessments, and feasibility studies conducted for former Fort Ord, and is incorporated herein by reference. Discussion of OE, including unexploded ordnance is found in section 4.12 of the Army's DSEIS and is incorporated herein by reference.

4.6.2 Environmental Impacts and Mitigation

Significance Criteria

Based on the *State CEQA Guidelines*, the proposed project would have a significant effect on the environment if it would:

- result in a need for new or altered police protection services beyond available capacity;
- result in a need for new or altered fire protection services beyond available capacity;
- disrupt or reduce the effectiveness of emergency response or evacuation plans;
- subsequently increase exposure of people or structures to major geologic hazards;
- expose the public to risks from hazardous and toxic materials; or
- potentially create an undue risk of upset (accidents) related to human or environmental health or safety.

1. Impact: Increased Demand for Law Enforcement Services

Implementation of the proposed project would increase the demand for new law enforcement services required at former Fort Ord, as a result of development and an associated population increase. The Army's FEIS (vol. I, p. 6-60) estimated that two law enforcement officers would be needed for every 1,000 residents, resulting in a demand for 103 officers under the proposed project (this figure is based on a community population of 51,773 and does not include the 20,000 CSUMB students). The FEIS also estimated that one law enforcement ranger or officer would be needed for every 5,000 acres of parks and recreation, resulting in a demand for more than one ranger (full-time equivalents).

The Army has made arrangements for law enforcement services to be provided at former Fort Ord by federal police until property is transferred to other entities. When property is transferred, law enforcement would be provided by the receiving entities. Under the local jurisdictions obtaining control

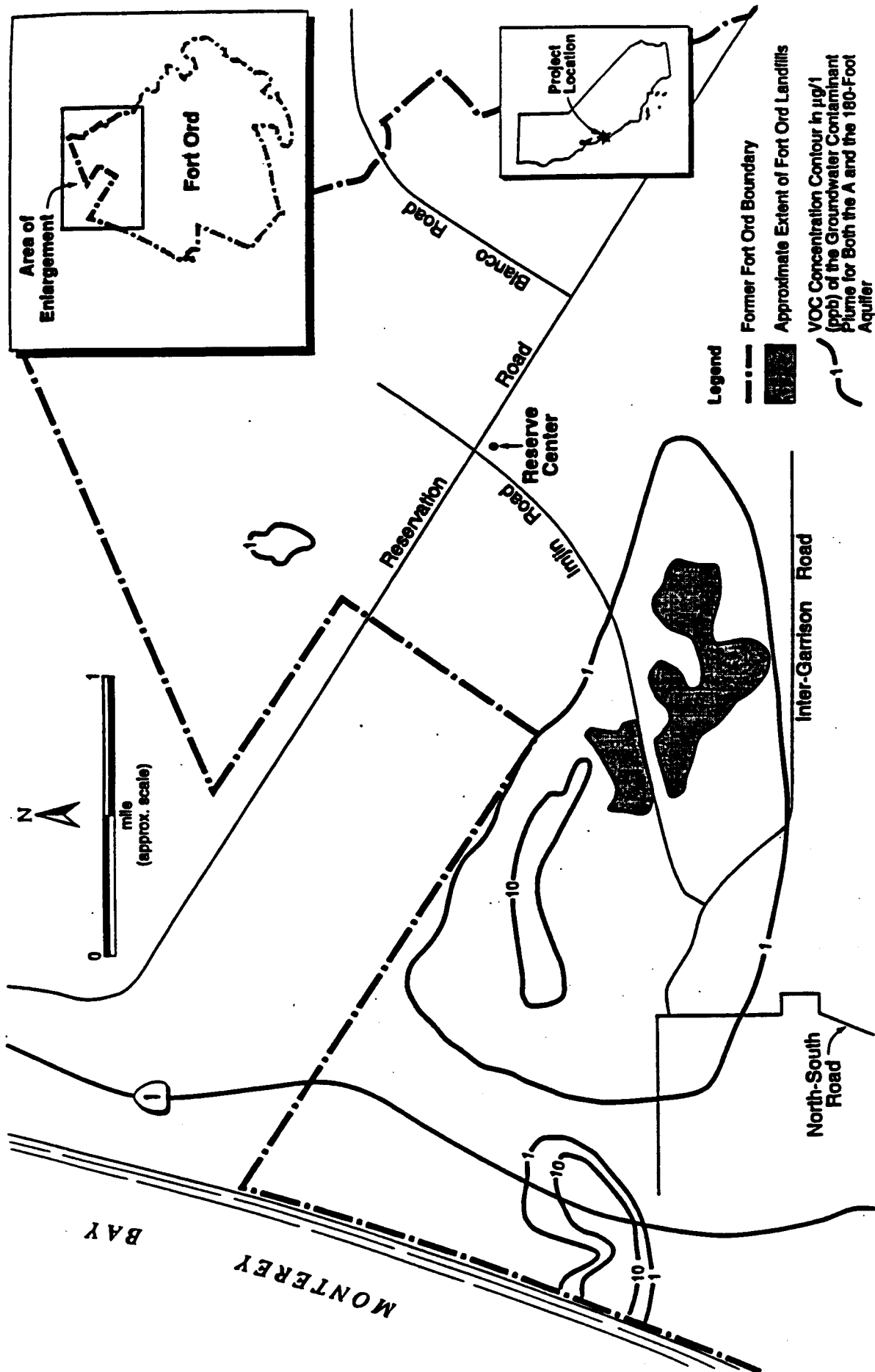
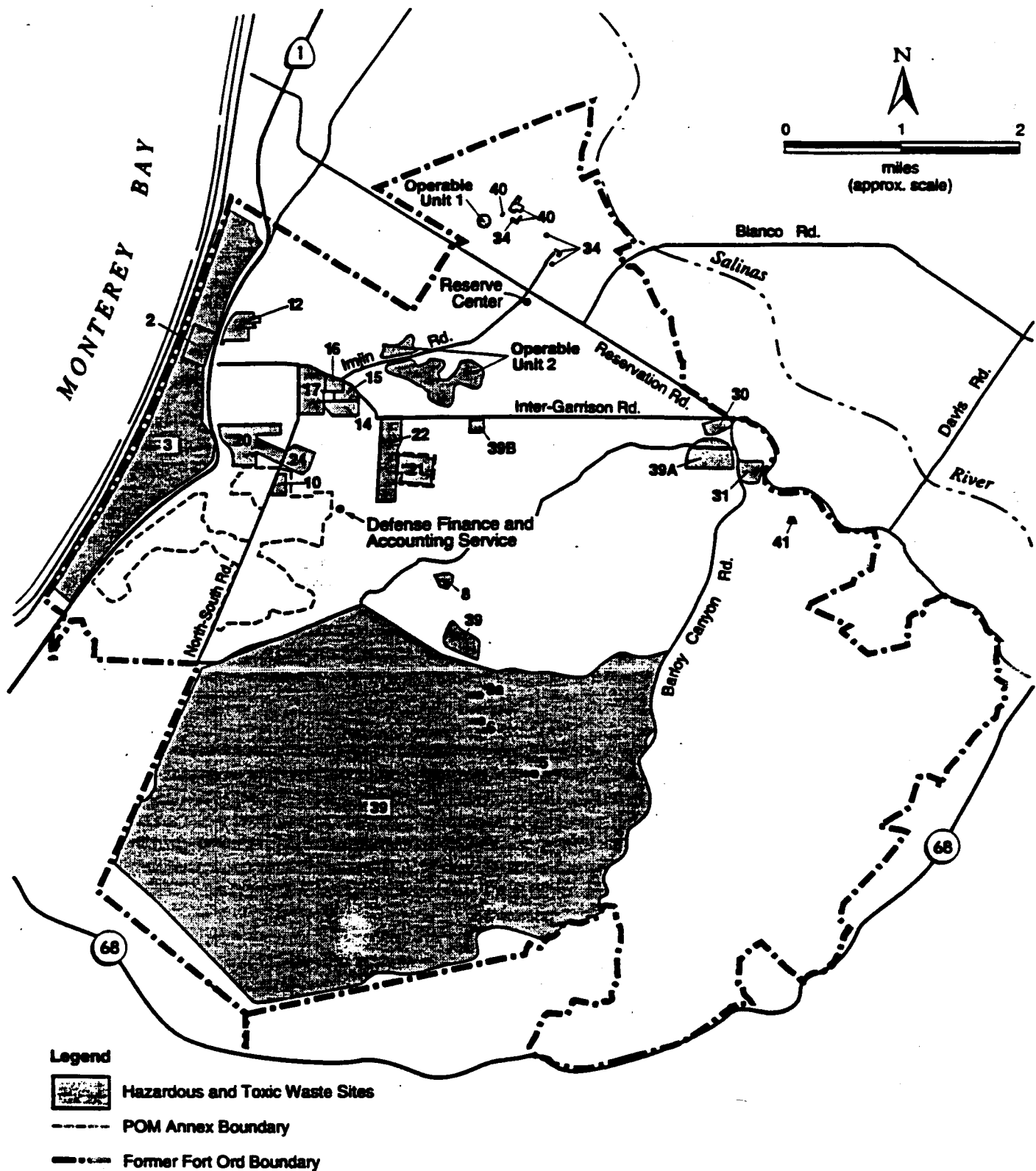


Figure 4.6-1
Groundwater Contaminant Plumes

Fort Ord Reuse Plan
Draft EIR



of the former Fort Ord property, the Monterey County Sheriff's Department, the Marina Public Safety Department, and the Seaside Police Department would provide law enforcement service, including equipment, within their respective boundaries. Mutual aid agreements could be maintained by all jurisdictions to provide for rapid law enforcement response. Although the Army's FEIS found that the local cities have generally been able to maintain adequate law enforcement services, the Monterey County Sheriff's Department has exhibited a steady decline in funding. The increased demand for law enforcement without increased funding to provide those services would constitute a significant impact.

Mitigation: FORA, jointly with the local city managers and law enforcement agencies involved, shall develop a regional law enforcement program that promotes joint efficiencies in operations, identifies additional law enforcement needs, and identifies and seeks to secure the appropriate funding mechanism to provide the required services.

Since FORA cannot be assured that funding will be obtained to support adequate law enforcement services, even with implementation of the mitigation measure, this impact should be considered significant and unavoidable.

2. Impact: Increased Demand for Fire Protection and Emergency Response Services

Implementation of the proposed project would increase the demand for new fire protection and emergency response services required at former Fort Ord, as a result of development and an associated increase in population.

The Army's FEIS (vol. I, 6-65) described a substantial impact on fire protection that would result from the disposal of excess property, because the Army's fire response would be limited to lands it owned. Through an inter-service support agreement with the U.S. Navy, the Army currently provides fire protection services for Army-owned lands and has mutual aid agreements with local fire protection entities. The disposal of former Fort Ord lands would increase the area that must be served by local fire protection entities, as the Army will cease providing this service once land is transferred from Army ownership.

Local fire service agencies have expressed an inability to provide the additional needed service, given the current lack of financing for these services. While service agencies under local city jurisdictions could receive minimal funding from redevelopment funds, rural agencies under the County of Monterey would not receive similar funding. This impact is considered potentially significant, since demand for fire protection services would exceed capacity and emergency response capabilities would be compromised. The *Draft Fort Ord Reuse Plan* contains the following policies and programs for the Cities of Marina and Seaside and Monterey County related to fire protection services and emergency response services:

Safety Element

Fire, Flood and Emergency Management Policy A-1: The City/County shall reduce fire hazard risks to an acceptable level by inventorying and assigning risk levels for wildfire hazards and regulating the type, density, location, and/or design and construction of new developments, both public and private.

Program A-1.1: The City/County shall incorporate the recommendations of the City Fire Department for all residential, commercial, industrial, and public works projects to be constructed at the former Fort Ord in high fire hazard areas before a building permit can be

issued. Such recommendations shall be in conformity with the current applicable Uniform Building Code (UCB) Fire Hazards Policies. These recommendations should include standards of road widths, road access, building materials, distances around structures, and other standards for compliance with the UCB Fire Hazards Policies.

Fire, Flood and Emergency Management Policy A-2: The City/County shall provide fire suppression water system guidelines and implementation plans for existing and acquired former Fort Ord lands equal to or greater than those recommended in the Fort Ord Infrastructure Study (FORIS) (Table 4.1.8) for fire protection water volumes, system distribution upgrades, and emergency water storage.

Fire, Flood and Emergency Management Policy A-3: The City/County shall develop, in cooperation with other former Fort Ord jurisdictions and the surrounding communities fire protection agencies, a fire management plan to ensure adequate staff levels, response time, and fire suppression operations in high fire hazard areas of the former Fort Ord. The fire management plan shall also include a fire "fuel management program" in conjunction with the County of Monterey and the Bureau of Land Management.

Program A-3.1: The City/County shall develop with appropriate fire protection agencies a mutual and/or automatic fire aid agreement to assure the most effective response.

Program A-3.2: The City/County shall develop a public education program on fire hazards and citizen responsibility, including printed material, workshops, or school programs, especially alerting the public to wildfire dangers, evacuation routes, fire suppression methods, and fuel management including methods to reduce fire hazards such as bush clearing, roof materials, plant selection, and emergency water storage guidelines.

Fire, Flood and Emergency Management Policy A-4: The City/County shall evaluate the need for additional fire station and fire suppression facilities and manpower within areas of the former Fort Ord which the City/County plans to annex in order to provide acceptable fire/emergency response time.

Fire, Flood and Emergency Management Policy C-1: The City/County shall develop an emergency response preparedness and management plan, in conjunction with the City of Marina, City of Seaside, and the County of Monterey, and appropriate fire, medical, and law enforcement agencies.

Program C.1-1: The City/County shall identify city emergency evacuation routes and emergency response staging areas with those of the City of Marina, City of Seaside, and the County of Monterey, and shall adopt the Fort Ord Evacuation Routes Map as part of the city/county's emergency response plans.

Program C-1.2: The City/County shall establish a community education program to train volunteers to assist police, fire, and civil defense personnel during and after a major earthquake, fire, or flood.

Program C-1.3: The City/County shall identify a "critical facilities" inventory, and in conjunction with appropriate emergency and disaster agencies, establish guidelines for operations of such facilities during an emergency.

The local jurisdictions ultimately obtaining control of the former Fort Ord property would provide fire protection and emergency response services within their respective boundaries. Mutual aid agreements could be maintained by all jurisdictions to provide for rapid response.

Monterey County, the State of California, and/or other jurisdictions would prepare and implement fire protection master plans, or incorporate newly acquired areas into existing plans. The plans would identify goals for staff levels and response times in urban, rural and undeveloped areas. The plans would also identify mechanisms that could be used to meet these goals, such as mutual and automatic aid agreements and alternative financing mechanisms.

Approval of new development could be conditioned on availability of fire protection response consistent with standards specified in the fire protection master plans. Project proponents could be required to prepare a statement indicating how fire protection response that would be required by their project would be met from the time of building occupancy.

Implementation of these policies and programs would provide guidelines, agreements, and planning measures related to the demand for additional fire protection services. These policies and programs, however, fail to ensure an adequate financing mechanism to fund these services. The capital improvements section of the *Draft Fort Ord Reuse Plan* identifies a financing plan for an additional fire station, and recommends a development impact fee to finance the portion of a fire station that can be determined to be of base-wide significance; the appropriate basis for levying the fee would be the acreage being served. However, no mechanism for ensuring the funding of other portions of the fire station is identified. The potential lack of adequate fire services is considered to be a significant impact. Therefore, the following additional mitigation measure is recommended for inclusion in the *Draft Fort Ord Reuse Plan*.

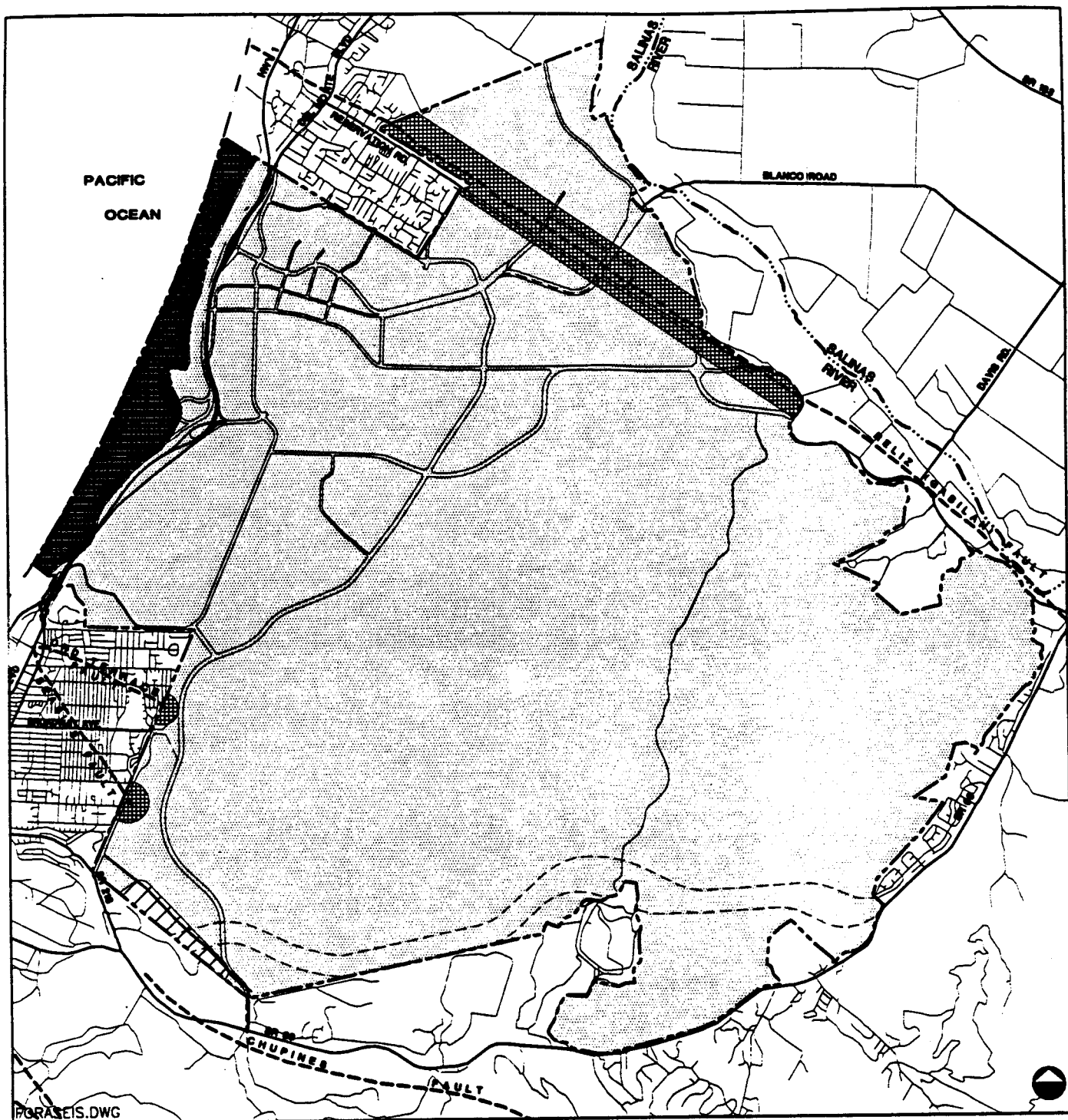
Mitigation: FORA, jointly with the local city managers and fire protection agencies involved, shall develop a regional program that promotes joint efficiencies in operations, identifies further sources of funding for additional required fire protection services such as a special fire district or other standard mechanism, and seeks to secure adequate funding to maintain existing levels of service.

Since FORA cannot be assured that funding will be obtained to support adequate fire protection and emergency response services in allowances, even with the policies/programs and mitigation measure described above, this impact should be considered significant and unavoidable.

3. Impact: Risk of Injury or Damage from Seismic Activity

Implementation of the proposed project would result in exposing increased numbers of people and structures to major geologic hazards, with potential for moderately high to very high ground-shaking due to seismic activity (see Figure 4.6-3). New construction on former Fort Ord would be required to meet current seismic safety standards. However, most of the 8,000 buildings existing on former Fort Ord were not constructed to meet current local building codes and those which are not demolished would need substantial modifications to comply with current seismic regulations.

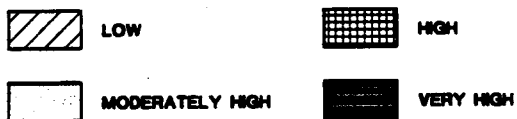
The FEIS points out that seismic safety provisions of California building codes focus on buildings that receive concentrated public or sensitive uses. At former Fort Ord, this category includes public schools, owned and operated by the Monterey Peninsula Unified School District. Other affected buildings in the project area include theaters, recreational facilities, and community centers generally constructed before



LEGEND:

----- Potentially Active Seismic Fault Lines
 SOURCE: Monterey County Seismic Safety Element, Oct. 1981 (Burkland & Assoc., 1975);
 EIS Baseline Studies (U.S. Army Corp of Engineers, Sacramento Dist., 1992);
 Geological Hazard Study (John Kingsley, 1994);
 Preliminary Geologic Hazards Investigation (Weber & Assoc., 1992)

Ground Shaking Potential
 SOURCE: Monterey County Seismic Safety Element, Oct. 1981 (Burkland & Assoc., 1975)



**Fort Ord Reuse Plan
 Draft EIR**

**Figure 4.6-3
 Seismic Hazards**

1973. The FEIS also identifies earthquake hazards related to liquefaction along Toro creek and other localized areas and landslides in areas of the Aromas formation and along the shoreline dune cliffs. The following policies and programs for the Cities of Marina and Seaside and Monterey County relate to seismic safety:

Safety Element

Seismic and Geologic Hazards Policy A-1: The City/County shall develop standards and guidelines and require their use in new construction to provide the greatest possible protection for human life and property in areas where there is a high risk of seismic or geologic occurrence.

Program A-1.1: The City/County shall regularly update and make available descriptions and mapping of seismic and geologic hazard zones and associated risk factors for each, including feasible and effective engineering and design techniques that address the seismic and geologic hazard zone characteristics of former Fort Ord. Seismic and geology hazard zones should include areas and risk factors associated with ground-shaking, ground rupture, ground failure and landslides susceptibility, liquefaction and tsunamis.

Program A-1.2: The City/County shall establish setback requirements for new construction, including critical and sensitive facilities, for each seismic hazard zone with a minimum of 200 feet setback to a maximum of one quarter (1/4) mile setback from an active seismic fault. Critical and sensitive buildings include all public or private buildings essential to the health and safety of the general public, hospitals, fire and police stations, public works centers, high occupancy structures, schools, or sites containing or storing hazardous materials.

Seismic and Geologic Hazards Policy A-2: The City/County shall use the development review process to ensure that potential seismic or geologic hazards are evaluated and mitigated prior to construction of new projects.

Program A-2.1: The City/County shall require geotechnical reports and seismic safety plans when development projects or area plans are proposed within zones that involve very high seismic risk. Each plan shall be prepared by a certified geotechnical engineer and shall be subject to the approval of the Planning Director for the City/County.

Program A-2.2: Through site monitoring, the City/County shall ensure that all measures included in the project's geotechnical and seismic safety plans are properly implemented and a report shall be filed and on public record prepared by the Planning Director and/or Building Inspector, confirming such.

Program A-2.3: The City/County shall continue to update and enforce the Uniform Building Code to minimize seismic hazards impacts from resulting from earthquake induced effects such as ground shaking, ground rupture, liquefaction, and or soils problems.

Seismic and Geologic Hazards Policy A-3: The City/County shall designate areas with severe seismic hazard risk as open space or similar use if adequate measures cannot be taken to ensure the structural stability of habitual buildings and ensure the public safety.

Program A-3.1: As appropriate, the City/County should amend its General Plan and zoning maps to designate areas with severe seismic hazard risk as open space if not other measures are available to mitigate potential impacts.

Seismic and Geologic Hazards Policy B-1: The City/County shall develop an inventory of critical and sensitive buildings and structures on former Fort Ord, including all public or private buildings essential to the health and safety of the general public, hospitals, fire and police stations, public works centers, high occupancy structures, school, or sites containing or storing hazardous materials.

Program B-1.1: The City/County shall evaluate the ability of critical and sensitive buildings to maintain structural integrity as defined by the Uniform Building Code (UBC) in the event of a 6.0 magnitude or greater earthquake. The Public Works Director shall inventory those existing facilities determined to be unable to maintain structural integrity, and make recommendations for modifications and a schedule for compliance with the UBC. The City/County shall implement those recommendations in accordance with the schedule.

Seismic and Geologic Hazards Policy C-1: The City/County shall, in cooperation with other appropriate agencies, create a program of public education for earthquakes which includes guidelines for retrofitting of existing structures for earthquake protection, safety procedures during an earthquake, necessary survival material, community resources identification, and procedures after an earthquake.

Program C-1.1: The City/County shall prepare and/or make available at public libraries and other public places, information and educational materials regarding earthquake preparedness.

Implementation of the proposed project, including the policies and programs listed above, would reduce existing hazard levels, even with an increased population. This would be achieved through construction of new and safer buildings, demolition of older buildings, and retrofit of critical and sensitive buildings. Therefore seismic impacts are considered to be less than significant.

Mitigation: None required.

4. Impact: Exposure to Hazardous and Toxic Materials

As a result of redeveloping currently contaminated lands and introducing new land uses with the potential to produce or handle certain hazardous materials, the proposed project could potentially expose the public to risks from hazardous and toxic materials.

As part of the continuing base reuse process, existing buildings containing asbestos and lead-based paint will be demolished, posing a potential hazard to people or animal populations in the immediate demolition area. It has been assumed that contaminated sites at former Fort Ord will be remediated to a level commensurate with proposed land uses. Clean-up levels are being determined subsequent to the site identification and characterization process outlined in the *Other Physical Attributes Environmental Baseline Study* (U.S. Army Corps of Engineers, Sacramento District 1992e). The results of the process are described in the *Basewide RI/FS* (Harding Lawson Associates 1994). These studies were completed in late 1994 and are awaiting approval of the FFA agencies.

Before potentially contaminated land or remediated parcels are transferred to non-federal agencies, the Army and FFA agencies must complete a remedial action ROD certifying that the lands are clean and protective of human health and the environment. The ROD will specify the Army's long-term clean-up and monitoring responsibilities. In some instances, long-term remedial action may continue as an Army responsibility after property transfer. In these cases, remedial action will have to be proven effective prior to transfer. A Finding of Suitability is completed to document the environmental conditions of the property. This ongoing process, combined with the implementation of the above policies and programs, will ensure that no significant risks are associated with the transferring of property.

The proposed project identifies, by density, residential uses and a possible golf course in polygons 1a, 1b and 21, which were previously designated for Light Industrial uses under Alternative 7 in the DSEIS. These areas would require higher levels of clean-up in order to meet residential standards.

The proposed project may lead to the potential use of hazardous materials, most likely connected to the educational institutions to be located at former Fort Ord. Hazardous materials may be used by CSUMB educational labs and by the UCMBEST Center in educational settings, research, and potential manufacturing processes. This use could potentially expose employees to situations that exceed accepted worker health or safety standards. Also, several light industrial areas where hazardous materials may be utilized have been designated for the project within the boundaries of each responsible land use jurisdiction.

The following policies and programs for the Cities of Marina and Seaside and Monterey County relate to hazardous and toxic waste site remedial actions and address safe handling of hazardous materials within former Fort Ord.

Safety Element

Hazardous and Toxic Materials Safety Policy A-1: The City/County shall monitor and report to the public all progress made on the remedial action record of agreement (RA-ROD).

Program A-1.1: The City/County shall make timely reviews of the RA-ROD implementation progress and maintain a public record of property locations which contain hazardous material, including a timetable for and the extent of remediation to be expected.

Program A-1.2: The City/County shall make timely reviews of the Army's RA-ROD implementation progress and report to the public the Army's compliance with all of the federal Environmental Protection Agency's rules and regulations governing munitions waste remediation including treatment, storage, transportation, and disposal.

Hazardous and Toxic Materials Safety Policy B-1: The City/County shall monitor implementation procedures of the RA-ROD and work cooperatively with the U.S. Army and all contractors to ensure safe and effective removal and disposal of hazardous materials, ensure compliance with all applicable regulations of hazardous materials, and provide for the protection of the public during remediation activities.

Program B-1.1: The City/County shall develop and make available a list of the locations and timeframe for remediation of buildings scheduled for renovation which contain asbestos and/or lead base paint.

Program B-1.2: The City/County shall ensure public safety for asbestos and/or lead paint removal by reviewing remediation plans and determining that such remediation is being conducted by licensed and certified asbestos abatement and building demolition contractors.

Program B-1.4: The City/County shall require, by resolution, permits from all hazardous remediation contractors for the transport of hazardous material, including ordnance and explosives, through City/County streets. The permit will require disclosure of the type, volume, risk factor, transport routes and any other such information deemed necessary by the City/County for protection of the public safety.

Hazardous and Toxic Materials Safety Policy B-2: The City/County shall monitor implementation procedures of the RA-ROD and work cooperatively with the U. S. Army and all contractors and future users/operators of landfill or hazardous materials storage sites at the former Fort Ord.

Program B-2.1: The City/County shall develop and make available a list of the locations and timeframe for remediation of landfill or hazardous materials storage sites, including closure and postclosure activities.

Program B-2.2: The City/County shall review and make public its review of administrative covenants on remediation of landfills or hazardous materials storage to ensure that landfill closure or hazardous materials storage restoration activities are complete and in compliance with all applicable regulations, that liability responsibilities are identified to entities intending to use the landfill, and that such uses are consistent with the administrative covenants and all post closure activities.

Hazardous and Toxic Materials Safety Policy B-3 (Marina): The City shall follow all applicable procedures and regulations for the Marina Municipal Airport (formerly Fritzsche Airfield) underground and above ground storage tanks, maintenance inventory and documentation of hazardous material and dispose of hazardous waste at properly certified facilities.

Hazardous and Toxic Materials Safety Policy C-1: The City/County of Monterey shall require hazardous materials management and disposal plans for any future projects involving the use of hazardous materials.

Program C-1.1: The City/County of Monterey shall review the use of hazardous materials as a part of environmental review and/or include as a condition of project approval a hazardous materials management and disposal plan, subject to review by the Environmental Health Department.

These policies and programs do not address the potential change in clean-up levels required by the revised land uses proposed as part of the proposed project. This is particularly relevant in those areas previously designated for Light Industrial use in Alternating 7 and now being proposed for residential use. Clean-up levels are being determined subsequent to the site identification and characterization process outlined in the *Other Physical Attributes Environmental Baseline Study* (U.S. Army Corps of Engineers, Sacramento District 1992e). The results of the process are described in the *Basewide RI/FS* (Harding Lawson Associates 1994). This impact is considered potentially significant. The following

additional mitigation measure is recommended for the Cities of Seaside and Marina and Monterey County:

Mitigation: FORA, through consultation with the Army and involved agencies, shall ensure that clean-up levels are consistent with all revised land uses proposed in the Fort Ord Reuse Plan.

Implementation of these policies and programs and mitigation measure would render this impact less than significant.

5. Impact: Long-term Exposure to Unexploded Ordnance

Implementation of the proposed project would potentially expose people to unexploded ordnance in the long term, thus creating risk of upset (accidents) related to human or environmental health or safety.

Following hazardous waste cleanup activities implemented by the Army health and safety risks would still exist from long-term exposure to unexploded ordnance. Implementation of the proposed project could expose people to these risks where the inland trainfire ranges were previously located (refer to Figure 4.6-4). The highest density of unexploded ordnance and spent ammunition is expected in the central portion of the inland range area. Lower densities of unexploded ordnance are expected in the outer portions of the inland range area and in the training areas to the north and east of the inland range area. These lands have been conveyed to the Bureau of Land Management for habitat management use, and they will be closed off to public access. Appropriate fencing and signage is expected to minimize the incidence of trespassing in areas (where there would otherwise be potential land use, conflicts, e.g.). closest to public access and residential land uses.

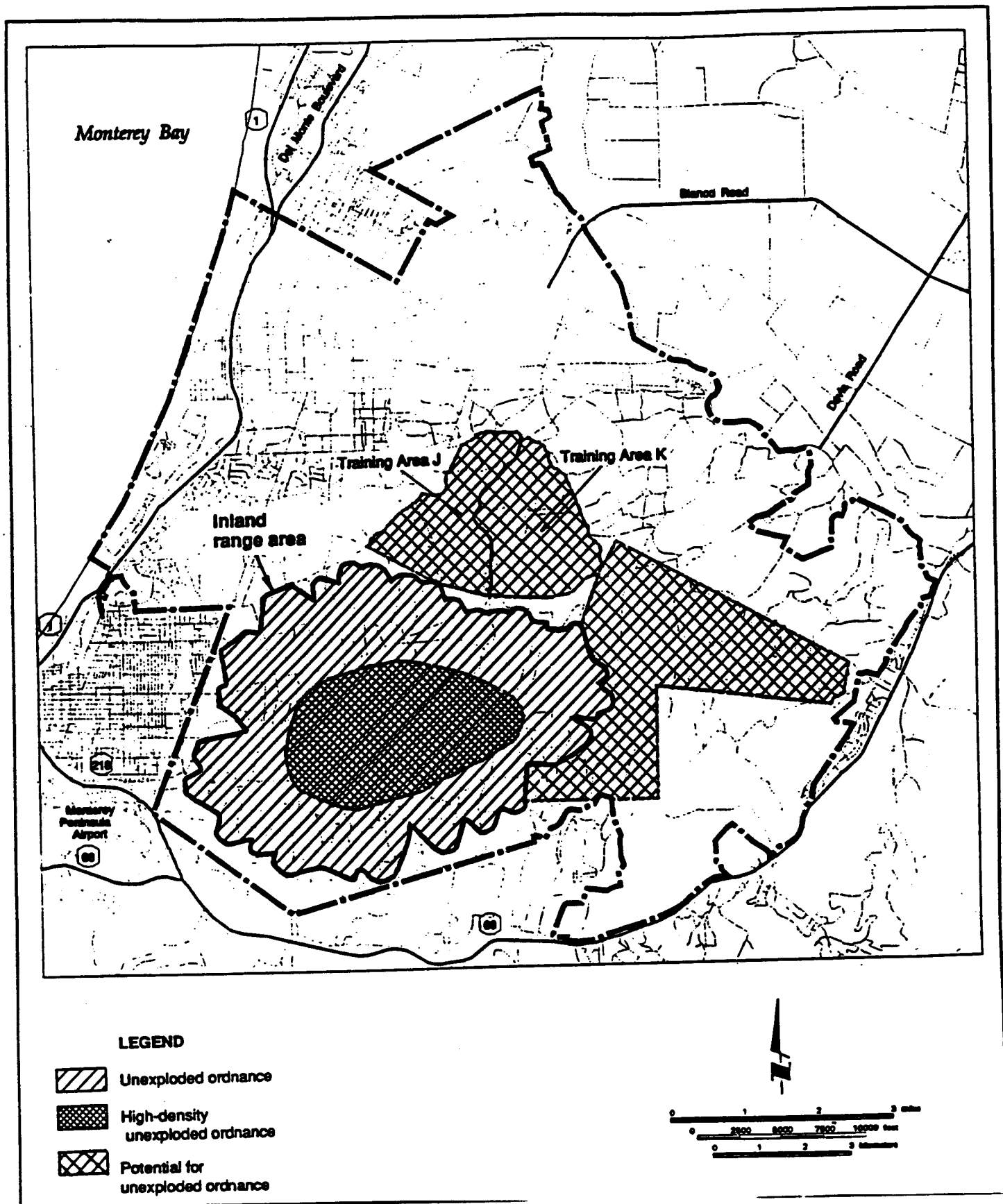
Unexploded ordnance on former Fort Ord property is recognized in this Draft EIR as a hazardous waste, and policies and programs that make reference to hazardous waste include unexploded ordnance. In addition, the following program for the Cities of Marina and Seaside and Monterey County specifically relates to unexploded ordnance:

Safety Element

(Hazardous and Toxic Materials Safety) Program B-1.3: The City/County shall develop and make available a list of the locations and timeframe for remediation of those sites containing ordnance and explosive (OE) and shall work cooperatively with responsible agencies, including the Bureau of Land Management, in notification, monitoring, and review of administrative covenants for the reuse or closure of such OE sites.

Implementation of this program would render this impact less than significant.

Mitigation: None required



Fort Ord Reuse Plan
Draft EIR

Figure 4.6-4
Expected Locations of Unexploded Ordnance at Fort Ord

4.7 Traffic and Circulation

This section describes the existing and future transportation characteristics of former Fort Ord and the surrounding area. The transportation system examined includes freeways, arterials, bus and rail transit, and bicycle and pedestrian routes. It also includes both facilities and services internal to former Fort Ord, as well as key facilities on the regional network outside former Fort Ord.

State Highway 1 extends across the former Army base in a north-south alignment approximately one-quarter mile inland from the ocean. State Highway 1 provides connections between Marina on the north and Seaside/Sand City to the south. There are two east-west corridors in the vicinity of former Fort Ord: Highway 68 runs along the south and east margins of former Fort Ord, connecting Salinas with the Monterey Peninsula; and Reservation Road extends through the base on the north between Marina and East Garrison. Blanco and Davis Roads intersect Reservation Road, providing connections to Salinas. The primary entrances to former Fort Ord are the gates at Lightfighter (Maingate) and 12th Street. These entrances are accessed from Highway 1. Entrances to former Fort Ord are also provided on Reservation Road, at Imjin and Inter-Garrison, Fremont, Broadway, and Highway.

Internally, the existing road system was developed by the Army as the base expanded over the past fifty years. The layout is a collage of roadways and parking facilities scattered about to serve the Army's unique needs. The Army, unlike the civilian sector, was not constricted by property lines, easements, or aesthetic standards. In addition, land use patterns by the Army did not produce the same types of traffic patterns as those that might be found in a civilian urban population. This has resulted in a roadway system that is, in many instances, not compatible with the proposed civilian land uses.

The proposed land use plan includes approximately 45,457 jobs and approximately 22,232 housing units at buildout. In addition, the California State University Monterey Bay (CSUMB) campus is to be located on former Fort Ord. CSUMB is expected to have 25,000 full-time equivalent students, with on-campus housing for 80% (or 20,000) of these students. The redevelopment of former Fort Ord would increase the demand for transportation infrastructure and services both within the base area and the region. The transportation plan for former Fort Ord reuse includes strategies and improvements for the system on-site, as well as for those regionally significant facilities that provide access to former Fort Ord.

4.7.1 Analysis Approach

The analysis of existing and future traffic conditions requires a methodology both to evaluate system performance and to forecast future year conditions. These methodologies are described below.

Level-of-Service Methodology

For this study, the performance of the roadway network is described using the LOS concept. LOS refers to a hierarchy of performance measures describing different levels of operational conditions within a traffic stream and the perception of these conditions by motorists and/or passengers. LOS is represented by a continuum of six grades of progressively more congested traffic flow, LOS A through LOS F, where LOS A represents free and unobstructed traffic flow, and LOS F represents "stop and go" traffic.

A number of methodologies exist for determining roadway LOS. Since the methodology used in this study must be applied to both existing and forecasted future year conditions, a key determinant in selecting the appropriate methodology was the nature of forecast outputs available from the regional travel demand forecasting model. Because the model used in this study produces only daily forecasts of

traffic volumes, a methodology based on daily volumes was required. To convert daily traffic volume to an LOS grade, the methodology described in the Florida Department of Transportation's (FDOT) *Level of Service Standards and Guidelines Manual* (August 1995) was used. The FDOT methodology is derived from the methods contained in the 1994 Highway Capacity Manual, and results in a range of daily volumes that correspond to each LOS grade. This methodology is the same as the one used by the Monterey County Congestion Management Agency (CMA) to prepare their Congestion Management Program (CMP).

The FDOT manual includes three sets of LOS tables representing different area types: urbanized, transitioning and rural. These tables reflect differences in the assumed capacities and free flow speeds that are primarily a function of differences in driver behavior between these area types. The "transitioning" area type tables were selected for this analysis because the former Fort Ord region is a mix of low density urban and rural areas. The "urbanized" tables were also considered, but were not selected because they are intended to be used for major metropolitan areas.

The ranges of daily volumes corresponding to each LOS grade for the facility types examined in this study are identified in Table 4-7-1. As indicated in the table, the range of daily volumes corresponding to a particular LOS grade varies depending on the type of the facility. Facility type refers to a categorical classification of roadways based on speed, capacity, and signal spacing (e.g. freeways, arterials, and local roads). The roadway categories used in this study are listed below.

Freeways: These are high-speed facilities designed to carry large volumes of traffic. Freeways are limited-access roadways, so traffic can only enter and exit at specific locations.

Uninterrupted Flow Highways/Arterials: These are facilities with one or more travel lanes in each direction with no fixed causes of delay or interruptions external to the traffic stream.

Interrupted Flow Arterials: This classification refers to a range of roadways that include urban and rural streets. Arterials have one or more lanes, with traffic signals, STOP or Yield signs, or other fixed causes of periodic delay or interruption to the traffic stream. Arterials are generally designed to serve through traffic. They are categorized in four classes according to the number of signalized intersections per mile. Class IA arterials are generally rural roads, while Class III arterials are found in densely-developed urbanized areas.

Local Roads: These facilities are designed for lower volumes of traffic. Intersections are controlled by stop signs or signals.

It should be noted that volume ranges for LOS A or B are not defined for some facility types. As a result, local roads identified as operating at LOS C may actually be operating at a higher LOS and have reserve capacity available before falling to LOS D. Another important consideration is that LOS F does not necessarily indicate that congested traffic conditions exist throughout the day. When using LOS grades based on daily volumes (as in Table 4.7.-1), an LOS grade of F indicates that traffic volumes during certain periods are greater than the roadway was designed to handle, and that there may be congestion during these periods.

One common way to establish where roadway system deficiencies exist is to observe where the calculated LOS falls below the acceptable level of performance. The Transportation Agency of Monterey County (TAMC) has established acceptable service levels as LOS D or better. It should be noted, however, that the Congestion Management Program (CMP) states that the CMP LOS standard

Table 4.7-1 LOS Grades by Facility Type

Facility Type	Design Attributes*	Traffic Volume Threshold by LOS**				
		A	B	C	D	E
Freeway	4 - Divided	20,100	32,500	47,900	60,400	68,100
	6 - Divided	30,400	48,500	72,200	91,100	107,300
Uninterrupted Highway/Arterial	2 - Undivided	8,400	13,000	17,000	23,300	31,000
	4 - Divided	20,600	34,500	47,800	57,000	66,300
Arterial - Class Ia (less than 2.5 signalized intersections per mile)	2 - Undivided	***	11,500	14,000	15,300	15,900
	4 - Divided	***	25,500	30,600	32,800	33,500
	6 - Divided	***	39,600	46,400	49,700	50,300
Arterial - Class Ib (2.50 to 4.50 signalized intersections per mile)	2 - Undivided	***	***	8,000	13,200	14,600
	4 - Divided	***	***	17,600	28,600	31,300
	6 - Divided	***	***	26,900	43,600	47,300
Arterial - Class II (more than 4.50 signalized intersections per mile)	4 - Divided	***	***	***	24,600	30,900
	6 - Divided	***	***	***	37,800	47,000
Other Local Road	2 - Undivided	***	***	4,700	9,200	10,600
	4 - Divided	***	***	10,300	20,500	22,800
ADJUSTMENTS (alter corresponding two-way volume by indicated percent)						
DIVIDED/UNDIVIDED						
<u>Lanes</u>	<u>Median</u>	<u>Left Turn Bays</u>		<u>Adjustment Factors</u>		
2	Divided	Yes		+ 5%		
2	Undivided	No		- 20%		
Multi	Undivided	Yes		- 5%		
Multi	Undivided	No		- 25%		
ONE-WAY						
<u>One-Way Lanes</u>		<u>Corresponding Two-Way Lanes</u>		<u>Adjustment Factor</u>		
2		4		- 40%		
3		6		- 40%		

* Assume Left Turn Bays in all cases (except for freeways where not applicable)

** volume cannot exceed threshold to classify roadway at the LOS grade

*** cannot be achieved

Source: Florida Department of Transportation, 1995

shall be equal to existing (1991) LOS if that LOS was below LOS D. For this study, a roadway service level goal of LOS D was used.

It must be recognized that traffic volumes will vary within a given roadway segment due to vehicles entering or exiting at minor intersections or driveways. Thus, for this analysis, the median traffic volume within a given segment was used to determine LOS. This approach is consistent with that used by the Monterey County CMA.

Forecasting Methodology

Future year conditions in this study were forecasted using the Monterey County Traffic Analysis Model (MCTAM). As with all travel demand forecasting models, the MCTAM uses forecasts or assumptions regarding future year land uses and the transportation network as inputs to estimate future travel demand. This model is maintained by the Transportation Agency for Monterey County (TAMC). It covers the Monterey Bay region, but is focused specifically for Monterey County.

Land use inputs for MCTAM include the number of households and jobs by Traffic Analysis Zone (TAZ). A TAZ is a small geographic area, often bounded by major roadways. Because MCTAM is a regional model, these land use inputs were required for TAZ both inside former Fort Ord and the region. Land use forecasts for the area outside former Fort Ord were provided by the Association of Monterey Bay Area Governments (AMBAG). Assumptions regarding the transportation network include the location, number of lanes, free flow speed and capacity of roadways. The model network does not contain every roadway in Monterey County, but does include most collectors, as well as all arterials, highways and freeways. Using a set of mathematical formulas, the number of trips generated by each TAZ is calculated. These trips are then distributed to destination zones based on their relative "attractiveness" (for example, a zone with a significant amount of housing would produce a large number of work trips, while a zone with a large number of jobs would attract such trips). The trips are then assigned to the transportation network.

Buildout of former Fort Ord is expected to occur in approximately 40-60 years, and ideally, transportation conditions for this year would be modeled. However, regional land use forecasts from AMBAG were not available beyond year 2015. Thus, the assessment of buildout roadway needs for former Fort Ord is based upon a qualitative extrapolation of the year 2015 results obtained through the forecasting methods described above. Compared to buildout, approximately 13,000 housing units and 18,000 jobs are expected at former Fort Ord by the year 2015. A number of alternative transportation systems were tested to develop an effective and cost-efficient transportation system.

4.7.2 Setting

Streets and roads form the basic element of the transportation system. Accessibility and mobility of former Fort Ord relies upon both its internal roadway network and the network of major regional roadways. This regional network includes state highways and major arterial roads that serve intra- and inter-regional travel needs of former Fort Ord and Monterey County. Figure 4.7-1 illustrates the primary existing roadway facilities within former Fort Ord, as well as the elements of the regional roadway network considered most relevant to former Fort Ord. For this study, the regional network is comprised of all major arterials and state facilities included in the CMP network in the vicinity of the former Fort Ord area.

Internal Roadway Network

The roadway network within former Fort Ord consists of a mix of arterial and local roads. The older area of former Fort Ord (area of WWII vintage barracks and structures) was laid out in a traditional street pattern (integrated). Subsequent residential development on the former base incorporated the curvilinear and cul-de-sac street patterns common to residential developments following WWII. The existing roadway system in former Fort Ord generally consists of four types of roads: 2-lane Rural local, Residential local, Urban Arterial (both 4 and 6-lane) and Rural Arterial. The 2-lane rural roads primarily serve the artillery ranges and remote areas of the Base, examples are: Parker Flats Road and Barloy Canyon Road. These roads are paved but not engineered to any specific standard. The residential streets serve permanent housing areas as well as several mobile home park facilities such as Marshall Park Family Housing and Patton Park Family Housing.

Four lane urban arterials consist of streets such as Gigling Road, Lightfighter Drive (main entrance road) and the portion of North-South Road between Lightfighter Drive and Ardennes Circle. These streets have curbs and in some cases sidewalks and a median. Rural arterials such as Inter-Garrison Road, Reservation Road, and the remaining portion of North-South Road have no curbs, sidewalks, or medians.

Existing roadways within former Fort Ord provide the foundation for planning the future network within the reuse area. The key existing roadways within former Fort Ord include 2nd Avenue, Light Fighter Drive, Gigling Road, Imjin Road, Inter-Garrison Road, Coe Avenue, North-South Road, and Eucalyptus Road. These facilities are described below.

2nd Avenue - This roadway is a north-south facility aligned east of State Highway 1. It connects Light Fighter Drive east of the Main Gate to 11th Street.

12th Street - 12th is an east-west collector road running between Imjin Road and Highway 1. Access to State Highway 1 is provided at the 12th Street interchange.

8th Street/8th Street cut-off - This arterial runs from the railroad tracks just east of Highway 1 eastward toward Imjin Road. Near this location the roadway turns to a southeast direction and intersects Inter-Garrison Road.

Light Fighter Drive - Light Fighter Drive is a short east-west arterial that provides access to State Highway 1 via former Fort Ord's Main Gate. It also connects to 2nd Avenue and North-South Road.

Gigling Road - This roadway is a east-west facility in the central part of former Fort Ord, aligned south of Light Fighter Drive. It connects with several north-south streets, including North-South Road, which provides access to Light Fighter Drive and the Main Gate.

Imjin Road - Imjin Road is an arterial roadway running south from Reservation Road through former Fort Ord where it ends at 8th Street. The northern portion of Imjin is four lanes, narrowing to two lanes in the southern portion.

Inter-Garrison Road - Inter-Garrison Road is an east-west two-lane arterial that provides a connection from Reservation Road to the central area of former Fort Ord, where Inter-Garrison Road becomes 3rd Street. Inter-Garrison could become a major east-west facility for former Fort Ord, and could be used to relieve congestion from the Blanco Road/Imjin corridor.

Coe Avenue - Coe Avenue, a two-lane arterial, currently provides access to former Fort Ord areas south of the golf courses from North-South Road. It starts at North-South Road and ends immediately east of State Highway 1 at its intersection with Monterey Road.

North-South Road - This facility is the major north-south roadway through the southern part of former Fort Ord. It begins north of State Highway 218 and follows the western edge of former Fort Ord at the Seaside city limits. There is a gate at Broadway, that was recently reopened and provides access to Seaside. Farther north, North-South Road intersects the Coe Avenue/Eucalyptus Road intersection, and continues to an intersection with Light Fighter Drive, which provides access to the Main Gate. North-South Road ends at 3rd Street, where it becomes 4th Avenue in central, former Fort Ord. It is currently a two- to four-lane facility. The roadway has the potential to operate as a parallel facility to Highway 1 providing a link from the Marina area to the Cities of Seaside and Del Rey Oaks.

Eucalyptus Road - This facility begins at the intersection of Coe Avenue and North-South Road just north of Seaside. It is aligned to the northeast. The pavement ends before it intersects another roadway. While Eucalyptus Road does not currently provide any connections, future improvements in the eastern part of former Fort Ord in county jurisdiction could make this an important element in the roadway system.

Access into former Fort Ord is limited to a number of entry gate locations. Since the closure of the base, some of the gates have remained closed, limiting access into the former Fort Ord area. As the transition to civilian use continues, additional gates will be opened. The gates that are relevant to the *Draft Fort Ord Reuse Plan* are illustrated in Figure 4.7-1 and described below.

The Main Gate, at Light Fighter Drive, east of the State Highway 1 freeway interchange and west of 1st Avenue.

The 12th Street Gate, across 1st Avenue near 12th Street immediately east of the State Highway 1 freeway interchange.

The Imjin Gate, at Imjin Road, immediately south of Reservation Road, east of Marina.

The East Garrison Gate, at Inter-Garrison Road, immediately southwest of Reservation Road. (This gate is currently closed to the general public.)

The Barloy Canyon Road Gate, Barloy Canyon Road, immediately north of State Highway 68. (This gate is currently closed to the general public.)

The North-South Road Gate, at North-South Road, immediately north of State Highway 218. (This gate is currently closed to the general public.)

The Broadway Gate, at Broadway Avenue, immediately west of North-South Road at the border of Seaside and former Fort Ord.

The Ord Gate, at Ord Avenue in the southwest corner of former Fort Ord south of Coe Avenue and immediately east of State Highway 1.

Regional Roadway Network

The major regional roadways that are most significant for former Fort Ord are summarized below.

State Highway 1 - State Highway 1 is a major north-south roadway that roughly follows the Pacific Coast from Northern California to Los Angeles and points south. The roadway is aligned immediately to the west of former Fort Ord, providing access to Watsonville and Santa Cruz (to the north) and Monterey and Carmel (to the south). State Highway 1 is a limited access (freeway) facility from Castroville to just north of Carmel. In the project vicinity, there are freeway interchanges at Reservation Road, Del Monte Boulevard, 1st Ave (12th Street Gate), Light Fighter Drive (Main Gate), and Fremont Boulevard in Seaside.

State Highway 68 - Within the study area, State Highway 68 is aligned to the south and east of former Fort Ord, from State Highway 1 to Salinas. State Highway 68 primarily provides access from Salinas to Monterey and areas south of Seaside. South of the study area, State Highway 68 extends west of State Highway 1 into Pacific Grove, and is known as Holman Highway.

State Highway 156 - State Highway 156 links State Highway 1 (north of Marina) with U.S. 101 to the northeast.

State Highway 183 - State Highway 183 is aligned roughly east-west to the north of former Fort Ord and connects Salinas to State Highway 1 to the west.

State Highway 218 - State Highway 218 starts at State Highway 1 in Sand City and provides access through Del Rey Oaks to the southeast where it joins State Highway 68. State Highway 218 is an alternative route to the westernmost segment of Route 68. It also serves areas on the south side of the City of Seaside.

U.S. 101 - The U.S. 101 freeway is a major north-south route in California. It is aligned to the east of State Highway 1, through Prunedale and Salinas in the vicinity of former Fort Ord.

Del Monte Avenue/Boulevard - Del Monte Avenue/Boulevard is a non-continuous roadway, roughly parallel to State Highway 1, extending from Washington Avenue in Monterey to the interchange with State Highway 1 on the north side of Marina.

Fremont Street/Boulevard - Fremont Street/Boulevard is a key four-lane arterial providing an important link through Seaside. It runs north-south, roughly parallel to State Highway 1, and has interchanges with State Highway 1 at either end.

Broadway Avenue - Broadway Avenue is a four-lane arterial that provides an east-west connection between Del Monte Boulevard, Fremont Boulevard, and North-South Road.

Reservation Road - This facility is aligned approximately east-west, from State Highway 1 past the northern boundary of former Fort Ord to State Highway 68 south of Salinas. It is currently classified as a rural highway east of Imjin Road, and a signalized arterial from Imjin Road west to State Highway 1.

Blanco Road - Blanco Road is an east-west route north of former Fort Ord that provides a connection between Highway 101 and Reservation Road. This facility currently provides an important link between former Fort Ord and Salinas.

Davis Road - Davis Road is an arterial between Salinas and Reservation Road, aligned approximately parallel to State Highway 68.

Transit Service

Monterey-Salinas Transit (MST) provides local bus service for the Monterey Peninsula. The service area includes former Fort Ord as well as Seaside, Monterey, Marina, Carmel, and other Peninsula cities. Service originates from two primary locations: the Monterey Transit Plaza in downtown Monterey, and the Salinas Transit Center in downtown Salinas. There is connecting service between Monterey and Salinas via former Fort Ord, as well as a Monterey-Marina line that serves former Fort Ord. In October 1995, the Monterey-Marina line was modified to include service to CSUMB. This line (#7) operates with service approximately once each hour. Within former Fort Ord, bus stops are located on North-South Road, Gigling Road, Imjin Road, Abrams Drive, and Preston Drive. Not all bus stops have shelters. Bus stop locations and bus headways are subject to change.

Pedestrian and Bicycles Network

Non-motorized modes of travel are an important focus for any circulation system. The two most common non-motorized modes of travel are walking (pedestrian) and bicycling. Both pedestrian and bicycle travel are non-polluting, do not contribute to roadway congestion, and are healthy alternatives to vehicular travel.

Sidewalks currently exist on some former Fort Ord roadways, but a comprehensive network of pedestrian facilities is not in place. No sidewalks are available on Inter-Garrison Road or Imjin Road, and are missing on parts of Lightfighter Road, Gigling Road, and North-South Road. Also, on many former Fort Ord roadways, there are no shoulders or parking lanes, so vehicular traffic may pass close to pedestrians even where sidewalks do exist.

Currently, there are no bicycle facilities within former Fort Ord. There are a limited number of bicycle facilities in the vicinity of former Fort Ord. The most significant is the CalTrans Pacific Coast Bikeway, which roughly follows the coastline. It is aligned along Del Monte Boulevard through Marina, and then it follows State Highway 1 past former Fort Ord and into Seaside and Sand City. There are, however, no connections to the Pacific Coast Highway from former Fort Ord, and there are no other bicycle facilities within former Fort Ord or connecting to Marina or Seaside. Also, at present there are no designated bicycle networks in either Marina or Seaside.

4.7.3 Operating Conditions

With the closure of former Fort Ord as a military base, roadways within former Fort Ord currently carry only low volumes of traffic. For this reason, no current LOS analysis for these roadways was performed. However, many of the regional roadways that provide access to and from former Fort Ord continue to carry high volumes of traffic. The existing (1993/94) daily volumes and LOS for the relevant regional road segments are presented in Table 4.7-2. The LOS analysis was based on traffic volumes obtained from TAMC.

As noted above, the LOS analysis presented in this section is based on 1993/94 traffic volumes. This differs from the FEIS which used 1991 as its base year. This variance is due to the need to use more detailed and comprehensive 1993/1994 data for developing the Reuse Plan rather than the more limited traffic data used in the FEIS. From 1991 to 1993/94, activity at former Fort Ord was significantly reduced, resulting in similar reductions in traffic volumes on on-site roadways and former Fort Ord-related volumes on regional roadways off the base. During this period, however, regional traffic volumes grew, with the net impact being that the traffic volumes observed in 1993/94, overall, varied only slightly from those observed in 1991. According to *the Traffic Volumes on California State Highways* manual produced by CalTrans, volumes on Highway 1 directly adjacent to former Fort Ord decreased from 1991 to 1993/94, but increased slightly on most other state highway segments. Based on this finding, it is assumed that the assessment of project impacts is not affected by the use of differing base year for traffic analysis.

As shown in Table 4.7-2, most existing road segments in the region operate at LOS D or better, with a few notable exceptions. Roadway segments currently operating at LOS E or worse include: State Highway 1 north of Castroville (LOS E), State Highway 68 from State Highway 1 to San Benancio Road (LOS F), State Highway 156 (LOS E), State Highway 183 in Salinas (LOS E), portions of Del Monte Boulevard in Monterey (LOS F), Reservation Road in Marina (LOS E), Blanco Road (LOS E), and Davis Road in Salinas (LOS E and F).

Table 4.7-2
2015 Transportation Infrastructure Improvement Summary

FACILITY	SEGMENT		IMPROVEMENT DESCRIPTION	SCENARIO		
	FROM	TO		NO CONVERSION ARMY USE ONLY	FINANCIALLY CONSTRAINED	OPTIMISTICALLY FINANCED
Hwy 1 - Hatton Canyon Highway 1	Carpenter Santa Cruz County Line	Carmel River Castroville	Construct new expressway Upgrade from 2-lane hwy to 4-lane freeway/expy	•	•	•
U.S. 101 - Prunedale By-Pass	Echo Valley	Espinoza	Construct new freeway			•
Highway 68	Highway 1	San Benancio	Construct 4-lane ByPass freeway			•
Highway 156	Castroville	U.S. 101	Widen from 2 to 4 lanes (expy)			•
Highway 183	Near Salinas	Castroville	Widen from 2 to 4 lanes (expy)			•
Highway 218	North-South	Hwy 68	Widen from 2 to 4 lanes		•	•
Westside Bypass	U.S. 101/Espinoza	Blanco	Construct new 4-lane expressway Post 2015			
Davis Road	Blanco	Reservation	Widen from 2 to 4 lanes 4-lane Bridge - to avoid wash-outs			•
Blanco Road	Reservation	Alisal	Widen from 2 to 4 lanes (to Davis) Widen from 3 to 4 lanes (to Alisal) Bridge			•
Reservation Road	Highway 1 Del Monte Fort Ord Boundary Blanco Inter-garrison Watkins Gate Davis	Del Monte Crescent Blanco Inter-garrison Watkins Gate Highway 68	Widen from 2 to 4 lanes Widen from 4 to 6 lanes Widen from 4 to 6 lanes Construct new 4-lane connection Widen from 2 to 4 lanes (create couplet) Widen from 2 to 4 lanes		•	•
Del Monte	In Seaside/Monterey 2nd Avenue Highway 1 - South	Highway 1 I/C Reservation	Widen from 4 to 6 lanes See 2nd Avenue Widen to 6 lanes		•	•
Hwy 1/12th I/C			Reconstruct			
Hwy 1/Fremont I/C			Reconstruct			
California	Reservation Reindollar	Reindollar 3rd	Upgrade & extend as 2-lane arterial Upgrade & extend as 2-lane arterial		•	•
Crescent	Reindollar	Abrams	Extend as 2-lane local street		•	•

Table 4.7-2
2015 Transportation Infrastructure Improvement Summary

FACILITY	SEGMENT		IMPROVEMENT DESCRIPTION	SCENARIO		
	FROM	TO		NO CONVERSION ARMY USE ONLY	FINANCIALLY CONSTRAINED	OPTIMISTICALLY FINANCED
Misc Arterial Improvements/Rehab			Fort Ord share 70%; remainder from grant		•	•
Misc safety Improvements (as required by Gate Openings)			Funded from grant		•	•
Misc Safety Improvements					•	•
Gateway Improvements			Fort Ord share 20%; remainder from grant		•	•
Abrams	2nd Ave/Del Monte	Patton School	Extend as 2-lane Arterial		•	•
12th/Imjin	Highway 1	California	Construct 4-lane arterial (exc. Gateway)		•	•
	California	Reservation	Widen to 4 lanes		•	•
	Reservation	Blanco	Construct new 4-lane connector			
8th Street	Highway 1 Overcrossing	2nd Avenue	Upgrade as 2-lane arterial		•	•
	2nd Avenue	Inter-garrison	Upgrade as 2-lane arterial		•	•
Inter-Garrison	8th St Cutoff	Reservation	Upgrade as 2-lane arterial		•	•
Lightfighter	North-South Road	Hwy 1	Widen from 4 to 6 lanes			
Gigling	North-South Road	DFAS	Upgrade as 4-lane arterial		•	•
	DFAS	Eastside	Construct new 4-lane arterial		•	•
2nd Avenue	Del Monte	12th	Construct as 4-lane arterial		•	•
	12th	Lightfighter	Widen from 2 to 4-lane arterial		•	•
North-South Road	Normandy	Coe	Widen to 4 lanes		•	•
	Coe	Broadway	Reconstruct as 2-lane arterial		•	•
	Broadway	Highway 218	Reconstruct to 2-lane arterial		•	•
California	3rd	8th Street	Construct 2-lane arterial		•	•
Salinas Ave.	Reservation	Abrams	Upgrade as 2-lane arterial		•	•
Eucalyptus Road	North-South	End	Upgrade as 2-lane arterial		•	•
Eastside Road	Imjin	Inter-garrison	Construct 2-lane arterial		•	•
	Inter-garrison	Gigling	Construct 2-lane arterial		•	•
Airport/MBEST Loop Road			Construct 2-lane collector		•	•
Local Collectors:						
Coe	Del Monte	North-South Road	No Improvement Proposed			
Ord Ave	Monterey Road	Coe Ave	No Improvements Proposed			
Monterey Road	Coe	Gigling	No Improvements Proposed			

Table 4.7-2
2015 Transportation Infrastructure Improvement Summary

FACILITY	SEGMENT		IMPROVEMENT DESCRIPTION	SCENARIO			
	FROM	TO		NO CONVERSION ARMY USE ONLY	FINANCIALLY CONSTRAINED	OPTIMISTICALLY FINANCED	
POM Collector/Parker Flats	Gigling	Eastside Road	No Improvements Proposed				
Multimodal Rail	Salinas	Highway 1	Construct Heavy Rail Link - Post-2015				
			Reserve ROW within Fort Ord		•	•	
Transit Capital Expenditures			Purchase 15 buses		•	•	
Intermodal Centers			Construct center for bus and future rail		•	•	
			P'n'R lot - 12th/Imjin		•	•	
			P'n'R lot - 8th/Gigling		•	•	
Include sidewalks on all reconstructed on new roadways					•	•	
Include bike paths on all reconstructed on new arterial roadways					•	•	

4.7.4 Environmental Impacts and Mitigation

Assumptions on Future Conditions

The reuse of former Fort Ord along with growth throughout the remainder of the region would place increased demands on the roadway system. Enhancements to the roadway network would be needed to respond to this increased demand. Within former Fort Ord this means developing a roadway network to meet the needs of development that, for the most part, does not yet exist. In some instances, particularly in the near term, existing facilities may be used with only minor improvements. In the longer term, upgraded roadways along existing alignments may be necessary. The opportunity also exists for "wiping the slate clean" and developing a new roadway network designed specifically for the redevelopment land use plan. The *Draft Fort Ord Reuse Plan* proposes a combination of these approaches be used for the internal former Fort Ord roadway network. For the regional network, there is much less flexibility. For the most part, the layout of the network may be viewed as fixed. Improvements to existing roadway would be needed, with only limited opportunity for the construction of new facilities. In both instances, there are numerous physical, environmental and financial constraints.

The key goals of the roadway element of the *Draft Fort Ord Reuse Plan* are to reduce the infrastructure needs, both internally to former Fort Ord and regionally, and to reduce traffic volumes on key roadways as an effort to eliminate or reduce deficient service levels and other traffic-related impacts. The principal method proposed in the Reuse Plan to achieve these goals is to enhance the distribution of trips among the travel routes available by: enhancing regional access alternatives; providing additional local access routes; and enhancing the internal circulation system to reduce through trips on facilities in the higher density or otherwise sensitive areas.

As part of the reuse planning process, transportation impacts under three scenarios were examined which reflect differing roadway network and land use assumptions for former Fort Ord and the region:

"POM Use Only" Scenario - In this scenario, growth within the region to the year 2015 levels (as protected by AMBAG, 1994) was assumed, but the redevelopment of former Fort Ord was limited to continued POM Annex use. The network included the opening of existing, former Fort Ord roads to public travel, plus committed off-base projects. This scenario was used to identify the location and magnitude of regional deficiencies that would occur even without the civilian reuse of former Fort Ord. This scenario does not apply to the proposed project, but is relevant to the No Project Alternative discussed in Section 6.4.

"Financially Constrained" Scenario - For this scenario, land uses within former Fort Ord were modified to reflect the proposed project at the year 2015. An internal roadway system, assumed as part of the *Draft Fort Ord Reuse Plan*, Business and Operations Plan, was incorporated into the model network. Off-site improvements were limited to those currently committed or those on facilities directly adjacent to the base and deemed critical to the redevelopment of former Fort Ord. Off-site improvements included widening of State Highway 68 in Monterey, Del Monte Boulevard in Monterey/Seaside, State Highway 218 south of Seaside, and Reservation Road in Marina. This scenario was used to define the internal transportation system (a system that would result in roadway service levels of LOS D or better.) This scenario also identifies the added impact of civilian reuse on the regional system if this system remains largely as it currently

exists. Thus, this scenario reflects the unmitigated impacts on the regional roadway network of the project plus cumulative growth through 2015 (See Table 5.2-1 for assumptions on cumulative growth).

"Optimistic Financing Scenario" - In this scenario, the land use assumptions for 2015 were the same as in the Financially Constrained Scenario, but improvements to the regional transportation system were added in order to achieve LOS goals. These improvements were designed to address the system deficiencies identified in the previous scenario, while recognizing environmental and financial constraints. This network represents the proposed system of roadways, both outside and within former Fort Ord, that serves the 2015 development in the area. Key improvements include the widening of State Highway 1 both in Seaside/Sand City and north of Castroville, State Highway 156 east of Castroville, State Highway 183 north of Salinas, State Highway 218 south of Seaside, Blanco Road west of Salinas, Reservation Road in from Del Monte to Inter-Garrison, and Del Monte Boulevard in Marina. Major new regional facilities included the State Highway 68 By-pass Freeway and the Prunedale By-pass.

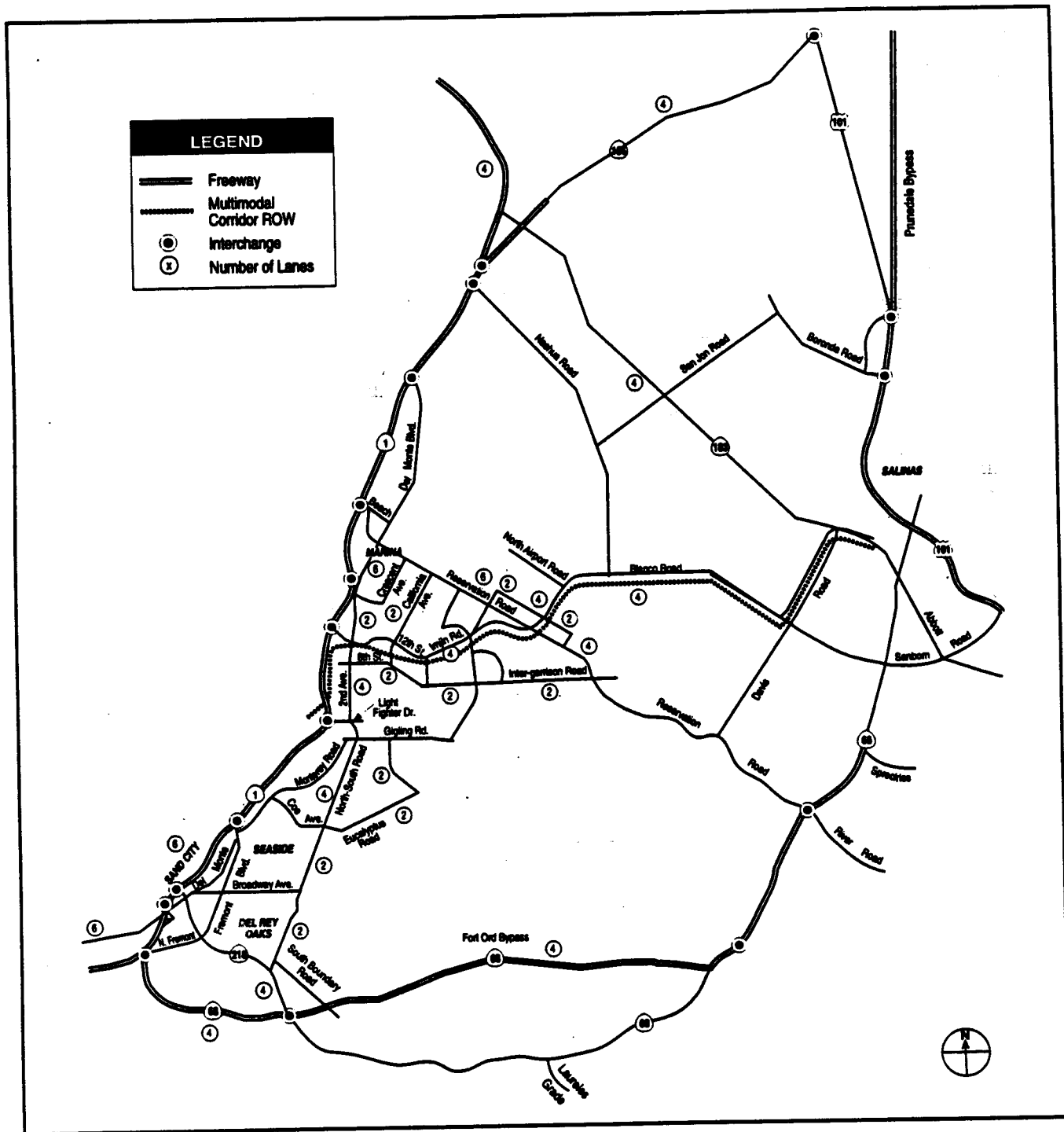
A summary of the roadway improvements included in each scenario is provided in Table 4.7-2. Forecasted volumes and service levels for key off-site roadway segments under each of these scenarios is provided in Table 4.7-3. Year 2015 volumes and service levels for on-site facilities under both "buildout" scenarios are presented in Table 4.7-4. LOS results for the individual scenarios are presented in Appendix C.

Results of Traffic Modeling

The addition of former Fort Ord development under the Financially Constrained Scenario would increase volumes on many of the region's roadways relative to 1991 and existing conditions. The addition of an arterial network on former Fort Ord, however, would result in traffic decreases on some roadways, notably Del Monte and Reservation in Marina (refer to Table 4.7-3). Service levels on these segments would improve to LOS D or better. Service levels on the widened segments of Highway 68 and Highway 218 would also improve. Roads that would exhibit little or no change of LOS E/F include: State Highway 1 in Seaside and north of Castroville, State Highway 68 south of former Fort Ord, State Highway 183 north of Salinas, Del Monte Boulevard in Monterey, and Davis Road in Salinas. Roads that would experience a reduction in LOS from D or better to LOS E/F include: Fremont Boulevard in Seaside, Reservation Road from Inter-Garrison Road to Davis Road, and Davis Road south of Blanco.

The assumptions of the proposed 2015 roadway network for the Optimistic Financing Scenario for the former Fort Ord area, including the number of lanes on key facilities, are illustrated in Figure 4.7-2. The proposed internal roadway network for buildout of former Fort Ord is illustrated in Figure 4.7-3. Arterial components of the roadway element within former Fort Ord for 2015 and full buildout are described more fully in Appendix C.

As a result of the roadway network improvements, under the Optimistic Financing Scenario, the service levels for several roadway segments would improve significantly (refer to Table 4.7-3). Portions of Highways 1, 68, 156 and 183 would all improve from LOS E/F to LOS D or better. Reservation, Fremont and Davis would also experience similar improvement. Segments of Highway 1, Highway 183, and Davis Road would remain at LOS E or F due to constraints limiting improvements to these facilities. As shown in Table 4.7-3, however, several segments would remain at, or be reduced to, LOS E or F.



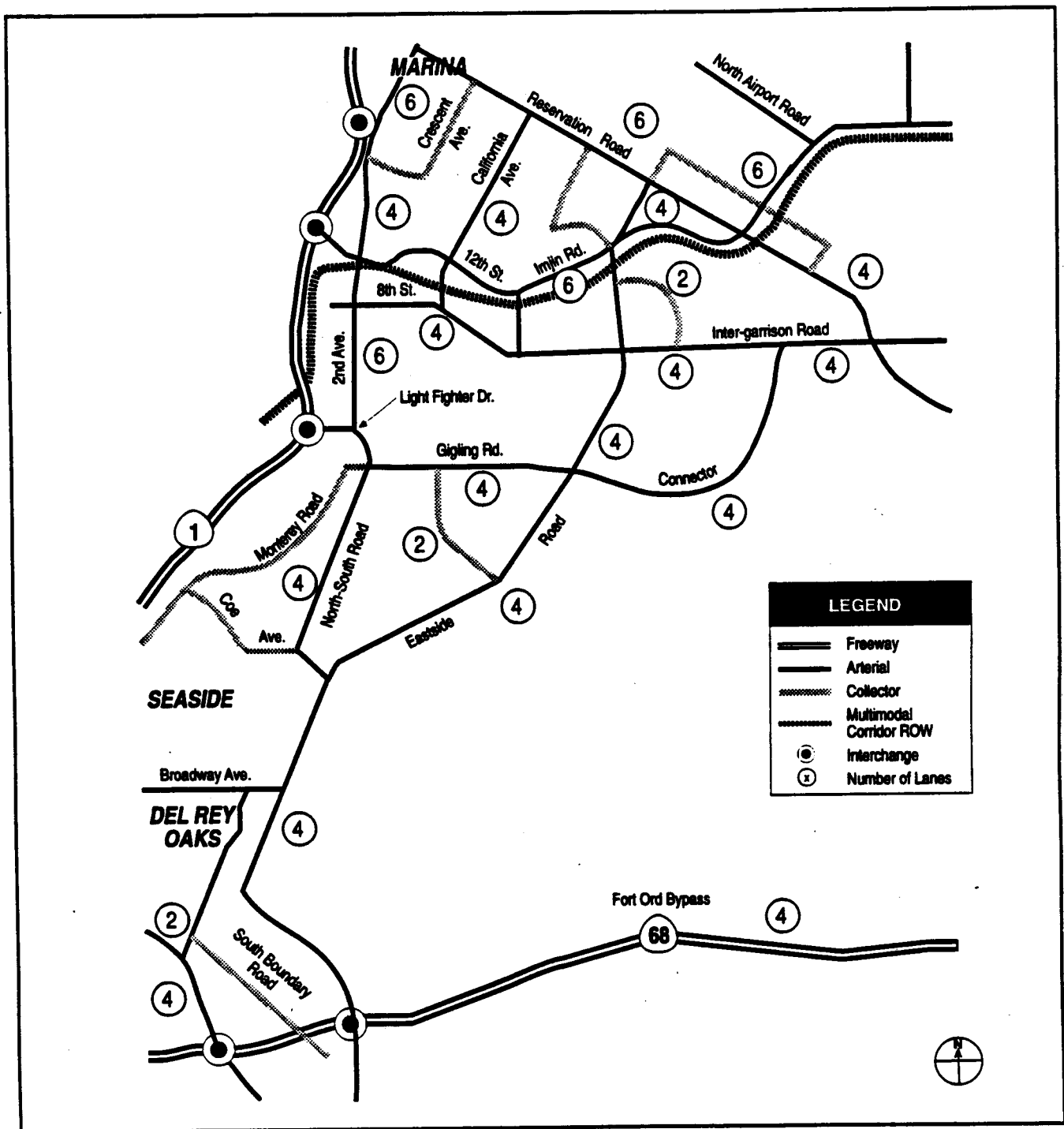


Table 4.7-3 Regional Off-Site Roadway Facilities LOS Summary

Roadway	Segment	Existing (1993/94) Condition	Daily Volume/LOS		
			2015 Forecasted		
			POM Use only Scenario	Financially Constrained Scenario	Optimistic Financing Scenario
State Highway 1	State Highway 68 to Del Monte Blvd (Seaside)	56,000/D	66,700/E	65,000/E	65,000/E
	Del Monte Blvd (Seaside) to State Highway 218	60,000/D	72,700/F	72,200/F	71,900/D
	State Highway 218 to Fremont Blvd	59,000/D	75,000/F	87,500/F	89,000/D
	Fremont Blvd to Main Gate	75,000/D	92,600/E	101,200/E	99,700/E
	Main Gate to 12th Street	65,000/C	77,900/D	80,200/D	79,700/D
	12th Street to S. Marina (Del Monte Blvd)	71,000/C	84,100/D	75,100/D	75,600/D
	S. Marina (Del Monte Blvd) to Reservation Road	35,500/C	41,500/C	48,400/D	48,900/D
	Reservation Road to N. Marina (Del Monte Blvd)	35,500/C	41,200/C	47,400/C	47,600/C
	N. Marina (Del Monte Blvd) to State Highway 156	37,500/C	46,700/C	53,800/D	52,800/D
	State Highway 156 to Santa Cruz County line	30,000/E	60,800/F	60,200/F	70,700/F
State Highway 68	State Highway 1 to State Highway 218	22,800/F	27,600/F	36,300/F	38,700/C
	State Highway 218 to San Benancio Road (Highway)	20,600/F	25,500/F	30,200/F	10,000/B
	State Highway 218 to San Benancio (Freeway Bypass)	N/A	N/A	N/A	21,900/B
	San Benancio Road to Reservation Road	25,000/B	30,800/B	36,000/C	34,600/C
	Reservation Road to E. Blanco Road	29,500/B	34,600/C	43,900/C	42,500/C
State Highway 156	Hwy 1 to 0.1 miles East of Castroville Blvd.	22,000/B	31,060/B	35,600/C	30,900/B
	0.1 miles East of Castroville Blvd. to US 101	25,000/E	31,700/F	26,500/E	35,500/C
State Highway 183	US 101 to Davis Road	29,500/E	43,900/F	37,900/F	38,900/F
	Davis Road to Espinosa Road	16,000/C	33,800/F	32,900/F	30,700/B
	Espinosa Road to State Highway 156	22,000/D	53,900/F	53,300/F	50,900/D
State Highway 218	State Highway 1 to Fremont Boulevard	14,000/D	17,200/D	19,700/D	22,600/D
	Fremont Boulevard to North-South Road	10,850/B	12,000/C	10,900/B	12,200/C
	North-South Road to Hwy 68	10,850/B	12,000/C	16,500/B	17,800/B

Roadway	Segment	Existing (1993/94) Condition	Daily Volume/LOS 2015 Forecasted		
			POM Use only Scenario	Financially Constrained Scenario	Optimistic Financing Scenario
Del Monte Boulevard	El Estero to Highway 1	34,300/F	38,900/F	50,000/F	49,300/D
	State Highway 1 to Broadway Ave	27,026/D	26,900/D	29,500/D	29,400/D
	Broadway Ave to Fremont Blvd	9,757/C	10,500/C	9,400/C	10,000/C
	State Highway 1 (S. Marina) to Reservation Road	28,836/D	37,800/E	29,700/D	29,600/D
	Reservation Road to State Highway 1 (N. Marina)	4,825/A	9,400/B	10,800/B	9,800/B
Fremont Blvd	State Highway 1/State Highway 68 to Broadway Ave	25,166/D	29,200/E	27,200/D	27,500/D
	Broadway Ave to State Highway 1	16,363/C	16,800/C	31,300/F	28,200/D
Broadway Avenue	Del Monte Blvd to Noche Buena Street	13,895/C	14,200/C	16,800/C	16,800/C
	Noche Buena Street to North-South Road	8,742/C	9,000/C	15,100/C	15,000/C
Reservation Road	Hwy 1 to Del Monte Boulevard	10,205/B	13,800/C	14,800/D	14,800/D
	Del Monte Boulevard to Crescent Ave	26,046/E	33,300/F	31,600/D	30,000/D
	Crescent Ave to Imjin Road	22,874/B	25,600/D	32,300/D	32,300/D
	Imjin Road to Blanco Road	N/A	27,100/C	47,500/D	29,700/C
	Blanco Road to Inter-garrison Road	3,700/A	4,300/A	22,700/B	15,600/B
	Inter-Garrison Road to Davis Road	4,700/A	4,300/A	24,200/E	15,600/C
Blanco Rd	Davis Road to State Highway 68	6,200/A	10,200/B	9,600/B	11,600/B
	Reservation Road to Davis Road	20,252/E	25,700/F	18,300/D	36,300/C
Blanco Rd/ Sanborn Rd	Davis Road to State Highway 68	18,836/B	23,500/B	18,400/B	23,100/B
	State Highway 68 to US 101	26,600/C	35,100/F	31,100/C	30,700/D
Davis Road	Reservation Road to Blanco Road	7,500/A	10,900/B	23,800/E	14,800/B
	Blanco Road to Rossi Street (Hwy 183)	24,000/E	29,300/E	29,000/E	24,100/E
	Rossi Street (Hwy 183) to US 101	34,829/F	38,300/F	35,900/F	36,300/F

Source: JHK Associates, 1996

Table 4.7-4 On-Site Facilities LOS Summary

Roadway	Segment	POM Use Only Scenario	2015 Forecasted Daily Volume/LOS	
			Financially Constrained Scenario	Optimistic Financing Scenario
12th/Imjin	State Highway 1 to California Avenue	N/A	20,800/D	19,900/D
	California Avenue to Eastside Road		12,800/B	12,500/B
	Eastside Road to Reservation Road		19,400/B	7,00/B
Blanco/Imjin Connector	Eastside to Reservation	N/A	N/A	10,800/B
8th Street	State Highway 1 Overpass to 2nd Avenue	N/A	300/C	300/C
	2nd Avenue to Inter-garrison		2,800/C	2,500/C
Inter-garrison Road	8th Street to Gigling Connector	N/A	3,500/B	3,000/B
	Gigling Connector to Reservation Road		13,100/C	7,400/A
Lightfighter	State Highway 1 to North-South Road	N/A	24,400/D	23,500/D
Gigling	North-South Road to Eastside	N/A	16,900/B	15,200/B
Coe Avenue	Ord Avenue to North-South Road	N/A	600/C	600/C
2nd Avenue	Del Monte Blvd to 12th Street	N/A	3,900/C	3,900/C
	12th Street to Lightfighter		12,100/D	11,800/D
North-South Road	Lightfighter to Gigling	N/A	19,700/D	18,400/D
	Gigling to Coe/Eucalyptus		16,900/B	16,200/B
	Coe to Broadway		15,500/E	14,900/D
	Broadway to State Highway 218		5,500/A	5,400/A
California Avenue	Reservation Road to 12th Street	N/A	9,600/D	13,200/D
	12th Street to 8th Street		1,700/D	2,100/D
Eastside Road	Imjin to Gigling	N/A	9,900/B	12,100/C

Source: JHK Associates, 1996

Significance Criteria

A project would normally have a significant effect on the environment if it would result in:

- an increase in traffic which is substantial in relation to existing traffic load and capacity of the street system, particularly if the LOS on area roadways drops to "E" or "F" as a result of project implementation; or
- reduced circulation, access, or safety for pedestrians and bicycles.

Transportation Impacts

The assessment of transportation impacts is based on the modeling conducted for the purpose of reuse planning, as described above. This analysis, while going considerably beyond the level of detail a geographic coverage of studies conducted in the FEIS and DSEIS, requires further interpretation in order to permit conclusions of impact significance. Specifically, the following assumptions and extrapolations have been made:

- The project-specific assessment incorporates AMBAG projections for regional growth, and therefore is effectively the same as the cumulative impact analysis, at least where addressing off-site impacts.
- The existing (1993/1994) traffic estimates are assumed to be similar to those of the 1991 baseline year for overall traffic volumes, although local variations due to reduced volumes within former Fort Ord are recognized.
- Transportation impacts of full buildout are assumed to be similar to, or worse than, those projected for year 2015, as a conservative worst-case estimate in the absence of definitive data.
- The Optimistic Financing Scenario is assumed to represent the proposed project, since it reflects FORA's specific attempts in the *Draft Fort Ord Reuse Plan* to mitigate any impacts resulting from reuse. However, to the extent that the mitigating measures built into the plan for off-site improvements lie within the jurisdiction of agencies outside FORA's control, and cannot therefore be assured by FORA, the ultimate basis for existing impact significance at the regional level must remain the Constrained Financing Scenario.
- The *Draft Fort Ord Reuse Plan* policies and programs on transportation, which are cited below, are considered to promote the achievement of the Optimistic Financing Scenario and/or to provide additional mitigations which may reduce the impacts identified under the traffic scenarios. The latter type of mitigations would include transit development and Transportation Demand Management.

1. Impact: Increased Travel Demand on Regional Transportation System

The proposed project would increase the demand placed on the regional transportation infrastructure and services that provide access to and from former Fort Ord. As would be expected, traffic volume increases related to former Fort Ord would be most significant for those facilities, such as Reservation

and Blanco Roads, that are adjacent to or feed directly into former Fort Ord. The proposed project combined with regional traffic growth would result in worsening of several currently deficient roadway segments, and the degradation of several additional roadways to deficient levels (LOS E or F). These effects are discussed in the previous section and are summarized in Table 4.7-3. With the proposed project, travel demand forecasts indicate that there would be approximately 185,000 person trips between former Fort Ord and the surrounding region by the year 2015; based on current mode choice characteristics in Monterey County, this would equate to over 130,000 vehicle trips. This number is estimated to increase to over 220,000 with buildout. For comparison, traffic counts taken at the former Fort Ord gates in 1990 (Army FEIS, 1993) suggest 58,000 such trips occurred.

To a large extent, the attractiveness of former Fort Ord for redevelopment will depend on the ability of the regional transportation system to provide for efficient intra- and inter-regional travel. Efforts and improvements that address the efficient operation of the regional transportation system would be required. These may include roadway improvements, transit connections and demand management programs. The *Draft Fort Ord Reuse Plan* contains policies and programs related to each of these areas, as discussed below.

Adding system capacity through roadway improvements represents the most direct means of mitigating the impacts of increased demand. The operating analysis presented in the previous section identified those roadway facilities which are forecast to operate at deficient service levels in 2015 (see Table 4.7-3), where roadway improvements would be needed to achieve or maintain acceptable service levels (see Table 4.7-2). The proposed regional roadway network includes a number of major improvement projects with varying levels of relationship to the reuse of former Fort Ord. In some instances, these improvements address existing system deficiencies or future deficiencies to which former Fort Ord has an insignificant contribution. With respect to Fort Ord, roadway facilities considered most critical include those most proximate to former Fort Ord (State Highway 1, Reservation Road, Del Monte Boulevard, Fremont Boulevard), those that connect to Salinas (State Highway 68, Blanco Road, Davis Road), and those to the north that provide connections to Santa Cruz and the Bay Area (State Highway 1, State Highway 156, U.S. 101).

A key step in the transportation analysis process was the identification of former Fort Ord's contribution to the volume increases on the regional roadways examined in this study. This analysis, termed a "nexus" test, was used to determine former Fort Ord's fair share requirement for each of the proposed improvements. This information was in turn used to develop a funding mechanism by which former Fort Ord development would pay for its share of the impact on the regional transportation system.

The *Draft Fort Ord Reuse Plan* also highlights the need for high quality connections between the regional network and the internal network. Provision of multiple connections would provide the opportunity for trips to be direct between their origin and destination. As a result, this will reduce vehicle miles of travel (VMT) and emissions and avoid overloading a small number of existing roadways. It is important that these connections be between arterial and higher class roadways to avoid excessive volumes on local streets. Furthermore, this interface must take into consideration the movement of goods along designated truck routes.

The *Draft Fort Ord Reuse Plan* identifies the following policies and programs for the Cities of Marina and Seaside and for Monterey County, intended to mitigate the impact on regional roadway system improvements to the extent possible:

Circulation Element

Streets and Roads Policy A-1: FORA and each jurisdiction with lands at former Fort Ord shall coordinate with and assist TAMC in providing funding for an efficient regional transportation network to access former Fort Ord.

Program A-1.1: FORA and each jurisdiction with lands at former Fort Ord shall provide a funding mechanism to pay for Fort Ord's share of impact on the regional transportation system.

Program A-1.2: FORA and each jurisdiction with lands at former Fort Ord shall identify specific transportation issues that affect former Fort Ord and support and participate in regional and state planning efforts and funding programs to provide an efficient regional transportation effort to access former Fort Ord.

Streets and Roads Policy B-1: FORA and each jurisdiction with lands at former Fort Ord shall design all major arterials within former Fort Ord to have direct connections to the regional network (or to another major arterial that has a direct connection to the regional network) consistent with the Reuse Plan circulation framework.

Program B-1.1: Each jurisdiction shall coordinate with FORA to design and provide an efficient system of arterials consistent with (EIR) Figure 4-7-2 (for year 2015) and (EIR) Figure 4-7-3 (for buildout) in order to connect to the regional transportation network.

Program B-1.2: Each jurisdiction shall identify and coordinate with FORA to designate local truck routes to have direct access to regional and national truck routes and to provide adequate movement of goods into and out of former Fort Ord.

Transit service is also an essential component of the regional transportation system and can eliminate or delay the need for roadway improvements. It is especially important for the elderly, students, the disabled, and others who cannot drive or who do not have access to an automobile. Also, it can be an attractive transportation alternative for those who want to avoid the cost, stress, and delays of driving, and the nuisance of parking. Transit vehicles are generally less polluting on a per passenger basis, and can help to lessen roadway congestion. Bus and rail transit are both potentially viable options as transit service is expanded to serve former Fort Ord. The aggregate impact of an effective fixed-route transit system (i.e., rail) complemented by lower-capacity transit vehicles (i.e., buses) can be a logical and reasonable alternative to automobile use in areas where there is sufficient housing and employment. The *Draft Fort Ord Reuse Plan* contains the following policies and programs for the Cities of Marina and Seaside and Monterey County which address mitigation of the impact on the regional transportation system:

Circulation Element

Transit Policy A-1: Each jurisdiction with lands at former Fort Ord shall coordinate with MST to provide regional bus service and facilities to serve the key activity centers and key corridors within former Fort Ord.

Program A-1.1: Each jurisdiction shall identify key activity centers and key corridors, coordinate with MST to identify bus routes that could serve former Fort Ord, and support MST to provide service responsive to the local needs.

Program A-1.3: Each jurisdiction shall identify the need for transit/paratransit services for the elderly and disabled and coordinate with and support MST to implement the needed transit services.

Transit Policy B-1: Each jurisdiction shall support TAMC and other agencies to provide passenger rail service that addresses transportation needs for former Fort Ord.

Program B-1.1: Each jurisdiction shall support TAMC and other agencies to assess the need, feasibility, design and preservation of rights-of-way for passenger rail service that addresses transportation needs at former Fort Ord.

Transit Policy C-1: Each jurisdiction shall support the establishment of intermodal centers and connections that address the transportation needs at former Fort Ord.

Program C-1.1: Each jurisdiction shall coordinate with and support TAMC and MST to identify the need, location, and physical design of intermodal centers and regional and local transportation routes to connect with the intermodal centers.

It is clear that the redevelopment of former Fort Ord, plus growth throughout the remainder of Monterey County and the region, would significantly increase the demand placed on the region's transportation infrastructure and services. To some extent, the increases in travel demand would be managed by building or improving transportation facilities and services, but there exists a variety of concepts and objectives that can be used to minimize the demand for vehicle trips as an alternative to increasing roadway capacity. Transportation Demand Management (TDM) of the *Draft Fort Ord Reuse Plan*, attempts to reduce the number of people who drive alone and to increase the number of people who walk and who use carpools, vanpools, transit, and bicycles. The approach being taken as part of the proposed project seeks to balance these two elements to achieve a transportation system that is both financially feasible and operationally acceptable. The TDM section programs for the Cities of Marina and Seaside and Monterey County address mitigation of the impact on the regional transportation system, as follows:

Circulation Element

Transportation and Demand Management Policy A-1: TDM programs shall be encouraged.

Program A-1.1: Promote TDM programs at work sites.

Program A-1.2: Promote TDM programs in residential developments, retail centers, and other activity centers.

Program A-1.3: Require new development to incorporate design features that will strengthen TDM programs.

Program A-1.4: Enforce CMP trip reduction programs.

The following policy and program for the Cities of Marina and Seaside and Monterey County relate to reducing the number of vehicle trips:

Conservation Element

Air Quality Policy A-3: Integrate the land use strategies of the California Air Resources Board's *The Land Use - Air Quality Linkage - How Land Use and Transportation Affect Air Quality*, into local land use decisions.

Program A-3.1: Each jurisdiction shall plan and zone properties, as well as review development proposals to promote the Land Use-Air Quality linkage. This linkage includes, but is not limited to, enhancement of Central Business Districts, compact development patterns, residential densities that average above seven dwelling units per acre, clustered employment densities and activity centers, mixed use development, and integrated street patterns.

The policies and programs described above would implement improvements and strategies that minimize former Fort Ord's impact on the regional transportation system and would result in former Fort Ord contributing its fair share for improvements needed to achieve or maintain acceptable LOS (LOS D or better) on the major regional roadways impacted by the reuse of former Fort Ord. In some areas, beneficial impacts could occur with the Optimistic Financing Scenario, as shown in Table 4.7-3.

However, even under the Optimistic Financing Scenario, some reductions in level of service to E or F would occur, resulting in significant adverse impacts. Furthermore, funding for the non-Fort Ord share of off-site improvements may not be available, leading to a great number of significant impacts as indicated in the Constrained Financing Scenario in Table 4.7-3. The policies and programs for transit, transportation demand management, and non-vehicular circulation within the *Draft Fort Ord Reuse Plan* would help to reduce impacts, but would not be sufficient to eliminate significant impacts due to deterioration of LOS on regional roadways.

Mitigation: Amend Streets and Roads Policy A-1.2 to add the following wording: FORA shall review the options for distributing its financial contributions to all or selected off-site transportation improvements so as to maximize the effectiveness of these contributions in reducing traffic impacts to the regional roadway system.

This mitigation measure would reduce the number or geographic distribution of locations sustaining deterioration in LOS, but some significant unavoidable impacts would remain.

2. Impact: Increased Travel Demand Within Former Fort Ord

The reuse of former Fort Ord would greatly increase the demand placed on the internal transportation system: Although an internal transportation system exists, it was designed for military uses and would be incompatible with the proposed civilian uses. With reuse, many roadways would be expected to operate at unacceptable service levels if maintained in their current condition. Furthermore, the designs of the existing roads are not consistent with accepted civilian-use standards related to safety and multimodal travel. The internal system would need to accommodate a portion of those trips going to or coming from outside the former Fort Ord boundaries, as well as those trips between points within former Fort Ord. Forecasts for the year 2015 indicate that former Fort Ord would generate approximately 290,000 person trip ends. This includes the 185,00 person trips to or from points outside former Fort Ord, as well as approximately 106,000 person trip ends between points within former Fort Ord (for internal

trips, one trip involves two trip ends). For buildout, the number of person trip ends is expected to increase to over 550,000. Based on current mode choice characteristics, this equates to 205,000 vehicle trip ends in 2015 and 390,000 for buildout.

The reuse of most areas provides the opportunity to redesign the transportation network to meet these new needs. This system must provide access to areas identified for redevelopment and do so as directly and efficiently as possible. Part of the efficiency is recognizing that different roads would serve different functional purposes. Another element is maintaining acceptable service levels to provide mobility. An efficient system operates with little or no congestion, thus limiting negative impacts such as delay, vehicle emissions, and intrusion into residential areas. The roadway network would form the backbone of the internal transportation system, but it is important to acknowledge the role of transit, non-motorized modes and transportation demand management in mitigating the impacts on the internal system and minimizing infrastructure requirements.

As part of the travel demand forecasting and service level analysis conducted for the *Draft Fort Ord Reuse Plan*, an internal arterial roadway system was developed and tested. The extent of the network and size (number of lanes) of individual facilities were assessed. The goal of this process was to develop a network that met the access and circulation needs at an acceptable LOS, while minimizing infrastructure costs. The following policies and programs for the Cities of Marina and Seaside and Monterey County relate to mitigation of the impact on the internal transportation system:

Circulation Element

Streets and Roads Policy C-1: Each jurisdiction shall identify the functional purpose of all roadways and design the street system in conformance with Reuse Plan design standards.

Program C-1.1: Each jurisdiction shall assign classifications (arterial, collector, local) for each street and design and construct roadways in conformance with the standards provided by the Reuse Plan (Table 4.7-5 and Figure 4.7-4).

Program C-1.2: Each jurisdiction shall preserve sufficient right-of-way for anticipated future travel demands based on buildout of the FORA Reuse Plan.

Program C-1.3: Each jurisdiction shall assign an appropriate threshold performance standard for its roadway system in order to measure the impacts of future growth on the system.

Program C-1.4: Each jurisdiction shall design and construct the roadway network consistent with the phasing program identified in the Fort Ord Business and Operations Plan (Appendix A in the Reuse Plan).

Program C-1.5: Each jurisdiction shall designate arterials and roadways in commercially zoned areas as truck routes.

Streets and Roads Policy C-2: Each jurisdiction shall provide improvements to the roadway network to address high accident locations.

Program C-2.1: Each jurisdiction shall collect accident data, identify and assess potential remedies at high accident locations and implement improvements to lower the identified high accident rates.

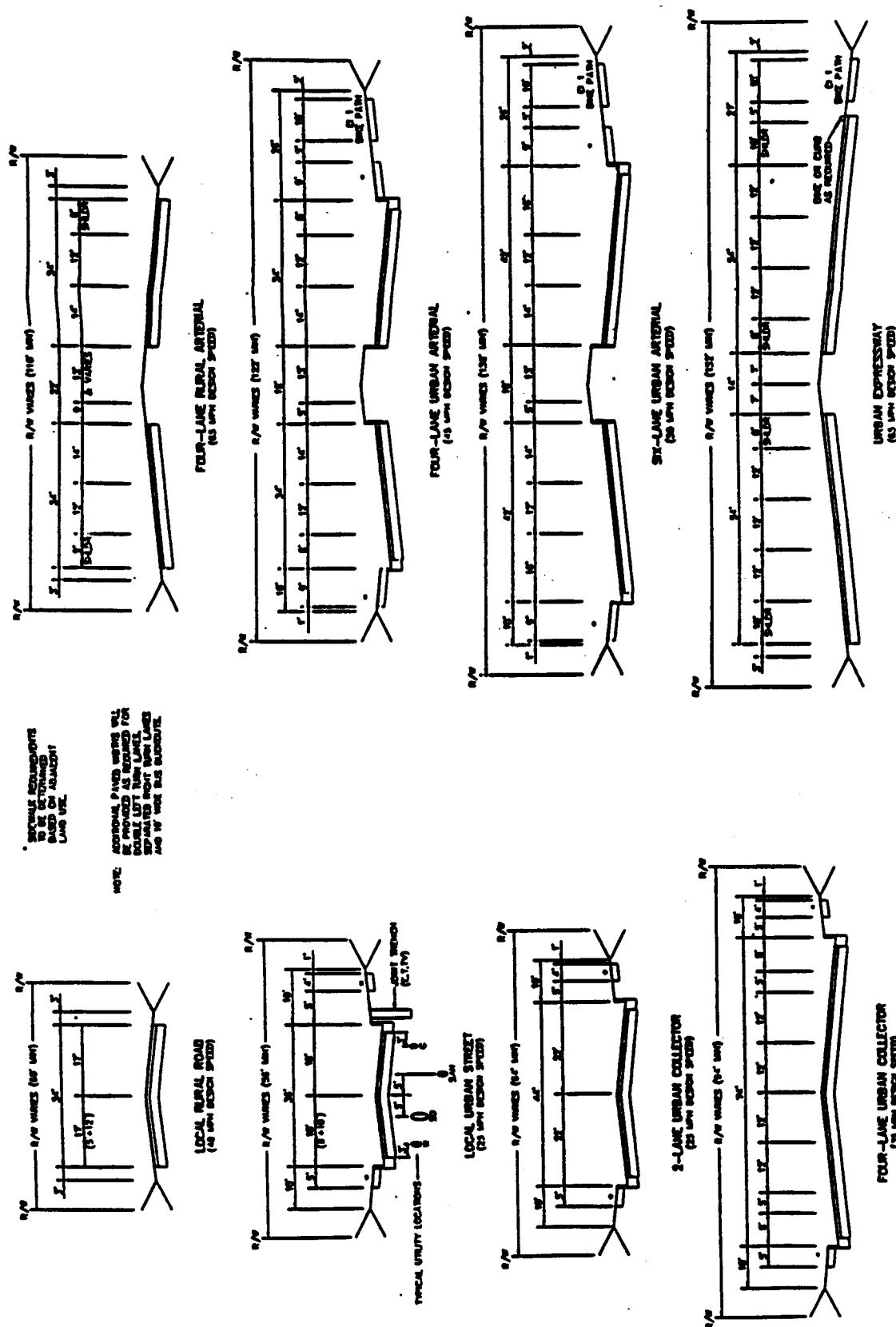


Figure 4.7-4
Roadway Design Standards

Table 4.7-5 Roadway Design Standards

	Rural Arterial	Rural Local	Urban Arterial	Urban Collector	Urban Local
No. of Lanes	4	2	4-6	2-4	2
Design Traffic Volume	1800 VPHPL	<5000 ADT	1200 VPHPL	<10000 ADT	<2000 ADT
Design Speed	65 MPH	55 MPH Preferred 40 MPH Min.	45-65 MPH	25-35 MPH	25 MPH Min.
Stopping SD	725 ft.	325-550 ft	400-725 ft	150-250 ft	150 ft
Passing SD	2000 ft	1500-1950 ft	N/A	N/A	N/A
Alignment Minimum Radius	1600 ft	300 ft	1500 ft	600 ft	300 ft
Grade Profile Grade	3-5% max for level & rolling terrain	6-9% for level & rolling terrain	5-8% max	9-11% max 0.40% min	Residential: <15% Comm/ Indust: <8%
Cross Slope	2% or standard superelevation per CalTrans HDM	2% or standard superelevation per CalTrans HDM	2% except, standard superelevation for expressway	0.50% min desirable 2%	<5% desirable 2%
ROW Width (w/o slopes)	110 ft	60 ft	122 - 138 ft	64 - 94 ft	56 ft
Vertical Clearance	16.5 ft 15 ft ok if allowed by local ordinance	15 ft	16.5 ft 15 ft ok if allowed by local ordinance	15 ft	15 ft
Signing and Pavement Delineation	Per CalTrans Traffic Manual	Per CalTrans Traffic Manual	Per CalTrans Traffic Manual	Per CalTrans Traffic Manual	Per CalTrans Traffic Manual

Key ADT Average Daily Traffic
 MPH Miles per Hour
 ROW Right of Way
 SD Sight Distance
 VPHPL Vehicles Per Hour Per Lane

Source: Fort Ord Reuse Infrastructure Study, Traffic Safety Standards (HMH, Incorporated)

As with the regional transportation system, transit service is an important component of the internal transportation system. Public transit can serve both longer, regional trips and shorter, local trips. An efficient and effective transit system requires the provision of both services and transit-related facilities. In most instances, these would be provided by region's public transit agency, Monterey-Salinas Transit (MST), however other entities may also provide complimentary services. For example, CSUMB has discussed plans to operate a shuttle between the campus and surrounding area for students, staff and visitors. It is important to coordinate such services with those provided by MST. The following policies and programs for the Cities of Marina and Seaside and Monterey County relate to mitigation of the impact on the internal transportation system and reducing the number of vehicle trips:

Circulation Element

Transit Policy A-1: Each jurisdiction with lands at former Fort Ord shall coordinate with MST to provide regional bus service and facilities to serve the key activity centers and key corridors within former Fort Ord.

Program A-1.1: Each jurisdiction shall identify key activity centers and key corridors, coordinate with MST to identify bus routes that could serve former Fort Ord, and support MST to provide service responsive to the local needs.

Program A-1.2: Each jurisdiction shall develop a program to identify locations for bus facilities, including shelters and turnouts. These facilities shall be funded and constructed through new development and/or other programs in order to support convenient and comprehensive bus service.

Program A-1.3: Each jurisdiction shall identify the need for transit/paratransit services for the elderly and disabled and coordinate with and support MST to implement the needed transit services.

Transit Policy C-1: Each jurisdiction shall support the establishment of intermodal centers and connections that address the transportation needs at former Fort Ord.

Program C-1.1: Each jurisdiction shall coordinate with and support TAMC and MST to identify the need, location, and physical design of intermodal centers and regional and local transportation routes to connect with the intermodal centers.

Conservation Element

Air Quality Policy A-3: Integrate the land use strategies of the California Air Resources Board's *The Land Use - Air Quality Linkage - How Land Use and Transportation Affect Air Quality*, into local land use decisions.

Program A-3.1: Each jurisdiction shall plan and zone properties, as well as review development proposals to promote the Land Use-Air Quality linkage. This linkage includes, but is not limited to, enhancement of Central Business Districts, compact development patterns, residential densities that average above seven dwelling units per acre, clustered employment densities and activity centers, mixed use development, and integrated street patterns.

A third critical element of the internal transportation system is facilities and services to support non-motorized travel. Non-motorized modes of travel are an important focus for the former Fort Ord circulation system. The two most common non-motorized modes of travel are walking (pedestrian) and bicycling. Both pedestrian and bicycle travel are non-polluting, do not contribute to roadway congestion, do not require the higher level of capital that roadway infrastructure requires, and are healthy alternatives to vehicular travel. People often find walking and bicycling to be pleasant experiences when they have clearly defined facilities and feel safe using them.

A critical factor in promoting pedestrian activity is to have land uses that permit trips that can be easily and safely walked. Some examples of pedestrian-friendly land uses are a mixture of uses located in proximity to one another, or transit stops placed near residential areas. Creating an interesting pedestrian environment with landscaping and minimal building setbacks in commercial areas also helps to encourage pedestrian activity. However, people will not take pedestrian trips if safe places to walk are not provided. By providing pedestrian facilities and routes, walking can be encouraged as an alternative to vehicle use. Similarly, bicycle transportation can be encouraged with the right mixture of land uses and good bicycle routes. To be a feasible alternative to driving, bicycling must be convenient and safe. The following policies and programs for the Cities of Marina and Seaside and Monterey County relate to mitigation of the impact on the internal transportation system.

Circulation Element

Pedestrian and Bicycles Policy A-1: Each jurisdiction shall provide and maintain an attractive, safe, and comprehensive pedestrian system.

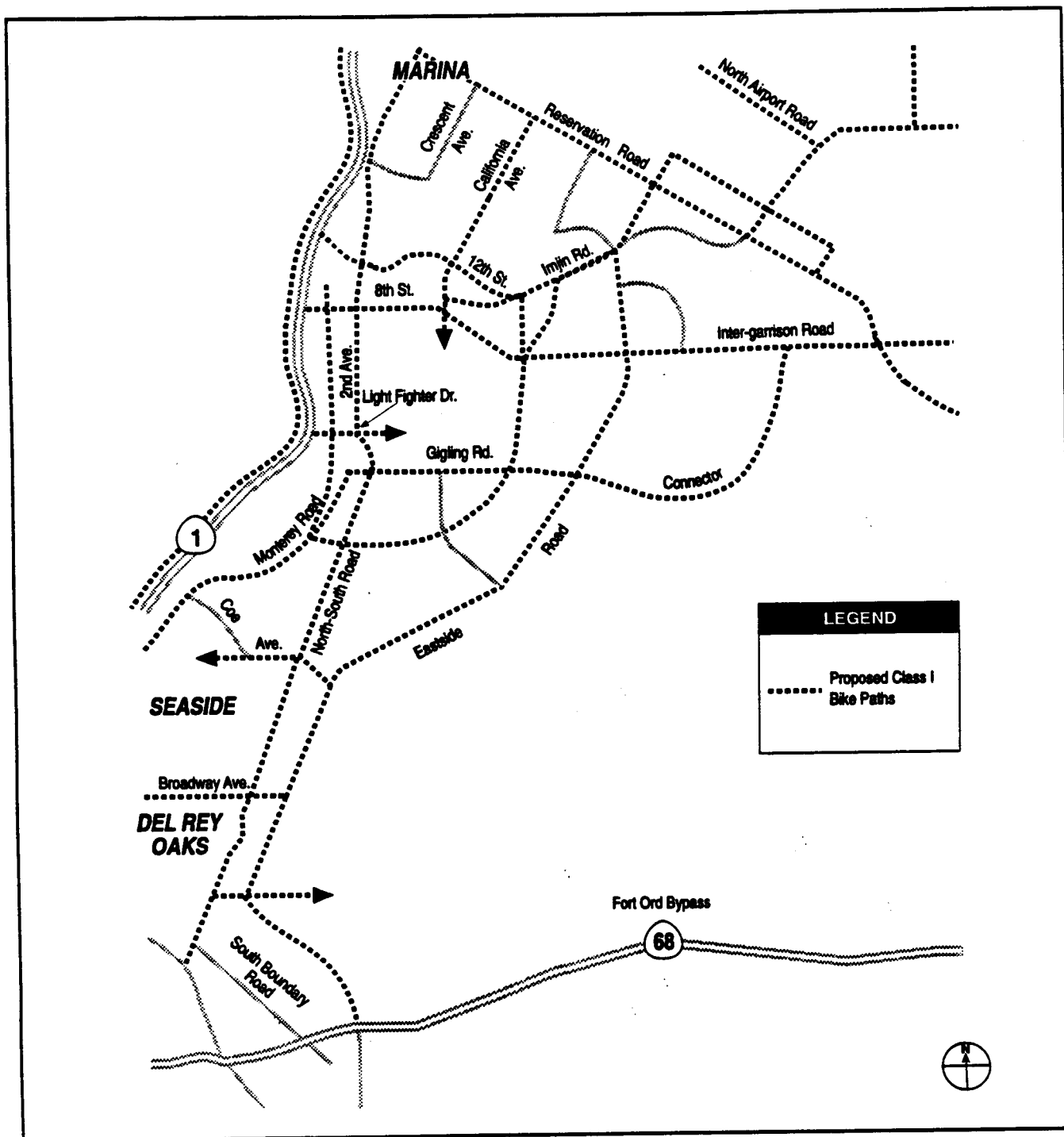
Program A-1.1: Each land use jurisdiction shall prepare a Pedestrian System Plan that includes the construction of sidewalks along both sides of urban roadways, sidewalks and pedestrian walkways in all new developments and public facilities, crosswalks at all signalized intersections and other major intersections, where warranted, and school safety features. This plan shall be coordinated with adjacent land use jurisdictions, FORA, and appropriate school entities.

Pedestrian and Bicycles Policy B-1: Each jurisdiction shall provide and maintain an attractive, safe and comprehensive bicycle system.

Program B-1.1: Each jurisdiction shall prepare a Bicycle System Plan that includes an overall bicycle network consistent with the Reuse Plan (Figure 4.7-5) and local bicycle networks with the appropriate class of bikeways for each functional class of roadway. The Bicycle System Plan shall include appropriate design standards to accommodate bicycle travel and secure bicycle parking facilities at public and private activity centers. This plan shall be coordinated with adjacent land use jurisdictions, FORA, and appropriate school entities.

Program B-1.2: Each jurisdiction shall review new development to provide bicycle system facilities consistent with the Reuse Plan and the Bicycle System Plan.

Because these policies and programs contain improvements and strategies that will result in an internal transportation system that operates in a safe and efficient manner (LOS D or better), and provides for



increased opportunities for effective alternatives to automobile travel, this impact is considered less than significant.

Mitigation: None required.

4.8 Climate and Air Quality

Subsequent to preparation of the Army's FEIS and DSEIS, the Monterey Bay Unified Air Pollution Control District (MBUAPCD) prepared the *CEQA Air Quality Guidelines*, which establishes specific guidelines for analysis of potential air quality impacts. In order to be consistent with CEQA, this section of the Draft EIR reflects these guidelines.

The previous impact analysis prepared for the Army could not be used in this Draft EIR because the premise of the analysis assumes full buildout in 2010 and uses different model methodology.

4.8.1 Environmental Setting

Topography and Meteorology

The proposed project is located in the North Central Coast Air Basin (NCCAB) which is comprised of Monterey, Santa Cruz and San Benito counties. The NCCAB lies along the central coast of California covering an area of 5,159 square miles. The northwest sector of the NCCAB is dominated by the Santa Cruz Mountains. The Diablo Range marks the northeastern boundary, and together with the southern extent of the Santa Cruz Mountains, forms the Santa Clara Valley which extends into the northeastern tip of the NCCAB. Farther south, the Santa Clara Valley evolves into the San Benito Valley, which runs northwest-southeast and has the Gabilan Range as its western boundary. To the west of the Gabilan Range is the Salinas Valley which extends from Salinas at the northwest end to south of King City. The western side of the Salinas Valley is formed by the Sierra de Salinas, which also forms the eastern side of smaller Carmel Valley; the coastal Santa Lucia Range defines the western side of the valley.

The semi-permanent high pressure cell in the eastern Pacific is the basic controlling factor in the climate of the NCCAB. In the summer, the high pressure cell is dominant and causes persistent west and northwest winds over the entire California coast. Air descends in the Pacific High forming a stable temperature inversion of hot air over a cool coastal layer of air. The onshore air currents pass over cool ocean waters to bring fog and relatively cool air into the coastal valleys. The warmer air aloft acts as a lid to inhibit vertical air movement.

The generally northwest-southeast orientation of mountainous ridges tends to restrict and channel the summer onshore air currents. Surface heating in the interior portion of the Salinas and San Benito Valleys creates a weak low pressure which intensifies the onshore air flow during the afternoon and evening. In the fall, the surface winds become weak, and the marine layer grows shallow, dissipating altogether on some days. The air flow is occasionally reversed in a weak offshore movement, and the relatively stationary air mass is held in place by the Pacific High pressure cell, which allows pollutants to build up over a period of a few days. It is most often during this season that the north or east winds develop to transport pollutants from either the San Francisco Bay area or the Central Valley into the NCCAB.

During the winter, the Pacific High migrates southward and has less influence on the NCCAB. Air frequently flows in a southeasterly direction out of the Salinas and San Benito Valleys, especially during night and morning hours. Northwest winds are nevertheless still dominant in winter, but easterly flow is more frequent. The general absence of deep, persistent inversions and the occasional storm systems usually result in good air quality for the basin as a whole in winter and early spring.

Regulatory Setting

Federal and State Ambient Air Quality Standards

Historically, air quality laws and regulations have divided air pollutants into two broad categories of airborne pollutants: "criteria pollutants" and "toxic air contaminants." In general, criteria pollutants are pervasive constituents such as those emitted in vast quantities by the use of fossil fuels.

Toxic air contaminants are a category of air pollutants which are highly toxic in small doses. Toxic air contaminants are only briefly discussed herein because they are generally associated with commercial, industrial and agricultural sources and are regulated separately from "criteria" pollutants. Future proposed projects that are known to emit toxic air contaminants would be subject to a separate level of federal and state restrictions, oversight and application processes administered by the MBUAPCD.

Criteria Pollutants. Both the State of California and the federal government have developed ambient air quality standards for the criteria pollutants, which include ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, and suspended particulates 10 microns and less. Table 4.8-1 indicates both federal and state ambient air quality standards for criteria air pollutants. The state standards are more stringent than those of the federal standards. The relevant standards for which this proposed project is subject are the state standards. The state standards are not to be equaled or exceeded. When standards are exceeded an "attainment plan" must be prepared that outlines how an air quality district will comply. Generally, these plans must provide for district-wide emission reductions of 5% per year averaged over consecutive three-year periods. California also grants air districts explicit statutory authority to adopt indirect source regulations and transportation control measures, including measures to encourage or require the use of ridesharing, flexible work hours, or other measures that reduce the number or length of vehicle trips.

Table 4.8-1 Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Standard	California Standard
Ozone	1 hour	0.12 ppm	0.09 ppm
Carbon Monoxide	1 hour	35.00 ppm	20.00 ppm
	8 hour	9.00 ppm	9.00 ppm
Nitrogen Dioxide	1 hour	—	0.25 ppm
	Annual	0.053 ppm	—
Sulfur Dioxide	1 hour	—	0.25 ppm
	24 hours	0.14 ppm	0.04 ppm
	Annual	0.03 ppm	—
Particulates* (PM ₁₀)	24 hours	150.0 µg/m ³	50.0 µg/m ³
	Annual	50.0 µg/m ³	30.0 µg/m ³

Key: ppm = parts per million; mg/m³ = microns per cubic meter.

PM₁₀ = Particulate matter less than 10 microns in diameter.

* Promulgated in µg/m³ only.

Source: California Air Resources Board

Note also that Table 4.8-1 of the FEIS summarizes the total existing (1992) criteria pollutants emission from all sources at former Fort Ord. Table 4.8-2 summarizes emissions from former Fort Ord's permitted sources (i.e. sources for which the Army held a permit to operate from the MBUAPCD). The total pollutant emissions and total permitted emissions are compared in Table 4.8-3 in the FEIS.

During closure, the Army obtained emission reduction credits as Ft Ord's emission sources were shut down. Emission reduction credits are surplus emission reductions that represent a permanent, enforceable and quantifiable decrease in emissions. Emission reduction credits are important to the reuse of former Fort Ord lands because credits may be used to offset emissions associated with future economic growth (COE 1993).

Toxic Air Contaminants. Toxic air contaminants are highly toxic in small doses. Examples include certain chlorinated hydrocarbons, certain metals and asbestos. Adverse health effects of toxic air contaminants may be carcinogenic (cancer-causing), short-term (acute) non-carcinogenic, and long-term (chronic) non-carcinogenic. Several hundred such pollutants are currently regulated by various federal, state and local programs.

Toxic air contaminants are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations and laboratories; mobile sources such as automobiles, aircraft, and railroads; natural sources, such as wind blown dust and wildfires; and area sources, such as farms, construction sites, or residential areas.

The regulatory structure that deals with toxic air contaminants includes the National Emission Standards for Hazardous Air Pollutants, Assembly Bill 1807 (a.k.a., the Tanner Bill) and Assembly Bill 2588 (a.k.a., the Air Toxics "Hot Spots" Information and Assessment Act of 1987).

Attainment Status of the NCCAB

The NCCAB is designated a moderate nonattainment area for the federal ozone standard. However, the NCCAB has met the federal ozone standards since 1990, but until the Environmental Protection Agency formally redesignates the basin (expected to be by mid year 1996), it remains classified as nonattainment.

Under the California Clean Air Act (CCAA), the basin is also a moderate nonattainment area for the state ozone standard. The CCAA states that an ozone nonattainment area becomes nonattainment-transitional if the state standard is not exceeded more than three times at any monitoring station in the air basin. Table 4.8-2 summarizes the attainment status of the NCCAB. The MBUAPCD Air Quality Management Plan is designed to bring the NCCAB into attainment with state ozone standards.

Table 4.8-2 Attainment Status of the North Central Coast Air Basin

Pollutant	Federal	State
Ozone (O ₃)	Moderate Nonattainment	Moderate Nonattainment
Carbon Monoxide (CO)	Unclassified/Attainment	Monterey Co.-Attainment San Benito Co.-Unclassified Santa Cruz-Unclassified
Nitrogen Dioxide (NO ₂)	Unclassified/Attainment	Attainment
Sulfur Dioxide (SO ₂)	Unclassified	Attainment
Inhalable Particulates (PM ₁₀)	Unclassified	Nonattainment

Source: MBUAPCD

Existing Ambient Air Quality

Ambient air quality in the project area is monitored at eight locations in the MBUAPCD. In addition, the National Park Service operates a station at the Pinnacles National Monument. Based on the monitoring data provided by the MBUAPCD, ozone concentrations exceeded state standards on nine days in 1992, sixteen days in 1993 and six days in 1994. The majority of these violations occurred at the Pinnacles monitoring station, where the State Ambient Air Quality Standards (AAQS) was exceeded on 20 different days between 1992-1994. For PM₁₀, the NCCAB violated the state standard one time in 1992, seven times in 1993 and one time in 1994 (MBUAPCD 1995).

Health Effects of Pollutants

The primary air quality problems in the NCCAB are ozone and suspended particulates (PM₁₀). The following is a discussion of the health effects of Ozone and PM₁₀ pollutants.

Ozone

Ozone is produced by chemical reactions, involving nitrogen oxides (NO_x) and reactive organic gases (ROG), that are triggered by sunlight. Nitrogen oxides are created during combustion of fuels, while reactive organic gases are emitted during combustion and evaporation of organic solvents. Since ozone is not directly emitted to the atmosphere, but is formed as a result of photochemical reactions, it is considered a secondary pollutant. Ozone is a seasonal problem, occurring roughly from April through October.

Ozone is a strong irritant that attacks the respiratory system, leading to the damage of lung tissue. Asthma, bronchitis and other respiratory ailments, as well as cardiovascular diseases are aggravated by exposure to ozone. A healthy person exposed to high concentrations may become nauseated or dizzy, may develop a headache or cough, or may experience a burning sensation in the chest. Research has shown that exposure to ozone damages the alveoli (the individual air sacs in the lung where the exchange of oxygen and carbon dioxide between the air and blood takes place). Research has shown that ozone also damages vegetation.

PM₁₀

PM₁₀ is small suspended particulate matter, 10 microns or less in diameter, that can enter the lungs. The major component of PM₁₀ are dust particles, nitrates, and sulfates. PM₁₀ is directly emitted to the atmosphere as a byproduct of fuel combustion, wind erosion of soil and unpaved roads. Small particles are also created in the atmosphere through chemical reactions.

Particles greater than 10 microns in diameter can cause irritation in the nose, throat, and bronchial tubes. Natural mechanisms remove much of these particles, but particles less than 10 microns in diameter are able to pass through the body's natural defenses and the mucous membranes of the upper respiratory tract and enter into the lungs. The particles can damage the alveoli, tiny air sacs responsible for gas exchange in the lungs. The particles may also carry carcinogens and other toxic compounds, which adhere to the particle surfaces and can enter the lungs.

Air Quality Rules

Consistency with Air Quality Management Plan

A consistency analysis of the proposed project with the adopted *Air Quality Management Plan* would be required as part of the approval process. This analysis and subsequent determination would be performed by the Association of Monterey Bay Area Governments (AMBAG).

Transportation Conformity Rule

The Conformity Rule will not apply to the proposed project. However, future transportation facilities subject to NEPA and/or CEQA, such as new highways or other projects that would be included in the Metropolitan Transportation Plan or are regionally significant, will be subject to the Conformity Rule.

MBUAPCD Rule 216

Future expansion of sewage treatment facilities associated with project buildout will require implementation of the requirements of Rule 216. Specifically, future project proponents of projects that would require expansion of treatment facilities will be required to prove their project to be consistent with the MBUAPCD's Air Quality Management Plan (AQMP).

4.8.2 Environmental Impacts and Mitigation

In the Monterey Bay Unified Air Pollution Control District's October, 1995 *CEQA Air Quality Guidelines*, CEQA and the *State CEQA Guidelines* identify several types of EIRs, each of which require a different level of air quality analysis. For example, program-level EIRs generally apply to multiple projects, phased projects, and/or regulatory programs. The air quality analysis for a program-level EIR will be less detailed than a project-level EIR because the effects cannot be predicted with the same level of accuracy.

Program-level EIRs are prepared for projects that involve the implementation of a series of actions that can be characterized as one large project, such as multiple and phased projects, general plans, specific plans and zoning ordinances. A program-level EIR characterizes the overall program by analyzing the cumulative effects of the elements that comprise the proposed project (i.e., the *Draft Fort Ord Reuse Plan*).

It is important to note that the air quality analysis of an EIR for a general plan will necessarily defer any unknown impacts related to subsequent projects to future EIRs or negative declarations (MBUAPCD 1995). Therefore, this air quality analysis is limited to the analysis of the existing physical conditions and the regulatory environment, as well as cumulative conditions. The cumulative analysis provided in Section 5.1 of this Draft EIR presents the results of the Caline 4 modeling exercise which was conducted for CO₂ based on cumulative traffic conditions (in the year 2015).

The significance criteria for determining potential impacts are included below for reference only and should be used in conjunction with the MBUAPCD *CEQA Air Quality Guidelines* for future projects on the former Fort Ord.

Significance Criteria

Appendix G of the *State CEQA Guidelines* states that a proposed project would have a significant impact on climate and air quality if it results in:

- a violation of any ambient air quality standard which contributes substantially to an existing or projected air quality violation or exposes sensitive receptors to substantial pollutant concentrations.

The following impact analysis considers both construction and operational activity effects to climate and air quality.

Criteria for Determining Construction Impacts

The construction impacts relate to emissions associated with construction activities which are temporary. All quality impacts can nevertheless be acute during construction periods, resulting in significant localized impacts to air quality. For example, the greatest source of construction-related impacts would be expected to be associated with disturbing large acreage of land, such as development of a golf course, or a large residential or business park development. Within the category of construction impacts, there are three primary emissions constituents of concern: Inhalable particulates, ozone and "other pollutants."

Inhalable Particulates (PM₁₀). Inhalable particulates associated with construction activities (e.g. excavations, grading, on-site construction vehicles) which directly generate 82 pounds or more of PM₁₀ would have a significant impact on local air quality. Because there are no specific projects associated with the *Draft Fort Ord Reuse Plan*, all future projects on former Fort Ord would be subject to an air quality analysis that determines the potential to exceed the 82 pound threshold (MBUAPCD 1995). A general rule of thumb to determine if a proposed future project may have a significant construction related impact is to determine if it would disturb 1.2 acres per day through grading and/or excavation.

Ozone. Construction projects which temporarily emit precursors of ozone (i.e., reactive organic gases (ROG) or oxides of nitrogen (NO_x), are accommodated in the emission inventories of state- and federally-required air plans and would not have a significant impact on the attainment and maintenance of ozone AAQS. The state and federal air plans are premised on the AMBAG population projections. Therefore, it is important to note that upon approval of the *Final Draft Fort Ord Reuse Plan* and certification of its EIR by the FORA Board, AMBAG will commence with new population projections based on this approved Reuse Plan, whereby all future development on the former base will be consistent with the new AMBAG population projections.

Other Pollutants. Construction projects which may cause or substantially contribute to the violation of other state or national AAQS or which could emit toxic air contaminants could result in temporary significant impacts. Potential toxic air contaminants associated with any future project on the former base will be an issue discussed and resolved at the time an application is submitted to the local jurisdiction.

Criteria for Determining Operational Impacts

Emissions from long-term operations generally represent a project's most substantial air quality impact. Table 4.8-3 summarizes the project-level thresholds of significance for operational impacts by pollutant

that are relevant to future projects. An exceedance of any threshold would represent a significant impact on local or regional air quality.

Other Pollutants. Construction projects which may cause or substantially contribute to the violation of other state or national AAQS or which could emit toxic air contaminants could result in temporary significant impacts. Potential toxic air contaminants associated with any future project on the former base will be an issue discussed and resolved at the time an application is submitted to the local jurisdiction.

Future projects which would emit pollutants associated with objectionable odors in substantial concentrations could result in significant impacts if odors would cause injury, nuisance, or annoyance to a considerable number of persons or would endanger the comfort, health, or safety of the public.

Table 4.8-3 Thresholds of Significance Criteria for Pollutants of Concern Operational Impacts*

POLLUTANT	THRESHOLD (S) OF SIGNIFICANCE
ROG	150 lb/day (direct + indirect)
NO _x as NO ₂	150 lb/day (direct + indirect)
PM ₁₀	82 lb/day (on-site)**
	AAQS exceeded along unpaved roads (off-site)
CO	LOS at intersection/road segment degrades from D or better to E or F or V/C ratio at intersection/road segment at LOS E or F increases by 0.05 or more or delay at intersection at LOS E or F increases by 10 seconds or more or reserve capacity at unsignalized intersection at LOS E or F decreases by 50 or more***
	550 lb/day (direct)***
SO _x as SO ₂	150 lb/day (direct)**

- * Projects that emit other criteria pollutant emissions would have a significant impact if emissions would cause or substantially contribute to the violation of State or national AAQS. Criteria pollutant emissions could also have a significant impact if they would alter air movement, moisture, temperature, climate, or create objectionable odors in substantial concentrations. When estimating project emissions, local or project-specific conditions should be considered.
- ** District-approved dispersion modeling can be used to refute (or validate) a determination of significance if modeling shows that emissions would not cause or substantially contribute to an exceedance of State and national AAQS.
- *** Modeling should be undertaken to determine if the project would cause or substantially contribute (550 lb/day) to exceedance of CO AAQS. If not, the project would not have a significant impact.

Source: Monterey Bay Unified Air Pollution Control District.

1. Impact: Potential Violation of Ambient Air Quality Standards

Proposed future development may result in a violation of ambient air quality standards that contributes substantially to an existing or projected air quality violation or exposes sensitive receptors to substantial pollutant concentrations. The *Draft Fort Ord Reuse Plan* identifies the following policies and programs for the Cities of Marina and Seaside that address potential significant impacts to the NCCAB.

Conservation Element

Air Quality Policy A-1: Each jurisdiction shall participate in regional planning efforts to improve air quality.

Program A-1.1: Each jurisdiction shall continue to cooperate with the MBUAPCD in carrying out the regional Air Quality Management Plan.

Program A-1.2: Each jurisdiction shall coordinate with the TAMC to carry out the Congestion Management Plan.

Air Quality Policy A-2: Each jurisdiction shall promote local efforts to improve air quality.

Program A-2.1: Each jurisdiction shall use the CEQA process to identify and avoid or mitigate potentially significant project specific and cumulative air quality impacts associated with development. As a Responsible Agency, the MBUAPCD oversees issuance of air pollution permits for toxic air contaminants, and thus is responsible for U.S. EPA health standards as they relate to air emissions.

Program A-2.2: Each jurisdiction shall use Transportation Demand Management Ordinance and similar transportation measures to encourage commute alternatives.

Air Quality Policy A-3: Integrate the land use strategies of the California Air Resources Board's *The Land Use - Air Quality Linkage - How Land Use and Transportation Affect Air Quality*, into local land use decisions.

Program A-3.1: Each jurisdiction shall plan and zone properties, as well as review development proposal to promote the Land Use-Air quality link-age. This linkage includes, but is not limited to, enhancement of Central Business Districts, compact development patterns, residential densities that average above seven dwelling units per acre, clustered employment densities and activity centers, mixed use development, and integrated street patterns.

Program A-3.2: Each jurisdiction shall zone high density residential and employment land uses to be clustered in and near activity centers to maximize the efficient use of mass transit.

Because implementation of these policies and programs would help to limit the amount of air pollution generated within former Fort Ord and reduce potential violations of ambient air quality standards, this impact is considered less than significant.

Mitigation. None required.

4.9 Noise

4.9.1 Environmental Setting

This section describes the noise environment in and around former Fort Ord in 1991, when the 7th Infantry Division (IDL) was stationed at the base. For a more detailed discussion, refer to the Army's FEIS vol. I and the *Other Physical Attributes Baseline Study of Fort Ord* (US Army Corps of Engineers, Sacramento District 1992 e). The baseline study, hereby incorporated by reference, provides background information on environmental noise and includes a discussion of existing noise-sensitive locations, sources of noise, Department of the Army noise standards, and local agency noise standards for planning.

Terminology

Sound level meters measure pressure fluctuations caused by sound waves. These measurements are reported in a logarithmic decibel (dB) scale. Most sounds consist of a broad range of sound frequencies. Because the human ear is not equally sensitive to all frequencies, several different frequency-weighting schemes have been used to develop composite dB scales that approximate the way the human ear responds to noise levels. The A-weighted dB scale (dBA) is the most widely used for this purpose. Typical A-weighted noise levels for various types of sound sources are summarized in Table 4.9-1.

The equivalent continuous sound level (L_{eq}) is used to develop a single-value description of average noise exposure over various periods. This average noise exposure often includes additional weighting factors for annoyance potential attributable to time of day or other considerations. The L_{eq} data used for these average noise exposure descriptors are generally based on A-weighted sound level measurements.

Average noise exposure over a 24-hour period is often presented as a day-night average sound level (DNL). DNL is calculated from hourly L_{eq} values, with the L_{eq} values for the nighttime period (10 p.m.-7 a.m.) increased by 10 dB to reflect the greater disturbance potential from nighttime noises. The community noise equivalent level (CNEL) is also used to characterize average noise levels over a 24-hour period, with weighting factors for evening and nighttime noise levels. The L_{eq} values for the evening period (7 p.m.-10 p.m.) are increased by 5 dB, whereas L_{eq} values for the nighttime period (10 p.m.-7 a.m.) are increased by 10 dB. Except in unusual situations, the CNEL descriptor will be within 1.5 dB of the L_{eq} descriptor for the same set of noise measurements.

Most people have difficulty distinguishing the louder of two noise sources that differ by less than 1.5-2 dB. Except in controlled laboratory conditions, an increase of less than 1 dB cannot be perceived. Outside of laboratory conditions, an increase in noise of 3 dB is typically considered to be the threshold of perceptibility. An increase of at least 5 dBA can be described as being a distinctly noticeable increase and is typically required before a noticeable change in community response to noise can be expected. For this reason, an increase in noise of 5 dB is often used as the threshold for a substantial noise increase.

Noise Standards

Relevant local noise standards are summarized below.

Monterey County

The noise element of the Monterey County General Plan identifies goals, objectives, and policies related to noise. The County uses the land use compatibility guidelines in Table 4.9-2 to guide planning in the County.

City of Marina

The noise element of the City of Marina General Plan identifies goals, policies, and standards related to noise. The plan specifies the maximum acceptable sound levels for various land uses that are identified in Table 4.9-3.

City of Seaside

The noise element of the City of Seaside General Plan identifies goals, policies, and standards related to noise. The plan designates land uses exposed to exterior noise levels exceeding 60 dB (DNL or CNEL) as being noise impacted.

Table 4.9-1 Weighted Sound Levels and Human Response

NOISE SOURCE	dB(A)*	HUMAN RESPONSE
Carrier Deck Jet Operation	140	
Limit of Amplified Speech	130	Painfully loud
Jet Takeoff (200 feet) Automobile Horn (3 feet)	120	Threshold of feeling and pain
Riveting Machine Jet Takeoff (2,000 feet)	110	
Shout (6 inches) New York Subway	100	Very annoying
Heavy Truck (50 feet) Pneumatic Drill (50 feet)	90	Hearing damage (8-hour exposure)
Freight Traffic (50 feet) Garbage Disposal in Home	80	Annoying
Freeway Traffic (50 feet)	70	Telephone use difficult
Air-conditioning Unit (20 feet) Light Automobile Traffic	60	
Speech in Normal Voice (15 feet)	50	Quiet
In-house Movement of People, No Television or Radio	40	
Soft Whisper (15 feet)	30	Very quiet
Recording Studio	20	
	10	Very faint
	0	Threshold hearing

Key: * Typical A-weighted sound levels. The A-weighted decibel scale approximates the frequency response of the human ear.

Source: U.S. Council on Environmental Quality 1970.

Table 4.9-2 Monterey County's Land Use Compatibility Criteria for Exterior Community Noise

Land Use Category	Noise Ranges (Ldn or CNEL) dB			
	I	II	III	IV
Passively used open spaces	50	50-55	55-70	70+
Auditoriums, concert halls, amphitheaters	45-50	50-65	65-70	70+
Residential low density single family, duplex, mobile homes	50-55	55-70	70-75	75+
Residential multi-family	50-60	60-70	70-75	75+
Transient lodging motels, hotels	50-60	60-70	70-80	80+
Schools, libraries, churches, hospitals, nursing homes	50-60	60-70	70-80	80+
Actively used open spaces playgrounds, neighborhood parks	50-67	---	67-73	73+
Golf courses, riding stables, water recreation, cemeteries	50-70	---	70-80	80+
Office buildings, business, commercial and professional	50-67	67-75	75+	---
Industrial, manufacturing, utilities, agriculture	50-70	70-75	75+	---

Notes: Noise Range I Normally acceptable: Specified land use is satisfactory, based on the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Noise Range II Conditionally acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

Noise Range III Normally unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Noise Range IV Clearly unacceptable: New construction or development should generally not be undertaken.

Source: Monterey County Planning Department (1982).

Table 4.9-3 City of Marina Maximum Allowable Ambient Noise Exposure

Zone of Property Receiving Noise	Maximum L_{dn}
Residential	
Low density	60
Multifamily	65
Transient lodging	65
Schools, libraries, churches, hospitals	65
Auditoriums	60
Playgrounds, parks	65
Commercial	70
Industrial	75

Source: City of Marina (1985)

Noise Sensitive Receptors on Post and in the Vicinity of Former Fort Ord

On-post noise-sensitive receptors located in the Main Garrison include family and troop housing, schools, existing CSUMB housing, and Silas B. Hayes Hospital. The East Garrison consists of buildings that are used primarily for storage purposes and is maintained to retain expansion capabilities.

Civilian residential areas adjacent to former Fort Ord are the most sensitive off-post noise receptors. Substantial residential encroachment has occurred on the southwest, south, southeast, and northwest sides of former Fort Ord, with more planned for the future. In addition to residential areas, the City of Marina general plan noise element identifies additional sensitive receptors within the City including churches, schools, and open space/park areas. Sensitive receptors in the City of Seaside include schools, churches, parks, rest homes, and a library.

Similar residential, park, school, and health care facilities are located in the City of Monterey, directly southwest of former Fort Ord, and in the City of Salinas, approximately 1 mile northeast of the northern boundary of former Fort Ord. A small number of residential and park uses are in Del Rey Oaks. Sand City is a commercial and industrial city with fewer than 100 residences. In addition to residential areas in the unincorporated county, the Monterey County general plan identifies school, park, and recreation areas as noise-sensitive areas.

Sources of Noise

Fort Ord 7th IDL

With the departure of the 7th IDL, roadway traffic and aircraft using local airports remain the primary sources of noise in the area.

City of Marina

Traffic on roadways is the major source of noise within the City of Marina. Major highways and roadways within the city include:

- State Route (SR) 1;
- Del Monte Boulevard;
- Reservation Road;
- Blanco Road; and
- Imjin Road.

Table 4.9-4 summarizes existing traffic noise (1991-1992, depending on the roadway segment) modeling results for these roadways taken from the Other Physical Attributes Baseline Study of Fort Ord, California report. Freight rail service is provided to former Fort Ord and local industries via the Southern Pacific tracks that run parallel to SR 1 through former Fort Ord. A spur line parallel to Del Monte Boulevard in the Cities of Marina and Seaside provides service to these cities. Service to local industries is provided approximately two to three times a week. Because of the infrequency of train activity, noise from these operations is not a major concern.

Table 4.9-4 Summary of Traffic Noise Analysis for Existing Conditions (1990-1992)

Roadway	Segment	Ldn at 100 Feet from Centerline of Roadway (dB)	Distance (in feet) from Centerline of Roadway to Ldn Contour Line		
			65 Ldn	60 Ldn	55 Ldn
SR 1	SR 68 to Del Monte Avenue	73.9	392	845	1,820
	Del Monte Avenue to SR 218	74.2	411	884	1,905
	SR 218 to Ord Village interchange	74.1	404	871	1,876
	Ord Village Interchange to 0.5 mile north of Ord Village	74.7	443	955	2,057
	0.5 mile north of Ord Village to Main Gate	75.3	486	1,047	2,256
	Main Gate to 12th Street Gate	74.7	443	955	2,057
	12th Street Gate to South Marina interchange	75.1	471	1,015	2,188
	South Marina interchange to Reservation Road	72.6	321	692	1,491
SR 218	SR 1 to Fremont Boulevard	64.3	90	193	417
	Fremont Boulevard to SR 68	64	86	185	398
SR 68	SR 1 to SR 218	64	86	185	398
	SR 218 to Toro Park	67.3	142	307	661
	Toro Park to Spreckels Boulevard	70.6	236	509	1,096
	Spreckels Boulevard to Blanco Road	68.5	171	369	794
Reservation Road	Del Monte Boulevard to Marina city limit	66.1	118	255	550
	Marina city limit to East Garrison Road	66.4	124	267	575
	East Garrison Road to SR 68	59.4	42	91	196
Davis Road	Blanco Road to Market Street	63	74	158	341
Del Monte Boulevard	Marina city limit to SR 1	65.9	115	247	533
Blanco Road	Reservation Road to Davis Road	65.7	111	240	517
Fremont Boulevard	South of SR 218	65.1	102	219	471
	SR 218 to Broadway Avenue	65.3	105	226	486

Roadway	Segment	Ldn at 100 Feet from Centerline of Roadway (dB)	Distance (in feet) from Centerline of Roadway to Ldn Contour Line		
			65 Ldn	60 Ldn	55 Ldn
	Broadway Avenue to SR 1	64	86	185	398
Broadway Avenue	Del Monte Boulevard to Fremont Boulevard	60.5	50	108	233
	Fremont Boulevard to North-South Road	61.6	59	128	275
Del Monte Boulevard	SR 218 to Broadway Avenue	63.8	83	179	386
	Broadway Avenue to Fremont Boulevard	61.9	62	134	288
Imjin Road	Abrams Drive to Reservation Road	63.5	79	171	369
Inter-Garrison Road	8th Street to East Garrison Road	55.9	25	53	115
North-South Road	North of Broadway	56	25	54	117

Source: U.S. Army Corps of Engineers, Sacramento District (1992)

City of Seaside

Traffic on roadways is the major source of noise within the City of Seaside. Table 4.9-4 summarizes traffic noise modeling results for the following roadways taken from *the Other Physical Attributes Baseline Study of Fort Ord*. Major highways and roadways within the city include:

- SR 1;
- SR 68;
- SR 218;
- Fremont Boulevard;
- Del Monte Boulevard;
- North-South Road; and
- Broadway Avenue.

Aircraft activity around Monterey Peninsula Airport is another significant source of noise in Seaside. Figure 4.9-1 depicts noise contours around the airport. The 55-60 CNEL contour affects only a small portion of the southerly limits of the City of Seaside. According to the Federal Aviation Regulation Part 150 Noise Compatibility Program for the airport, no residential units in Seaside would require mitigation as a result of adoption of the Comprehensive Land Use Plan for the Monterey Peninsula Airport. As discussed previously, the Southern Pacific spur line paralleling Del Monte Boulevard provides service to the City of Seaside. Because of the infrequency of train activity, noise from these operations is not a major concern.

Monterey County

Unincorporated Monterey County, in the vicinity of former Fort Ord, does not have major or large-scale noise problems. Traffic on highways and roadways is the primary source of noise in the county. Table 4.9-4 summarizes traffic noise modeling results for the following roadways taken from *the Other Physical Attributes Baseline Study of Fort Ord*. Major highways and roadways in the county near former Fort Ord include:

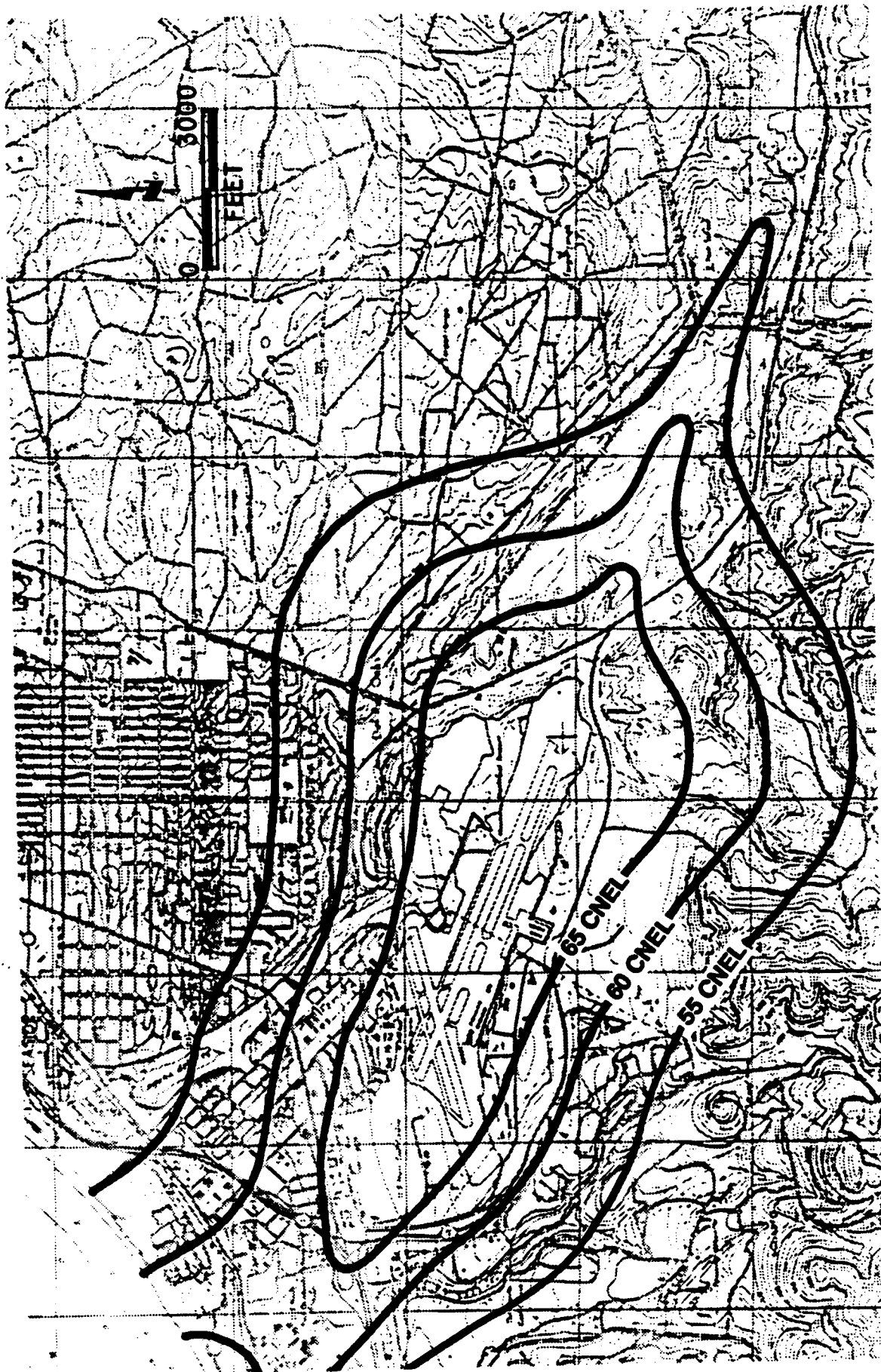


Figure 4.9-1
1991 CNEL Noise Contours for Monterey Peninsula Airport

Fort Ord Reuse Plan
Draft EIR

Source: Jones & Stokes, 1993; City of Seaside, 1990

EDAW, Inc. May, 1996

- SR 1;
- SR 68;
- SR 183;
- SR 218;
- Fremont Boulevard;
- Del Monte Boulevard;
- North-South Road;
- Reservation Road;
- Blanco Road;
- Imjin Road;
- Inter-Garrison Road;
- Davis Road; and
- Blanco Road.

Aircraft activity around Monterey Peninsula Airport is another significant source of noise in the area. Figure 4.9-1 depicts noise contours around the airport. Although industrial facilities, food-packing plants, and several mining operations are located in the county, none of these operations creates noise conflicts in the vicinity of former Fort Ord. As discussed previously, the Southern Pacific spur line parallel to Del Monte Boulevard provides service to the City of Marina. Because of the infrequency of train activity, noise from these operations is not a major concern.

4.9.2 Environmental Impacts and Mitigation

Significance Criteria

According to the *State CEQA guidelines*, a project will normally have a significant effect on the environment if it:

- substantially increases the ambient noise levels for adjoining areas; or
- exposes people to severe noise levels.

In practice, more specific professional standards have been developed to implement the intent of the *State CEQA guidelines*. This analysis judges impacts to be significant if the project would result in:

- the generation of noise that would conflict with applicable noise regulations or standards;
- a substantial increase in existing ambient sound levels for affected uses; or
- land uses that are incompatible because of noise.

The Monterey County compatibility guidelines presented in Table 4.9-2 are used in this evaluation to determine the significance of noise impacts. These guidelines are generally consistent with guidelines lines used by the Cities of Seaside and Marina. A noise level of 60 dB-DNL is used as the significance threshold for residential uses.

1. Impact: Excessive Noise from Construction Activities

Implementation of the proposed project may result in excessive noise from construction activities. Figure 4.9-2 illustrates noise levels produced by various types of construction equipment. Properly maintained equipment would produce noise levels near the middle of the indicated ranges. The types of

CONSTRUCTION EQUIPMENT	Noise Level (dBA) at 50 feet					
	60	70	80	90	100	110
Equipment Powered by Internal Combustion Engines						
Earth Moving						
Compactors (rollers)						
Front loaders						
Backhoes						
Tractors						
Scrapers, graders						
Pavers						
Trucks						
Materials Handling						
Concrete mixers						
Concrete pumps						
Cranes (movable)						
Cranes (derrick)						
Stationary						
Pumps						
Generators						
Compressors						
Impact Equipment						
Pneumatic wrenches						
Jack hammers and rock drills						
Pile drivers (peaks)						
Other						
Vibrators						
Saws						

equipment that would be used for grading and constructing the proposed development would typically generate noise levels of 80-90 A-weighted decibels (dBA) at a distance of 50 feet while the equipment is operating. Construction equipment operations can vary from intermittent to fairly continuous, with several pieces of equipment operating concurrently. Assuming that a bulldozer (87 dBA), backhoe (90 dBA), grader (90 dBA), and front-end loader (82 dBA) are operating concurrently in the same area, peak construction-period noise would generally be about 94 dBA at 50 feet from the construction site.

Noise impacts expected in the vicinity of an active construction site based on a composite source noise level of 94 dBA at 50 feet are summarized in Table 4.9-5. The atmospheric absorption parameter in Table 4.9-5 reflects minimal absorption for typical construction equipment noise spectra (e.g., bulldozer, water truck).

Locations within about 1,900 feet of a construction site would be exposed to occasional episodes of noise levels greater than 60 dBA. Areas within about 740 feet of a construction site would be exposed to episodes of noise levels greater than 70 dBA. However, such episodes of high noise levels would not be continuous throughout the day and would typically be restricted to daytime hours. Heavy trucks transporting construction materials to construction sites could be a source of excessive noise. The extent of potential noise impacts is highly variable depending on the intensity of construction on a given site, the amount of materials that must be trucked to the site, the number of access roads to the construction site, and the distance of noise-sensitive receptors to access roads.

Table 4.9-5 Distance Attenuation for Noise Near a Construction Site

Distance Attenuation		Distance to dB Contours	
Receptor Distance (feet)	Noise Level at Receptor (dBA)	Noise Contour Value (dBA)	Contour Distance (feet)
50	94.0	105	14
100	87.9	100	25
200	81.8	95	45
400	75.5	90	79
600	71.7	85	138
800	68.9	80	240
1,000	66.6	75	417
1,500	62.3	70	736
2,000	59.1	65	1,115
2,500	56.4	60	1,918
3,000	54.1	55	2,902
4,000	50.0	50	4,006
5,280	45.7	45	5,365
7,500	39.3	40	7,407

Notes: The following assumption were used:

Basic sound-level drop-off rate = 6.0 dB/doubling.

Atmospheric absorption coefficient = 0.5 dB/100 meters.

Reference noise level = 94 dBA.

Distance for reference noise level = 50 feet.

Drop-off calculations include atmospheric absorption at 0.5 dB/100 meters centered at reference distance.

Except for sounds with highly distinctive tonal characteristics, noise from a particular source will not be identifiable when its incremental noise level contribution is significantly less than background noise levels.

Contour distance calculations are most accurate within the decibel range of the direct attenuation calculations.

This construction would result in increased noise levels in areas around construction sites and along access roads to construction sites. These increased noise levels have the potential to adversely affect residences and other noise-sensitive land uses near these sites or roads. Ambient noise levels may be substantially increased or local noise standards may be exceeded. The *Draft Fort Ord Reuse Plan* identifies the following policies and programs for the Cities of Marina and Seaside and Monterey County that address noise from construction activity:

Noise Element

Noise Policy A-1: The City/County shall coordinate with the other local entities having jurisdiction within the former Fort Ord in establishing a consistent set of guidelines for controlling noise.

Program A-1.1: The City/County shall adopt the land use compatibility criteria for exterior community noise shown in Table 4.9-2 for application in the former Fort Ord.

Program A-1.2: The City/County shall adopt a noise ordinance to control noise from non-transportation sources, including construction noise, that incorporates the performance standards shown in Table 4.9-6, for application in the former Fort Ord.

Noise Policy B-1: The City/County shall ensure that the noise environments for existing residences and other existing noise-sensitive uses do not exceed the noise guidelines presented in Tables 4.9-2 and 4.9-6, where feasible and practicable.

Program B-1.1: The City/County shall develop and implement a program that identifies currently developed areas that are adversely affected by noise impacts and implement measures to reduce these impacts, such as constructing noise barriers and limiting the hours of operation of the noise sources.

Noise Policy B-2: By complying with the noise guidelines presented in Tables 4.9-2 and 4.9-6, the City/County shall ensure that new development does not adversely affect existing or proposed uses.

Noise Policy B-9: The City/County shall require construction contractors to employ noise-reducing construction practices.

Because these policies and programs will limit how noise from construction can effect existing and planned noise-sensitive uses and how construction noise will be limited to normally acceptable levels, this impact is considered less than significant.

Mitigation: None required.

Table 4.9-6 Noise Level Performance Standards for Non-Transportation Noise Sources

Cumulative Number of Minutes Allowed in Any One-Hour Time Period	Exterior Noise Level Standards, dBA	
	Daytime (7:00 a.m. - 10:00 p.m.)	Nighttime (10:00 p.m. - 7:00 a.m.)
30	50	45
15	55	50
5	60	55
1	65	60
0	70	65

2. Impact: Exposure of Existing Noise-Sensitive Land Uses to Excessive Traffic Noise and Substantial Increases in Ambient Noise Levels

Implementation of the proposed project would result in the exposure of existing noise-sensitive land uses to excessive traffic noise and substantial increases in ambient noise levels. Projected traffic noise levels have been evaluated based on traffic conditions projected for 2015 with implementation of the proposed project. Table 4.9-7 summarizes the modeled 2015 traffic noise day-night average sound levels at a fixed distance of 100 feet from the roadway centerline of each roadway segment analyzed. This table also summarizes the predicted distance to the 55-, 65-, and 70-dB contour lines. Traffic noise levels under ultimate buildout would be expected to be within 1 to 2 dB of those projected for 2015. The traffic noise modeling results indicate that the noise criterion for residential land uses of 60 dB would be exceeded within 100 feet of the centerline of many existing roadways and that substantial increases in noise (increases in excess of 5 dB) would occur along some roadways.

Noise-sensitive land uses (primarily residential) exist adjacent to all of the existing roadway segments evaluated. Some of the noise-sensitive land uses adjacent to these roadways include educational, religious, and healthcare facilities. Residential land uses vary from rural residential with scattered houses adjacent to roadways, to high-density urban residential development. Commercial, industrial, and recreational land uses also exist adjacent to some of the roads. However, impacts are evaluated based on the most sensitive land use that exists adjacent to a given roadway segment. The following policies and programs for the Cities of Marina and Seaside and Monterey County address roadway-traffic noise on existing noise-sensitive land uses.

Noise Element

Noise Policy A-1: See above for description of this policy.

Program A-1.1: See above for description of this program.

Noise Policy B-1: See above for description of this policy.

Program B-1.1: See above for description of this program.

Noise Policy B-2: See above for description of this policy.

Because implementation of these policies and programs will limit traffic noise levels to normally acceptable levels at existing residential and other sensitive areas, this impact is considered less than significant.

Mitigation: None required.

Table 4.9-7 Summary of Noise Modeling for the *Draft Fort Ord Reuse Plan* in 2015

Roadway	Segment	Ldn at 100' from Centerline of Roadway (dB)	Distance (in feet) from Centerline of Roadway to Ldn Contour Line			
			70 Ldn	65 Ldn	60 Ldn	55 Ldn
State Route 1	SR 68 to Del Monte Avenue	74	175	377	813	1,752
	Del Monte Avenue to SR 218	75	209	451	971	2,093
	SR 218 to Fremont Boulevard	76	233	502	1,082	2,330
	Fremont Boulevard to Main Gate	75	232	501	1,078	2,323
	Main Gate to 12th Street Gate	75	226	487	1,049	2,260
	12th Street Gate to South Marina interchange (Del Monte Boulevard)	75	221	476	1,025	2,209
	South Marina (Del Monte Boulevard) to Reservation Road	73	161	347	748	1,612
	Reservation Road to North Marina (Del Monte Boulevard)	73	149	320	689	1,485
	North Marina (Del Monte Boulevard) to SR 156	73	159	342	736	1,586
	SR 156 to County line	74	185	398	858	1,849
State Route 68	SR 1 to SR 218	74	172	370	797	1,716
	SR 218 to San Benancio Road	71	121	260	561	1,209
	San Benancio Road to Reservation Road	73	162	349	752	1,621
	Reservation Road to East Blanco Road	72	131	283	610	1,314
Old Highway 68	SR 218 to San Benancio Road	66	53	114	245	527
State Route 156	SR 1 to 0.1 miles east of Castroville Boulevard	71	118	253	546	1,176
	0.1 miles east of Castroville Boulevard to U.S. 101	72	129	279	600	1,293
State Route 183	U.S. 101 to Davis Road	69	85	183	395	851
	Davis Road to Espinosa Road	71	114	245	529	1,139
	Espinosa Road to SR 156	72	133	286	617	1,328
State Route 218	SR 1 to Fremont Boulevard	65	48	103	221	476
	Fremont Boulevard to North-South Road	67	63	135	291	628
	North-South Road to SR 68	68	77	165	356	766
Del Monte Boulevard	SR 1 to Reservation Road	67	65	140	301	649
	SR 1 to Broadway Avenue	66	54	116	249	537
	Broadway Avenue to Fremont Boulevard	61	26	56	121	261
	SR 1 (South Marina) to Reservation Road	66	54	116	250	539
	Reservation Road to SR 1 (North Marina)	65	43	93	201	432
Fremont Boulevard	SR 1 / SR 68 to Broadway Avenue	65	49	106	227	490
	Broadway Avenue to SR 1	65	47	101	218	471
Broadway Avenue	Del Monte Boulevard to Noche Buena Street	64	37	80	172	370
	Noche Buena Street to North-South Road	63	34	74	159	343
Reservation Road	SR 1 to Del Monte Boulevard	61	25	55	118	254
	Del Monte Boulevard to Crescent Avenue	65	44	95	204	439
	Crescent Avenue to Imjin Road	69	82	176	378	815

Roadway	Segment	Ldn at 100' from Centerline of Roadway (dB)	Distance (in feet) from Centerline of Roadway to Ldn Contour Line			
			70 Ldn	65 Ldn	60 Ldn	55 Ldn
	Imjin Road to Blanco Road	70	93	201	433	932
	Blanco Road to Inter-Garrison Road	65	48	104	225	484
	Inter-Garrison Road to Davis Road	65	47	101	217	467
	Davis Road to SR 68	65	48	104	223	481
Blanco Road	Reservation Road to Davis Road	70	101	217	468	1,009
	Davis Road to SR 68	65	44	95	204	441
	SR 68 to US 101	69	86	186	400	862
Davis Road	Reservation Road to Blanco Road	64	42	90	194	417
	Blanco Road to Rosi Street (SR 183)	64	42	90	193	416
	Rosi Street (SR 183) to US 101	67	59	128	275	593
12th Street/Imjin Road	SR 1 to California Avenue	64	41	89	192	414
	California Avenue to Eastside Road	63	37	79	170	367
	Eastside Road to Reservation Road	66	54	115	249	536
8th Street	SR 1 overpass to 2nd Avenue	43	-1	-1	-1	-1
	2nd Avenue to Inter-Garrison Road	54	-1	-1	39	83
Inter-Garrison Road	8th Street to Eastside Road	56	-1	25	54	115
	Eastside Road to Reservation Road	62	30	66	141	304
Lightfighter Road	SR 1 to North-South Road	62	29	62	133	286
Gigling Road	North-South Road to Eastside Road	63	35	74	160	346
Coe Avenue	Ord Avenue to North-South Road	46	-1	-1	-1	26
	12th Street to Lightfighter Road	61	24	51	110	237
2nd Avenue	Del Monte Boulevard to 12th Street	57	-1	30	65	140
North-South Road	Lightfighter Road to Gigling Road	63	32	69	148	319
	Gigling Road to Coe Road	65	44	94	203	437
cont.	Coe Road to Broadway Avenue	64	38	81	175	378
	Broadway Avenue to SR 218	60	21	45	96	207
California Avenue	Reservation Road to 12th Street	61	25	54	115	249
	12th Street to 8th Street	53	-1	-1	34	74
Eastside Road	Imjin Road to Gigling Road	63	35	76	163	352
Eucalyptus Road	Presidio of Monterey Collector to North-South Road	52	-1	14	30	64
Abrams Road	Del Monte Boulevard to Imjin Road	52	-1	15	31	68
Monterey/Ord	Fremont Boulevard to Gigling Road	56	-1	26	57	122
Presidio of Monterey Collector	Gigling Road to Eastside Road	48	-1	-1	16	33

Notes: ¹ Contour does not extend beyond the edge of the road.
² Based on transportation data provided by Terry Klim (pers. comm.).

3. Impact: Exposure of New Noise-Sensitive Land Uses to Excessive Traffic Noise

Implementation of the proposed project may result in the exposure of new noise-sensitive land uses to excessive traffic noise. Table 4.9-7 summarizes the modeled 2015 traffic noise day-night average sound levels at a fixed distance of 100 feet from the roadway centerline of each roadway segment analyzed.

This table also summarizes the predicted distance to the 55-, 65-, and 70-dB contour lines. Based on predicted 2015 traffic noise levels, traffic noise levels under ultimate buildout of the proposed project would be expected to be within 1 to 2 dB of those projected for 2015. The traffic noise modeling results indicate that the noise criterion of 60 dB for residential land uses would be exceeded within 100 feet of the centerline of many existing roadways and that substantial increases in noise (increases in excess of 5 dB) would occur along some roadways. It is likely that these conclusions for 2015 conditions would also apply to plan buildout. The following policies and programs for the Cities of Marina and Seaside and Monterey County address roadway-traffic noise on new noise-sensitive land uses:

Noise Element

Noise Policy A-1: See above for description of this policy.

Program A-1.1: See above for description of this program.

Program B-1.1: See above for description of this program.

Noise Policy B-2: See above for description of this policy.

Noise Policy B-3: The City/County shall require that acoustical studies be prepared by qualified acoustical engineers for all new development that could result in noise environments above noise range I (normally acceptable environment), as defined in Table 4.9-2. The studies shall identify the mitigation measures that would be required to comply with the noise guidelines, specified in Tables 4.9-2 and 4.9-6, to ensure that existing or proposed uses will not be adversely affected. The studies should be submitted prior to accepting development applications as complete.

Noise Policy B-4: The City/County shall enforce the State Noise Insulation Standards (California Administrative Code, Title 24) which require that interior sound levels of 45 dB-Ldn be achieved for new multi-family dwelling, condominium, hotel, and motel uses.

Noise Policy B-5: If, through site planning or the architectural layout of buildings, it is not feasible or practicable to comply with the noise guidelines presented in Tables 4.9-2 and 4.9-6, the City/County shall require the following, as conditions to approval: that noise barriers be provided for new development to ensure that the noise guidelines are met; or that acoustical treatments be provided for new buildings to ensure that interior noise levels would be reduced to less than 45 dB-Ldn.

Noise Policy B-6: If the ambient day-night average sound level (DNL) exceeds the normally acceptable noise range for residential uses (low density single family, duplex, and mobile homes; multi-family; and transient lodging), as identified in Table 4.9-6, new development shall not increase ambient DNL in residential areas by more than 3 dBA measured at the property line. If the ambient DNL is within the normally acceptable noise range for residential uses, new development shall not increase the ambient DNL by more than 5 dBA measured at the property line.

Noise Policy B-7: If the ambient DNL exceeds the normally acceptable noise range for commercial (office buildings and business, commercial, and professional uses) or industrial (industrial, manufacturing, utilities, and agriculture) uses, as identified in Table 4.9-6, new

development in commercial or industrial areas shall not increase the ambient DNL by more than 5 dBA measured at the property line.

Noise Policy B-8: If the ambient DNL exceeds the normally acceptable noise range for public or institutional uses (passively and actively used open spaces; auditoriums, concert halls, and amphitheaters; schools, libraries, churches, hospitals and nursing homes; golf courses, riding stables, water recreation areas, and cemeteries), as identified in Table 4.9-6, new development shall not increase ambient Ldn by more than 3 dBA measured at the property line.

Because implementation of these policies and programs will limit traffic noise levels to normally acceptable level at planned residential and other sensitive areas, this impact is considered less than significant.

Mitigation: None required.

4. Impact: Exposure of New Noise-Sensitive Land Uses to Noise from Monterey Peninsula Airport and Marina Municipal Airport

Implementation of the proposed project may result in exposure of new noise-sensitive land uses to noise from Monterey Peninsula Airport and Marina Municipal Airport. Figures 4.9-3 and 4.9-4 depict future noise contours from Monterey Peninsula Airport and Marina Municipal Airport. Sound levels in excess of 60 dB may occur at planned noise-sensitive uses. The following policies and programs address aircraft noise on new noise sensitive land uses:

Noise Element

Noise Policy A-1: See above for description of this policy.

Program A-1.1: See above for description of this program.

Noise Policy B-2: See above for description of this policy.

Noise Policy B-3: See above for description of this policy.

Noise Policy B-4: See above for description of this policy.

Noise Policy B-5: See above for description of this policy.

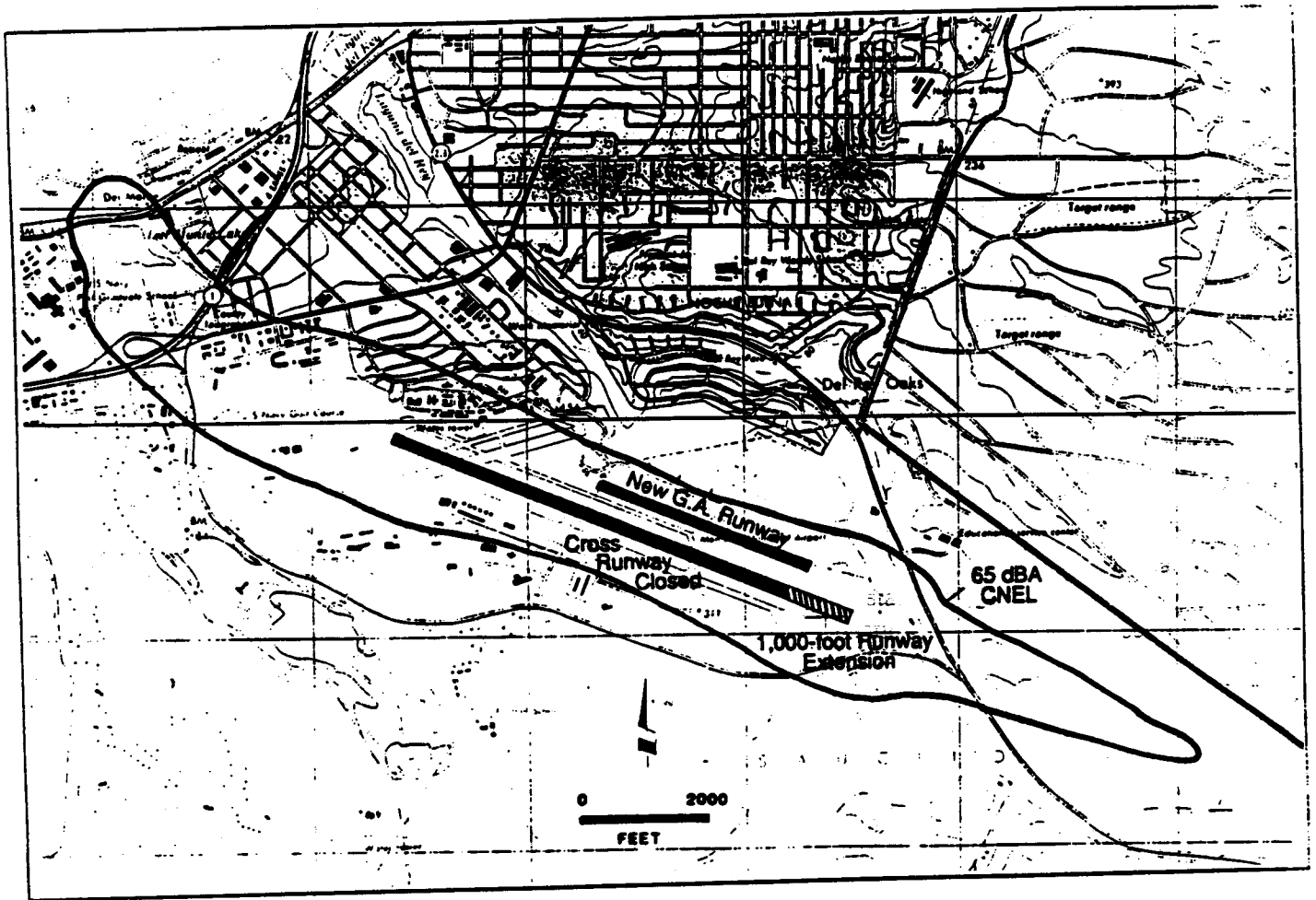
Noise Policy B-6: See above for description of this policy.

Noise Policy B-7: See above for description of this policy.








Noise Policy B-8: See above for description of this policy.

Because implementation of these policies and programs will limit aircraft noise levels to normally acceptable level at residential and other sensitive areas, this impact is considered less than significant.

Mitigation: None required.



LEGEND

-  Airport Property Line
 Marina Corporate Boundary
 Existing Noise Sensitive Land Uses
 Residential
 Schools
 Churches
 Public Assembly

Future Land Use

SF- Single Family

LDMF - Low Density Multifamily

NC - Neighborhood Commercial

CC - Community Commercial

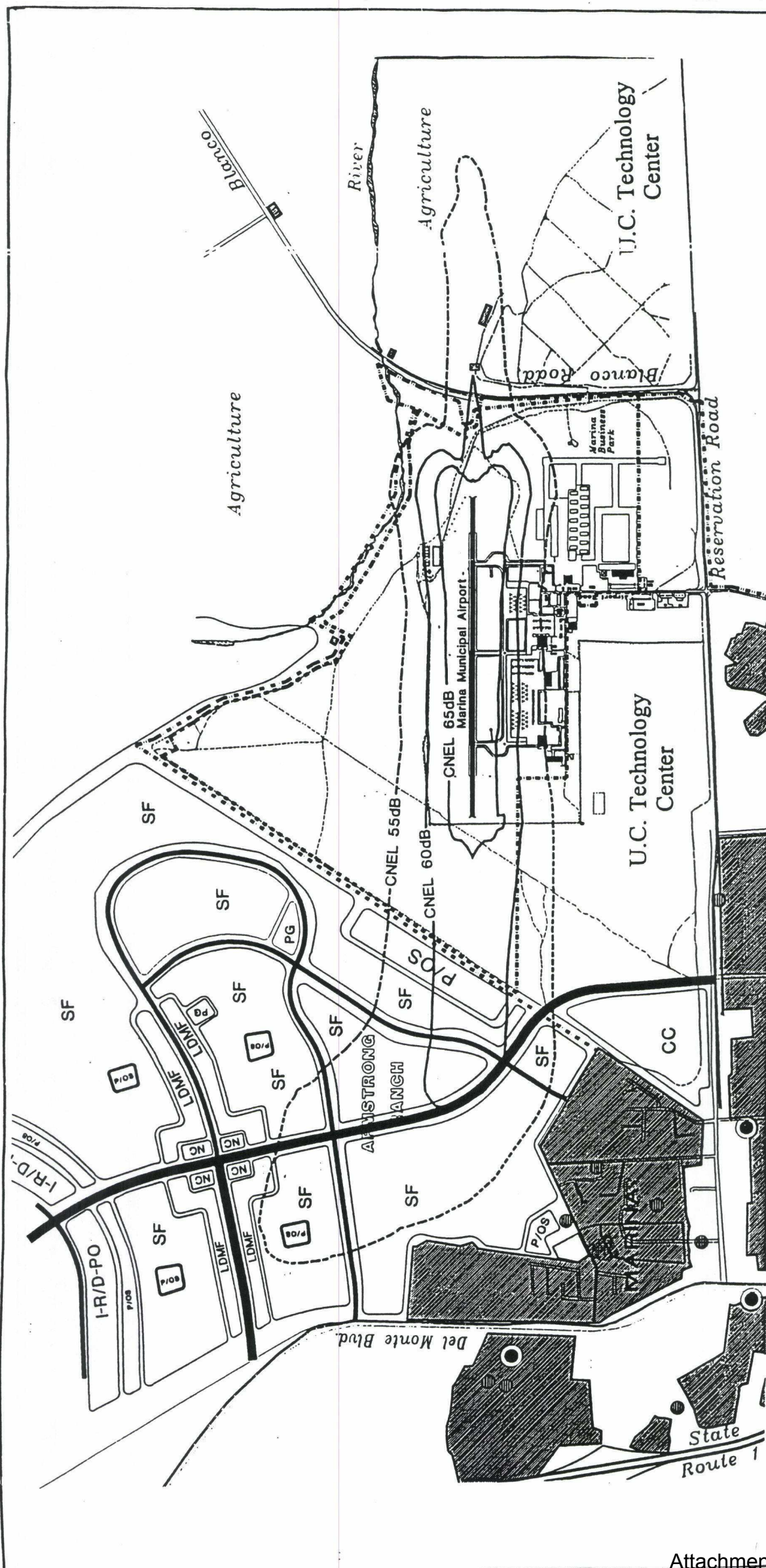
P/OS - Parks/Open Space

PG - Public Grounds/Buildings

AG - Agriculture

I-R/D-PO - Industrial-Research/

Development-Professional Office



**Figure 4.9-4
2015 Noise Contours for
Marina Airport**

Source: City of Marina, 1995; P&D Aviation

5. Impact: Exposure of Existing and Planned Noise-Sensitive Land Uses to Noise from Non-Transportation Sources, Including the Proposed Amphitheater, Peace Officers Training Facility, and the Transit Center

Implementation of the proposed project may result in the exposure of existing and planned noise-sensitive land uses to noise from non-transportation sources, including the proposed amphitheater, peace officers training facility, and the transit center. Proposed land uses that may potentially generate noise include the amphitheater, peace officers training facility, and the transit center. Use of these proposed facilities may expose existing and planned noise-sensitive land uses to excessive noise. The following policies and programs address the exposure of existing and proposed noise sensitive land uses to noise from non-transportation sources:

Noise Element

Noise Policy A-1: See above for description of this policy.

Program A-1.1: See above for description of this program.

Program A-1.2: See above for description of this program.

Noise Policy B-1: See above for description of this policy.

Program B-1.1: See above for description of this program.

Noise Policy B-2: See above for description of this policy.

Noise Policy B-3: See above for description of this policy.

Noise Policy B-4: See above for description of this policy.

Noise Policy B-5: See above for description of this policy.

Noise Policy B-6: See above for description of this policy.

Noise Policy B-7: See above for description of this policy.

Noise Policy B-8: See above for description of this policy.

Because implementation of these policies will limit noise from these sources to normally acceptable levels at planned residential and other sensitive areas, this impact is considered less than significant.

Mitigation: None required.

4.10 Biological Resources

This section summarizes the description of biological resources at former Fort Ord that can be found in detail in the following documents: *Flora and Fauna Baseline Study of Fort Ord, California* (December 1992); *Draft Fort Ord Disposal and Reuse Biological Assessment* (February 1993); *Supplement to the Draft Fort Ord Disposal and Reuse Biological Assessment* (April 1993); *Final Environmental Impact Statement, Fort Ord Disposal and Reuse* (April 1993); *Installation-Wide Multispecies Habitat Management Plan for Fort Ord, California* (February 1994); and *University of California-Fort Ord Step Center Biotic Study, Phase I* (July 1994).

4.10.1 Environmental Setting

The former Fort Ord is located on California's central coast, a floristically diverse and unusual region. The wide range of climatic, topographic, and soil conditions at former Fort Ord contribute to the variety and uniqueness of the biological communities present. Eight broad categories of biological communities have been identified at former Fort Ord: beaches, bluffs & coastal strand; disturbed dune; coastal scrub; maritime chaparral; coast live oak woodland & savanna; native grassland; annual grassland and wetlands. A description of each of these communities follows.

Biological Communities

Coastal Strand and Dune Communities

Coastal strand and dune communities occur adjacent to Monterey Bay and west of State Highway 1. The native dune vegetation at former Fort Ord is mostly absent or degraded because of the aggressive growth of African ice plant. Native plants have been largely excluded except in scattered patches and at the far north end of the dunes. Five types of coastal strand and dune communities are recognized on former Fort Ord: beaches, bluffs and blowouts; disturbed dunes; coastal strand; dune scrub; and ice plant mats

Most of the coastal areas at former Fort Ord support a stabilized dune community dominated by the non-native, aggressive ice plant - about 575 acres. This ice plant spreads as large, thick mats derived from individual seeds or vegetative clones. It crowds out native perennial species by taking up space, water, and light, and eliminates habitat for native annual species by stabilizing dune sands. Ice plant mats provide cover for some wildlife but they provide very little forage.

The beaches, bluffs, and blowouts adjacent to Monterey Bay, and disturbed dunes comprise about 300 acres. These areas are generally devoid of vegetation because of the frequently moving substrates or intense ground disturbance in firing ranges, around structures, and in borrow pits. The vegetation that does establish in these areas consists of species tolerant of frequent ground disturbance such as sea rocket, beach primrose, soft chess, riggut brome, annual fescue and kukuya grass. Common wading birds, such as sanderlings, plovers, and godwits occur along the beaches; California ground squirrels, deer mice, and red foxes occur in the disturbed dune.

Coastal strand and dune scrub are of limited extent at former Fort Ord. Coastal strand occurs on approximately 89 acres and dune scrub comprises only 8 acres. These communities contain native perennial herbs and subshrubs including wild buckwheat, broadleaf paintbrush, Douglas' bluegrass, bush lupine and coyote brush. Wildlife diversity increases in the central dune scrub relative to other dune communities because soils are more stable and vegetation is more abundant.

Maritime Chaparral

Maritime chaparral is former Fort Ord's dominant vegetation type, covering approximately 12,500 acres. This vegetation is characterized by a wide variety of evergreen, sclerophyllus (hard-leaved) shrubs occurring in moderate to high density on sandy, well-drained substrates within the zone of coastal fog. Maritime chaparral integrates with coastal scrub and coast live oak woodland.

This community is primarily dominated by shaggy-barked manzanita. Other species found in the shrub layer include chamise, Toro manzanita, sandmat manzanita, toyon, blue blossom ceanothus and Monterey ceanothus. The greatest diversity of wildlife species at former Fort Ord occur in the chaparral. Birds such as orange-crowned warbler, rufous-sided towhee, and California quail nest in the chaparral. Small mammals such as California mouse and brush rabbit forage in this habitat and serve as prey for gray fox, bobcat, spotted skunk and western rattlesnake.

Many special-status plant species occur in this community, including Toro manzanita, sandmat manzanita, Hooker's manzanita, Monterey ceanothus, Eastwood's ericameria, Monterey spineflower and sand gilia.

Coastal Scrub

Coastal scrub occurs near the coast on sandy soils and on inland hills on shallow soils. It integrates with grassland, maritime chaparral, coast live oak woodland and dune scrub. More inland areas of former Fort Ord support coastal sage scrub on rocky slopes as habitat patches within annual grassland and oak woodland. The vegetation is characterized by sparse to dense cover of soft-leaved, low-stature shrubs such as coyote brush, California sagebrush, and black sage. Wildlife using this habitat are similar to those species expected in the maritime chaparral. Approximately 550 acres of coastal scrub occurs at former Fort Ord.

The coastal scrub at former Fort Ord is classified as Lucian or Central coastal scrub in Holland's (1986) classification. Lucian coastal scrub is locally abundant on the west side of the Santa Lucia range between Monterey and Point Conception. Coastal scrub is considered an important natural community because it provides habitat for several special-status plants, provides forage for wildlife, and stabilizes sandy soils and steep slopes.

Coast Live Oak Woodland and Savanna

The coast live oak is the dominant tree of woodlands and savannas at former Fort Ord. The live oak woodland is an open-canopied to nearly closed-canopied community with a grass or sparsely scattered shrub understory. Coastal forms of this community are characterized by short, wind-pruned trees exposed to persistent salt spray, which grow on sandy soils. Inland coast live oaks grow tall because they are protected by topographic position from the coastal weather influences. There are approximately 5,000 acres of oak woodlands at former Fort Ord.

Oak habitats in general are important for a variety of wildlife species. Oaks provide nesting sites and cover for birds and cover for many mammals. Common wildlife species in coast live oak woodlands include black-tailed deer, California mouse, raccoon, California quail, scrub jay, and Nuttall's woodpecker. Red-tailed hawks and great-horned owls nest and roost in the inland coast live oaks, but probably make little use of the coastal oaks because the tightly spaced branches discourage them from entering the tree canopies.

Oak woodlands and savannas are considered important natural communities because they provide a variety of ecological, aesthetic, and economic values. The extent of oak woodlands in California has declined as a result of agricultural conversion, urban development, fuelwood harvesting, and grazing activities. Because of this decline, the California Department of Forestry and Fire Protection, California Department of Fish and Game, California Native Plant Society, and The Nature Conservancy have identified the conservation and management of oak woodlands as a priority.

State agencies are encouraged by California Senate Concurrent Resolution Number 17 (California Resolution Chapter 100, 1989) to preserve and protect native oak woodlands (sites with greater than five trees per acre) to the maximum extent feasible or to provide replacement plantings where Blue, Engelman, Valley or Coast Live Oak are removed. In its Joint Policy on Hardwoods, the Fish and Game Commission recognizes the importance of the hardwood resources (including oaks) in California and establishes joint policies with the California Department of Forestry for managing and maintaining these resources. In addition, several local jurisdictions maintain policies to preserve and protect native vegetation. Monterey County specifically addresses the preservation of oak trees through a County Ordinance (Ordinance No. 3420).

Grasslands

The former Fort Ord supports mostly annual grassland comprised of non-native species but there are some areas where native perennial bunchgrasses are well-represented. Grasslands occur at the most inland, southeast section of former Fort Ord; at the Marina Municipal Airport; and as scattered, small meadows within coast live oak woodland and maritime chaparral. Approximately 4,240 acres of annual grasslands, and 475 acres of perennial grasslands occur at former Fort Ord.

Annual grasslands dominated by introduced species such as slender wild oats, soft chess, and ripgut brome are the most common grassland community at former Fort Ord. Perennial grasslands are of two types at former Fort Ord: valley needlegrass grassland and blue wildrye. Valley needlegrass grassland, dominated by native purple needlegrass, is scattered throughout the southeastern portion of the installation. Small patches of blue wildrye grassland occur sporadically in the southeastern portion of the installation. Common wildlife species include California ground squirrel, Heerman's kangaroo rat, narrow-faced kangaroo rat, western meadowlark, and kestrel.

Riparian Communities

Riparian communities occur on the banks of seasonal or permanent creeks and drainages. There are approximately 37,170 linear feet of creeks and drainages total and 7,660 linear feet of creeks and drainages with riparian habitat. Riparian habitats at former Fort Ord are limited to the Salinas River, Toro Creek, Pilarcitos Canyon, and Merrill Ranch Canyon. The riparian communities along the Salinas River and Toro Creek are mixed riparian forests supporting a variety of tree species. The communities in Pilarcitos and Merrill Ranch Canyons are oak riparian forests dominated by coast live oaks with a dense understory of annual grasses.

Riparian corridors are important wildlife habitat because they typically support the highest diversity of wildlife and provide movement corridors between different communities. Common wildlife species that occur in riparian communities include Pacific tree frog, California slender salamander, Wilson's warbler, dark-eyed junco, striped skunk, coyote, and black-tailed deer.

**Fort Ord Reuse Plan
Draft EIR**

EDAW, Inc. May, 1996

Legend:

- Coastal Strand and Dune
- Chaparral and Coastal Scrub
- Coast Live Oak Woodland and Savanna
- Grasslands
- Riparian
- Wetland and Open Water
- Developed - Nonhabitat

Scale: 1:60,000

Scale Bar: 0 to 3 miles / 0 to 10,000 feet / 0 to 3 kilometers

North Arrow: (Symbol pointing North)

**Fort Ord Reuse Plan
Draft EIR**

EDAW, Inc. May, 1996

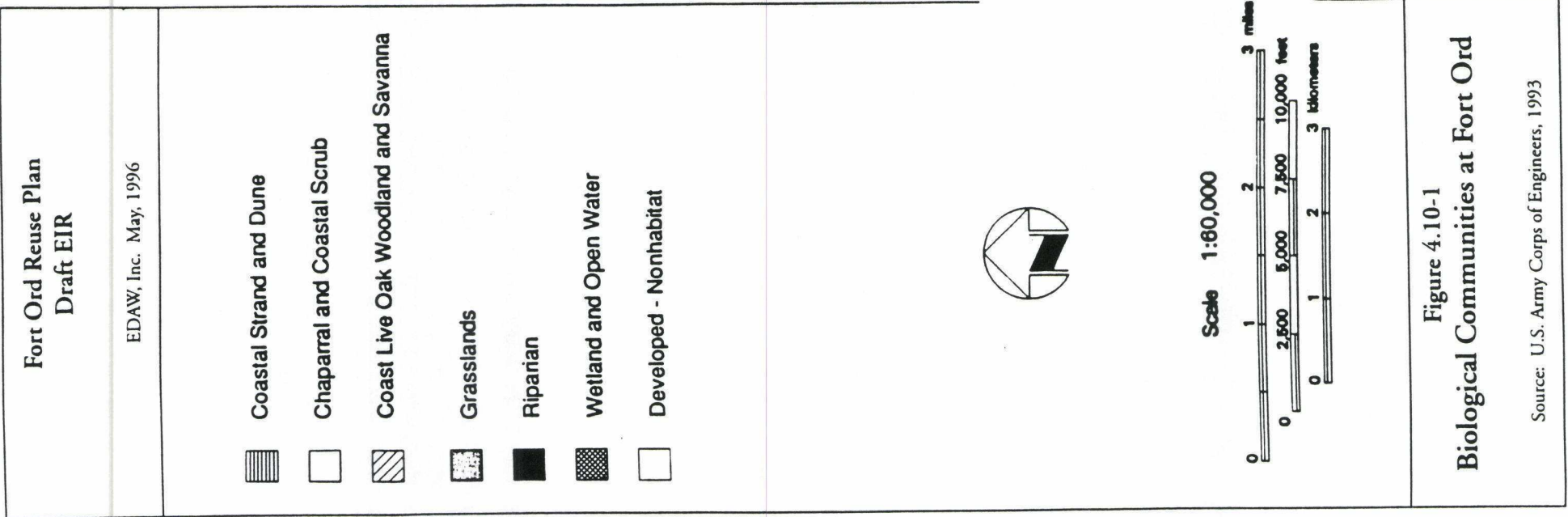
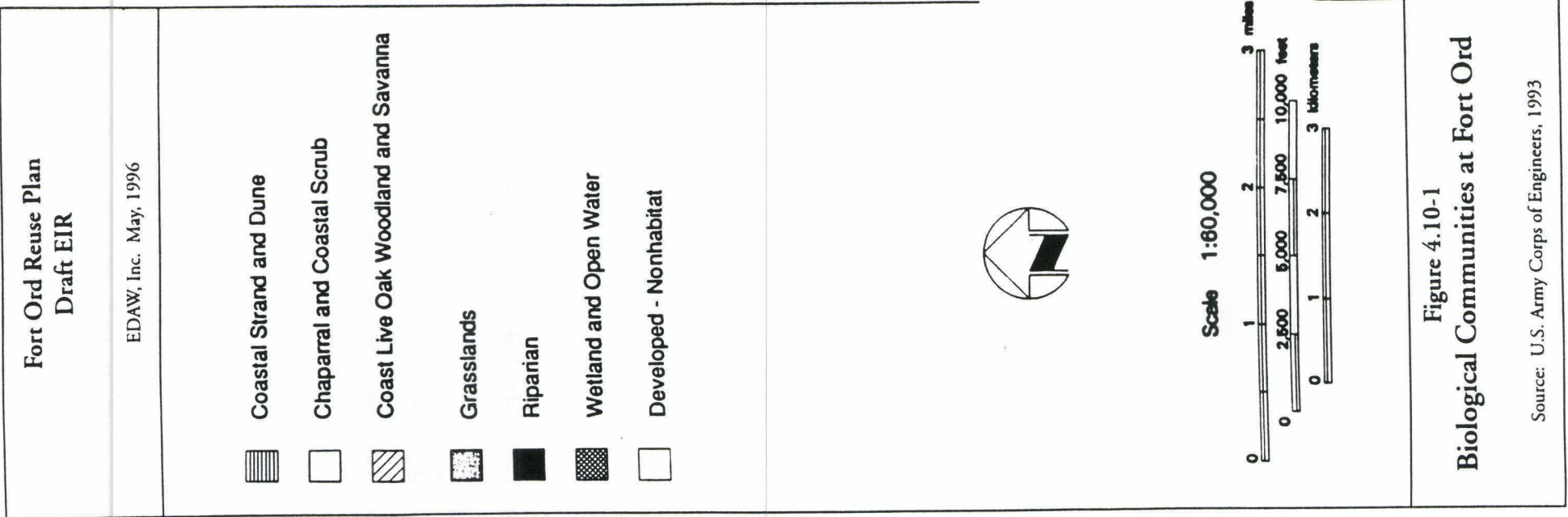
Legend:

- Coastal Strand and Dune
- Chaparral and Coastal Scrub
- Coast Live Oak Woodland and Savanna
- Grasslands
- Riparian
- Wetland and Open Water
- Developed - Nonhabitat

Scale: 1:80,000

Scale Bar: 0 to 3 miles / 0 to 10,000 feet / 0 to 3 kilometers

North Arrow: (Symbol pointing North)



**Fort Ord Reuse Plan
Draft EIR**

EDAW, Inc. May, 1996

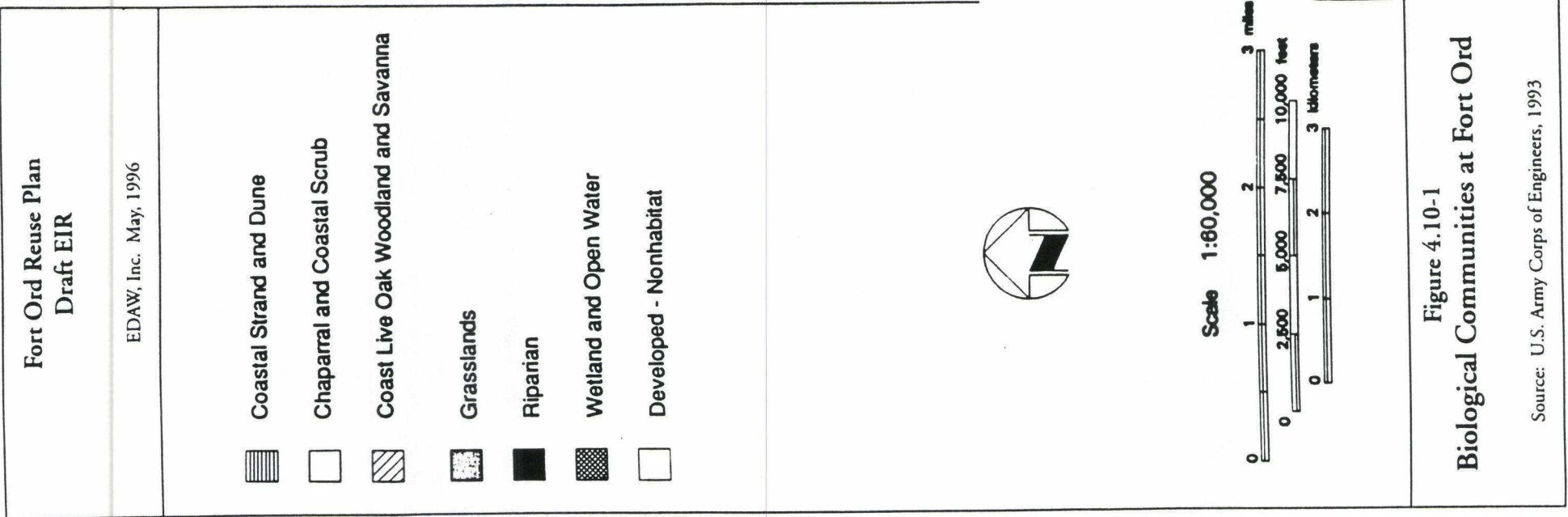
Legend:

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- Grasslands
- Riparian
- Wetland and Open Water
- Developed - Nonhabitat

Scale: 1:80,000

Scale Bar: 0 1 2 3 miles / 0 2,500 5,000 7,500 10,000 feet / 0 1 2 3 kilometers

North Arrow: (Symbol pointing North)



**Fort Ord Reuse Plan
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Scale: 1:80,000

Scale Bar: 0 1 2 3 miles / 0 2,500 5,000 7,500 10,000 feet / 0 1 2 3 kilometers

North Arrow: (Symbol pointing North)

**Fort Ord Reuse Plan
Draft EIR**

EDAW, Inc. May, 1996

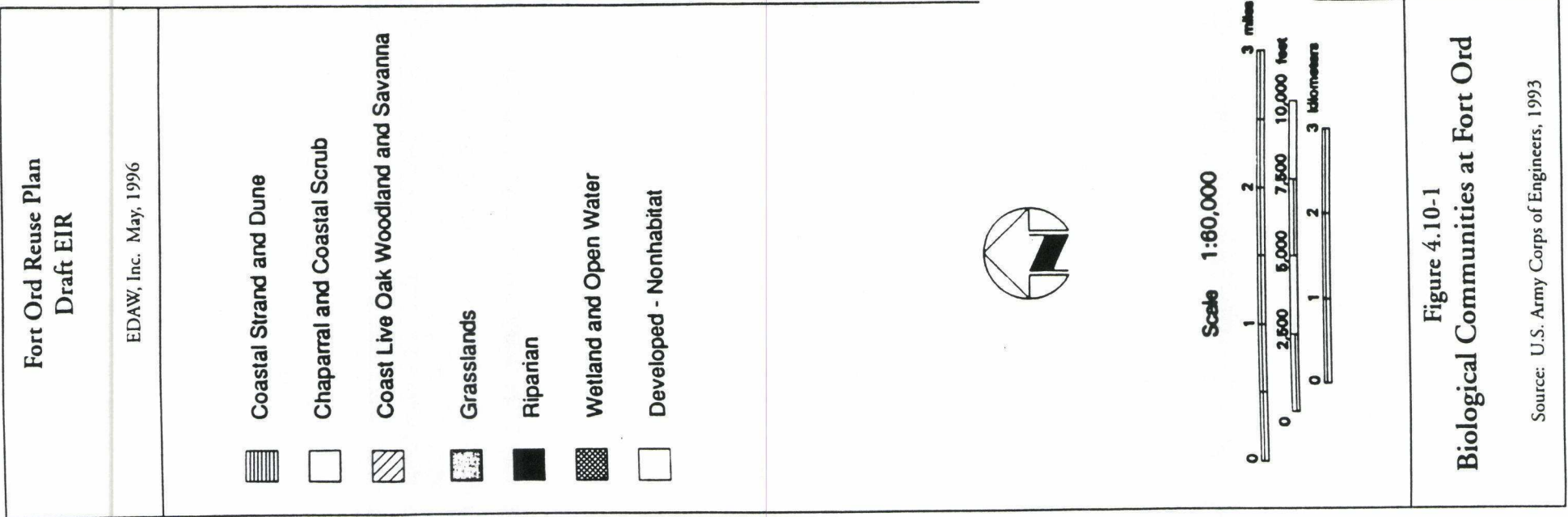
Legend:

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- Grasslands
- Riparian
- Wetland and Open Water
- Developed - Nonhabitat

Scale: 1:80,000

Scale Bar: 0 1 2 3 miles / 0 2,500 5,000 7,500 10,000 feet / 0 1 2 3 kilometers

North Arrow: (Symbol pointing North)



Wetland and Open Water Communities

Four major types of wetland and open water communities are scattered throughout former Fort Ord: vernal pools, freshwater marshes, ephemeral drainages, and artificial ponds. Wetlands include sites of both permanent and seasonal inundation. The general distribution of these wetland and open water communities is illustrated on Figure 4.10-1.

Vernal pools are small, seasonally flooded basins in grasslands. Plant and wildlife species in these pools are specially adapted to live through winter and spring flooding and summer and fall drought. Common plant species include common spike-rush, hyssop loosestrife, and Vasey's coyote thistle. Common wildlife species include western spadefoot toad, garter snake, and northern rough-winged swallow. At former Fort Ord, vernal pools are most common on sites mapped as Antioch soils in isolated grassland patches within a matrix of maritime chaparral. The largest of these vernal pools is at Machine Gun Flats.

Freshwater marshes are characterized by perennial, emergent plants that thrive in areas permanently flooded or saturated by fresh water. This community is usually found around freshwater ponds and perennial stream channels. Common plants include water smartweed and broad-leaved cattail. Common wildlife species include mallard, red-winged blackbird, and marsh wren. At former Fort Ord, freshwater marsh occurs around the perimeter of ponds and in patches in the channels of Toro Creek and the Salinas River.

The former Fort Ord is bordered on the north by the Salinas River which carries water year round. Most of the other drainages at former Fort Ord are intermittent or ephemeral. Intermittent streams carry water during the rainy season. Ephemeral streams are watercourses that convey runoff during and immediately after rainfall events to intermittent and perennial drainages. Drainages in Pilarcitos and Merrill Ranch Canyons are intermittent and ephemeral watercourses occur in areas adjacent to Toro Creek and the Salinas River. Poorly defined drainages are dominated by upland plants including soft chess, Italian wildrye, barley and wild oats. More well-defined drainages support more moisture-tolerant species such as rabbitfoots grass and Mediterranean barley. Deeply cut drainages that transport larger amounts of water support dense bank vegetation, including coast live oak, California blackberry, and coyote brush. Wildlife species found in drainages with at least seasonal moisture are similar to those occurring in vernal pools and freshwater marshes.

Artificial ponds have been constructed throughout former Fort Ord to provide water for livestock and wildlife. Most of the ponds, however, occur in the southeastern portion of the base and are associated with the livestock grazing lease. The largest pond at former Fort Ord is Mudhen Lake. The immediate edges of most of these ponds are typically unvegetated because of widely fluctuating water levels. When ponds and reservoirs are full, mallards, cinnamon teal, canvasback, pintail and other waterfowl forage and rest in the open water. Other species that use freshwater marsh habitat around rivers and vernal pools will also use the limited marsh habitat available at ponds and reservoirs.

Marine Community

The marine environment of Monterey Bay is widely recognized as important habitat for an array of marine wildlife and has been approved for federal protection as part of the Monterey Bay National Marine Sanctuary.

Approximately 27 species of marine mammals and 94 species of seabirds are known to occur in the Monterey Bay region, including nine special-status mammals, 17 special-status birds, and three

endangered sea turtles. Most species occur as nonbreeding residents or spring and fall migrants. All the special-status birds may fly over the marine range area at former Fort Ord or in the open water, and southern sea otters may occasionally feed in the marine range area; however, no important marine mammal haul-out or breeding areas or seabird nesting colonies occur at former Fort Ord.

Special Status Species

For purposes of this report, special status species are those which fall into the following categories:

- Plants or animals listed or proposed for listing as threatened or endangered under the federal Endangered Species Act.
- Plants or animals that are Category 1 or 2 candidates for possible future listing as threatened or endangered under the federal Endangered Species Act.
- Plants or animals listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act.
- Plants or animals that meet the definitions of rare or endangered under the California Environmental Quality Act.
- Plants listed under the California Native Plant Protection Act.
- Plants considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California".
- Plants listed by CNPS as plants about which more information is needed to determine their status and plants of limited distribution which may be included as special-status species on the basis of local significance or recent biological information.
- Animal species of special concern to the California Department of Fish and Game (CDFG).

Botanical surveys during spring 1992 identified populations of 22 special-status plant species at former Fort Ord. Three of the species are listed as threatened or endangered under the federal or state endangered species acts: sand gilia, Monterey spineflower, and Seaside bird's beak. There are also 22 special-status wildlife species known to occur or have potential to occur in terrestrial and freshwater environments at former Fort Ord. Two species, Smith's blue butterfly and American peregrine falcon, are federally listed as endangered, and coastal populations of the western snowy plover are listed as threatened.

The Army's FEIS for the disposal and reuse of former Fort Ord identified the need to develop and implement an installation-wide multispecies Habitat Management Plan (HMP) as a mitigation measure for impacts on vegetation, wildlife, and wetland resources. The HMP was developed with input from federal, state, local and private agencies and organizations concerned with the natural resources and reuse of former Fort Ord. The final HMP was completed in February 1994 and has been approved and signed by the U.S. Fish and Wildlife Service.

The wildlife and plant species addressed in the HMP are a subset of the species analyzed in the FEIS. The species addressed in the HMP are those that were federally listed or proposed for listing as threatened or endangered, species with a significant portion of their range at former Fort Ord, or species with a significant portion of their local distribution at Fort Ord. Habitats important to these species also were included in the HMP. A list of the species and habitats addressed by the HMP is provided in Table 4.10-1. There are other sensitive biological resources at former Fort Ord that were not addressed in the HMP. These resources typically include species or habitats that have limited legal protection status but may be considered sensitive for various reasons by CDFG, other resource agencies and interest organizations. These "non-HMP species" and habitats are listed in Table 4.10-2.

Table 4.10-1. Resources Considered in the HMP - "HMP Resources"

SPECIES COMMON AND SCIENTIFIC NAME	STATUS ¹ FEDERAL/STATE/ OTHER	HABITAT
Plants		
Sand gilia	E/CNPS 1B	Sandy openings in coastal dunes and scrub and maritime chaparral
<i>Gilia tenuiflora</i> ssp. <i>arenaria</i>		
Monterey spineflower	T/--/CNPS 1B	Recently disturbed sandy sites in coastal dune, coastal scrub, grassland, and maritime chaparral
<i>Chorizanthe pungens</i> var. <i>pungens</i>		
Robust spineflower*	/--/CNPS 1B	Sandy soils in coastal dune and coastal scrub habitats
<i>Chorizanthe robusta</i> var. <i>robusta</i>		
Seaside bird's-beak	C1/E/CNPS 1B	sandy soils of stabilized dunes, maritime chaparral, coastal scrub, and closed-cone coniferous forests
<i>Cordylanthus rigidus</i> var. <i>littoralis</i>		
Toro manzanita	C2/--/CNPS 1B	stabilized sandy soils and badlands in maritime chaparral
<i>Arctostaphylos montereyensis</i>		
Sandmat manzanita	C2/--/CNPS 1B	sandhills of maritime chaparral and coast live oak woodland
<i>Arctostaphylos pumila</i>		
Monterey ceanothus	C2/--/CNPS 4	sandy hills and flats of maritime chaparral, closed-cone forest, and coastal scrub
<i>Ceanothus rigidus</i>		
Eastwood's ericameria	C2/--/CNPS 1B	inhabits coastal dune and scrub, maritime chaparral, and closed-cone coniferous forest communities
<i>Ericameria fasciculata</i>		
Coast wallflower	C2/--/CNPS 1B	scattered on stabilized coastal dunes
<i>Erysimum ammophilum</i>		
Yadon's piperia	PE/--/CNPS 1B	sandy soils in maritime chaparral, coastal scrub, and closed-cone coniferous forest
<i>Piperia yadoni</i>		
Hooker's manzanita	--/--/CNPS 1B	sandy soils, sandy shales, and sandstone outcrops
<i>Arctostaphylos hookeri</i>		
Wildlife		
Smith's blue butterfly	E/--/--	uses coastal dunes and hillsides that support seaciff buckwheat or coast buckwheat (nectar source for adults and host plant for larvae)
<i>Euphilotes enoptes smithi</i>		
California red-legged frog	PE/CSC/--	cold water ponds with emergent and submergent vegetation and riparian vegetation at the edges
<i>Rana aurora draytoni</i>		
Western snowy plover	T/CSC/--	along beaches above the high tide limit, shores of salt ponds and alkali or brackish inland lakes
<i>Charadrius alexandrinus nivosus</i>		
California black legless lizard	PE/CSC/--	moist, warm habitats with loose soil for burrowing and prostrate plant cover, may be found on beaches, in chaparral, pine oak woodland, or riparian areas
<i>Anniella pulchra nigra</i>		

SPECIES COMMON AND SCIENTIFIC NAME	STATUS ¹ FEDERAL/STATE/ OTHER	HABITAT
California tiger salamander <i>Ambystoma tigrinum californiense</i>	C1/CSC	open woodlands and grasslands, required water for breeding and burrows or cracks in the soil for summer dormancy
Monterey ornate shrew <i>Sorex ornatus salarius</i>	C2/-/-	variety of riparian, woodland, and upland communities where there is thick duff or downed logs
Habitats		
Maritime chaparral	-/-/CEQA	
Native coastal strand	-/-/CEQA	
Dune scrub	-/-/CEQA	

* Species status change - not listed as federally endangered

1. Status Explanations

Federal

E = listed as endangered under the federal Endangered Species Act
T = listed as threatened under the federal Endangered Species Act
PE = proposed for federal listing as endangered under the federal Endangered Species Act
C1 = Category 1 candidate for federal listing. Category 1 includes species for which USFWS has on file enough substantial information on biological vulnerability and threats to support proposals to list them.
C2 = Category 2 candidate for federal listing. Category 2 includes species for which USFWS has some biological information indicating that listing may be appropriate but for which further biological research and field study are usually needed to clarify the most appropriate status.
-- = no designation

State

E = listed as endangered under the California Endangered Species Act
T = listed as threatened under the California Endangered Species Act
CSC = California Department of Fish and Game species of special concern
-- = no designation

Other

CNPS 1B = California Native Plant Society list 1B: plants listed as rare, threatened or endangered in California and elsewhere
CNPS 4 = California Native Plant Society list 4: plants of limited distribution in California - a watch list
CEQA = resources with no formal listing that are considered sensitive by CDFG through the CEQA review process (see Appendix A for explanation)
-- = no designation

Table 4.10-2. Resources Not Considered in the HMP - "Non-HMP Resources"

COMMON AND SCIENTIFIC NAME	STATUS ¹ FEDERAL/STATE/ OTHER	HABITAT
Plants		
Hickman's onion	C1/--/CNPS 1B	grassy openings in closed-cone pine forests, maritime chaparral, and valley and foothill grasslands
<i>Allium hickmanii</i>	--/--/CNPS 4	sandy hills in chaparral
Pajaro manzanita	--/--/CNPS 4	coastal dunes and scrub
<i>Arctostaphylos pajaroensis</i>	--/--/CNPS 4	gravelly or sandy slopes
Monterey Indian paintbrush	--/--/CNPS 4	coastal scrub, oak woodland, and chaparral communities
<i>Castilleja latifolia</i>	--/--/CNPS 4	
Douglas' spineflower	--/--/CNPS 4	
<i>Chorizanthe douglasii</i>	--/--/CNPS 4	
Lewis' clarkia	--/--/CNPS 4	
<i>Clarkia lewisii</i>	--/--/CNPS 4	
Virgate eriastrum	--/--/CNPS 4	
<i>Eriastrum virgatum</i>	C2/--/CNPS 1B	sandy and gravelly places in coastal scrub, maritime chaparral, and closed-cone coniferous forest communities
Wedge-leaved horkelia	--/--/CNPS 4	chaparral and open pine forests
<i>Horkelia cuneata</i> ssp <i>sericea</i>	--/--/CNPS 4	
Small-leaved lomatum	--/--/CNPS 4	
<i>Lomatium parvifolium</i>	--/--/CNPS 4	
Santa Cruz monkey flower	--/--/CNPS 4	
<i>Mimulus rattanii</i> var. <i>decurtatus</i>	--/--/CNPS 4	
Curly-leaved monardella	--/--/CNPS 4	
<i>Monardella undulata</i> var. <i>undulata</i>	--/--/CNPS 4	
Purple-flowered piperia	--/--/CNPS 4	
<i>Piperia elongata</i> ssp. <i>michaelii</i>	--/--/CNPS 4	
Animals		
Southwestern pond turtle	C2/CSC/--	Requires aquatic habitats such as ponds, marshes or streams, with rocky or muddy bottoms and vegetation for cover and food
<i>Clemmys marmorata pallida</i>	C2/CSC/--	Occurs in areas with sandy soils and moderate cover
Coast horned lizard	--/CSC/--	
<i>Phrynosoma coronatum</i>	--/CSC/--	
Cooper's hawk	--/CSC/--	
<i>Accipiter cooperi</i>	--/CSC/--	
Sharp-shinned hawk	--/CSC/--	
<i>Accipiter striatus</i>	--/CSC/--	

COMMON AND SCIENTIFIC NAME	STATUS FEDERAL/STATE/ OTHER	HABITAT
Golden eagle <i>Aquila chrysaetos</i>	--/CSC/--	Nests in cliffs and large oaks; forages in annual grasslands, chaparral and oak woodlands with abundant medium-sized and large mammals for prey
Burrowing owl <i>Athene cunicularia</i>	C2/CSC/--	Nests in abandoned ground squirrel burrows in dry, flat grasslands, deserts and agricultural areas
Northern harrier <i>Circus cyaneus</i>	--/CSC/--	Marshes and grasslands
Yellow warbler <i>Dendroica petechia</i>	--/CSC/--	Nests in riparian areas dominated by willows, cottonwoods, sycamores, or alders; may also use oaks, conifers and urban areas if they are near stream courses
Prairie falcon <i>Falco mexicanus</i>	--/CSC/--	Nests in cliffs and escarpments; forages in grasslands, pastures, savannas and desert scrub
Peregrine falcon <i>Falco peregrinus</i>	E/E/--	Nests and roosts on protected ledges on high cliffs, usually adjacent to water sources that support large bird populations
Tricolor blackbird <i>Agelaius tricolor</i>	C2/CSC/--	Nests in freshwater marshes with heavy growths of cattails and tules; other forms of dense vegetation may also be used for nesting; nesting areas must be large enough to support a colony of at least 50 pairs; birds forage in grasslands and fields surrounding the colony
Monterey dusky-footed woodrat <i>Neotoma fuscipes luciana</i>	C2/--/--	Uses habitats with moderate to dense cover and abundant dead wood for nest construction; maritime chaparral and coastal live oak woodland at Fort Ord
American badger <i>Taxidea taxus</i>	--/CSC/--	open, grassy areas with scattered shrubs or trees for cover and loose soil for digging
Loggerhead shrike <i>Lanius ludovicianus</i>	C2/--/CSC--	open woodland habitats with scattered trees, shrubs, posts, fences, or other perches
California horned lark <i>Eremophila alpestris actia</i>	C2/--/CSC--	grasslands, rangelands, and other open habitats with low, sparse cover
Townsend's big-eared bat <i>Plecotus townsendii</i> ssp <i>townsendii</i>	C2/CSC/--	Inhabits oak bay woodlands and mixed broadleaf conifer woodlands. Requires access to caves, abandoned mines, building attics, or other dark cavities for daytime refuges.
Pallid bat <i>Antrozous pallidus</i>	C2/CSC/--	Found from annual grasslands through mixed-conifer forests. Most common in dry, open habitats with rocky areas available for day roosts.
California mastiff bat <i>Eumops perotis</i>	--/CSC/--	Lowland areas in arid to semi-arid habitats including deciduous woodlands, coastal scrub, and annual grasslands.

Habitats

Valley needlegrass grassland
Riparian forest

--/--/CEQA
--/--/CEQA

Oak woodlands
Streamzones
Wetlands

--/--/CEQA
--/--/COE, CDFG
--/--/COE, CEQA

1. Status Explanations

Federal

E = listed as endangered under the federal Endangered Species Act
C1 = Category 1 candidate for federal listing. Category 1 includes species for which USFWS has on file enough substantial information on biological vulnerability and threats to support proposals to list them.
C2 = Category 2 candidate for federal listing. Category 2 includes species for which USFWS has some biological information indicating that listing may be appropriate but for which further biological research and field study are usually needed to clarify the most appropriate status.
-- = no designation

State

E = listed as endangered under the California Endangered Species Act
CSC = California Department of Fish and Game species of special concern
-- = no designation

Other

CNPS 1B = California Native Plant Society list 1B: plants listed as rare, threatened or endangered in California and elsewhere
CNPS 4 = California Native Plant Society list 4: plants of limited distribution in California - a watch list
CEQA = resources with no formal listing that are considered sensitive by CDFG through the CEQA review process (see Appendix A for explanation)
COE = resources that may be subject to the jurisdiction of the U.S. Army Corps of Engineers (see Appendix A for explanation)
CDFG = resources that may be subject to the jurisdiction of the California Department of Fish and Game (see Appendix A for explanation)
-- = no designation

Natural Communities

The Natural Diversity Data Base (NDDDB) Natural Communities Program has the responsibility of maintaining up-to-date records of the state's rare natural communities. Of the approximate 280 natural communities recognized by the NDDDB, about 135 are considered rare enough to warrant tracking. The rare natural communities have no legal status but CDFG, as a "trustee agency" with jurisdiction over fish and wildlife of the state carefully considers the potential effects on these communities through the CEQA process. Several natural communities identified as rare by the NDDDB occur on former Fort Ord. These communities are listed below along with a brief description as to why they are identified as rare.

- Native coastal strand - native coastal strand communities have been reduced by dune disturbance and coastal development to remnants of what were once more extensive communities.
- Dune scrub - dune scrub has been reduced similarly to native coastal strand.
- Central maritime chaparral - the type on former Fort Ord is known only to occur on the Monterey Peninsula.
- Valley needlegrass grassland - less than 1% of the historic range remains in California.
- Riparian forest - over 90% of California's riparian forests have been eliminated.
- Vernal pool - vernal pools are considered wetlands and over 90% of California's wetlands have been lost.
- Freshwater marsh - this is also a wetland habitat and is included for the same reason given for vernal pool.

As is indicated in Table 4.10-1, only native coastal strand, dune scrub and central maritime chaparral habitats were considered in the HMP.

Preserves and Significant Natural Areas

Specific sites at former Fort Ord have been designated as biologically important by federal and state agencies and private organizations. These sites are the CNPS native plant reserves, Smith's blue butterfly reserve, and CDFG significant natural areas.

Native Plant and Butterfly Reserves. Former Fort Ord's mosaic of biological communities creates a unique set of conditions for several special-status plants and wildlife. Recognizing that large portions of these unique and declining biological resources occur at former Fort Ord, the Army, with assistance from CNPS, has identified and agreed to protect 11 native plant reserves and on butterfly reserve. Under the agreement with CNPS, the Army affords protection to them as long as there is no overriding military need for the sites. Plant reserves 6, 7, 11, and 12, were included as mitigation sites in a November 1990 draft mitigation and monitoring plan for construction of the ammunition supply point on Barloy Canyon Road.

Significant Natural Areas. The California Significant Natural Areas Program is administered by CDFG and designed to encourage recognition of the state's most significant natural areas and seek perpetuation of these areas. Significant natural areas have no legal status, but they have been identified in response to a legislative mandate to raise the level of awareness about California's natural diversity and to identify opportunities where cooperative efforts can conserve important biological resources. The CDFG has recognized the unique biological resources at former Fort Ord and identified three significant natural areas.

- *Marina Dunes*: This significant natural area includes the Marina Dunes along the northern boundary of former Fort Ord. In addition to a part of former Fort Ord, this area includes private lands and lands belonging to the City of Marina and the California Department of Parks and Recreation's Marina State Beach. This significant natural area is reported by NDDB to contain eight rare elements including the federally listed endangered Smith's blue butterfly, sand gilia, and Menzie's wallflower, coastal populations of western snowy plover which are federally listed as threatened, and Monterey spineflower which is federally listed as threatened. The other elements are Salinas harvest mouse, black legless lizard, and central dune scrub habitat.
- *West Eucalyptus Road*: This significant natural area encompasses a general area along Eucalyptus Road directly east of the developed area of former Fort Ord. It is reported by NDDB to contain one rare element: sandmat manzanita.
- *Central Eucalyptus Road*: This significant natural area encompasses a general area centered about 1.5 miles east of the West Eucalyptus Road significant natural area. The site is reported by NDDB to include the rare central maritime chaparral habitat and two rare plant species: Eastwood's ericameria and sandmat manzanita.

4.10.2 Environmental Impacts and Mitigation

Significance Criteria

This analysis assumes the proposed project would have a significant impact on biological resources if it would:

- reduce a fish or wildlife population below self-sustaining levels;
- possibly eliminate a plant or animal community;
- substantially reduce the number, or restrict the range of any unique, rare, or endangered species of animals or plants, or the habitat of these species;
- substantially interfere with the movement of any resident or migratory fish or wildlife species;
- introduce new species of plants or animals into an area or introduce a barrier to the normal replenishment of existing species;
- adversely effect riparian habitat, wetlands, or other special-status biological communities;
- conflict with federal or state policies, such as those regarding wetlands and oak woodlands and specifically with the approved HPM;
- substantially conflict with special ecological areas; or
- substantially conflict with special status species.

1. Impact: Loss of Sensitive Species and Habitats Addressed in the Habitat Management Plan (HMP)

The proposed project would result in the loss of up to approximately 2,333 acres of maritime chaparral, zero acres of native coastal strand, two acres of dune scrub, and the potential loss of special-status species associated with these habitats. The loss of these habitats and their associated special-status species is consistent with the assumptions included in the proposed revised HMP as described in the Army's DSEIS.

From a federal perspective, HMP species and habitats are considered protected through implementation of the HMP as approved in February 1994; no further mitigation beyond the HMP should be required to satisfy the U.S. Fish and Wildlife Service and the federal Endangered Species Act (ESA). For the HMP to be implemented to allow FORA and its member agencies to meet the requirements of the ESA, the California Endangered Species Act (CESA), the California Native Plant Protection Act (CNPPA), the Natural Communities Conservation Planning Act of 1991 (NCCP Act), the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) for HMP Resources, an Implementing/Management Agreement has been developed that establishes the conditions under which FORA and its member agencies will receive certain long-term permits and authorizations from the USFWS and the CDFG.

A modification to the February, 1994 HMP has recently been agreed on by the US Fish and Wildlife Service and the Army in consultation with FORA, the University of California, the BLM and others. The modification brings the original HMP map in line with the boundaries shown in the *Draft Fort Ord Reuse Plan* without compromising the objectives for management of listed, proposed and candidate species and other wildlife addressed in the HMP.

The *Draft Fort Ord Reuse Plan* includes the following policies and programs to preserve and protect the sensitive species and habitats addressed in the HMP for former Fort Ord, in conformance with its resource conservation and habitat management requirements and with the guidance provided in the HMP Implementing/Management Agreement.

The Conservation Element

Biological Resources Policy A-1 (City of Marina): The City shall manage, or cause to be managed, the Salinas River Habitat Area (Polygons 1e and 1d) to maintain existing habitat values for HMP species.

Program A-1.1: The City shall restrict development in parcels adjacent to the Salinas River Habitat Area to areas above the bluffs.

Program A-1.2: The City shall monitor, or cause to be monitored, the Salinas River Habitat Area in accordance with the HMP Implementing/Management Agreement and submit annual monitoring reports to CRMP.

Program A-1.3: The City may contract with an appropriate CRMP agency (or other such agency as approved by USFWS) to manage natural resources within the polygon.

Biological Resources Policy A-2: The City shall manage, or cause to be managed the remaining habitat within Marina Habitat Area #2 (Polygon 1b) to maintain existing habitat values for HMP species.

Program A-2.1: The City shall submit to the USFWS and CDFG, through the CRMP program, a plan for implementation of both short-term and long-term habitat management and protection measures for the Marina Habitat Area #2, including consideration of funding sources, legal mechanisms and a time table to provide for prompt implementation of HMP requirements along with the following actions to prevent degradation of habitat:

- Control of off-road vehicle use.
- Prevention of any unauthorized disturbance to the habitat.
- Prevention of the spread of non-native, invasive species that may displace native habitat.

Program A-2.2: Development in this parcel shall be limited to FAA-required airport support facilities (navigational aids, access, and utilities), as well as a six-lane road through the area. Prior to proceeding with the design of allowable facilities, the City shall evaluate alternatives in coordination with a qualified biologist to ensure that the design and/or alignment is environmentally sensitive.

Program A-2.3: The City shall ensure that gates or vehicle barriers are constructed along access roads to prevent unauthorized off-road vehicle travel within the Habitat Area.

Program A-2.4: The City shall maintain, or cause to be maintained, small areas within the Habitat Area with disturbed sandy soils to support Monterey spineflower habitat.

Program A-2.5: The City shall monitor, or cause to be monitored this conservation area in accordance with the HMP Implementing/Management Agreement and submit annual monitoring reports to CRMP.

Program A-2.6: The City may contract with an appropriate CRMP agency (or other such agency as approved by USFWS) to manage natural resources within the polygon

Biological Resources Policy A-3: The City shall preserve in perpetuity the population of Yadon's piperia in Polygon 2a.

Program A-3.1: The City shall require seasonally-timed surveys for Yadon's piperia in Polygon 2a over time in order to establish suitable boundaries for the habitat preserve and proposed mixed-use areas. Consecutive annual surveys for a period of years will provided a comprehensive data base from which to plan land use.

Program A-3.2: Once the habitat preserve for Yadon's piperia has been established, the City shall erect a barrier around the preserve sufficient to restrict vehicle access and require adjacent development to direct its runoff and storm drainage away from the preserve.

Program A-3.3: The City shall monitor, or cause to be monitored this preserve in accordance with the HMP Implementing/Management Agreement and submit annual monitoring reports to CRMP.

Biological Resources Policy A-4: The City shall ensure that all habitat conservation and corridor areas are protected from degradation due to development in, or use of adjacent polygons.

Program A-4.1: The City shall install or require the installation of a barrier sufficient to prevent vehicle access to all habitat conservation and corridor areas within its jurisdiction. Barriers are to be erected on the parcels adjacent to the conservation and corridor areas and are to be maintained in perpetuity. The barrier erected to protect the habitat corridor in Polygon 5c shall also be sufficient to strongly discourage pedestrian access.

Program A-4.2: The City shall require stormwater drainage plans for all developments adjacent to habitat conservation and corridor areas to direct its runoff and storm drainage away from these areas to minimize potential for hydrologic modifications and erosion problems. The City shall require that all developments comply with the drainage plan as well as employ Best Management Practices during construction.

Program A-4.3: The City shall coordinate with the University of California Natural Reserve System when reviewing project applications for city lands that abut the habitat areas managed by the University of California to incorporate appropriate barriers and/or drainage controls into the project design.

Biological Resources Policy A-5: The City shall protect structures in parcels adjacent to the habitat corridor south of Reservation Road and west of Imjin Road (Polygon 5c) from wildfires that may originate in the corridor.

Program A-5.1: The City shall not permit any structures which directly abut the habitat corridor.

Program A-5.2: The City shall require a greenbelt, park, or other fire-resistant, non-residential land use at the boundary between development structures and the habitat corridor.

Biological Resources Policy A-6: The City shall design the Community Park within the residential development north of Imjin Road to incorporate natural habitat features.

Program A-6.1: The City shall encourage the use of native vegetation for landscaping, either as preserved during construction or planted as part of a landscaping plan after construction.

Program A-6.2: The City shall install permanent interpretive displays within the Community Park that describe the natural resources on former Fort Ord and their importance to the Monterey Bay Area.

Biological Resources Policy A-7: Where possible, the City shall encourage the preservation of small pockets of habitat and populations of HMP species within and around developed areas.

Program A-7.1: The City shall require project applicants who propose development in undeveloped natural lands to conduct reconnaissance-level surveys to verify the general description of resources for the parcel provided in the biological resource documents prepared for the U.S. Army Corps of Engineers. The information gathered through these reconnaissance-level surveys shall be submitted as a component of the project application package.

Program A-7.2: The City shall encourage project applicants to incorporate small pockets of habitat containing HMP species and/or habitats amidst the development, where feasible.

Program A-7.3: Where development will replace existing habitat which supports sensitive biological resources, the City shall encourage attempts to salvage some of those resources by collecting seed or cuttings of plants, transplanting vegetation, or capturing and relocating sensitive wildlife species.

Biological Resources Policy A-8: The City shall protect the coastal zone west of State Highway 1 from habitat degradation due to increased public access.

Program A-8.1 The City shall abide by the habitat protection measures outlined in the State Parks Public Works Plan prepared by the State Department of Parks and Recreation for the Fort Ord Dunes State Park.

Biological Resources Policy A-1 (City of Seaside): The City shall ensure that the NRMA is protected from degradation due to development in, or use of, adjacent parcels within its jurisdiction.

Program A-1.1: The City shall coordinate with BLM in the design and installation of appropriate firebreaks to be required on all parcels that border the NRMA. Potential firebreaks include greenbelts, fuel reduction zones, fire roads, paved roads, tilled firebreaks, and parking lots. All firebreaks shall be at the development/habitat boundary, not necessarily at the parcel boundary, and shall be installed within the parcel, not on NRMA lands. Firebreaks on adjacent parcels shall be contiguous.

Program A-1.2: The City shall coordinate with BLM in the design and siting of barriers sufficient to prevent unauthorized vehicle access to the NRMA from adjacent parcels. Gates shall be installed at appropriate points in the barrier to allow for emergency access and BLM and other appropriate agencies shall be provided keys to the gates. The City shall maintain, repair and replace, or cause to be maintained, repaired or replaced, the barrier as necessary in perpetuity.

Program A-1.3: The City shall require stormwater drainage plans for all developments adjacent to the NRMA to incorporate measures for minimizing the potential for erosion in the NRMA due to stormwater runoff.

Biological Resources Policy A-2: The City shall ensure that measures are taken to prevent degradation and siltation of the ephemeral drainage that passes through the Planned Residential Extension District and Community Park in Polygon 24.

Program A-2.1: The City shall require preparation of erosion control plans for proposed developments in vicinity of the ephemeral drainage that specifically address measures for protecting the drainage.

Biological Resources Policy A-3: The City shall protect the coastal zone west of State Highway 1 from habitat degradation due to increased public access.

Program A-3.1 The City shall abide by the habitat protection measures outlined in the State Parks Public Works Plan prepared by the State Department of Parks and Recreation for the Fort Ord Dunes State Park.

Biological Resources Policy A-4: The City shall encourage the preservation of small pockets of habitat and populations of HMP species within and around developed areas.

Program A-4.1: The City shall require project applicants who propose development in underdeveloped natural lands to conduct reconnaissance-level surveys to verify the general description of resources for the parcel provided in the biological resource documents prepared for the U.S. Army Corps of Engineers. The information gathered through these reconnaissance-level surveys shall be submitted as a component of the project application package.

Program A-4.2: The City shall encourage project applicants to incorporate small pockets of habitat containing HMP species and/or habitats amidst the development, where feasible.

Program A-4.3: Where development will replace existing habitat which supports sensitive biological resources, the City shall encourage attempts to salvage some of those resources by collecting seed or cuttings of plants, transplanting vegetation, or capturing and relocating sensitive wildlife species.

Biological Resources Policy A-1 (County of Monterey): The County shall preserve all habitat in the County of Monterey Habitat Area (Polygon 11a) in perpetuity and manage, or cause to be managed, the area to maintain existing habitat values for HMP species.

Program A-1.1: The County shall submit to the USFWS and CDFG, through the CRMP program, a plan for implementation of both short-term and long-term habitat management and protection measures for this habitat corridor, including consideration of funding sources, legal mechanisms and a time table to provide for prompt implementation of HMP requirements along with the following actions to prevent degradation of habitat:

- Control of off-road vehicle use.
- Prevention of any unauthorized disturbance to the habitat.
- Prevention of the spread of non-native, invasive species that may displace native habitat.

Program A-1.2: Management of this habitat conservation area shall include:

- Maintenance of areas with disturbed sandy soils to support sand gilia and Monterey spineflower.
- Maintenance of north-south trending linear habitat, such as dirt roads or firebreaks and to retain and improve the area's function as a corridor for sand gilia dispersal.

Program A-1.3: The County shall monitor, or cause to be monitored, the Monterey County Habitat Area in accordance with the HMP Implementing/Management Agreement and submit annual monitoring reports to CRMP.

Program A-1.4: The County may contract with an appropriate CRMP agency (or other agency approved by the USFWS) to manage resources.

Biological Resources Policy A-2: The County shall limit development in the East Garrison area (Polygon 11b) to approximately 200 acres and retain the remainder of the parcel as natural habitat.

Program A-2.1: The County shall ensure the majority of the development in this parcel is contained within existing developed areas of East Garrison. Development that cannot be accommodated in existing developed areas shall be constructed in areas with less than 30% slope and sighted to minimize impacts to HMP species.

Program A-2.2: Development within the East Garrison area shall be planned, sighted, and designed to retain natural habitat areas that are contiguous within the parcel and with natural habitats in adjacent parcels.

Program A-2.3: The County shall prepare, or cause to be prepared, a management plan that addresses; special-status species monitoring, development and maintenance of fire breaks,

controlled burning as appropriate, vehicle access controls, erosion control, and regular patrol to assure that passive public use and/or unauthorized actions are not adversely affecting natural habitats. The management plan shall be submitted to the USFWS and CDFG, through the CRMP program.

Program A-2.4: The County shall monitor, or cause to be monitored, the remaining natural areas within the parcel in accordance with the HMP Implementing/Management Agreement and submit annual monitoring reports to CRMP.

Program A-2.5: The County may contract with an appropriate CRMP agency (or other agency approved by the USFWS) to manage resources.

Biological Resources Policy A-3: The County shall maintain the habitat values and integrity of the habitat corridor through the western portion of the Recreational Vehicle Park/Youth Camp (Polygon 17b)

Program A-3.1: The County shall require that plans for expansion of the existing campground be approved by USFWS and CDFG.

Program A-3.2: The County shall restrict uses in the natural lands outside of campground facilities to low-impact programs for youth, outdoor nature education, resource management, and trails. The existing pond in the parcel shall continue to be used for recreational fishing.

Program A-3.3: The County shall prepare, or cause to be prepared, a management plan for the parcel that addresses special status species monitoring, controlled burning and firebreak construction/maintenance, vehicle access controls, erosion controls, and regular patrols to assure public use/unauthorized actions are not impacting the habitat. The County shall coordinate with the California Department of Forestry and CDFG to determine suitable habitat management practices for retaining and enhancing habitat values within the oak woodlands.

Program A-3.4: The County shall require the preparation and installation of interpretive signs/displays that describe the importance of the area as a wildlife corridor and methods for maintaining values such as trash removal, limiting ground disturbance, restraining pets, and discouraging capture or harassment of wildlife. The County shall also require that campers be notified not to collect any of the rare plants in the area. Interpretive signs/displays shall be installed at the RV park entrance and in selected locations throughout the park and camping areas.

Program A-3.5: The County shall require surveys for the Monterey ornate shrew throughout the natural lands in the RV parcel. If found, the following management practices shall be implemented: wood collection for campfires shall not be permitted (wood shall be provided at the entrance to the campground); if trees or snags must be cut down for public safety reasons, the trunk shall be left on ground to provide potential habitat for the shrew.

Program A-3.6: The County shall require that landscaping within the campground consist of species native to the project site.

Biological Resources Policy A-4: The County shall protect the habitat corridor in the RV park/youth camp parcel from degradation due to development in, or use of adjacent parcels.

Program A-4.1: The County shall design the Community Park adjacent to the RV park/youth camp such that it does not impede the function of the habitat corridor in this area.

Program A-4.2: The County shall control unauthorized vehicle access into the habitat corridor area from adjacent parcels by erecting appropriate barriers along the boundaries between the parcels and the corridor.

Program A-4.3: The County shall direct all lighting in the Community Park and in the residential areas west of the RV parcel away from the natural lands in the habitat corridor.

Program A-4.4: Where possible, the County shall use vegetation native to former Fort Ord in the landscaping for the Community Park.

Program A-4.5: The County shall include permanent interpretive displays in the Community Park design that describe the natural resources within former Fort Ord and their importance to the Monterey Bay region.

Program A-4.6: The County shall require the following measures of development in the residential lands adjacent to the habitat corridor to protect structures from wildfires and minimize the potential for erosion in the corridor:

- No structures shall be constructed immediately along the boundary of the residential area and the habitat corridor.
- A non-flammable surface (parking lots, green belt) shall be constructed where development in the residential area abuts the natural lands.
- Stormwater runoff and other drainage from the residential area shall be directed away from the habitat corridor.

Biological Resources Policy A-5: The County shall ensure that the NRMA is protected from degradation due to development in, or use of adjacent parcels within its jurisdiction.

Program A-5.1: The County shall coordinate with BLM in the design and installation of appropriate firebreaks to be required on all parcels that border the NRMA. Potential firebreaks include greenbelts, fuel reduction zones, fire roads, paved roads, tilled firebreaks, and parking lots. All firebreaks shall be at the development/habitat boundary, not necessarily at the parcel boundary, and shall be installed within the parcel, not on NRMA lands. Firebreaks on adjacent parcels shall be contiguous.

Program A-5.2: The County shall coordinate with BLM in the design and siting of barriers sufficient to prevent unauthorized vehicle access to the NRMA from adjacent parcels. Gates shall be installed at appropriate points in the barrier to allow for emergency access and BLM and other appropriate agencies shall be provided keys to the gates. The County shall maintain, repair and replace, or cause to be maintained, repaired or replaced, the barrier as necessary in perpetuity.

Program A-5.3: The County shall require stormwater drainage plans for all developments adjacent to the NRMA to incorporate measures for minimizing the potential for erosion in the NRMA due to stormwater runoff.

Program A-5.4: The County shall require that plans for construction of facilities in the northeastern portion of Polygon 19a include measures to protect the flow to and water quality of the ponds nearby, in the NRMA.

Program A-5.5: To minimize the potential for erosion or accelerated sedimentation, prevent fires from spreading, and prevent unauthorized access in the adjacent NRMA, the County shall require the following in the Laguna Seca Regional Park expansion areas on former Fort Ord:

- Maintain grass over the majority of the areas where vegetation is removed to allow for parking. Mow the grass prior to using the area for parking.
- Require construction of a firebreak along the inside perimeter of each of the expansion areas. The firebreak shall be inspected before each event for which the areas are used and shall be improved as necessary to ensure its effectiveness.
- Require the removal of all trash immediately following each event in which the expansion areas are used.
- Post signs before each event in the expansion areas that state off-road vehicle use is not permitted in the NRMA.

Program A-5.6: The County shall monitor, or cause to be monitored, the two ponds within the NRMA adjacent to the Laguna Seca Regional Park expansion areas to identify any impacts to these areas from the adjacent use. The ponds shall be inspected after each event for which the expansion areas are used. If adverse impacts are noted, the County shall require appropriate actions to prevent similar effects during future events.

Biological Resources Policy A-6: The County shall protect the coastal zone west of State Highway 1 from habitat degradation due to increased public access.

Program A-6.1 The County shall abide by the habitat protection measures outlined in the State Parks Public Works Plan prepared by the State Department of Parks and Recreation for the Fort Ord Dunes State Park.

Biological Resources Policy A-7: The County shall coordinate with California State University and UCNRS to minimize the potential for HMP species in the habitat conservation and corridor areas adjacent the CSUMB land to be adversely affected by human activity associated with access.

Program A-7.1: The County shall consult with CSUMB during its Master Plan Process regarding potential pedestrian, bicycle and vehicle access to adjacent habitat conservation and corridor areas from the campus. Methods for controlling this access should be developed by CSUMB with assistance from the County and UCNRS.

Biological Resources Policy A-8: The County shall maintain the quality of the habitat in the Frog Pond Natural Area.

Program A-8.1: The County shall prohibit development in Polygon 31b to discharge storm water or other drainage into the ephemeral drainage in this parcel that feeds into the Frog Pond.

Program A-8.2: The County shall require installation of appropriate firebreaks and barriers sufficient to prevent unauthorized vehicle access along the border of Polygons 31a and 31b.

Firebreaks should be designed to protect structures in Polygon 31b from potential wildfires in Polygon 31a. Barriers should be designed to prohibit unauthorized access into Polygon 31a.

Biological Resources Policy A-9: The County shall encourage the preservation of small pockets of habitat and populations of HMP species within and around developed areas.

Program A-9.1: The County shall require project applicants who propose development in undeveloped natural lands to conduct reconnaissance-level surveys to verify the general description of resources for the parcel provided in the biological resource documents prepared by the U.S. Army Corps of Engineers. The information gathered through these reconnaissance-level surveys shall be submitted as a component of the project application package.

Program A-9.2: The County shall encourage project applicants to incorporate small pockets of habitat containing HMP species and/or habitats amidst the development, where feasible.

Program A-9.3: Where development will replace existing habitat which supports sensitive biological resources, the County encourage attempts to salvage some of those resources by collecting seed or cuttings of plants, transplanting vegetation, or capturing and relocating wildlife species.

Implementation of the resource conservation and habitat management requirements of the HMP and the above policies and programs would compensate for the loss of sensitive species and habitats addressed in the HMP and its Implementing/Management Agreement. This impact is therefore considered less than significant.

2. Impact: Affecting up to Approximately 71 Acres of Beach and Blowouts, Ice Plant Mats, and Disturbed Dune

Implementation of the proposed project would result in the loss of up to approximately 71 acres of beach and blowouts, ice plant mats, and disturbed dune. This represents approximately 8% of the total acreage of these communities at former Fort Ord. The beach and blowouts, and disturbed dunes are communities generally devoid of vegetation and do not provide valuable habitat for wildlife. The ice plant mats crowd out native perennial species by taking up space, water, and light, and eliminating habitat for native annual species by stabilizing dune sands. The ice plant mats provide cover for some wildlife but they provide little forage.

Army firing ranges located within these habitat areas have contributed to the disturbed nature of the dune zone and introduced lead contamination. The Army is committed to cleaning up the lead contamination and restoring dune habitats wherever lead removal is necessary. The California Department of Parks and Recreation is scheduled to receive the property (once the area has been remediated by the Army) and is committed to comprehensive management of the coastal dune habitats over time. The multispecies HMP prepared by the Army requires the preservation and enhancement of coastal dune habitat and the CDPR will prepare a Master Plan that will identify the specific planning and land use goals and management procedures in conformance with the requirements of the HMP. The following policies and programs relate to the preservation and restoration of the coastal dune habitat.

Conservation Element

Biological Resources Policy A-8 (City of Marina): See above for description of this policy.

Program A-8.1: See above for description of this program.

Biological Resources Policy A-3 (City of Seaside): See above for description of this policy.

Program A-3.1: See above for description of this program.

Biological Resources Policy A-6 (County of Monterey): See above for description of this policy.

Program A-6.1 See above for description of this program.

Because the beach and blowouts, disturbed dunes, and ice plant mats provide little habitat value, and implementation of the HMP would result in the restoration of much of the coastal dune habitat at former Fort Ord, removal of these habitats would not be considered a significant adverse impact.

Mitigation: None required

3. Impact: Affecting up to Approximately 348 Acres of Coastal Scrub

Implementation of the proposed project would result in the loss of up to approximately 348 acres of coastal scrub. This represents approximately 63% of the total acreage of this community at former Fort Ord. Coastal scrub is considered an important natural community because it provides habitat for several special-status plants, provides forage for wildlife, and stabilizes sandy soils and steep slopes. The coastal scrub at former Fort Ord is of the type which is locally abundant on the west side of the Santa Lucia Range between Monterey and Point Conception (USACE, 1992). It also integrates with many of the other plant communities in the area and therefore does not support any special status species that would not be found in other habitat types at former Fort Ord. Under the proposed project, areas of coastal scrub habitat would be preserved within the NRMA, the Salinas River Habitat Area and Marina Habitat Area #2. The *Draft Fort Ord Reuse Plan* incorporates policies and programs addressing the preservation and management of these habitat areas, and also includes measures to preserve pockets of native habitat where feasible in compliance with the requirements of the HMP and its Implementing/Management Agreement. These policies are described further under Impact 1 above.

Due to the common occurrence of the coastal scrub habitat type found at former Fort Ord, and the preservation of portions of this habitat within the NRMA, Salinas River Habitat Area and Marina Habitat Area #2, removal of coastal scrub as proposed by the proposed project would not be considered a significant impact.

Mitigation: None required

4. Impact: Affecting up to Approximately 1,525 Acres of Annual Grassland

Implementation of the proposed project would result in the loss of up to approximately 1,525 acres of annual grassland. This represents approximately 36% of the total acreage of this community at former Fort Ord. A substantial portion of the annual grasslands at former Fort Ord would be preserved within

the NRMA. The retained grasslands would continue to provide foraging and nesting habitat for a wide variety of common and sensitive species including loggerhead shrike, tricolored blackbird, horned lark, burrowing owl, northern harrier, short-eared owl, prairie falcon, golden eagle and American badger. Moreover, the preserved grassland areas would occur in the context of an approximately 15,000 acre open space area.

Since the majority of the grasslands at former Fort Ord would be preserved within the NRMA, the habitat type would not be eliminated or substantially reduced as a result of the proposed project. Where grassland areas would be removed by development, measures to reduce impacts on sensitive species that use them would be in place through land use policy (Biological Resources Policy B-2) dealing directly with sensitive species. Therefore, removal of the annual grasslands would not be considered a significant impact.

Mitigation: None required.

5. Impact: Affecting up to Approximately 1,584 Acres of Coast Live Oak Woodlands

Implementation of the proposed project would result in the loss of oak trees within an area of approximately 1,584 acres, due to new construction and development. This represents approximately 34% of the total acreage of this community at former Fort Ord. This would potentially degrade important habitat values and visual qualities over large areas of former Fort Ord. Of the approximately 5,000 acres of existing coast live oak woodland on former Fort Ord, about 1,800 acres of this habitat would be preserved within the NRMA and an additional 750 acres would be included within conservation areas and corridors; the remainder would occur amidst land uses of varying density. The largest contiguous areas of coast live oak woodland are currently within the central portion of former Fort Ord between Reservation Road and Eucalyptus Road. Although implementation of the HMP would preserve some of this woodland within conservation areas and corridors, the *Draft Fort Ord Reuse Plan* proposes to preserve an additional contiguous stand of oak woodland that connects to the areas preserved by the HMP. This would maintain the value of this habitat in the central portion of former Fort Ord.

The Conservation Element of the *Draft Fort Ord Reuse Plan* incorporates policies and programs that establish an oak woodland conservation area connecting the open space lands of the NRMA on the south, the oak woodland corridor in the County of Monterey RV park and East Garrison area on the east, and the oak woodlands surrounding the former Fort Ord landfill on the north. The Conservation Element also includes policies and programs for the preservation and enhancement of oak woodland elements in the natural and built environments. The following policies and programs establish the oak woodland conservation area and preservation of oak woodland elements.

Conservation Element

Biological Resources Policy C-2 (City of Marina): The City shall encourage the preservation and enhancement of oak woodland elements in the natural and built environments.

Program C-2.1: The City shall protect the small patches of oak woodland located along the bluffs in Polygon 1c unless project-specific plans for development in those areas cannot proceed without selective tree removal.

Program C-2.2: Where development incorporates oak woodland elements into the design, the City shall provide the following standards for plantings that may occur under oak trees; 1)

plantings may occur within the dripline of mature trees, but only at a distance of five feet from the trunk and 2) plantings under and around oaks should be selected from the list of approved species compiled by the California Oak Foundation (see *Compatible Plants Under and Around Oaks*).

Program C-2.3: The City shall require that paving within the dripline of preserved oak trees be avoided wherever possible. To minimize paving impacts, the surfaces around tree trunks should be mulched, paving materials should be used that are permeable to water, aeration vents should be installed in impervious pavement, and root zone excavation should be avoided.

Biological Resources Policy B-2 (City of Seaside): As site-specific development plans for a portion of the Reconfigured POM Annex Community (Polygon 20c) and the Community Park in the University Planning Area (Polygon 18) are formulated, the City shall coordinate with Monterey County, California State University, FORA and other interested entities in the designation of an oak woodland conservation area connecting the open space lands of the NRMA on the south to the landfill polygon (8a) in the north.

Program B-2.1: For lands within the jurisdictional limits of the City that are components of the designated oak woodland conservation area, the City shall ensure that those areas are managed to maintain or enhance habitat values existing at the time of base closure so that suitable habitat is available for the range of sensitive species known or expected to use these oak woodland environments. Management measures shall include, but not be limited to maintenance of a large, contiguous block of oak woodland habitat, access control, erosion control and non-native species eradication. Specific management measures should be coordinated through the CRMP.

Program B-2.2: For lands within the jurisdictional limits of the City that are components of the designated oak woodland conservation area, the City shall monitor, or cause to be monitored, those areas in conformance with the habitat management compliance monitoring protocol specified in the HMP Implementing/Management Agreement and shall submit annual monitoring reports to the CRMP.

Biological Resources Policy C-2: The City shall encourage the preservation and enhancement of oak woodland elements in the natural and built environments.

Program C-2.1: The City shall adopt an ordinance specifically addressing the preservation of oak trees. At a minimum, this ordinance shall include restrictions for the removal of oaks of a certain size, requirements for obtaining permits for removing oaks of the size defined, and specifications for relocation or replacement of oaks removed.

Program C-2.2: When reviewing project plans for developments within oak woodlands, the City shall encourage clustering of development wherever possible so that contiguous stands of oak trees can be maintained in the non-developed natural land areas.

Program C-2.3: The City shall require project applicants to submit a plot plan of the proposed development which: 1) clearly shows all existing trees (noting location, species, age, health, and diameter; 2) notes whether existing trees will be retained, removed or relocated, and 3) notes the size, species, and location of any proposed replacement trees.

Program C-2.4: The City shall require the use of oaks and other native plant species for project landscaping. To that end, the City shall recommend collection and propagation of acorns and other plant material from former Fort Ord oak woodlands to be used for restoration areas or as landscape material.

Program C-2.5: The City shall provide the following standards for plantings that may occur under oak trees; 1) plantings may occur within the dripline of mature trees, but only at a distance of five feet from the trunk and 2) plantings under and around oaks should be selected from the list of approved species compiled by the California Oak Foundation (see *Compatible Plants Under and Around Oaks*).

Program C-2.6: The City shall require that paving within the dripline of preserved oak trees be avoided wherever possible. To minimize paving impacts, the surfaces around tree trunks should be mulched, paving materials should be used that are permeable to water, aeration vents should be installed in impervious pavement, and root zone excavation should be avoided.

Biological Resources Policy B-2 (County of Monterey): As site-specific planning proceeds for Polygons 8a, 16, 17a, 19a, 21a and 21b, the County shall coordinate with the Cities of Seaside and Marina, California State University, FORA and other interested entities in the designation of an oak woodland conservation area connecting the open space lands of the NRMA on the south, the oak woodland corridor in Polygons 17b and 11a on the east and the oak woodlands surrounding the former Fort Ord landfill in Polygon 8a on the north.

Program B-2.1: For lands within the jurisdictional limits of the County that are components of the designated oak woodland conservation area, the County shall ensure that those areas are managed to maintain or enhance habitat values existing at the time of base closure so that suitable habitat is available for the range of sensitive species known or expected to use those oak woodland environments. Management measures shall include, but not be limited to maintenance of a large, contiguous block of oak woodland habitat, access control, erosion control and non-native species eradication. Specific management measures should be coordinated through the CRMP.

Program B-2.2: For lands within the jurisdictional limits of the County that are components of the designated oak woodland conservation area, the County shall monitor, or cause to be monitored, those areas in conformance with the habitat management compliance monitoring protocol specified in the HMP Implementing/Management Agreement and shall submit annual monitoring reports to the CRMP.

Biological Resources Policy C-2: The County shall encourage the preservation and enhancement of oak woodland elements in the natural and built environments.

Program C-2.1: The County shall encourage clustering of development wherever possible so that contiguous stands of oak trees can be maintained in the non-developed natural land areas.

Program C-2.2: The County shall apply certain restriction for the preservation of oak and other protected trees in accordance with Chapter 16.60 of Title 16 of the Monterey County Code (Ordinance 3420).

Program C-2.3: The County shall require the use of oaks and other native plant species for project landscaping. To that end, the County shall recommend collection and propagation of acorns and other plant material from former Fort Ord oak woodlands to be used for restoration areas or as landscape material.

Program C-2.4: The County shall provide the following standards for plantings that may occur under oak trees; 1) plantings may occur within the dripline of mature trees, but only at a distance of five feet from the trunk and 2) plantings under and around oaks should be selected from the list of approved species compiled by the California Oak Foundation (see *Compatible Plants Under and Around Oaks*).

Program C-2.5: The County shall require that paving within the dripline of preserved oak trees be avoided wherever possible. To minimize paving impacts, the surfaces around tree trunks should be mulched, paving materials should be used that are permeable to water, aeration vents should be installed in impervious pavement, and root zone excavation should be avoided.

The proposed project includes the establishment of an oak woodland conservation area, in addition to the preservation of oak woodlands within the NRMA and other conservation areas and corridors established by the HMP, which would result in the retention of large contiguous areas of oak woodland habitat. Because the proposed policies and programs would minimize loss of oak trees through careful site design in development areas and effectively require a 1:1 replacement for all trees removed (as called for in the Monterey County Ordinance), effects on oak woodlands would be considered a less-than-significant impact.

Mitigation: None required

6. Impact: Affecting up to Approximately Six Acres of Native Perennial Grassland

Implementation of the proposed project would result in the loss of up to approximately six acres of native perennial grassland. This represents approximately 1% of the total acreage of this community at former Fort Ord. The majority of native perennial grassland on former Fort Ord (470 acres) will be protected within the NRMA lands. As a result, the potential loss of 6 acres within the development envelope would not eliminate this plant community from the vicinity and therefore would not be considered a significant impact.

Mitigation: None required

7. Impact: Loss of vernal ponds, riparian corridors and other wetland areas

Through implementation of the proposed project, there is a potential that vernal ponds, riparian corridors or other wetland could be affected. The only wetland area that has been identified as potentially being lost is the approximately five acres of riparian forest habitat within the proposed corridor for SR 68, which would be affected by construction of the road. The affected riparian habitat would probably not be considered jurisdictional wetlands, but may be considered jurisdictional waters of the United States. All vernal ponds and most other riparian corridors and wetlands currently mapped for former Fort Ord occur within the NRMA and would therefore be preserved. However, there is potential for additional wetland areas to be identified through site-specific surveys in undeveloped natural lands in the future.

Filling of vernal ponds, streams and other wetland areas may be subject to regulation by the U.S. Army Corps of Engineers pursuant to Section 404 of the Clean Water Act. Similarly, the alteration of streams

and ponds is regulated by the California Department of Fish and Game. Should wetland areas occur on a project site, future landowners would have to comply with Section 404 of the Clean Water Act if the placement of dredged or fill material is proposed in wetlands or other waters of the United States. Additionally, landowners of sites that support riparian forest and other riparian habitats would have to reach agreement with CDFG prior to undertaking actions that would alter the streambeds and associated vegetation. Implementation of the following policies and programs would reduce disturbance to affected riparian habitats and other wetlands identified at the site-specific level to a less-than-significant impact.

Conservation Element

Biological Resources Policy B-3 (City of Marina): The City shall preserve, enhance and protect coastal ponds and other wetland areas.

Program B-3.1: The City shall manage the coastal pond in Polygon 2a in conformance with the Coastal/Vernal Ponds Comprehensive Management Plan prepared for the City in 1993.

Program B-3.2: The City shall evaluate areas proposed for new development during the site planning process to determine whether wetlands occur. In the event that wetlands are present, the City shall require that they either be avoided or replaced so that there is no net loss to wetland resources as a result of development on the site. Wetlands replacement/mitigation plans should be coordinated through the CRMP.

Program B-3.3: The City should incorporate wetland features into stormwater control facilities to the extent practicable.

Biological Resources Policy B-3 (City of Seaside): The City shall preserve, enhance and protect wetland areas.

Program B-3.1: The City shall evaluate areas proposed for new development during the site planning process to determine whether wetlands occur. In the event that wetlands are present, the City shall require that they either be avoided or replaced so that there is no net loss to wetland resources as a result of development on the site. Wetlands replacement/mitigation plans should be coordinated through the CRMP.

Program B-3.2: The City should incorporate wetland features into stormwater control facilities to the extent practicable.

Biological Resources Policy B-3 (County of Monterey): The County shall preserve, enhance, restore and protect, vernal ponds, riparian corridors and other wetland areas.

Program B-3.1: The County shall require that, prior to any development activities within the watersheds of riparian drainages, vernal ponds or other important wetlands in the NRMA or other habitat conservation areas, a watershed management plan be prepared to assure that such activities do not adversely affect the flow to or water quality of those drainages, ponds or wetlands.

Program B-3.2: The County shall evaluate areas proposed for new development during the site planning process to determine whether wetlands occur. In the event that wetlands are present, the County shall require that they either be avoided or replaced so that there is no net loss to

wetland resources as a result of development on the site. Wetlands replacement/mitigation plans should be coordinated through the CRMP.

Program B-3.3: The County should incorporate wetland features into stormwater control facilities to the extent practicable.

Program B-3.4: The County shall coordinate with the State Department of Transportation in the design of SR 68 to assess the feasibility of avoiding the riparian forest within the alignment. Where riparian forest removal is unavoidable, the County shall request CalTrans to compensate at a 2:1 ratio of newly created habitat to lost habitat or a 4:1 acreage ratio of enhanced habitat to lost habitat. Compensation and restoration could occur on other areas of Toro Creek.

Implementation of the above policies and programs would reduce impacts on wetlands to a less-than-significant level due to requirements for avoidance and, if necessary, replacement of wetland habitat.

Mitigation: None required

8. Impact: Loss of Sensitive Species not Addressed in the HMP

Implementation of the proposed project would result in the loss of sensitive species not addressed in the HMP. A list of sensitive species not addressed in the HMP is provided in Table 4.10-2. Two of the plant species listed in Table 4.10-2 would meet the definition of rare and endangered pursuant to Section 15380 of the *State CEQA Guidelines* based on their listing status; Hickman's onion and wedge-leaved horkelia. A third species, Monterey Indian paintbrush would also meet the definition of rare and endangered due to the fact that former Fort Ord may constitute an important part of the range of this species. The remainder of the species warrant tracking because they are listed by CNPS as plants about which more information is needed to determine their status, and plants of limited distribution, but they are not considered rare and endangered under CEQA. All of the animal species listed in Table 4.10-2 meet the definition of rare and endangered pursuant to Section 15380 of the *State CEQA Guidelines*.

It is likely that habitat containing sensitive species not addressed in the HMP would be removed as development under the *Draft Fort Ord Reuse Plan* proceeds. However, some habitat for these species would be preserved within the conservation areas and corridors established in the HMP, and potentially within pockets of habitat that may be retained within the developed areas. The following policies and programs are designed to reduce the impacts on sensitive species not addressed in the HMP.

Conservation Element

Biological Resources Policy B-1 (City of Marina): The City/County shall strive to avoid or minimize loss of sensitive species listed in Table 4.4-2 (Reuse Plan) that are known or expected to occur in areas planned for development.

Program B-1.1: The City/County shall require directed, seasonally-timed surveys for sensitive species listed in Table 4.4-2 (Reuse Plan) as an early component of site-specific development planning.

Program B-1.2: If any sensitive species listed in Table 4.4-2 (Reuse Plan) are found in areas proposed for development, all reasonable efforts should be made to avoid habitat occupied by these species while still meeting project goals and objectives. If permanent avoidance is

unfeasible, a seasonal avoidance and/or salvage/relocation program shall be prepared. Protocol for seasonal avoidance, salvage and relocation are provided in Table 4.4-2 (Reuse Plan). The seasonal avoidance and/or salvage/relocation program for these species should be coordinated through the CRMP.

Biological Resources Policy B-2 (City Seaside and County of Monterey): Same description as Policy B-1 above.

Program B-2.1 and Program B-2.2: Same description as Program B-1.1 and B-1.2 above.

Implementation of the above policies and program and the conservation and management requirement of the HMP would reduce impacts on sensitive species not addressed in the HMP to a less-than-significant level.

Mitigation: None required

9. **Impact: Conflict with the Goals of the Sanctuary Management Plan for the Monterey Bay National Marine Sanctuary**

There are no marine mammal haul-out or breeding areas, marine turtle egg-laying areas, or seabird nesting colonies at or near former Fort Ord. Marine mammals, reptiles, and birds are not expected to be affected by the development of the proposed project. There may, however, be impacts to the sanctuary from urban runoff or erosion as a result of the proposed project. The following policies and programs are designed to control nonpoint and point water pollution source as well as prevent siltation of waterways. These policies and programs are consistent for the City of Marina, City of Seaside and the County of Monterey.

Conservation Element

Hydrology and Water Quality Policy C-1: The City/County shall comply with all mandated water quality programs and establish local water quality programs as needed.

Program C-1.1: The City/County shall comply with the nonpoint pollution control plan developed by the California Coastal Commission and the SWRCB, pursuant to Section 6217 of the Federal Coastal Zone Management Act Reauthorization Amendments of 1990, if any stormwater is discharged into the ocean.

Program C-1.3: The City/County shall comply with the management plan to protect Monterey Bay's resources in compliance with the Marine Protection, Research, and Sanctuaries Act of 1972, as amended, and its implementing regulations.

Hydrology and Water Quality Policy C-2: At the project approval stage, the City/County shall require new development to demonstrate that all measures will be taken to ensure that on-site drainage systems are designed to capture and filter out urban pollution, to the extent feasible.

Program C-2.1: The City/County shall develop and make available a description of feasible and effective measures and site drainage designs that could be implemented in new development to minimize water quality impacts.

Hydrology and Water Quality Policy C-4: The City/County shall prevent siltation of waterways, to the extent feasible.

Program C-4.1: The County, in consultation with the Natural Resources Conservation Service, shall develop a program that will provide, to owners of property near waterways and other appropriate entities, information concerning vegetation preservation and other best management practices that would prevent siltation of waterways in or downstream of former Fort Ord.

Hydrology and Water Quality Policy C-6: In support of Monterey Bay's national marine sanctuary designation, the City/County shall support all actions required to ensure that the bay and intertidal environment will not be adversely affected, even if such actions should exceed state and federal water quality requirements.

Implementation of these policies and programs would reduce the incremental increase in urban pollutants and erosion into the Monterey Bay and Salinas River and reduce this impact to a less-than-significant level.

Mitigation: None required

4.11 Visual Resources

This section incorporates by reference information from *the Other Physical Attributes Baseline Study of Fort Ord, California* (U.S. Army Corps of Engineers, Sacramento District 1992e).

The methodology for analyzing visual resources identifies the visual character of the region and study area, identifies the visual quality of former Fort Ord's physical resources, identifies important zones of visibility for the study area, and evaluates visual sensitivity of former Fort Ord as a combination of visual resource quality and visibility.

4.11.1 Environmental Setting

The former Fort Ord is located in a region of diverse, sensitive, and high-quality visual resources, containing some of the most vivid and important aesthetic images in California: the Monterey Peninsula, with its rocky cliffs and shores, windswept cypress trees, cove beaches, rolling sand dunes, Fisherman's Wharf, Cannery Row, and historic mission; Monterey Bay, with its changing colors, sunsets, sailboats, fishing boats, and migrating whales; the broad pastoral and scenic Salinas Valley, with its agricultural fields, meandering streams and river, and shifting fog; and rugged coastal hills and ranges, with their steep slopes and drainages and diverse patterns of oak woodlands, chaparral, and grasslands.

The former Fort Ord contributes substantially to the region's highly valued visual character and quality. It provides a major area of open space and has a mostly natural appearance and unified development character. The high visual quality, visibility, and sensitivity of its coastal and other areas contribute substantially to the region's character and quality.

Within its regional context, much of former Fort Ord is visually unique because it contains vast areas of natural and diverse vegetative cover, its shoreline appears relatively undisturbed, and it is mostly undeveloped. Most of the installation's development, largely confined to the Main Garrison and East Garrison (see Photo 1 of Figure 4.11-1) and associated residential areas, consists of one- or two-story buildings. Mature landscaping surrounding these buildings partially conceals them from view, softens their appearance by helping blend them with their surroundings, and contributes to the natural character of the landscape. With the exception of a few areas near SR 1 and in the north and northeast portions of the study area, former Fort Ord appears preserved as a largely natural area surrounded by intensively farmed land and increasing urban development.

The former Fort Ord exhibits relatively high visual quality, due to its vividness, intactness, and unity. Vividness of the study area, particularly when viewed from the Salinas Valley, the bay, and in background of heavily used tourist areas such as Fisherman's Wharf in Monterey, is moderate to high because of its generally undeveloped scenic appearance in contrast with nearby developed urban areas. The study area exhibits a generally high level of visual intactness because of its extensive natural vegetation cover and localized areas of development. Although some built elements (e.g., the Silas B. Hayes Army Community Hospital, shown in Photo 2 of Figure 4.11-1, and water towers) contrast strongly in form with other elements in the former Fort Ord landscape, the visual unity of the study area is generally high. Constructed elements are generally consistent in architectural style, low in height, and surrounded by considerable continuous cover of mature vegetation that helps blend the elements with their surroundings; these factors combine to produce a high degree of visual coherence.

Important zones of visibility for the former Fort Ord area include viewsheds from primary and secondary roads and the area of Monterey Bay located about 0.5-2 miles from the installation's shoreline. Primary



Photo 1



Photo 2

roads in the former Fort Ord study area are heavily used by tourists and recreationists and include SR 1, a proposed state scenic highway, and state-designated scenic highway SR 68. Views from SR 1 include expansive, highly vivid, and intact views of Monterey Bay; important views of adjacent coastal dunes (Photo 3 in Figure 4.11-2) and shoreline; views of Stilwell Hall; and views of developed lands mostly east of the highway (Photo 4 in Figure 4.11-2). Particularly important and sensitive views occur at the two major gateways to former Fort Ord from SR 1: the Main Entrance (Photo 5 in Figure 4.11-3) near the POM Annex and the 12th Street Gateway (refer to Photo 2 in Figure 4.11-1).

Views of former Fort Ord from SR 68 generally consist of low, rolling hills with moderately steep slopes, covered mostly with grazed annual grasslands and interspersed with areas of oak woodland and riparian vegetation. Secondary roads include important paved roads within and near former Fort Ord that are traveled most often by local area workers and residents. Views from former Fort Ord's secondary roads include views of developed areas, such as the Main and East Garrisons; residential areas; and hillsides covered with maritime chaparral, oak woodlands, and savanna, which characterize most of the installation's interior. Views of Monterey Bay from former Fort Ord range from expansive vistas encompassing the Monterey Peninsula to distant views of the bay meeting the western horizon. High-quality, expansive views of Monterey Bay and the former Fort Ord coastline can be seen best from Stilwell Hall and the tops of the coastal dunes, although other high points east of SR1 also permit views to the Bay.

Much of former Fort Ord is visually sensitive because large portions of it are of high visual quality and are highly visible from surrounding areas and features of importance (e.g., residences, roads, tourist areas, and the bay). The bay and nearby beaches and visitor attractions afford important views of former Fort Ord's visually sensitive beaches, sand dunes, coastal bluffs, and interior hills.

Regulatory Issues

California Coastal Act of 1976 planning and management policies applicable to the former Fort Ord coastal zone are contained in Appendix C of the *Land Use Baseline Study* (U.S. Army Corps of Engineers, Sacramento District 1992b). Section 30251 of the Coastal Act, "Scenic and Visual Qualities", states:

The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Preservation and Recreation Plan by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

Various goals, objectives, and policies of the *Monterey County General Plan* (Monterey County 1982) address the importance of preserving unique and important visual resources and the visual character of the county. Goals, objectives, and policies for preserving visual resources are identified in the plan in sections for open space conservation (Goal 1, Objective 1.1, Policy 1.1.2), general land use (Policies 26.1.5, 26.1.6, 26.1.8, 26.1.9, 26.1.10, and 26.1.12), watershed areas (Goal 35), scenic highways (Goal 40; Objectives 40.1, 40.2, and 40.3; Policies 40.1.1, 40.2.1, 40.2.2, 40.3.1, and 40.3.2), park and recreation facilities (Goal 51), and public utilities (Objective 56.2, Policies 56.2.1 and 56.2.2).



Photo 3



Photo 4



Photo 5

4.11.2 Environmental Impacts and Mitigation

Significance Criteria

In accordance with the *State CEQA Guidelines*, this analysis assumes that the proposed project would have significant visual or aesthetic impacts if it resulted in:

- obstruction of a scenic vista or view seen from sensitive public viewpoints; or
- long-term strong visual contrasts resulting from vegetation removal, land disturbance, light and glare, or new construction which is incompatible with the surrounding landscape, seen from sensitive public viewpoints.

Visual contrast is defined as differences in form, line, color, texture, scale, or position of visual elements between existing and introduced landscape features.

1. Impact: Reduced Visual Quality On-site

Implementation of the proposed project would require construction of a substantial number of buildings, renovation of existing buildings, demolition of some buildings, and modification of infrastructure. These activities would produce short-term visual impacts due to construction and possible long-term visual impacts where the character of the existing areas is altered adversely in views from the former Fort Ord.

Long-term visual effects are likely to include removal of some mature vegetation; construction of new buildings and infrastructure; alteration of the appearance of existing buildings and other structures; and construction of improvements such as recreation facilities, parking areas, lighting standards, signage, fencing, and new landscaping. More visual contrast would result where existing natural landscapes or open space are modified, than where areas are already developed. Potential impacts could result from view blockage towards the ocean due to new buildings and increased tall vegetation (e.g., in views from higher topography near CSUMB). New sources of lighting could potentially cause a visual nuisance to residents near the proposed amphitheater close to CSUMB. However, other developed areas of former Fort Ord would be visually enhanced in places where extensive asphalt parking areas or deteriorating buildings would be converted to landscaped open space or would be replaced by new structures conforming to the proposed policies and programs of the proposed project. The visual impact of other land use changes would depend upon the design character of the new development.

The majority of the former base would remain in natural or semi-natural condition. The proposed HMP and accompanying policies and programs in the Conservation Element of the *Draft Fort Ord Reuse Plan* (see Section 4.10 for further description) would enhance existing visual conditions due to restoration of currently disturbed areas of the landscape. Potential effects of reuse on the historical landscape integrity of Stilwell Hall and the East Garrison area are discussed in Section 4.12. The principal policies within the *Draft Fort Ord Reuse Plan* which govern the visual character of former Fort Ord are as follows:

Land Use Element

Residential Land Use Policy I-1: The City/County shall support FORA in the preparation of regional urban design guidelines, including a scenic corridor design overlay area, to govern the visual quality of areas of regional importance.

Program I-1.1: The City/County shall prepare design guidelines for implementing development on former Fort Ord lands consistent with the regional urban design guidelines (to be prepared by FORA) and the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework.

Program I-1.2: The City/County shall review each development proposal for consistency with the regional urban design guidelines and the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework.

Residential Land Use Policy I-2: The City/County shall adhere to the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework.

Commercial Land Use Policy B-3: The City/County will follow hotel building height limits which are proposed as part of the Community Design standards of the *Draft Fort Ord Reuse Plan* and the City/County's design guidelines for former Fort Ord lands.

Commercial Land Use Policy F-1: The City/County shall support FORA in the preparation of regional urban design guidelines, including a scenic corridor design overlay area, to govern the visual quality of areas of regional importance.

This policy has similar programs to those described in Policy I-1.

Commercial Land Use Policy F-2: The City/County shall adhere to the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework for the commercial development at the former Fort Ord.

Institutional Land Use Policies D-1 and D-2:

These policies contain similar programs (requiring design guidelines and scenic corridor design overlay area) to those described in Program I-1.1 above.

Recreation and Open Space Element

Recreation Policy B-1 (Monterey County): The County shall work with the Army to review design of the landfill closure cap and related infiltration ponds to ensure development of a landscape which enhances the adjacent natural setting and becomes a visual asset to former Fort Ord.

Recreation Policy B-2 (Seaside and Marina): The City shall establish landscape gateways into the former Fort Ord along major transportation corridors with the intent of establishing regional landscape character.

Recreation Policy G-3 (Seaside, Marina, and Monterey County): The City/County shall adopt landscape standards to guide development of streetscapes, parking lots, government facilities, institutional grounds, and other public and semi-public settings within the former Fort Ord.

In general, because these policies govern the visual design and ultimate scenic character of the developed portions of former Fort Ord, visual impacts are considered to be less than significant.

2. Impact: Reduced Visual Quality Seen from State Route 1

Implementation of the proposed project would substantially alter the visual character along the SR 1 corridor within former Fort Ord. High intensity land uses within the foreground (up to half a mile) from SR 1 would reduce the intactness of the area's natural appearance, although considerable existing development is visible from the highway currently. The mixed use Corporate Center District on the east side of SR 1 within the City of Marina, and the high-density residential development within the new Golf Course Community District in the City of Seaside, would be the most visible developments, with some loss of mature vegetation reducing the degree of screening. More limited views of the potential desalination plant on the west side and potentially the upper stories of high-rise hotels (depending upon height and location) could add to the increased visual dominance of development within the scenic highway corridor.

The preservation, restoration, and enhancement of the Fort Ord Dunes State Park area and improved design treatment of the local access infrastructure within the corridor, however, would balance the scale of new development. The proposed project would also add to the amount of open space and landscaped buffers along the eastern side of the corridor in Marina, in comparison with Alternative 7 studied in the Army's DSEIS. The overall visual impact of land use changes in the corridor would depend primarily upon the design character of the new development.

In addition to the policies identified above under Impact 1 in this section, the following policies and programs have been developed to address visual impacts in the SR 1 corridor:

Land Use Element

Recreational/Open Space Land Use Policy D-1 (Marina and Seaside): The City shall protect the visual corridor along SR 1 to reinforce the character of the regional landscape at this primary gateway to the former Fort Ord and the Monterey Peninsula.

Program D-1.1: The City shall designate the State Highway 1 highway corridor along the former Fort Ord as a special design district in its zoning code.

Program D-1.2: The City shall develop special design standards for the State Highway 1 Special Design District and establish a hierarchy of gateways as part of these standards to help define the Fort Ord community and signify a sense of entry and threshold into the community.

Program D-1.3 (Marina): The City shall designate the retail and open space areas along the State Highway 1 area and the Mixed Use Corporate Center area (Polygons 2a and 2b) as a Special Design District to convey the commitment to high-quality development to residents and visitors.

Program D-1.3 (Seaside): The City shall designate the retail and open space areas along the Main Gate area (Polygon 15), the South Village Mixed Use area (Polygon 20e), and a strip 500 feet wide (from the CalTrans R-O-W) along SR 1 (Polygons 20 a and 20h) as Special Design Districts to convey the commitment to high quality development to residents and visitors.

Program D-1.5 (Seaside): The City shall develop a coordinated building and landscape design plan in conjunction with FORA and CSUMB representatives to create a "grand entry" at the main gate entrance area and shall work with the State Department of Parks and Recreation to create a secondary entry. The landscape plan shall enhance and reinforce the regional character of the main entrance area.

Recreation and Open Space Element

Recreation Policy B-1 (Marina and Seaside): The City shall designate a Scenic Corridor adjacent to State Highway 1 to preserve and enhance the State Highway 1 viewshed.

Program B-1.1: The City shall establish guidelines for minimum landscaping standards within the corridor which incorporate a regional landscape theme with regard to permitted plantings, as well as other design features.

Program B-1.2 (Marina): The City shall require that all development within the Town Center and Del Monte Mixed Use Districts incorporate landscape buffers adequate to screen visual intrusion into the State Highway 1 Scenic Corridor.

Program B-1.2 (Seaside): The City shall require that all development within the Regional Retail and Golf Course Housing Districts incorporate landscape buffers adequate to screen visual intrusion into the State Highway 1 Scenic Corridor.

Because the above policies and programs govern the visual design and protect the scenic character of the SR 1 corridor, visual impacts in the area are considered to be less than significant.

Mitigation: None required.

3. Impact: Reduced Visual Quality Seen from State Route 68

Views of former Fort Ord from SR 68, a state designated scenic highway, would be largely unaffected by the proposed project, since the majority of the area seen in foreground and middleground would remain as open space under the jurisdiction of BLM. In the southwest portion of former Fort Ord, some views of a proposed business park may be obtained on County land, although existing business parks closer to the road would dominate the view. The land uses of the proposed project in this area would be similar to those described in Alternative 7 in the DSEIS; however, the policies and programs described under Impact 1 above would ensure that visual impacts on SR 68 would be less than significant.

Mitigation: None required.

4. Impact: Reduced Visual Quality Seen from the Salinas Valley

Implementation of the proposed project would alter the visual character of some areas along the bluffs at the northern edge of the project site, as seen from public viewpoints within the Salinas Valley. The more intense land uses of the North Airport Light Industrial/Tech Center, the mixed use/office park of the UCMBEST Cooperative Planning District, and the mixed uses of the East Garrison District, could substantially alter foreground views from Reservation Road and River Road, depending upon screening by the bluffs and vegetation. Middleground views from roads and housing further east in the Salinas Valley would also be affected. The degree of visual contrast and landscape compatibility would depend

upon the height, screening, and design character of the new development; at East Garrison, compatibility would also depend upon the design scheme of the new buildings in comparison with the remaining historic structures. The visual character of the development in these areas would be controlled through the policies and programs described above under Impact 1, and also by the following policy and program:

Conservation Element

Cultural Resources Policy B-2: The County of Monterey shall promote the preservation and enhancement of the East Garrison historic area.

Program B-2.2: The County of Monterey shall ensure that the development of the East Garrison historic area is consistent with maintaining its historic scale and character.

For the most part, the design character of the development proposed by the project would be compatible with the former Fort Ord design theme and historic landscape context, without more specific design guidance for buildings closest to the bluffs above the Salinas Valley, significant visual impacts could result. If the mitigation identified below were implemented, impacts would be reduced to a less-than-significant level.

Mitigation: Develop policies and programs to implement design guidelines for proposed development on the bluffs to avoid strong visual contrasts seen from the Salinas Valley.

Design guidelines should be developed governing the design, height, and location of buildings; colors and material; and tree removal, within a Special Design District of approximately one-quarter mile from the crest of the Salinas River Valley bluffs. This would apply to both County and City of Marina lands, with the intent of protecting the largely natural appearing character of the bluffs seen from the west side of the valley.

4.12 Cultural Resources

This section describes archaeological and historical resources located at former Fort Ord. The information incorporates by reference information previously prepared by the Army. This analysis also uses information from past archaeological and architectural inventory studies that have been conducted at former Fort Ord, as well as archaeological research design and a historic building inventory report prepared by the US Army Corps of Engineers.

4.12.1 Environmental Setting

Historical Background of Fort Ord

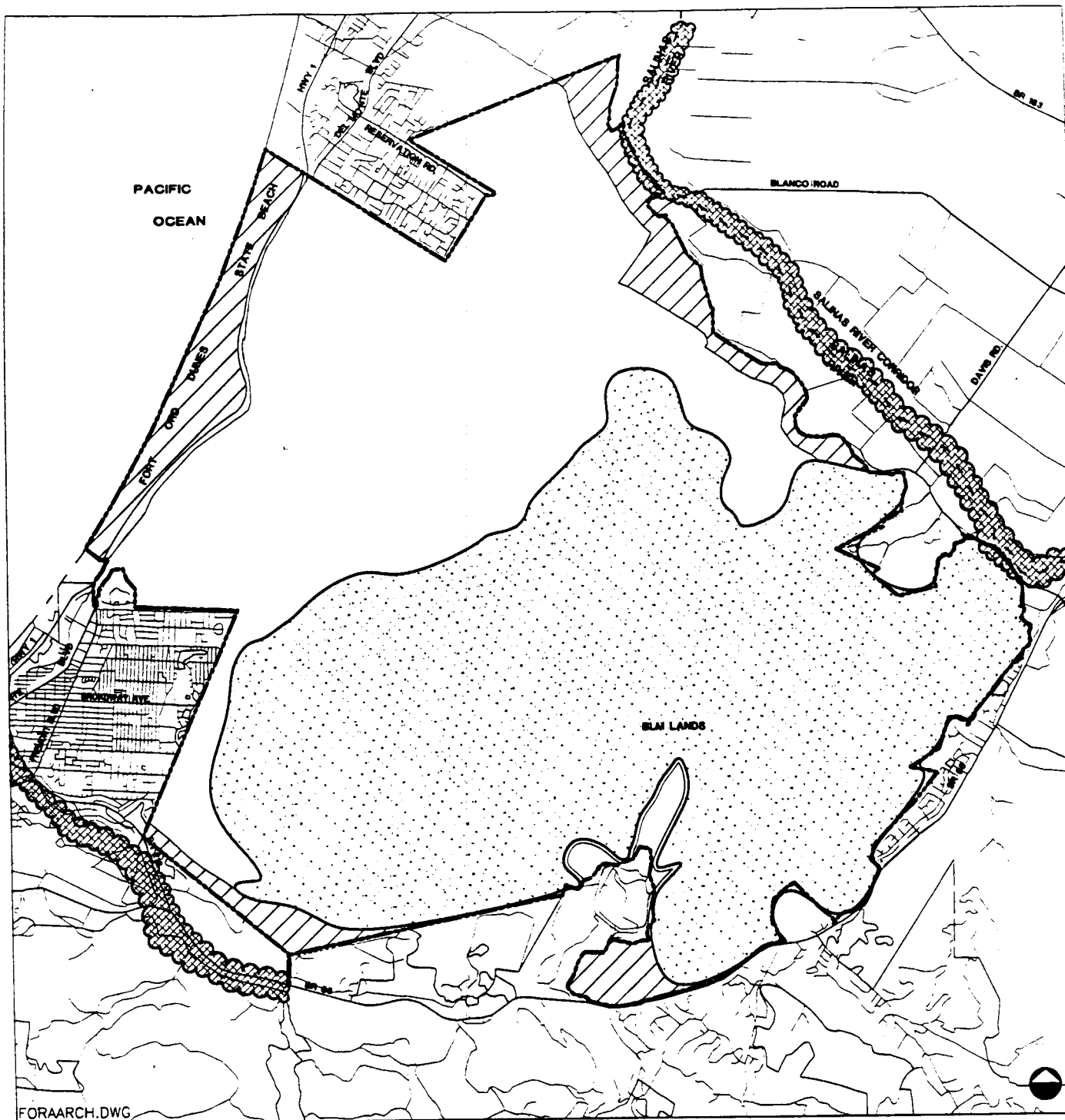
Archaeological evidence and radiocarbon dates establish human occupation of the California Coast dating back at least 10,000 years. Evidence from coastal areas of Monterey County suggests settlement of this area by at least 5,000 B.C., and possibly earlier. Proto-Esselen foragers speaking Hoka represented the Sur Pattern, dating to 5,000 B.C. They were replaced by proto-Coastanoan peoples in the Monterey Pattern, which began about 500 B.C. and lasted up to the Historic Period.

The former Fort Ord is located within lands historically occupied by the Rumsen Indians who belonged to a branch of the Coastanoan, or Ohlone, language family. Their closest village center to former Fort Ord was located at present day San Carlos. Rumsen/Ohlone traditional lifeways were largely destroyed when Euro-Americans began colonizing their territory in the 1770.

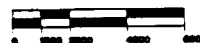
European contact began with the arrival of Spanish explorers in the 16th Century. In 1770, the Portola expedition established the first mission and the Royal Presidio in Monterey. In 1771, the Mission was moved to the Carmel Valley adjacent to arable land. By 1778, most of the remaining Rumsen and Esslen Indians in Carmel and Monterey were baptized and farming church lands, marking the beginning of the disintegration of Native American traditional lifeways in this area. By the turn of the century, vestigial Indian communities disappeared, and by 1935 the Ohlone language was extinct.

The former Fort Ord was created in 1917 from land designated as City of Monterey Tract No. 1 and several ranches. Originally named Gigling Reservation, the installation was renamed Camp Ord in 1933 after Major General Edward Ord, and later became known as Fort Ord. The former Fort Ord became an active military installation for the housing and training of Army troops just before World War II. Many facilities were built beginning in 1940 using funds from the Work Progress Administration. Former Fort Ord was used as an important staging area during World War II and as a training facility during the Korean and Vietnam wars.

The areas of greatest archaeological sensitivity at former Fort Ord include all terraces and benches adjacent to the Salinas River and El Toro Creek, the peripheries of the wet cycle lakes, and areas adjacent to streams in the BLM lands and the coastal beaches. All other lands in the area have low to medium potential for possessing archaeological resources. The areas of high archaeological sensitivity are illustrated in Figure 4.12-1. A cultural resource survey was carried out in high and low probability areas, which found that there was little potential for cultural deposits or information at three identified sites and four isolated find localities (Waite, 1995).



SOURCE: Jones & Stokes, 1995; Reimer Associates, (Re-projected), 1995; Monterey Co., 1995; EDAW/EMC, 1996.



LEGEND:



High Sensitivity



BLM - Bureau of Land Management



Riparian/
Estuarine Corridor

Higher Sensitivity - All terraces and benches adjacent to the Salinas River and El Toro Creek, the peripheries of the wet cycle lakes, and lands adjacent to the streams.

Fort Ord Reuse Plan
Draft EIR

Figure 4.12-1
Archaeological Resources Sensitivity

Historical Sites and Buildings

The Army and the California State Historic Preservation Officer (SHPO) concluded from the results of five reports conducted for the Army's FEIS that Stilwell Hall and 35 structures in the East Garrison area were the only former Fort Ord properties eligible for listing on the National Register of Historic Places (NRHP).

Stilwell Hall is located on the edge of Monterey Bay, west of State Highway 1 in an area formerly occupied by small arms training ranges. Built in 1940 as a soldiers' club, the structure was considered eligible for NRHP status because of its Works Progress Administration construction and interior art work, as well as its role as an interface between former Fort Ord and the surrounding community. The East Garrison area includes a variety of concrete and wood frame structures, most built in 1940 in the Spanish mission revival style as mess hall facilities for the 7th Infantry Division. Thirty-five of these structures, many converted to other uses, have been determined to comprise the East Garrison historic district.

More detailed descriptions of these architectural resources and their current condition are contained in *Historical and Architectural Documentation Reports for Fort Ord* (Office of Directorate of Environmental Programs, 1993).

4.12.2 Environmental Impacts and Mitigation

Significance Criteria

In accordance with the *State CEQA Guidelines*, this analysis assumes that the proposed project would have a significant impact on cultural resources if it would:

- disrupt or adversely affect a prehistoric or historic archaeological site, a property of historic or cultural significance to a community or ethnic or social group, or a paleontological site except as a part of a scientific study.

The policies and programs cited below incorporate the mitigation measures identified in the FEIS and DSEIS.

1. Impact: Disturbance of Lands with Potential to Contain Archaeological Resources

Implementation of the proposed project may disturb lands with potential to contain archaeological resources. Archaeological surveys conducted for the Army's FEIS found cultural resources at former Fort Ord which indicated human occupation dating back 10,000 years (Lapp et al., 1993; Babson, 1993; Bowman et al., 1994; Waite, 1994). There may be a need for further research to identify additional archaeological remains at former Fort Ord. The *Draft Fort Ord Reuse Plan* identifies the following policies and programs for the Cities of Marina and Seaside and Monterey County related to protecting resources and identifying additional archaeological sites that may be affected by the reuse of former Fort Ord.

Conservation Element

Cultural Resources Policy A-1: The City/County shall ensure the protection and preservation of archaeological resources at the former Fort Ord.

Program A-1.1: The City/County shall conduct a records search and a preliminary archaeological surface reconnaissance as a part of environmental review for any development project(s) proposed in a high archaeological resource sensitivity zone.

Program A-1.2: The City/County shall require that all known and discovered sites on the former Fort Ord with resources likely to be disturbed by a proposed project be analyzed by a qualified archaeologist with local expertise, recommendations made to protect and preserve resources and, as necessary, restrictive covenants imposed as a condition of project action or land sale.

Program A-1.3: As a contractor work specification for all new construction projects, the City of Marina shall include that during construction, upon the first discovery of any archaeological resource or potential find, development activity shall be halted within 50 meters of the find until the potential resources can be evaluated by a qualified professional archaeologist and recommendations made.

Because the policy and programs described above require the cities and county to protect and preserve known and potential archaeological resources, the impact is considered less than significant.

Mitigation. None required.

2. Impact: Disturbance of Lands with Potential to Contain Native American Traditional Cultural Properties

Implementation of the proposed project may disturb lands with potential to contain Native American traditional cultural properties. Evidence suggests settlement by Native American peoples in the area at least 5,000 years ago. Former Fort Ord is located within lands historically occupied by the Rumsen Indians who belonged to the Ohlone language family. Proposed land developments recommended under the proposed project have the potential to affect Native American traditional cultural properties. The following policies and programs for the Cities of Marina and Seaside and Monterey County relate to protecting Native American cultural properties that may be affected by the reuse of former Fort Ord.

Conservation Element

Cultural Resources Policy A-2: The City/County shall provide for and/or support protection of Native American cultural properties at the former Fort Ord.

Program A-2.1: The City/County shall coordinate with the California Native American Heritage Commission and California Native American points of contact for this region to identify traditional cultural properties located on former Fort Ord lands.

Program A-2.2: If traditional cultural properties are found to exist on the jurisdiction's lands at former Fort Ord, the city/county shall ensure that deeds transferring Native American traditional properties include covenants that protect and allow Native Americans access to these properties. These covenants will be developed in consultation with interested Native American groups, the State Historic Preservation Officer, and the Advisory Council on Historic Preservation. Leases will contain clauses that require compatible use and protection as a condition of the lease.

Because these policies and programs require protection of Native American cultural properties and coordination with Native American representatives, this impact is considered less than significant.

Mitigation: None required.

3. Impact: Disturbance of Lands with Potential to Contain Historically Significant Resources

Implementation of the proposed project may disturb lands with potential to contain historically significant resources. The Army and the California State Historic Preservation Officer (SHPO) have concluded that several structures at former Fort Ord, including Stilwell Hall and buildings in the East Garrison area, are eligible for listing on the National Register of Historic Places.

Stilwell Hall is located at the shores of Monterey Bay. It is proposed for use as a multiple-use visitor center for the Fort Ord Dunes State Park. Restoration of this structure could eliminate any impact by providing the opportunity for historic preservation and management. However, the building is now threatened by beach erosion which may make it difficult to reuse.

The East Garrison historic district, also eligible for National Register inclusion, is subject to competing proposals. The County is planning a mixed use urban village and employment center for the area, while Monterey Peninsula College has an approved public benefit conveyance for a Police Officer Safety Training Center, a continued use from past years. The potential effect of these land uses could include noise, air quality, and visual changes potentially inconsistent with the historic intensity of the East Garrison. The transportation system that supports the uses for the proposed project would also affect the East Garrison historic district. The conceptual transportation corridor connecting the East Garrison area with the Main Garrison along Inter-Garrison Road would impact the southern edge of the historic district as currently proposed. This would involve removal of structures and possibly separating a part of the district from the main sector. Locating the corridor here would introduce a significant amount of traffic into this district.

The Army has developed an agreement for protection of historic, former Fort Ord properties with the Advisory Council on Historic Preservation, in coordination with the SHPO. The agreement contains 15 stipulations regarding the eligibility of former Fort Ord properties in the National Register of Historic Places and preservation efforts for historic properties that are leased or transferred by the Army. The following policy and programs for the Cities of Marina and Seaside and County of Monterey relate to the protection of historically significant resources that may be affected by transfer of federal lands.

Conservation Element

Cultural Resources Policy B-1: The City/County shall provide for the identification, protection, preservation and restoration of former Fort Ord's historically and architecturally significant resources.

Program B-1.1: The City/County shall seek funding that can be used to rehabilitate, restore and preserve existing historic resources at former Fort Ord.

Program B-1.2: The City/County shall maintain historic buildings at former Fort Ord in accordance with local and state historic preservation standards and guidelines, and condition their sale or transfer with protective covenants. These covenants will be developed in

consultation with the SHPO, the Advisory Council on Historic Preservation, and interested parties.

Program B-1.3: The City/County shall regulate demolition of buildings of architectural or historical importance at former Fort Ord and make sure that such demolition does not occur without notice and hearing. Wherever possible, the City/County shall encourage the moving of buildings proposed to be demolished when other means for their preservation cannot be found.

Program B-1.4 (City of Marina): The City of Marina should attempt to establish a historic barracks district near the 8th Street overcrossing and the State Parks entrance. This small area could represent the historic character of former Fort Ord, be utilized for museums and non-profit organizations and assist in establishing an activity center in the Town Center Planning Area.

The following additional policy and corresponding programs, related to historic preservation in the East Garrison area, have been developed for the County of Monterey:

Conservation Element

Cultural Resources Policy B-2: The County of Monterey shall promote the preservation and enhancement of the East Garrison historic area.

Program B-2.1: The County of Monterey shall use land use and circulation policies that are effective in maintaining the character of the East Garrison historic area.

Program B-2.2: The County of Monterey shall ensure that development of the East Garrison historic area is consistent with maintaining its historic scale and character.

Program B-2.3: The County of Monterey, in association with Monterey Peninsula College and all other proponents of new uses of historic structures in the East Garrison area, shall cooperate with the California State Historic Preservation Officer to develop a management strategy that recognizes the historic value of the East Garrison historic district, in accordance with the 1994 agreement developed by the Army, the Advisory Council on Historic Preservation and the California SHPO. The county will be responsible for initiating any further consultation with the SHPO needed to modify these covenants or conditions.

Because these policies and programs require the preservation of historically significant resources at former Fort Ord, with special emphasis on structures and areas already identified as historically significant, this impact is considered less than significant.

Mitigation: None required.

4.13 UCMBEST

In response to comments received on the Notice of Preparation (NOP) for this Draft EIR, this section provides a focused description of the impacts of the implementation of the *Draft Fort Ord Reuse Plan* resulting from development of the University of California at Monterey Bay Education, Science, and Technology Center (UCMBEST). It itemizes the policies, programs, and mitigations which the University of California will be responsible for implementing or complying with. The purpose of this section is 1) to identify and summarize for the public the principal impacts and mitigation which UCMBEST, as one of the principal core activities underpinning the *Draft Fort Ord Reuse Plan*, would contribute to the base-wide development; and 2) to provide a concise summary of issues and responsibilities for the University of California, as the basis for future environmental documentation at the project specific level. The other principal land use agency at former Fort Ord with a major institutional development, CSU, is already preparing its own environmental documentation.

No new analysis at a more detailed level has been conducted for the UCMBEST Planning District within the Program EIR. The following discussion represents a selective interpretation of base-wide environmental analysis presented in the preceding sections of Chapter 4.0, within the geographic limits of the UCMBEST Cooperative Planning District.

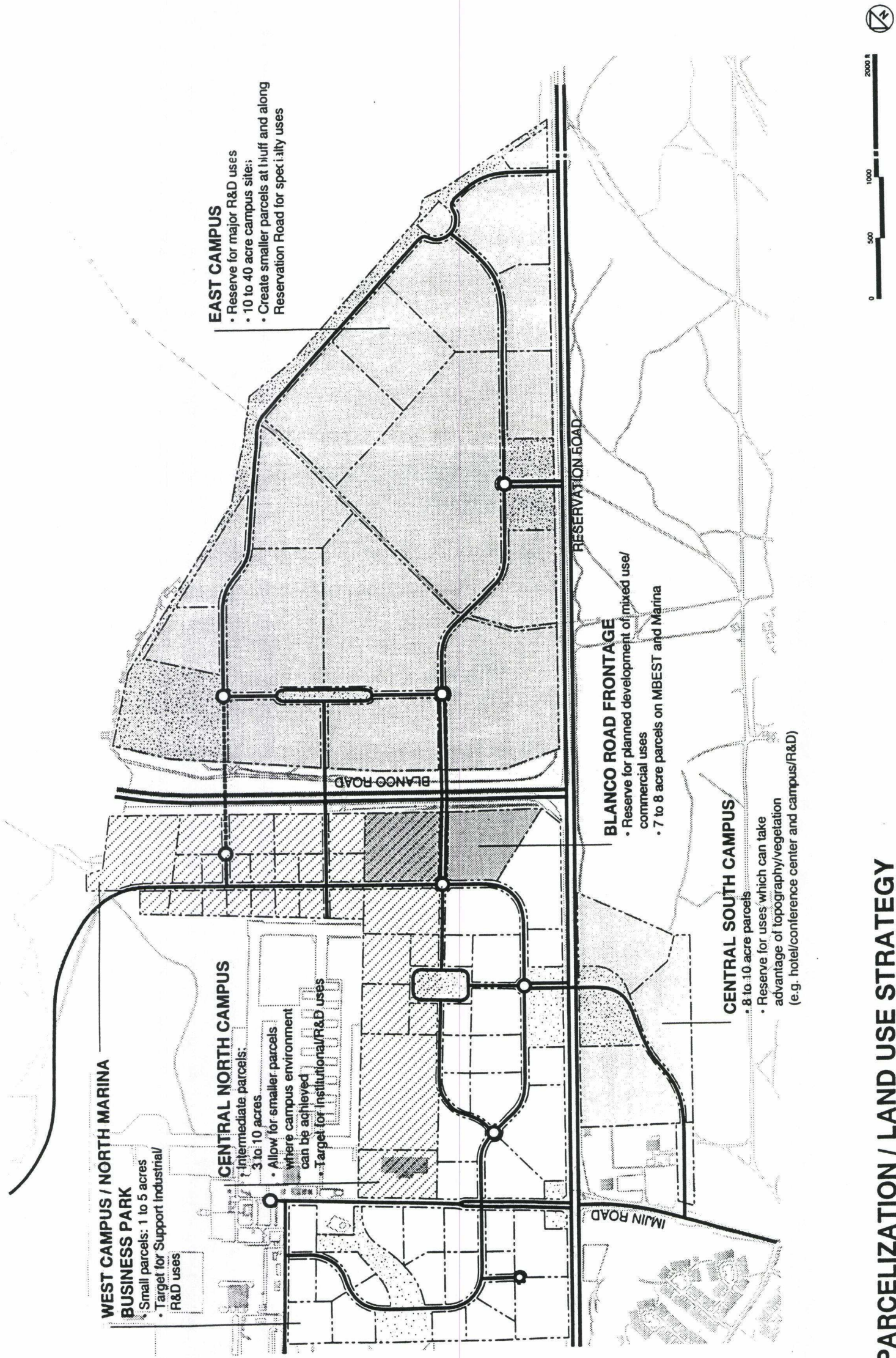
4.13.1 Overview of the UCMBEST Project

The UCMBEST Center is located in the UCMBEST Cooperative Planning District and Habitat Management Districts located in the City of Marina and Monterey County. It includes polygons 5c, 7c, 7a, 7b, 9a, and 9b as shown in Figure 4.13-1 and covers approximately 1,041 acres. The UCMBEST Center is currently utilizing 950 acres of 1,187 acres which the Army has screened for transfer to the University of California as an Economic Development Conveyance; 436 acres of this land is available to be developed. Prior planning studies for UCMBEST identified a development range of between 5.0 and 7.4 million sq. ft. The *Draft Fort Ord Reuse Plan* utilizes the lower end of this range (5.0 million sq. ft.) to represent the ultimate development capacity for UCMBEST. Even at 5.0 million sq. ft., UCMBEST represents about 40% of the combined total for light industrial/business park and office/R&D capacity for ultimate buildout at former Fort Ord.

The UCMBEST Cooperative Planning District represents a major location for office and research and development land uses within former Fort Ord. A total of 127 acres is proposed for this type of development within the City of Marina, accommodating approximately 1.38 million sq. ft. of Office / R&D. The portions of UCMBEST proposed for these uses on County land comprise of two major areas projected to accommodate a total of 3.67 million sq. ft. The larger site is approximately 272 acres and occupies a triangular area east of Blanco Road and north of Reservation Road. The smaller site is approximately 37 acres and is located south of Reservation Road.

A 150-room business hotel within the UCMBEST would cater to the UCMBEST visitors and anchor a small convenience retail and service center anticipated to be located in the City of Marina portion of UCMBEST. A limited amount of residential land use is anticipated to retain for the University the opportunity to serve the needs of visiting scholars and graduate students. The community design vision of the *Draft Fort Ord Reuse Plan* establishes the UCMBEST Center as a significant focus of development on the TAMC Multi-Modal Corridor.

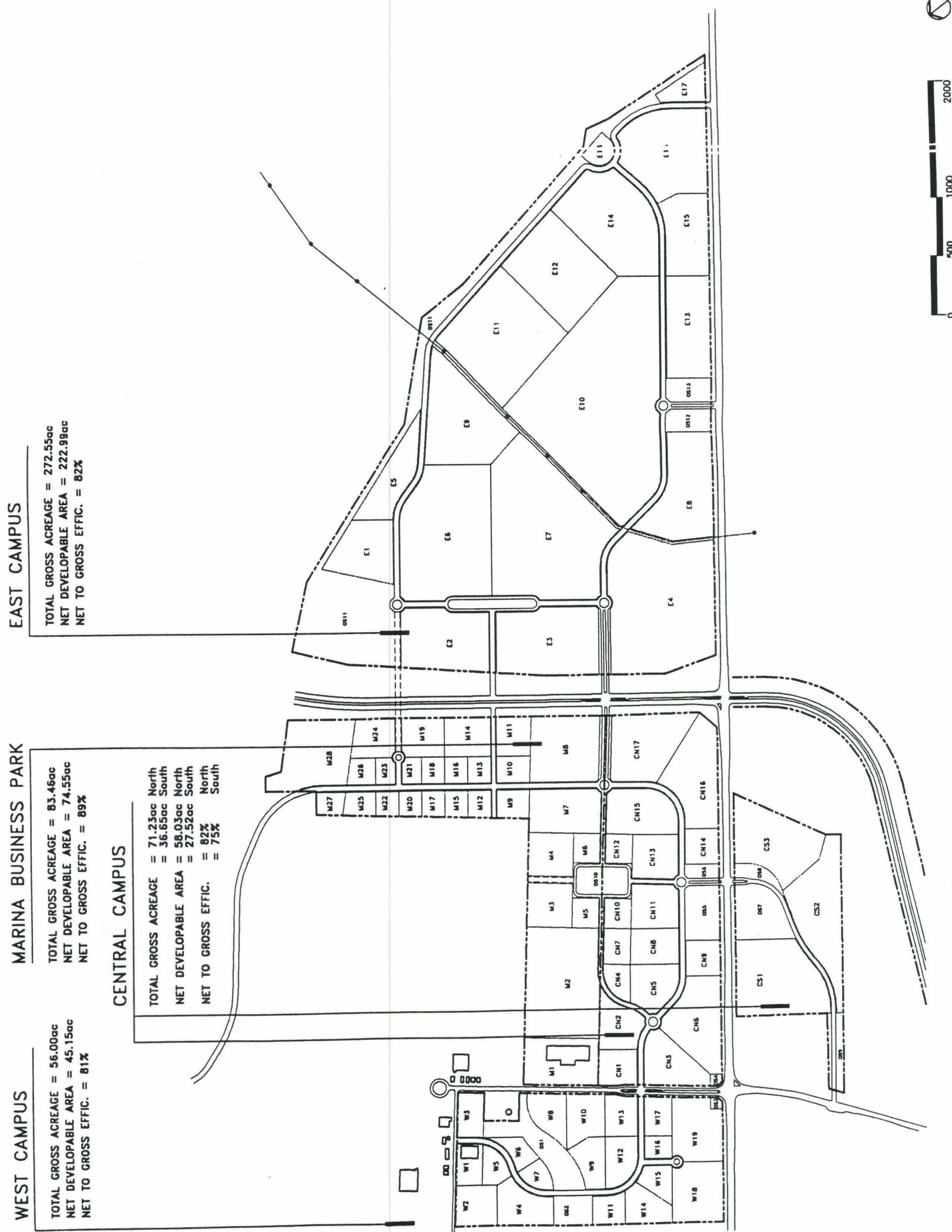
Figures 4.13-2 to 4.13-4 illustrate the University of California's current proposals for parcelization/land use strategy, business development plan, and landscape plan respectively. These figures also show

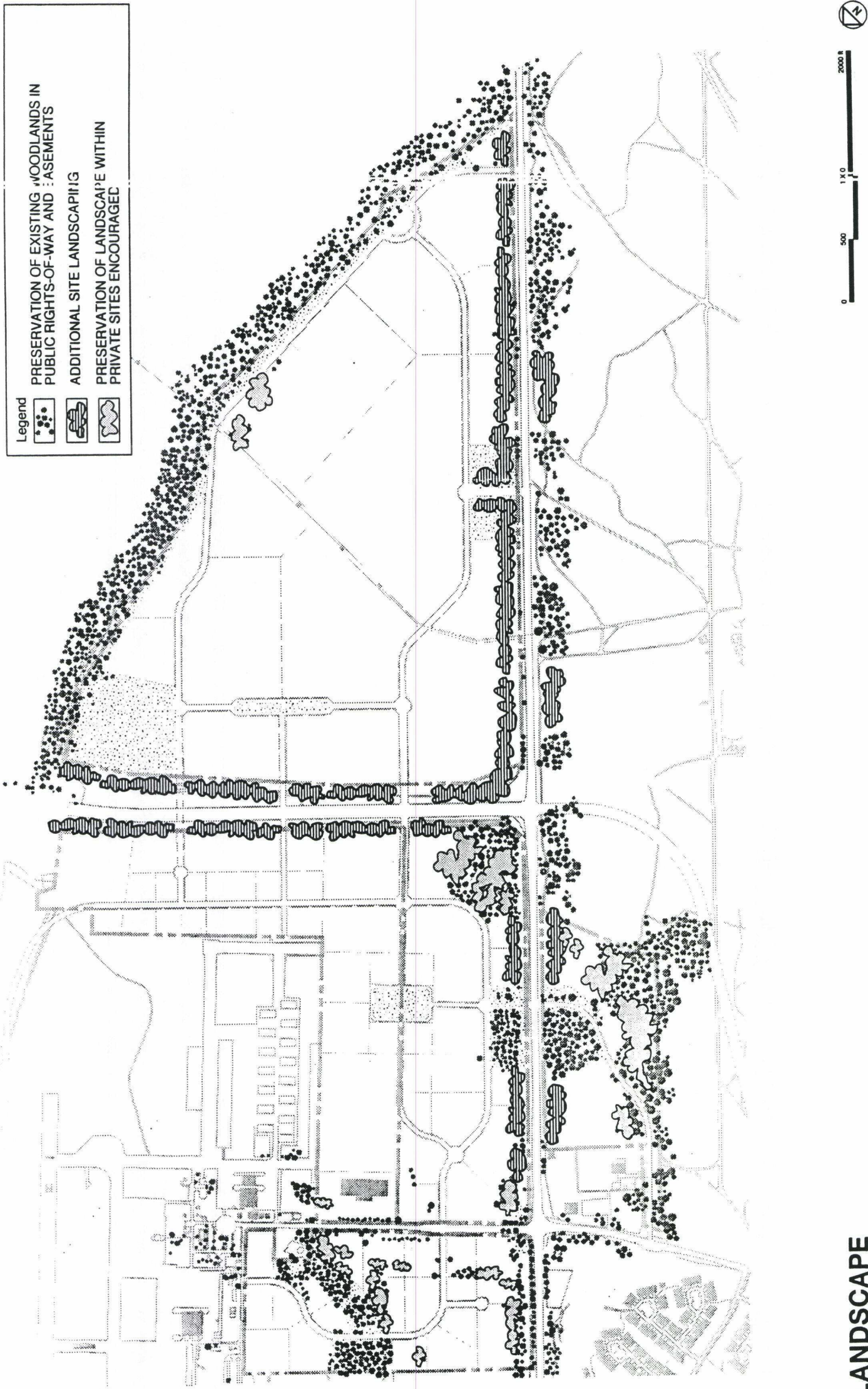


PARCELIZATION / LAND USE STRATEGY
Provide for a full range of parcel sizes that are responsive to short, mid and long-term opportunities. Configure to allow for subdivision and/or aggregation.

Figure 4.13-3
MBEST Center Business Development Plan

Source: Economic and Planning Systems with Roma Design Group, 1996





LANDSCAPE

- Preserve portions of existing woodlands to reinforce rural character of site.
- Augment retained landscaping with additional vegetation that is complementary and reinforces the image and identity of the development
- Require future users to retain existing trees along Reservation and Blanco Road, internal roads and property lines.

development on the adjoining airport property. Figure 4.13-1 shows the full extent of the area under the University of California's land use control, including those areas which would fall within the habitat management area.

4.13.2 Applicable Impacts

The impact categories described below are those which are relevant to the UCMBEST Planning District and land uses as defined in the *Draft Fort Ord Reuse Plan*. Table 4.13.1 represents a summary of applicable environmental impacts, policies and programs, mitigation responsibilities, and residual impacts for UCMBEST. This information is taken from the base-wide Table 2.5-1 in Chapter 2.0. For purposes of consistency, the impact numbering system used in Table 2.5-1 and the preceding sections of Chapter 4.0 have been retained. Although UC Santa Cruz is not obligated to follow the *Draft Fort Ord Reuse Plan* for locating or developing educationally related or research-oriented facilities (Section 67678 (d), California Government Code), the *Draft Fort Ord Reuse Plan* reflects the current plans for the UCMBEST Center. It is assumed that UC Santa Cruz will follow the provisions of the Fort Ord Reuse Plan and EIR in order to obtain the benefits of using these documents to assist in its own developments. UC Santa Cruz may retain the responsibility for implementing mitigations required by the three jurisdictions at the project-specific level. UC may carry some responsibility for mitigation in all the impact types identified below where significant or potentially significant impacts may occur. The corresponding sections in Chapter 4.0 above should be referenced for more details on policies and programs cited in Table 4.13-1. Impact conclusions cited in the text below represent residual impacts after mitigation (if required) is applied.

Mitigation responsibilities under the mitigation monitoring plan provided in Table 2.5-1 for the program-level EIR are also shown for the applicable impacts in Table 4.13-1. However, these apply mainly to the three jurisdictions responsible for adopting the general plan amendments under the *Draft Fort Ord Reuse Plan*. Institutions such as UC Santa Cruz would retain the responsibility for implementing mitigations required by the three jurisdictions at the project-specific level. UC may assume that they would carry some responsibility for mitigation in all the impact types identified below where significant or potentially significant impacts may occur. The following text assumes that projects undertaken on MBEST property would be subject to the jurisdiction of the City of Marina or the County of Monterey. However, when the University of California exercises its jurisdictional autonomy over the planning and approval of MBEST projects, programs and mitigations that are consistent with the *Draft Fort Ord Reuse Plan* and Draft EIR mitigations will need to be adopted and implemented by UC.

Land Use

7. Impact: Location of Incompatible Land Uses Adjacent to University Campus *Less than Significant*

Because UCMBEST lands are situated within the jurisdictions of the City of Marina and the County of Monterey, UCMBEST will need to coordinate and communicate with the City of Marina and the County of Monterey about the suitability of land uses adjacent to the University. Land use issues addressed by the *Draft Fort Ord Reuse Plan* include the proximity of University of California development to the Fritzche Airport and habitat management area lands, residential uses within CSUMB, and the planned school on a site owned by the Monterey Unified School District.

9. Impact: Possible Location of a New High School Near Incompatible Land Uses in the City of Marina *Less than Significant*

UCMBEST, the City of Marina and the Monterey Peninsula Unified School District may need to coordinate on the siting of a new highschool.

Socioeconomics

1. Impact: Increase in Monterey County Population, Employment, and Demand for Community Services *Less than Significant* (beneficial impacts)

The development of the UCMBEST Center would contribute to this impact, which includes beneficial impacts of improving employment levels and improving the jobs-housing balance, particularly through the local mixed land uses of the UCMBEST area which combine jobs and housing.

Geology and Soils

1. Impact: Loss of Unique Soil Type Supporting Rare Plant Communities and Endangered Threatened Species *Less than Significant*

UCMBEST will, as a recipient of former Fort Ord Lands, be required to comply with the HMP as it has habitat management area land under its jurisdiction in polygons 5c, 9a, and 7b.

2. Impact: Long-term Loss of Soil Fertility Caused by Fire Suppression *Less than Significant*

The policies and programs pertaining to this impact apply generically to all habitat management area lands.

4. Impact: Accelerated Wind Erosion *Less than Significant*

Development of relatively undisturbed areas would remove vegetation and disrupt the soils surface horizon in areas with soils highly susceptible to wind erosion as shown in Figure 4.3-1. These areas include Oceano, Baywood, and Arnold soils in the vicinity of the UCMBEST site. This could occur with short-term construction impacts and long-term erosion where vegetative cover is not re-established.

In developing lands and constructing structures on former Fort Ord lands, UCMBEST would be required to prepare and implement erosion control measures called for in the *Draft Fort Ord Reuse Plan*.

5. Impact: Accelerated Water Erosion *Less than Significant*

The policies and programs pertaining to this impact apply generally to all lands within former Fort Ord, including UCMBEST lands.

6. Impact: Increased Landslide Susceptibility *Less than Significant*

The topography of the UCMBEST planning district is gentle for the most part, consisting of lands at 0-10% slope as shown in Figure 4.3-6. However, there is potential for landslide susceptibility at the bluffs just outside the UCMBEST property in the County of Monterey jurisdiction. This requires that

UCMBEST ensure County setback requirements are followed in developing the area, specifically in polygon 7a.

8. Impact: Engineering Limitations on Use of Soils *Less than Significant*

Development proposed in the UCMBEST planning district, which is situated in an area characterized by Baywood and Arnold soils, would require the implementation of engineering techniques to avoid excavation caving and instability of slopes and embankments.

Public Services, Utilities and Water Supply

1. Impact: Need for New and Upgraded Utility Systems and Services *Potentially Significant*

UCMBEST's development plans would need to be coordinated with existing and planned wastewater, water distribution, and storm drainage infrastructure improvements and additions. It is assumed that other services and utilities would be provided to meet the capacity of the development at all stages through ultimate buildout. However, in addition to complying with policies and programs cited in Table 4.13.1, mitigation would be needed in order to meet regulatory requirements. These would require UCMBEST compliance with FORA's mitigations, as follows:

Mitigation: Write a program to be adopted by the City of Marina and County of Monterey that states: the City/County shall comply with Assembly Bill 939, which mandates a reduction in generated solid waste to a target rate of 5.4 lb/cap/day by developing and enforcing a solid waste reduction and recycling program for the former Fort Ord area.

Mitigation: Write a program to be adopted by the City of Marina and County of Monterey that states: the City/County shall carry out all actions necessary to ensure that the installation of water supply wells comply with State of California Water Well Standards and well standards established by the Monterey County Health Department.

Mitigation: Write a program to be adopted by the City of Marina and County of Monterey that states: the City/County shall carry out all actions necessary to ensure that distribution and storage of potable and non-potable water comply with State Health Department regulations through Title 22.

2. Impact: Need for New Local Water Supplies *Potentially Significant*

UCMBEST's development plans will be dependent upon the City and County verifying that water supplies will be available to handle UCMBEST's projected water needs. In addition to complying with policies and programs cited in Table 4.13.1, which address new water supply sources and aquifer protection, the following mitigation would be needed, in order to address the issue of groundwater recharge which would require compliance from UCMBEST development projects:

Mitigation : Write a program to be adopted by the Cities of Marina and Seaside and the County of Monterey prior to implementing the proposed project that states: the City/County shall adopt and enforce a stormwater detention plan that identifies potential stormwater detention design and implementation measures to be considered in all new development, in order to increase groundwater recharge and thereby reduce potential for further seawater intrusion and augment future water supplies.

Hydrology and Water Quality

1. **Impact: Increased Site Runoff** *Less than Significant*

UCMBEST development plans should anticipate and if necessary mitigate any significant alterations in peak runoff and duration as a result of development.

2. **Impact: Water Quality Degradation from Urban Runoff** *Less than Significant*

At the project approval stage, UCMBEST would need to demonstrate that new development would include on-site drainage systems designed to capture and filter out urban pollution, to the extent feasible, and adequate to protect any adjacent water supply wells.

4. **Impact: Water Quality Degradation from Increased Erosion During Construction** *Less than Significant*

UCMBEST would need to prepare and implement erosion control for development projects that that involve high erosion risk.

5. **Impact: Degradation of Water Quality from Hazardous Material Spills During Construction** *Less than Significant*

UCMBEST would be required to comply with a hazardous substance control ordinance to be adopted and implemented by the City of Marina and the County of Monterey, which requires that a hazardous substance plan be prepared and implemented for construction activities involving the handling and storage and transport of hazardous waste materials.

6. **Impact: Changes in Amount and Quality of Groundwater Recharge** *Less than Significant*

Increased recharge may result from concentrated run-off from increased areas of impervious surface, although there is potential for non-point source contaminants to reduce groundwater quality. The policies and programs listed in Table 4.13-1 require that runoff be minimized and infiltration maximized.

Public Health and Safety

1. **Impact: Increased Demand for Law Enforcement Services** *Significant*

Development and associated increases in population at UCMBEST will require coordination from UCMBEST and other agencies to assist in providing adequate law enforcement services. The following mitigation would be adopted which may place responsibilities upon UCMBEST:

Mitigation: FORA, jointly with the local city managers and law enforcement agencies involved, shall develop a regional law enforcement program that promotes joint efficiencies in operations, identifies additional law enforcement needs, and identifies and seeks to secure the appropriate funding mechanism to provide the required services.

Because this mitigation does not provide assurance of the financial viability of the measure, the impact would remain significant and unavoidable.

2. Impact: Increased Demand for Fire Protection and Emergency Response Services *Significant*

Development and associated increases in population at UCMBEST will require coordination from UCMBEST and other agencies to ensure that adequate fire protection and emergency responses services are provided. In addition to complying with policies and programs cited in Table 4.13.1, the following mitigation would be adopted which may require compliance from UCMBEST:

Mitigation: FORA, jointly with the local city managers and fire protection agencies involved, shall develop a regional program that promotes joint efficiencies in operations, identifies further sources of funding for additional required fire protection services (such as a special fire district or other standard mechanism) and seeks to secure adequate funding to maintain existing levels of service.

Because this mitigation does not provide assurance of the financial viability of the measure, the impact would remain significant and unavoidable.

3. Impact: Risk of Injury or Damage from Seismic Activity *Less than Significant*

UCMBEST construction plans and implementation will need to comply with City of Marina and County of Monterey standards and guidelines for seismic safety. Moreover, UCMBEST should take part in earthquake preparedness efforts for its location and the region.

4. Impact: Exposure to Hazardous and Toxic Materials *Potentially Significant*

Toxic cleanup efforts in the UCMBEST district would be regulated by City, County and State agencies. The appropriate clean-up levels are determined based in part on the proposed land uses, as described in the Basewide RI/FS (Harding Lawson Associates, 1994). In addition to complying with policies and programs cited in Table 4.13.1, the following mitigation would be needed which may require coordination with other agencies, in order to address changes in proposed land use made since the time that clean-up standards were agreed:

Mitigation. FORA, through consultation with the Army and involved agencies, shall ensure that clean-up levels are consistent with all revised land uses proposed in the Fort Ord Reuse Plan.

Traffic and Circulation

1. Impact: Increased Travel Demand on Regional Transportation System *Significant*

The UCMBEST, as an employer and public institution, would be required to encourage and practice TDM programs. In addition to complying with policies and programs cited in Table 4.13.1, the following mitigation would be needed which may require compliance from UCMBEST:

Mitigation. Amend Streets and Roads Policy A-1.2 to add the following wording: FORA shall review the options for distributing its "fair share" financial contributions to all or selected off-site transportation improvements so as to maximize the effectiveness of these contributions in reducing traffic impacts to the regional roadway system.

Because FORA and UC cannot assure the full mitigation of regional traffic impacts, even with implementation of the above mitigation measure, the impact would remain significant and unavoidable.

2. Impact: Increased Travel Demand Within Former Fort Ord *Less than Significant*

The UCMBEST, as one of the land use agencies at former Fort Ord, would prepare a Pedestrian System Plan and new development would be reviewed for bicycle system facilities consistent with the Reuse Plan and Bicycle System Plan.

Climate and Air Quality

1. Impact: Potential Violation of Ambient Air Quality Standards *Less than Significant*

UCMBEST would need to comply with policies and programs cited in Table 4.13.1.

Noise

1. Impact: Excessive Noise from Construction Activities *Less than Significant*

The UCMBEST would need to comply with City of Marina and County of Monterey noise regulations.

2. Impact: Exposure of Existing Noise-sensitive Land Uses to Excessive Traffic Noise and Substantial Increases in Ambient Noise Levels *Less than Significant*

UCMBEST would be required to monitor and mitigate noise from its operation activities as discussed in the policies cited in Table 4.13.1.

3. Impact: Exposure of New Noise-sensitive Land Uses to Excessive Traffic Noise *Less than Significant*

UCMBEST would be required to comply with regulations intended to monitor and mitigate noise from its operation activities as discussed in the policies cited in Table 4.13.1.

4. Impact: Exposure of New Noise-sensitive Land Uses to Noise from Monterey Peninsula Airport and Marina Municipal Airport *Less than Significant*

The proximity of the Marina Municipal airport to University of California property proposed for development may result in potential noise impacts to future University of California land uses. UCMBEST would be required to comply with policies, programs and regulations intended to mitigate additional noise from its construction and operation activities, as well as other existing noise sources, as discussed in the policies cited in Table 4.13.1.

5. Impact: Exposure of Existing and Planned Noise-sensitive Land Uses to Noise from Non-transportation Sources Including the Proposed Amphitheater, Peace Officers Training Facility, and the Transit Center *Less than Significant*

UCMBEST will be required to comply with regulations intended to mitigate noise from its operation activities as discussed in the policies cited in Table 4.13.1.

Biological Resources

1. **Impact: Loss of Sensitive Species and Habitats Addressed in the Habitat Management Plan**
Less than Significant

Habitat regulations of development as set forth in the HMP and its Implementation Agreement in and adjacent to polygons occupied by UCMBEST will need to be observed and enforced in the UCMBEST planning district.

3. **Impact: Affecting (a portion of 348 acres of) Coastal Scrub** *Less than Significant*

No policies or programs have been developed for this resource, due to its common occurrence as a habitat type at former Fort Ord.

4. **Impact: Affecting (a portion of 1,525 acres of) Annual Grassland** *Less than Significant*

Biological Resource Policy B-1 which pertains to sensitive species, on grasslands, must be observed or complied with by UCMBEST as discussed in Section 4.10.

5. **Impact: Affecting (a portion of 1,584 acres of) Coast Live Oak Woodlands**
Less than Significant

The policies and programs cited in Table 4.13.1 apply to parts of the UCMBEST Planning District which sustains live oak woodlands. These policies and programs go beyond the provisions of the HMP in conserving and replacing oak woodlands.

6. **Impact: Affecting (a portion of six acres of) Native Perennial Grassland** *Less than Significant*

No policies or programs are provided in the Reuse Plan for this resource, since the total area affected at former Fort Ord is very small in relation to the overall habitat type.

8. **Impact: Loss of Sensitive Species Not Addressed in the HMP** *Less than Significant*

UCMBEST will need to comply with City of Marina and County of Monterey activities and guidelines as described in the policies cited in Table 4.13.1.

Visual Resources

1. **Impact: Reduced Visual Quality On-site** *Less than Significant*

UCMBEST development plans will need to comply with FORA's and County of Monterey's guidelines as described in policies and programs cited in Table 4.13.1 in order to protect visual resources.

4. Impact: Reduced Visual Quality Seen from Salinas Valley *Significant*

Portions of UCMBEST site development close to the bluffs above the Salinas Valley would need to comply with required policies, programs, and conditional mitigation measures to ensure no adverse visual impacts, as follows:

Mitigation: Develop policies and programs to implement design guidelines for proposed development on the bluffs to avoid strong visual contrasts seen from the Salinas Valley.

Cultural Resources

1. Impact: Disturbance of Lands with Potential to Contain Archaeological Resources
Less than Significant

Polygon 7a is identified in the FEIS as an area of high sensitivity for the presence of archaeological resources, however, a cultural resource survey was conducted of high and low probability areas, which found that little significant information was likely to occur at these sites (P.R. White, 1995). UCMBEST would be required to comply with guidelines and regulations for the preservation of cultural resources should they be discovered during construction or suspected in the district.

2. Impact: Disturbance of Lands with Potential to Contain Native American Traditional Cultural Properties *Less than Significant*

3. Impact: Disturbance of Lands with Potential to Contain Historically Significant Resources
Less than Significant

Table 4.13.1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan for UCMBEST

PROPOSED PROJECT IMPACTS						
Environmental Effects	Policies & Programs That Address Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation	Mitigation Schedule	Mitigation Responsibility ²
4.1 Land Use						
7. Incompatibility of Land Uses Adjacent to University Campus	ILU Policy A-1 Program A-1.1 Program A-1.2 Program A-1.3 Program A-1.4	Less than significant	None required	N/A		
9. Possible Location of a New High School Near Incompatible Land Uses in the City of Marina	ILU Policy B-1 Program B-1.1 Program B-1.2 Program B-1.3	Less than significant	None required	N/A		
4.2 Socioeconomics						
1. Increase in Monterey County Population, Employment and Demand for Community Services	N/A	Less than significant	None required	N/A		
4.3 Geology and Soils						
1. Loss of Unique Soil Type Supporting Rare Plant Communities and Endangered Threatened Species	(SGC) Program C-2.1	Less than Significant	None required	N/A		
2. Long-term Loss of Soil Fertility Caused by Fire Suppression	(SGC) Program C-2.1	Less than significant	None required	N/A		
4. Accelerated Wind Erosion	SGC SGC SGC Policy A-2 Policy A-3 Policy A-4	Less than significant	None required	N/A		
5. Accelerated Water Erosion	SGC SGC SGC SGC Policy A-2 Policy A-3 Policy A-4 Policy A-5 Program A-5.2	Less than Significant	None required	N/A		

Table 4.13.1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan for UCMBEST (continued)

PROPOSED PROJECT IMPACTS						
Environmental Effects	Policies & Programs That Address Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation	Mitigation Schedule	Mitigation Responsibility
4.3 Geology and Soils cont.						
6. Increased Landslide Susceptibility	SGC Policy A-2 SGC Policy A-4 SGC Policy A-5 SGC Policy A-6 Program A-6.2	Less than significant	None required	N/A		
(County of Monterey)						
8. Engineering Limitations on Use of Soils	SGC Policy A-5	Less than significant	None required	N/A		
4.4 Public Services, Utilities and Water Supply						
1. Need for New and Upgraded Utility Systems and Services	HWQC Policy C-7 Program A-1.1	Potentially significant	Write a program to be adopted by the Cities of Marina and Seaside and the County of Monterey that states: the City/County shall complete Assembly Bill 939, which mandates a reduction in generated solid waste to a target rate of 5.4 lb/cap/day, by developing and enforcing a solid waste reduction and recycling program for the former Fort Ord area. Write a program to be adopted by the Cities of Marina and Seaside and the County of Monterey that states: the City/County shall carry out all actions necessary to ensure that the installation of water supply wells comply with State of California Water Well Standards and well standards established by the Monterey County Health Department. Write a program to be adopted by the Cities of Marina and Seaside and the County of Monterey that states: the City/County shall carry out all actions necessary to ensure that distribution and storage of potable and non-potable water comply with State Health Department regulations through Title 22.	Less than significant	Prior to implementing the proposed project Prior to implementing the proposed project Prior to implementing the proposed project	City of Marina and County of Monterey City of Marina and County of Monterey City of Marina and County of Monterey

Table 4.13.1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan for UCMBEST (continued)

PROPOSED PROJECT IMPACTS					
Environmental Effects	Policies & Programs That Address Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation	Mitigation Schedule Mitigation Responsibility?
4.4 Public Services, Utilities and Water Supply cont.					
2. Need for New Local Water Supplies	(HWQC) Program B-1.1 Program B-1.2 Program B-1.3 HWQC Policy B-2 Program C-3.2	Potentially significant	Write a program to be adopted by the Cities of Marina and Seaside and the County of Monterey that states: the City/County shall adopt and enforce a stormwater detention plan that identifies potential stormwater detention design and implementation measures to be considered in all new development, in order to increase groundwater recharge and thereby reduce potential for further seawater intrusion and augment future water supplies.	Less than significant	Prior to implementing the proposed project City of Marina and County of Monterey
4.5 Hydrology and Water Quality					
1. Increased Site Runoff	HWQC Policy A-1 Program A-1.1 Program B-1.1 HWQC Policy A-2 Program A-2.1	Less than significant	None required	N/A	
2. Water Quality Degradation from Urban Runoff	HWQC Policy C-2 Program C-2.1 HWQC Policy C-6	Less than significant	None required	N/A	
4. Water Quality Degradation from Increased Erosion During Construction	SGC Policy A-2	Less than significant	None required	N/A	
5. Degradation of Water Quality from Hazardous Material Spills During Construction	(HWQC) Program C-1.5	Less than significant	None required	N/A	
6. Changes in Amount and Quality of Groundwater Recharge (Monterey County)	HWQC Policy A-1 Program A-1.1 HWQC Policy A-2 Program A-2.1	Less than significant	None required	N/A	

Table 4.13.1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan for UCMBEST (continued)

PROPOSED PROJECT IMPACTS					
Environmental Effects	Policies & Programs That Address Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation	Mitigation Responsibility?
4.6 Public Health and Safety					
1. Increased Demand for Law Enforcement Services	N/A	Significant	FORA, jointly with the local city mgrs. and law enforcement agencies involved, shall develop a regional law enforcement program that promotes joint efficiencies in operations, identifies additional law enforcement needs, and identifies and seeks to secure the appropriate funding mechanism to provide the required services.	Unavoidable significant	City of Marina and County of Monterey
2. Increased Demand for Fire Protection and Emergency Response Services	FFES Policy A-1 Program A-1.1 FFES Policy A-2 FFES Policy A-3 (FFES) Program A-3.1 Program C.1-3	Significant	FORA, jointly with the local city mgrs. and fire protection agencies involved, shall develop a regional program that promotes joint efficiencies in operations, identifies further sources of funding for additional fire protection services (such as a special fire district or other standard mechanism) and seeks to secure adequate funding to maintain existing levels of service.	Unavoidable significant	City of Marina, County of Monterey, State Dept. of Forestry and Fire Protection
3. Risk of Injury or Damage from Seismic Activity	SGHS Policy A-1 Program A-1.2 SGHS Policy A-2 Program A-2.1 Program A-2.2 Program A-2.3 SGHS Policy A-3 Program A-3.1 (SGHS) Program B-1.1 SGHS Policy C-1	Less than significant	None required	N/A	
4. Exposure to Hazardous and Toxic Materials	HTMS Policy B-1 Program B-1.2 Program B-1.4 HTMS Policy B-2 HTMS Policy C-1 Program C-1.1	Potentially significant	FORA, through consultation with the Army and involved land use agencies, shall ensure that clean-up levels are consistent with all revised land uses proposed in the Fort Ord Reuse Plan.	Less than significant	FORA, Army, City of Marina and County of Monterey

Table 4.13.1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan for UCMBEST (continued)

PROPOSED PROJECT IMPACTS						
Environmental Effects	Policies & Programs That Address Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation	Mitigation Schedule	Mitigation Responsibility
4.7 Traffic and Circulation						
1. Increased Travel Demand on Regional Transportation System	TDMC Policy A-1 Program A-1.1 Program A-1.2 Program A-1.3 Program A-1.4 Policy A-3 Program A-3.1	Potentially significant	Amend Streets and Roads Policy A-1.2 to add the following wording: FORA shall review the options for distributing its fair-share financial contributions to all or selected off-site transportation improvements so as to maximize the effectiveness of these contributions in reducing traffic impacts to the regional roadway system.	Unavoidable significant	Prior to implementing the proposed project	FORA
2. Increased Travel Demand Within Former Fort Ord	(TC) (PBC) Program A-1.1 Program B-1.1 Program B-1.2	Less than significant	None required	N/A		
4.8 Climate and Air Quality						
1. Potential Violation of Ambient Air Quality Standards	(AQC) Policy A-2.1 Policy A-3 Program A-3.1 Program A-3.2	Less than significant	None required	N/A		
4.9 Noise						
1. Excessive Noise from Construction Activities	N Policy A-1 Program A-1.1 Program A-1.2 N Policy B-1 Program B-1.1 N Policy B-2 N Policy B-9	Less than significant	None required	N/A		
2. Exposure of Existing Noise-sensitive Land Uses to Excessive Traffic Noise and Substantial Increases in Ambient Noise Levels	N Policy A-1 Program A-1.1 N Policy B-1 Program B-1.1 N Policy B-2	Less than significant	None required	N/A		

Table 4.13.1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan for UCMBEST (continued)

PROPOSED PROJECT IMPACTS						
Environmental Effects	Policies & Programs That Address Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation	Mitigation Schedule	Mitigation Responsibility
4.9 Noise cont.						
3. Exposure of New Noise-sensitive Land Uses to Excessive Traffic Noise	N Policy A-1 Program A-1.1 Program B-1.1 Policy B-2 Policy B-3 Policy B-4 Policy B-5 Policy B-6 Policy B-7 Policy B-8	Less than significant	None required	N/A		
4. Exposure of New Noise-sensitive Land Uses to Noise from Monterey Peninsula Airport and Marina Municipal Airport	N Policy A-1 Program A-1.1 Policy B-2 Policy B-3 Policy B-4 Policy B-5 Policy B-6 Policy B-7 Policy B-8	Less than significant	None required	N/A		
5. Exposure of Existing and Planned Noise-sensitive Land Uses to Noise from Non-transportation Sources Including the Proposed Amphitheater, Peace Officers Training Facility, and the Transit Center	N Policy A-1 Program A-1.1 Program A-1.2 Policy B-1 Policy B-2 Policy B-3 Policy B-4 Policy B-5 Policy B-6 Policy B-7 Policy B-8	Less than significant	None required	N/A		

Table 4.13.1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan for UCMBEST (continued)

PROPOSED PROJECT IMPACTS				Mitigation Measures	Level of Significance After Mitigation	Mitigation Schedule	Mitigation Responsibility ²
Environmental Effects	Policies & Programs That Address Environmental Effects ¹	Level of Significance Before Mitigation					
4.10 Biological Resources							
1. Loss of Sensitive Species and Habitats Addressed in the Habitat Management Plan (City of Marina)	(BRC) BRC BRC BRC (BRC) BRC BRC	Program A-1.1 Policy A-4 Program A-4.1 Program A-4.2 Program A-4.3 Policy A-5 Program A-5.1 Program A-5.2 Policy A-6 Program A-6.1 Program A-6.2 Program A-7.1 Program A-7.2 Program A-7.3 Policy A-8 Program A-8.1 Program A-8.2 Policy A-9 Program A-9.1 Program A-9.2 Program A-9.3	Less than significant	None required	N/A		
(County of Monterey)							
3 Affecting (a portion of 348 acres of) Coastal Scrub	N/A	Less than significant					
4. Affecting (a portion of 1,525 acres of) Annual Grassland	N/A	Less than significant		None required	N/A		

Table 4.13.1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan for UCMBEST (continued)

PROPOSED PROJECT IMPACTS					
Environmental Effects	Policies & Programs That Address Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation	Mitigation Responsibility
4.10 Biological Resources		Less than significant	None required	N/A	
5. Affecting (a portion of 1,584 acres of) Coast Live Oak Woodlands (City of Marina)	(BRC) Program C-2.2 Program C-2.3				
(County of Monterey)	(BRC) Program B-2.1 Program B-2.2				
	BRC Policy C-2 Program C-2.1 Program C-2.2 Program C-2.3 Program C-2.4 Program C-2.5				
6. Affecting (a portion of six acres of) Native Perennial Grassland	N/A	Less than significant	None required	N/A	
8. Loss of Sensitive Species Not Addressed in the IIMP	(BRC) Program B-1.1 Program B-1.2 (BRC) Program B-2.1 Program B-2.2	Less than significant	None required	N/A	
4.11 Visual Resources			None required	N/A	
1. Reduced Visual Quality On-site	RLU Policy I-1 Program I-1.1 Program I-1.2 RLU Policy I-2 CLU Policy F-1 ILU Policy C-1 ROS Policy G-3	Less than Significant			
4. Reduced Visual Quality Seen from the Salinas Valley	CRC Policy B-2 Program B-2.2	Significant	Develop policies and programs to implement design guidelines for development on the bluffs to avoid strong visual contrasts seen from the Salinas Valley.	Less than significant	Prior to project implementation City of Marina and County of Monterey

Table 4.13.1 Summary Table of Proposed Project Impacts and Mitigation Monitoring Plan for UCMBEST (continued)

PROPOSED PROJECT IMPACTS				
Environmental Effects	Policies & Programs That Address Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
				Mitigation Responsibility ²
4.12 Cultural Resources				
1. Disturbance of Lands with Potential to Contain Archaeological Resources	(CR) Program A-1.2 Program A-1.3	Less than significant	None required	N/A
2. Disturbance of Lands with Potential to Contain Native American Traditional Cultural Properties	(CR) Program A-2.2	Less than significant	None required	N/A
3. Disturbance of Lands with Potential to Contain Historically Significant Resources	(CR) Program B-1.2 Program B-1.3 CR Policy B-2	Less than significant	None required	N/A

Key: 1 = In most cases where a particular agency is not identified in parentheses, the policies and programs apply to the City of Marina.
 2 = The mitigation responsibilities apply only to those impacts which are considered significant or potentially significant before mitigation. It is assumed that UC would comply with these mitigation requirements, both under FORA's jurisdiction and UC's autonomous powers.

RLU	Residential Land Use section of the Land Use Element, <i>Draft Fort Ord Reuse Plan</i>
CLU	Commercial Land Use section of the Land Use Element, <i>Draft Fort Ord Reuse Plan</i>
ROLU	Recreation/Open Space Land Use section of the Land Use Element, <i>Draft Fort Ord Reuse Plan</i>
ILU	Institutional Land Use section of the Land Use Element, <i>Draft Fort Ord Reuse Plan</i>
SRC	Streets and Roads section of the Circulation Element, <i>Draft Fort Ord Reuse Plan</i>
TC	Transit section of the Circulation Element, <i>Draft Fort Ord Reuse Plan</i>
PBC	Pedestrian and Bicycles section of the Circulation Element, <i>Draft Fort Ord Reuse Plan</i>
TDMC	Transportation and Demand Management section of the Circulation Element, <i>Draft Fort Ord Reuse Plan</i>
ROS	Recreation section of the Recreation and Open Space Element, <i>Draft Fort Ord Reuse Plan</i>
SGC	Soils and Geology section of the Conservation Element, <i>Draft Fort Ord Reuse Plan</i>
HWQC	Hydrology and Water Quality section of the Conservation Element, <i>Draft Fort Ord Reuse Plan</i>
BRC	Biological Resources section of the Conservation Element, <i>Draft Fort Ord Reuse Plan</i>
AQC	Air Quality section of the Conservation Element, <i>Draft Fort Ord Reuse Plan</i>
CR	Cultural Resources section of the Conservation Element, <i>Draft Fort Ord Reuse Plan</i>
N	Noise section of the Noise Element, <i>Draft Fort Ord Reuse Plan</i>
SGHS	Seismic and Geologic Hazards section of the Safety Element, <i>Draft Fort Ord Reuse Plan</i>
FFES	Fire, Flood and Emergency Management section of the Safety Element, <i>Draft Fort Ord Reuse Plan</i>
HTMS	Hazardous and Toxic Materials Safety section of the Safety Element, <i>Draft Fort Ord Reuse Plan</i>

5.0 OTHER CEQA CONSIDERATIONS

5.1 Cumulative Impacts

In conformance with the California Environmental Quality Act (CEQA), this Draft EIR evaluates the impact of the proposed project within the context of cumulative development, which is defined as "the change in the environment which results from the incremental impact of the proposed project when added to other closely related past, present and reasonably foreseeable probable future projects" [*State CEQA Guidelines*, Section 15355(b)]. Cumulative impacts occur when two or more individual effects together create a considerable environmental impact or compound or increase other impacts. The *State CEQA Guidelines* provide that the framework for a cumulative impact analysis can be based on either a list approach (a list of other relevant projects) or a plan approach (a summary of projections contained in an adopted general plan or related planning document which is designed to evaluate regional or areawide conditions) [*State CEQA Guidelines*, Section 15130(B)].

The cumulative impact analysis in this Draft EIR uses a combined approach. Relevant general plans (including Monterey County, and the Cities of Seaside and Marina) and the Association of Monterey Bay Area Government (AMBAG) projections are used to establish the cumulative context. Where appropriate to the impact topic, specific development projects which are considered "reasonably foreseeable" are considered. A list of future projects in Monterey County and local cities is provided in Table 5.1-1 below. The use of this list is consistent with the approach used in the Army's DSEIS for the cumulative impact analysis.

**Table 5.1-1 Reasonably Foreseeable Future Projects in the former Fort Ord Vicinity
(as of May 9, 1995)**

Jurisdiction/ Agency	Description of Projects
City of Del Rey Oaks	168- to 205-room hotel on 17-acre site along State Highway 218 Note: If city cannot get hotel approved, it will be developed as an alternative land use of a lower intensity.)
City of Marina	Approximately 330 residences at various locations throughout the city 3,100 square-foot restaurant 16,130 square feet of retail land use 135,000 square feet of business park land use 210,000 square-foot shopping center 29,875 square feet of church land use 4,163 square feet of office remodeling 1,400 square-foot auto repair garage 18,000 square-foot municipal traffic court 41,160 square-foot regional library 1,900 single family and 1,100 multifamily dwelling units on 500 acres 180-acre golf course 300-room hotel 200 acres of business/retail/commercial development

Jurisdiction/ Agency	Description of Projects
City of Monterey	560,900 square feet of retail land use 149,100 square feet of restaurant land use 333,900 square feet of office land use 19,200 square feet of bank land use 1,613 square-foot theater 20,000 square-foot museum 36 parking spaces another parking expansion (number of spaces unknown) 1,200,000 square feet of light industrial/office land use expansion of parking at hospital
City of Sand City	300,000 square feet of retail land use retail center (no size given) 22,000 square feet of restaurant/fast food land use public park (no size given) 400-450 residential units 136-room hotel/restaurant community center (no size given) 200- to 300-room hotel/conference center 21-acre park 595-room hotel and time share
City of Seaside	60,000 square feet of retail land use 60,000 square-foot entertainment center 48,000 square-foot shopping center expansion
County of Monterey	1,246 units of residential development throughout Monterey County Improvements to SR 68 (w/o assuming use of the easement crossing the former Fort Ord)
University of California, Santa Cruz	May propose some unknown land use for part of polygons 8b and 8c in the future (outside currently proposed university footprint)

Source: Jurisdiction/agency indicated/Army EIS.

5.1.1 Land Use

Buildout of the proposed project land use scenario would result in the development of approximately 38% (or 10,327 acres) of the former Fort Ord property. This area would include undeveloped areas for parks and recreation. The remaining approximately 62% (or 17,637 acres) of the former Fort Ord would be left undeveloped for habitat management.

The purpose of the *Draft Fort Ord Reuse Plan* is to facilitate the conversion of the former Fort Ord from a military base to a civilian economy. The Reuse Plan was developed to sustain the productive to capacity of the region's people, physical assets, environment, and financial resources, and in so doing achieve a balanced mix of land uses, including commercial, industrial, residential, recreation, parks, transportation, infrastructure, and open space. As proposed, this development would not result in the loss of productive agricultural land. Significant cumulative land use impacts are not anticipated.

5.1.2 Socioeconomics

Ultimate buildout of the proposed project would generate a population of approximately 51,773, plus 20,000 residential CSUMB students, and approximately 45,457 jobs. It is anticipated that development of the proposed project in the year 2015 (the latest year for which AMBAG projections are available) would result in an on-site population of 28,859 plus 10,000 residential CSUMB students. This number represents a total increase of less than 7,000 over baseline conditions (31,270), and less than half of the cumulative growth projected by AMBAG for the former Fort Ord in the year 2015 (66,612 plus 20,000 CSUMB students, as projected by AMBAG in 1994). This would represent approximately 9% of the total county population projected for 2015 (519,969).

The increase in employment (45,457 jobs), would more than offset the loss of approximately 18,277 jobs available at Ford Ord in 1991 (including 3,855 civilian jobs) resulting from base closure. It is anticipated that approximately 18,342 jobs would be generated by the year 2015, which compares to the cumulative AMBAG projections for 2015 of 21,468 jobs for the former Fort Ord. By reversing the jobs:housing imbalance within the former Fort Ord, the *Draft Fort Ord Reuse Plan* would have a cumulative beneficial effect on the region.

Overall, cumulative development within the region is anticipated to increase the demand for community services, such as job development and welfare programs. As discussed in Section 4.2, implementation of the proposed project would improve economic activity and reduce existing unemployment rates which is anticipated to offset some of this demand. This offset would be experienced on a regional basis and would therefore contribute to a reduction in the cumulative demand for these types of services. Regardless of the proposed project's contribution to reducing this demand, local cities and Monterey County would need to plan for additional services and demand in the overall region to accommodate the anticipated growth in population.

It is anticipated that the increase in residential housing and population resulting from the proposed project and expected regional development would create a cumulative demand for public schools which would exceed existing public school capacity. The school districts in the Monterey Peninsula area are currently operating at near-capacity levels. The proposed project includes opportunity sites for elementary and high schools, although the Monterey area school districts would need to plan for additional facilities in the overall region to accommodate the anticipated students generated from cumulative development.

Due to the beneficial effects of the *Draft Fort Ord Reuse Plan* on jobs, housing, and consumption of community services, the cumulative effects of the proposed project are determined to be less significant.

5.1.3 Geology and Soils

The development proposed in the *Draft Fort Ord Reuse Plan*, in conjunction with likely development projects in surrounding areas (as shown in Table 5.1-1) and provided for in adopted general plans for the County of Monterey and Cities of Seaside and Marina, would result in the disturbance or loss of soil resources. Disturbing the soil and removing vegetation from relatively undisturbed areas would increase the hazard of wind erosion of the predominantly sandy and poorly aggregated soils that are characteristic of much of the former Fort Ord and large portions of the surrounding area.

The effects of cumulative development on moderately to highly erodible lands and on moderate to steep slopes would necessitate removing vegetation, excavating and disrupting the soil surface, and concentrating and redirecting runoff, which would result in greatly-accelerated water-induced soil erosion. This impact would be especially acute on areas of the Arnold soil series, a sandy soil over a cemented hardpan.

Development in areas of recent and active landslides, areas susceptible to water erosion, and areas along the coast could be subject to damage from landslides. Increased water erosion and the occurrence of landslides would result in increases in creek channel sedimentation downslope and downstream of new development.

Cumulative development in and around the former Fort Ord's open lands could result in the suppression of low-temperature wildfires, resulting in a buildup of fuel and eventual high-temperature wildfires. High-temperature wildfires could deplete the soil surface horizon reserve of organic matter, thus depleting the soil fertility and water-holding capacity.

Another cumulative effect of development is a decrease in the soils' ability to support the natural ecosystem. Limited areas of native soil along the California coast are capable of supporting coastal chaparral and scrub vegetation. Development at the former Fort Ord and in the surrounding areas would add to the cumulative loss of these soil resources in the Monterey Bay region.

Project-level mitigation of impacts to geology and soils, such as the concepts and measures recommended by the policies and programs of the Soils and Geology section of the *Draft Fort Ord Reuse Plan* Conservation Element, would substantially reduce these effects within the former Fort Ord. The cumulative impact of the proposed project within the regional context for geology and soils would therefore be less than significant.

5.1.4 Public Services, Utilities and Water Supply

Cumulative development would increase the demand for wastewater, telephone, gas and electric, cable, storm drainage, and water distribution services. The proportion of this cumulative impact attributed to the reuse of the former Fort Ord would be mitigated by the capital improvements and policies and programs in the *Draft Fort Ord Reuse Plan*. The cumulative demand for these services would not be considered a significant impact.

Solid Waste

As indicated in Table 5.1-1, there are a considerable number of local development projects outside the former Fort Ord boundary that are expected to be constructed in the future. Solid waste generated by the proposed project above and beyond 1991 levels is estimated to shorten the life of the regional Marina landfill by approximately 3 years in a worse-case situation. Total development projects in the region, including the proposed project, would contribute to the solid waste stream projected for the 100-year life span of the Marina landfill. However, since the additional increment of solid waste generated by the former Fort Ord (over and above pre-1991 levels) is small and the project largely accommodates regional growth.

Water Supply

As it pertains to carbon monoxide, the ambient air quality threshold of significance is 20.0 ppm for the one-hour averaging time and 9.0 for eight-hour averaging time.

Intersections were evaluated based on the worst-case traffic scenario discussed in Section 4.7 of this EIR ("Financially Constrained Scenario"), thus the potential for exceeding the ambient air quality standards at sensitive receptors near intersections would be greatest. The following intersections were evaluated due their relative proximity to sensitive receptors and high traffic volumes.

- **12th at California:** This intersection is adjacent to the Patton Park residential neighborhood. The segment of 12th Street between Highway 1 and the future California Avenue extension through Patton Park to 12th Street would carry 20,800 daily vehicle trips (LOS "D") in the year 2015. At the same time, California Avenue would carry 9,600 (LOS "D"). Twelfth Street is proposed to be four lanes from State Highway 1 to Reservation Road. It is assumed that because two road segments operate at LOS "D" in the year 2015, the intersection of 12th and California Avenue will operate at LOS "E" or worse.
- **Broadway Avenue at North/South Road:** This intersection is at the future location of proposed new residential neighborhoods. Broadway Avenue will be four lanes in the year 2015. The segment of North/South Road from the Coe/Eucalyptus intersection to the north down to Highway 218 is proposed to be two lanes in the year 2015.

The segment of Broadway Avenue from Noche Buena Street to North/South Road carries 15,100 daily vehicle trips (LOS "C") in the year 2015. At the same time, North/South Road carries 15,500 daily vehicle trips (LOS "E"). Again, it is assumed that because road segments would operate at LOS "D" and "E", the intersection in these two road segments would potentially operate at LOS "E" or worse.

- **Light Fighter at North/South Road:** This intersection is at the future location of CSUMB. Light Fighter would have four lanes in the year 2015. North/South Road would have four lanes in the year 2015. The segment of Light Fighter would carry 24,400 daily vehicle trips in the year 2015 (LOS "D"). At the same time, North/South Road would carry 19,700 (LOS "D"). It is assumed that the intersection of these two road segments would operate at LOS "D". The segment of Imjin Road would carry 19,400 daily vehicle trips in the year 2015 (LOS "B"). At the same time, Reservation Road would carry 47,500 daily vehicle trips in the year 2015 (LOS "D"). It is assumed that the intersection of these two road segments could potentially operate at LOS "E" or worse.
- **Imjin Road at Reservation Road:** This intersection is in the future mixed-use district. Both Imjin Avenue and Reservation Road would have four lanes in the year 2015. The segment of Imjin Road would carry 19,400 daily vehicle trips in the year 2015 (LOS "B"). At the same time, Reservation Road would carry 47,500 daily vehicle trips in the year 2015 (LOS "D"). It is assumed that the intersection of these two road segments could potentially operate at LOS "E" or worse.

After review of the four intersections, it was determined that only one Caline 4 model run should be conducted. The mode would be run for the intersection with the greatest potential daily vehicle trips and the greatest potential impact sensitive receptors. Based on this criteria, the Imjin Road/Reservation Road intersection was selected as the potential worst case. As many as 66,9000 daily vehicle trips are projected

to occur on these two road segments in the year 2015. Theoretically, and in the worst case scenario, the intersection of these two road segments would be impacted by these daily trips. The peak hour period was then selected because it is the time of day with the greatest concentration of vehicle trips (i.e. the time of day when ten percent [7,000] of the total daily trips would enter and depart the intersection.)

The results of the model indicate that the predicted concentration for the intersection of Imjin Road and Reservation Road in the year 2015 would be 7.7 ppm for the eight-hour averaging time (California standard is 9.0 ppm).

Therefore, because the intersection with the projected highest number of vehicle trips in the year 2015 will have carbon monoxide levels that are below the California threshold for both the one-hour and eight-hour averaging time, it is assumed that other intersections with fewer projected daily vehicle trips would also be below the state standards for the one-hour and eight-hour averaging time. Therefore, cumulative impacts to air quality are considered less-than -significant.

It is important to note that other intersections on- and off-base would operate with as high or higher potential traffic volumes as that of the Imjin and Reservation Road intersection in the year 2015. However, because these intersections are not currently nor are anticipated (based on adopted general plans) to be near sensitive receptors in the year 2015, these intersections were not subject to a carbon monoxide model analysis.

5.1.9 Noise

The traffic noise analysis for the proposed project was conducted using cumulative traffic conditions. These conditions assume foreseeable growth and development in the surrounding areas, including the former Fort Ord. Therefore, the discussion of traffic-related noise provided in Section 4.9 represents the cumulative impacts.

Cumulative effects could occur when noise from stationary sources combine with other stationary and mobile sources. For example, noise from an industrial facility, when combined with noise from traffic, aircraft, and planned noise-generating facilities, could result in an excessive cumulative noise impact.

However, the plans and policies in the Noise Element would eliminate or substantially reduce the potential for these types of cumulative impacts to occur within the Fort Ord portion of the Cities of Marina and Seaside and Monterey County. Cumulative impacts of noise are therefore considered to be less than significant.

5.1.10 Biological Resources

The effects of the proposed project on biological resources have been analyzed on a regional basis, and as a result, mitigation strategies to address these effects have also been developed regionally. The regional approach to addressing effects on biological resources has resulted in the identification and preservation of key habitats at the former Fort Ord, and the design of a habitat conservation and corridor system to help preserve these habitats while allowing reuse to proceed. The Habitat Management Plan (HMP) establishes the parameters for the habitat conservation and corridor system for habitats and species addressed in the HMP. The Conservation Element of the *Draft Fort Ord Reuse Plan* establishes additional parameters for preservation of sensitive habitats and species not addressed in the HMP.

Although reuse of the former Fort Ord would result in cumulative effects on up to approximately 5,800 acres of undeveloped natural lands containing native habitats, about 17,900 acres of native habitat would be preserved in perpetuity within the conservation and corridor areas established by the HMP and the Conservation Element of the *Draft Fort Ord Reuse Plan*. Much of the habitat preserved contains special status plant and animal species that would also be protected in perpetuity. This strategy to protect biological resources on a regional basis will help maintain the biological diversity of the former Fort Ord and the Monterey Peninsula.

Central coast maritime chaparral in particular would benefit on a regional basis since over 50% of the range of this habitat type occurs at the former Fort Ord and over 80% of that (about 10,200 acres) would be preserved in perpetuity under the proposed project. Consequently, the threat to the long-term sustainability of populations of many of the sensitive species contained in that habitat type would be reduced. The extent of area of coastal dune habitat preserved in the region would also realize a net gain since State Parks would not only acquire the entire dune area west of Highway 1, but is committed (through both HMP and State Parks policy) to restore disturbed dune areas to natural habitat over time. Again, the threat to both the habitat type and the sensitive species it supports, would be reduced in the region. Other habitat types that would benefit on a regional basis include native perennial grasslands, vernal ponds and riparian corridors, since virtually all of these habitat types that occur on the former base would be preserved as part of the conservation area and corridor system established by the HMP and maintained in the *Draft Fort Ord Reuse Plan*. Effects on approximately 1,580 acres of coastal live oak woodlands represents a cumulative impact on that habitat type and remains an issue at the regional and state-wide level. The extent of oak woodlands in California has declined over time as a result of fuel harvesting, agricultural and rangeland uses and urban development. Incremental losses to oak woodlands add to the cumulative impacts to this habitat type. However, the policies and programs contained in the *Draft Fort Ord Reuse Plan* would effectively preserve or replace the oak trees affected by the project. Cumulative impacts would therefore be considered less than significant for oak woodlands, as with all other biological resources.

5.1.11 Visual Resources

Cumulative visual impacts result primarily from the combination of new development and landscape change which occurs along public traveled ways within the former Fort Ord region.

The SR1 corridor would experience cumulative visual changes from both the proposed project and concurrent development in the adjoining cities. Further development of hotels and other projects within the foreground and middleground viewshed of the highway would create the most noticeable visual change. This could potentially result in an overall change in scenic character for this important stretch of highway at the gateway to the Monterey Peninsula, an important visitor destination of national importance. These changes would also likely be of concern to local residents who value the natural landscape image of the region. While the visual design quality and site-specific impact of the proposed project can be controlled through the policies and programs accompanying the *Draft Fort Ord Reuse Plan* and described in Section 4.11.2, the off-site landscape modifications outside the former Fort Ord property are not under FORA's jurisdiction. Involvement of the Cities and County in developing and implementing corridor visual design guidelines outside former Fort Ord boundaries, consistent with those prepared for the former Fort Ord under the Reuse Plan, would constitute a mitigation. However, since this mitigation cannot be assured by FORA, overall change in the landscape character of the Marina/Fort Ord/Seaside corridor is therefore considered significant and unavoidable.

Additional development of the SR68 highway infrastructure and other development in the region would alter scenic character in other areas also, although this is expected to be more localized and affect smaller volumes of travelers.

5.1.12 Cultural Resources

Buildout of the proposed project would result in the development of approximately 10,327 acres of the former Fort Ord, which would potentially impact a number of areas with Native American and archaeological resources. However, recent studies discussed in Section 4.12, indicated relatively few resources of regional importance within the former Fort Ord.

Additional effects on cultural resources would result from cumulative development in the Monterey region. Table 5.1 shows a listing of cumulative projects which are proposed for lands in the Monterey Peninsula area. These projects may impact similar archaeological resources as are found at the former Fort Ord dating back to early coastal habitation. It is assumed that the areas of greatest archaeological sensitivity at the former Fort Ord include the terraces and benches adjacent to the Salinas River and El Toro Creek, the peripheries of the wet cycle lakes, areas adjacent to streams in the BLM lands, and the coastal beaches. Other planned developments, such as Armstrong Ranch located adjacent to this area to the north of the former Fort Ord boundary, may have similar cultural resources.

Impacts to cultural resources within the former Fort Ord would be reduced through implementation of the policies and programs prescribed in the Cultural Resources section of the Conservation Element of the *Draft Fort Ord Reuse Plan*. Cumulative cultural resources would therefore be considered less than significant.

5.2 Growth-Inducing Impacts

Pursuant to Section 15126(g) of the *State CEQA Guidelines*, the growth inducing effects of a proposed action must be evaluated as part of the required environmental review process, by identifying the ways in which a project could "...foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." Per CEQA, the growth inducement analysis must not assume that "growth" in and of itself in any area is "...necessarily beneficial, detrimental, or of little significance to the environment."

The proposed project's potential to induce economic and population growth (including the introduction of new housing supply into the region) is evaluated against baseline conditions in 1991 (when the military operations were closed at the former Fort Ord) and within the context of the Association of Monterey Bay Area Governments' (AMBAG) growth projections for the former Fort Ord. AMBAG is the Metropolitan Planning Organization charged with preparing and maintaining population and employment forecasts in the Monterey/Santa Cruz/San Benito County region. The AMBAG projections used for this analysis were revised and adopted in 1994 (*1994 Regional Population and Employment Forecast*), and include a planning horizon of 2015. Full buildout of the *Draft Fort Ord Reuse Plan* would occur over a 40 to 60 year period (i.e., ending sometime between 2035 and 2055); therefore interim projections for the Reuse Plan in the year 2015 are provided, as well as projections for buildout. These interim projections are considered to represent the most predictable phase of development and were the subject of a detailed market assessment entitled *Assessment of Planning Baseline and Market Data* (SKMG 1995).

5.2.1 Overview of the Region

In general, population growth in the three-county region (Monterey, Santa Cruz, and San Benito) is projected by AMBAG to grow at an average annual rate of 1.6% over the next five years (1995 through 2000). Beyond the year 2000, AMBAG's annual growth projection falls to 1.4% for the next fifteen year period (2000 through 2015). This forecast projects relatively modest growth for the Monterey Peninsula between 1995 and 2000, with rather stronger growth in the Salinas Valley, which reflects the initial stages of recovery on the Peninsula following the closure of the former Fort Ord and continued strong growth in the Valley. During the period of 2000-through-2015, however, AMBAG anticipates a strong shift in growth on the Peninsula, where an average annual growth rate of 2.61% is expected. During this time, it is anticipated that an average of nearly 3,300 persons will be added annually to the Peninsula's population.

AMBAG projects roughly 84% of the growth on the Peninsula between 2000 and 2015 would be accommodated in Marina and Seaside, reflecting the redevelopment and reuse of the former Fort Ord. Most of the regional growth is expected to occur regardless of the outcome of the *Draft Fort Ord Reuse Plan*. To this extent, the Reuse Plan represents a development that accommodates a substantial portion of expected Peninsula growth, in an area well suited to locate and manage this growth in the wake of base closure.

5.2.2 2015 Development Scenario

Table 5.2-1 provides an overview of the baseline conditions at the former Fort Ord in 1991 in comparison to AMBAG projections for the former Fort Ord and the County, and the projections predicted for the *Draft Fort Ord Reuse Plan* for the year 2015 and ultimate buildout.

Table 5.2-1 Comparison of Baseline Conditions, AMBAG Projections, 2015 Projections, and Ultimate Buildout Projections

	1991 Baseline (at Base Closure)		AMBAG (94) 2015 Projections ¹		2015 Plan Projections		Ultimate Buildout Projections	
	Fort Ord ²	County ³	Fort Ord	County	Fort Ord ⁴	County	Fort Ord ⁵	County
Population (includes CSUMB)	31,270	361,560	66,612 (20,000 students)	519,969	38,859 (10,000 students)	538,149	71,773 (20,000 students)	NA
Employment	18,227 ⁶	138,100	21,468	NA	18,342	NA	45,457	NA
Housing (includes CSUMB) ⁷	23,716	112,965	NA	NA	13,366 (2,500 dorms)	NA	22,232 (5,100 dorms)	NA

Numbers in Parenthesis are subtotals and are included in figure shown above.

¹ From AMBAG Projections 1994, Regional Population and Employment Forecast

² From Army Final Environment Impact Statement Fort Ord Disposal and Reuse (Section 4.2.1 Socioeconomics)

³ Employment figure is from the Labor Information Division of the Employment Development Department.

⁴ Population is from AMBAG, employment is from the Labor Market Information Division of the Economic Development Department, housing is from California Department of Finance

⁵ *Draft Fort Ord Reuse Plan*

⁶ Numbers include 14,327 permanent military personnel

⁷ Housing figures are presented in dwelling units

Employment

The estimated 18,000 jobs that were lost in 1991 because of the base closure (from an employee pool of approximately 13,500 active duty military and 4,500 civilian) would not be replaced on the former Fort Ord until the year 2015, at which time it is anticipated that 18,342 jobs would be generated by the development of the proposed project. Thus, the projected employment for the proposed project in the year 2015 would not represent employment growth in real terms, but would represent recovery of previous levels of economic activity. The 18,342 jobs anticipated by the proposed project would represent approximately 85% of AMBAG's predicted employment for the former Fort Ord in 2015, and would therefore be considered consistent with the adopted employment forecast for the region.

Population

It is estimated that the population at the former Fort Ord would return to (and exceed) the baseline levels by the year 2015. There were approximately 31,270 people residing at the former Fort Ord in 1991. As projected by the *Draft Fort Ord Reuse Plan*, population is expected to reach 38,859 by the year 2015. Roughly, this represents less than half of the cumulative population growth projected by AMBAG for the former Fort Ord in 2015 (and about 7% of the total county population). This anticipated increase represents a net gain in population of approximately 7,000 people over baseline conditions, and is consistent with the adopted forecast for the region.

Housing

In 1991, there were approximately 23,716 dwelling units at the former Fort Ord. Projected housing in the year 2015 under the proposed project would be 13,366, which includes 2,550 units for the resident CSUMB student population. This shift in total housing supply represents a net loss in housing units in the short-term which would occur as a result of the proposed demolition of existing sub-standard housing as described in the *Draft Fort Ord Reuse Plan*.

Buildout of the proposed project would result in 17,132 dwelling units plus an additional 5,100 dormitory units for CSUMB at the former Fort Ord. This figure assumes that approximately 4,066 currently existing dwelling units would remain and be reused, and 13,066 new housing units and 5,100 dormitory units would be developed. Compared with the 1991 housing stock at the former Fort Ord, this represents a slight decrease in the number of dwelling units (from 23,716 to 22,232), but an overall substantial increase in housing capacity (from a resident population of 31,270 to 71,773). This is explained by the fact that many of the dwelling units at the former Fort Ord were barracks for enlisted personnel, whereas the majority of new housing units proposed under the proposed project would be single family dwellings and would be able to accommodate a greater number of persons per dwelling unit.

In summary, the 2015 development of the *Draft Fort Ord Reuse Plan* represents, for the most part, a return to baseline levels of population, employment and housing, and is consistent with the AMBAG projections for regional growth in 2015. It is not anticipated that the growth associated with implementation of the 2015 development scenario would result in adverse environmental effects beyond those already analyzed in Chapter 4.0 of this Draft EIR.

5.2.3 Ultimate Buildout

Ultimate buildout of the proposed project would occur over a 40 to 60 year period (between the years 1995 to 2035 - 2055), and Projections for buildout are presented in Table 5.2-1. As shown, total population at buildout is anticipated to be 71,773, total employment would be 45,457 and total housing units would be 22,232 (inclusive of 5,100 units for the resident CSUMB student population).

One of the immediate objectives of the proposed project is to facilitate the recovery of the economic base for the area through managed growth at the former Fort Ord. In the long-term, it is anticipated that the proposed project would stimulate some new economic and population growth in the region based on the educational and institutional focus of parts of the development. The location of the CSUMB and UCMBEST facilities in particular are expected to draw a portion of their populations and activity levels from statewide, national, and international sources which could be considered to represent an increment of growth beyond that included in the regional projections prepared by AMBAG. However, accurate assessments of the proportions of total growth which could be attributed to these non-regional sources are not available.

The precise timing and sequencing of the development and growth beyond 2015, however, is unknown at this time and any estimation would be speculative at best. In light of this, and due to the fact that there are no adopted forecasts beyond the year 2015 to compare against, is not feasible to present a detailed analysis of the environmental effects associated with growth beyond 2015.

In considering the growth-inducing effects of the proposed project, it is important to emphasize that the basic premise of the *Draft Fort Ord Reuse Plan* is to promote reuse of a former military base through economic recovery -- and that the manner in which this growth would be accommodated is inherently focused on minimization of environmental impact.

It should be noted that the basic premise of the Plan is "Reuse" -- reuse of a former military base -- the manner in which this growth would be accommodated is inherently focused on minimization of environmental impact. A complete discussion of the environmental impacts of the proposed project is provided in Chapter 4.0 of this Draft EIR.

5.3 Significant Irreversible Environmental Impacts

Section 15126(f) of the *State CEQA Guidelines* requires the environmental analysis to identify any significant irreversible environmental changes which would be involved in the proposed project should it be implemented. Impacts associated with the proposed project would be considered significant and irreversible if the project would result in:

- Uses of nonrenewable resources during the initial and continued phases of the project such that removal or non-use later would be unlikely;
- Primary or secondary impacts that would generally commit future generations to similar uses;
- Environmental accidents.

Irretrievable commitments of resources should also be evaluated to ensure that current consumption is justified.

Implementation of the proposed project is not expected to involve a large commitment of renewable resources, except for the building materials required to develop new structures. The reuse of existing buildings on the former Fort Ord would decrease the need for these materials.

The proposed project would contribute to the permanent conversion of nondeveloped land to residential, business, public facility, educational, and mixed uses on the former Fort Ord. This would commit future generations to developed uses but not necessarily the same ones as envisioned in the *Draft Fort Ord Reuse Plan*.

The proposed project would result in the irretrievable commitment of energy resources for increased electricity and gas demands and in the form of gasoline for construction vehicles. The proposed project would also result in the irretrievable commitment of water resources in the form of potable and non potable water supplies.

The proposed project is not expected to impose an increased risk of environmental accidents.

5.4 Unavoidable Significant Impacts

If a significant impact of the proposed project cannot be reduced to a less-than-significant level through the application of mitigation, it is categorized as a "significant unavoidable" impact and as such must be given special attention in considering approval of the proposed project. The standards used to evaluate the significance of impacts are based on CEQA Guidelines. In this Draft EIR, the standards used to evaluate the significance of impacts are often qualitative rather than quantitative, because appropriate quantitative standards are either not available for many types of impacts or are not applicable for some types of projects.

The following unavoidable significant impacts would occur as a result of implementation of the proposed project:

- Impacts of increased demand for law enforcement and fire protection/emergency response services; and
- Impacts of increased travel demand on the regional transportation system.

In addition, the following unavoidable cumulative significant impacts would occur as a result of implementing the proposed project in combination with other regional development projects, as identified in Table 5.1-1.

- Cumulative impacts associated with the need for water supplies;
- Cumulative impacts on visual resources due to development of the State Route 1 Corridor;
- Cumulative impacts of increased travel demand on the regional transportation system;
- Cumulative impacts of increased demand for law enforcement and fire protection/emergency response services.

It should be noted that, pursuant to CEQA and the CEQA Guidelines, FORA may balance the benefits of the proposed project against its unavoidable significant environmental impacts in determining whether to approve the project. If the benefits are found to outweigh the impacts, the adverse effects may be considered "acceptable" and any or all of the identified mitigation measures may be rejected. In this

scenario, FORA would have to adopt a "Statement of Overriding Considerations" in determining to approve the project.

6.0 ALTERNATIVES

Introduction

The *State CEQA Guidelines* requires that the Draft EIR describe a range of reasonable alternatives to the proposed project, or its location, that would feasibly attain most of the basic objectives, but would avoid or substantially lessen any of the significant effects of the project. The comparative merits of the alternatives must be evaluated (Section 15126(d)).

The Draft EIR must include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project (Section 15126(d)(3)). This becomes the factual basis for reaching conclusions about the feasibility of various alternatives. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, this must be discussed, but at a lesser level of detail.

The range of alternatives to be examined in the Draft EIR is governed by the rule of reason which requires that only those alternatives necessary to permit a reasoned choice need be addressed. The CEQA Guidelines require that the number of alternatives analyzed be limited to those that would avoid or substantially lessen any of the significant effects of the project (Section 15126(d)(5)). Of those alternatives, the Draft EIR need only examine in detail those that the lead agency determines could feasibly attain most of the basic objectives of the project. Among the factors that a lead agency can consider in determining feasibility, the CEQA Guidelines specifically identifies site suitability, economic limitations, availability of infrastructure, general plan consistency, other plan or regulatory limitations, jurisdictional boundaries, and whether there is a reasonable ability to acquire, control, or otherwise have access to an alternative site (Section 15126(d)(5)(A)). CEQA Guidelines indicate that an EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative (Section 15126(d)(5)(C)).

This Draft EIR addresses the following alternatives:

- Alternative 6R (Revised Anticipated Reuse; from the Army's FEIS)
- Alternative 7 (FORA 12-12-94 Reuse Plan; from the Army's DSEIS)
- Alternative 8 (Modification of Alternative 7 to include newly excessed lands; from the Army's DSEIS)
- No Project Alternative (New alternative; caretaker status under the Army except for existing conveyances)

A full range of alternative reuse scenarios for the former Fort Ord were developed and analyzed in the Army's FEIS and DSEIS. These include Alternatives 1 through 8 and their subalternatives. Alternatives 1, 2, 3, and 4 are not being pursued as viable alternatives, and they have been eliminated from further consideration by the Army because of significant environmental impacts; therefore, they are not considered in this Draft EIR. Alternative 5, which was described as environmentally preferred in the Army's Record of Decision, was eliminated from further consideration by the Army due to significant economic impacts. Furthermore, Alternative 5 is rendered obsolete by presently existing land conveyances and is therefore not considered in this Draft EIR.

Alternatives 6R, 7, and 8 are summarized below, and a new No Project Alternative is presented. The following discussion describes the land use scenarios and evaluates the impacts associated with each

alternative. A comparison table and summary of comparative impacts relative to the proposed project is provided in Section 2.4.

The Environmentally Superior Alternative

The reuse scenario under the No Project Alternative would result in the least development, and is, therefore, the environmentally superior alternative at a local level. This is based on the acreage of open space and habitat conservation in relation to development, projected population, and the level of construction for development and infrastructure.

Under the No Project Alternative, only 13% of total former Fort Ord property (or 3,800 acres) would be developed; this would include already-existing development and land remaining under the Army. Approximately 56% of the former Fort Ord would be left undeveloped for habitat management (15,648 acres), 5% of the land would have little or no development for parks and recreation (1,320 acres), and an additional 26% (7,200 acres) would be left undeveloped under Army caretaker status.

However, the No Project Alternative would not meet the project objectives of developing an economic/employment recovery to compensate for base closure. At the cumulative level, substantial regional growth would still be projected, with potentially greater impacts on other land (e.g., farmland or open space) should development occur outside the former Fort Ord.

The *CEQA Guidelines* require that an additional environmentally superior alternative be identified in cases where the No Project Alternative represents the environmentally superior alternative. Alternative 6R has been selected as the second environmentally superior alternative. This selection is based on projected population and the assumption that the 3,700 acres (13% of the former Fort Ord) designated as No Proposed Use would not be developed. Under Alternative 6R, approximately 22.5% (6,100 acres) of total former Fort Ord land would be developed, and 53% (17,915 acres) would be left undeveloped for habitat management and parks and recreation.

6.1 Alternative 6R

6.1.1 Description

Alternative 6R (revised) refers to the Army's preferred alternative for the POM annex and reserve center, and the disposal of lands excess to Army needs. Approximately 23,500 acres (84%) of the former Fort Ord, which have been requested by other federal, state, and local agencies through the real estate screening process, would be conveyed to public agencies for the uses identified in the screening process. Future development of conveyed lands would need to be in accordance with current local land use requirements and regulatory agency requirements.

The remaining excess land (approximately 3,500 acres or 3%) would be temporarily designated as No Proposed Use and could be sold by the Army to private entities. Future use of these lands would be established by the new owners in accordance with local land use requirements and regulatory agency requirements. For the purpose of analyzing an alternative with a medium level of development and based on minimal speculative assumptions, no further development of these lands is assumed through the buildout period. [For a more extensive description of Alternative 6R and its impacts, refer to the Army's FEIS (p. 3-8 and 5-120)].

The proposed land use scenario under Alternative 6R is shown in Figure 6.1-1. Under this alternative, approximately 14% of the undeveloped land would be developed, with a total of 27,000 jobs and 10,210 dwelling units. The buildout population would be approximately 22,800. The land use division for all of former Fort Ord would be as follows:

53% Habitat Management	11% Parks and Recreation (includes beach area)
9% Educational/Institutional/Public Facilities (includes airport)	3% Agribusiness
0% Retail	6% Other (rights-of-way; POM annex)
3% Business/Planned Development/Light Industrial	1% Visitor Serving
0.5% Residential	13% No Proposed Use

Infrastructure at the former Fort Ord, including water supply and distribution, electricity and gas distribution, sewage collection and disposal, roads and street lights, solid waste collection and disposal, stormwater collection and disposal, telephone service, and cable television would be retained by the Army in the short-term to serve the POM annex, reserve center, and any interim uses approved prior to land disposal. The Army would complete engineering analyses of these systems to determine their condition and remaining life, and would upgrade ownership of the systems serving remaining Army properties.

Alternative 6R would result in the transfer of most sensitive environmental areas to other federal and state agencies which would manage the lands without causing significant environmental impacts. Transfer of portions of the former Fort Ord to local agencies would allow for development of educational, recreational, airport, business, and institutional uses that would offset the economic effects of closure of the former Fort Ord.

A hospital is not included in Alternative 6R, because it was not requested through the real estate screening process.

Mitigation Summary

The following mitigation measures would be provided by the Army prior to implementing reuse plans under Alternative 6R (refer to the Army's FEIS, p. 6-1):

- Limit properties that may be out-granted and restrict access to redevelopment areas.
- Encourage additional CHAMPUS/PRIME providers.
- Provide for public utilities easements.
- Maintain facilities that collect wastewater from areas outside of the POM annex and reserve center.
- Disclose information on buried utilities infrastructure to the Underground Service Alert.
- Conduct periodic maintenance.
- Maintain cable service.
- Create a joint powers agreement to ensure proper oversight and maintenance.
- Implement measures during renovation to minimize NO_x emissions (for establishment of the POM annex only).
- Develop and coordinate an installation-wide multispecies habitat management plan. (Agencies and entities receiving former Fort Ord lands would implement the HMP.)

- Maintain historic buildings and condition their sale or transfer with protective covenants.
- Conduct archeological surveys of former Fort Ord lands.
- Contact California Native American groups that may have traditional cultural properties located on former Fort Ord lands.

6.1.2 Impacts

Land Use

Alternative 6R proposes reuse of the developed portion of the former Fort Ord, as well as an additional 10% of the undeveloped portion. Uses associated with open space, institutional/public, and parks and recreation would remain slightly less than or the same as the proposed project. Major differences would occur in the areas of residential land use (6.5% less than proposed project), tourism (none compared to 4% in proposed project), and No Proposed Use (3% compared to none in proposed project).

This alternative proposes siting of a transit center in the coastal zone which would constitute a greater impact on the natural habitat resources in this area than the proposed alternative where the center has been relocated east of the highway. Other impacts associated with incompatible land uses in this alternative relate to the natural area expansion at the southern border of the base, the agri-center in the East Garrison area, the Highway 68 transportation corridor and the disturbed habitat zone.

The alternative would not have the conflict among planned uses for the East Garrison area land use which must still be resolved for the proposed project. This would lead to fewer compatibility impacts between proposed uses under Alternative 6R.

Under this alternative, several areas of land would be left in the No Proposed Use (NPU) status within all three jurisdictions. These areas would be disposed of to private interests and would be subject to the land use controls of the local governments. Although no uses have been proposed in these areas, there would be impacts of reuse in these areas, including potential incompatibilities with the proposed McKinney Act housing facilities, the NRMA, and a campground facility near the East Garrison fire ranges.

Alternative 6R proposes development that would be inconsistent with relevant state and local plans and policies related to the AQMP, adequate infrastructure, land use incompatibilities, protection of sensitive environmental habitats and resources, groundwater resources, and visual quality of the coastal area.

Alternative 6R does not require local jurisdictions to adopt policies and implement programs to reduce or eliminate any project impacts. This would lead to greater impacts associated with this alternative related to incompatibilities between proposed uses or inconsistencies with relevant state and local plans and policies.

Socioeconomics

Alternative 6R would result in a buildout population of approximately 22,770 persons, 10,210 total housing units, and 27,000 new jobs. These figures are substantially lower than those for the proposed project, due to the down-scaled level of development occurring under this alternative. Buildout under Alternative 6R would require school capacity through the 12th grade for approximately 4,300 additional students. Regional economic activity, as measured by countywide employment, personal income, and industrial output, would be less than under the proposed project but would increase over 1991 conditions.

Fort Ord Reuse Plan
Draft EIR

EDAW, Inc. May, 1996

Buildings

Monterey County

City of Marina

City of Seaside

Monterey College of Law

Monterey Institute for Research in Astronomy

California Highway Patrol

Goodwill Industries

Monterey Peninsula Unified School District

U.S. Bureau of Land Management

LEGEND

AGRI
AIR
ARMY
CDZ
CORP
CPRK
DHZ
FAIR
FT
GOVT
MCK
MUA
NAE
NPU
NRMA
OP
POST
RAE
RC
RV
SA
SE
T
TC
UNIV
URA
USO

AgriCenter
Airport
Army Proposed Presidio of Monterey Annex
Coastal Dunes Zone
Corporation Yard
Community Park
Disturbed Habitat Zone
Fairgrounds
Fire Training
Government Center
McKinnery Act Housing
Multi Use Area
Natural Area Expansion
No Proposed Use (Caretaker Status)
Natural Resource Management Area
Office Park
Peace Officer Standard Training Academy
Recreational Area Expansion
Reserve Center
RV Park/Campground
Service Area
School Expansion
Transportation Corridor
Transit Center
University
University Research Area
University/Science Office

Scale 1:60,000

0 1 2 3 miles

Figure 6.1-1
Alternative 6R Land Use

Source: Jones & Stokes, 1993

The map illustrates the Fort Ord Reuse Plan, showing the land use area boundary and the multi-modal transportation corridor. The map includes various land use designations (AGRI, AIR, ARMY, CDZ, CORP, CPRK, DHZ, FAIR, FT, GOVT, MCK, MUA, NAE, NPU, NRMA, OP, POST, RAE, RC, RV, SA, SE, T, TC, UNIV, URA, USO) and features such as the Salinas River, Blanco Road, Davis Road, and the Monterey Peninsula Airport. A legend on the right side of the map defines the symbols used for buildings and land use designations. A scale bar indicates a scale of 1:60,000, and a north arrow is located in the bottom right corner.

Attachment D, p. 312 of 1882

Military retirees would be affected by the loss of medical services currently available at the former Fort Ord. Alternative 6R would have 3,750 acres of land available for undeveloped recreational opportunities and developed recreational opportunities, which is similar to the proposed project.

Soils and Geology

Impacts to soil resources under Alternative 6R would be slightly less than the impacts under the proposed project because less undeveloped area would be disturbed. However, Alternative 6R also contains No Proposed Use areas are assumed to remain as open space. Without active habitat management, soils in these areas could be subject to increased long-term loss of soil fertility caused by fire suppression activities. If these areas are eventually developed, they would experience the same development-related impacts as the other areas planned for development.

Alternative 6R proposes agri-center uses in polygon 11b. This designation restricts development on steep slopes and in the southern portion of the parcel where erosion hazards are particularly acute. The proposed designation for this polygon under the proposed project - a mixed use district with equestrian opportunities and possible business park and light industrial uses - does not explicitly include these development restrictions. Therefore, erosion impacts on polygon 11b are likely to be less under this alternative than under the proposed project.

Public Services, Utilities and Water Supply

Less development and fewer dwelling units would occur under Alternative 6R than the proposed project, thus there would be less demand for utilities and water supply. Upgrades of some existing utility systems would be required to provide adequate service under Alternative 6R. Increased wastewater treatment capacity, an increased demand for gas and electricity service, and expanded stormdrain and water supply infrastructure would be needed. Public or private utility companies would be required to upgrade, replace, and/or expand existing infrastructure to provide service to the proposed uses in this alternative. However, this alternative would reduce the demand for telephone and cable television services and generate approximately the same amount of solid waste as baseline conditions. Additional impacts resulting from utility system deterioration may occur on lands designated as No Proposed Use. Annual water demand would be approximately 12,000 acre feet per year under Alternative 6R, less than the demand under the proposed project. The existing supply consists entirely of groundwater and existing demand already exceeds the safe yield of the groundwater basin in the vicinity of the former Fort Ord, as indicated by the occurrence of seawater intrusion. Local groundwater could not supply the water needed for this alternative.

Hydrology and Water Quality

To assess hydrology and water quality impacts, in addition to considering the overall number of acres planned for development, the relative number of acres of the various types of uses to be developed was considered. The following land uses are listed in order from those considered to generate the greatest hydrology and water quality impacts to those generating the least:

- business/planned development/light industrial; agribusiness; and retail (referred to below as business-related uses);
- educational/institutional/public facilities; residential; parks and recreation; other; visitor-serving (referred to below as residential-related uses);

- caretaker status;
- habitat management; and
- no proposed use.

As compared to the proposed project, Alternative 6R would result in the development of the same percentage of acreage in business-related uses, 5.5% less acreage in residential-related uses, and 9% less acreage in habitat management uses. This alternative assumes 13% of the base would be designated with no proposed use. Therefore, this alternative is expected to result in hydrology and water quality impacts of slightly less magnitude as compared to the proposed project.

Public Health and Safety

The demand for law enforcement officers would be less under Alternative 6 than with the proposed project. Other lesser potential impacts include susceptibility of new and existing structures to damage from seismically-induced ground shaking and associated safety risks. Reuse of former hazardous and toxic waste sites would pose slight risks to public health and safety. Development could occur on areas of unidentified hazardous waste or unexploded ordnance. Additional hazardous waste would be generated on the installation by demolishing buildings that may contain asbestos and other potentially hazardous materials. Reuse of the landfill for university research purposes could increase soil and groundwater contamination and risks to human health and the environment. The amount of hazardous waste generated at Fritzsche Army Airfield also could increase after the airport is converted to civilian use.

Exposure to asbestos is possible if asbestos is not removed from buildings before demolition. Hazardous air pollutants and PM₁₀ could be emitted during hazardous waste cleanup and recovery of unexploded ordnance. Construction activities during reuse would generate a substantial increase in NO_x emissions. Alternative 6R would not create excessive levels of CO at locations where people live or work. Operational increases in air emissions would be lower than under existing conditions, resulting in a net decrease in NO_x and PM₁₀ emissions. Alternative 6R would be consistent with the MBUAPCD 1991 AQMP and the 1982 SIP.

Traffic and Circulation

Alternative 6R includes approximately half the number of dwelling units and approximately 40% fewer jobs than the proposed project. Based on this, the alternative may be expected to generate significantly fewer trips than the proposed project (228,000 daily vehicle trips versus 390,000). In turn, this would lessen both the impact on the regional transportation system and the on-base system requirements. The reduction in on-base requirements may be tempered by the need to provide a basic amount of transportation infrastructure to provide access to the development areas.

Climate and Air Quality

The proposed project, which has a substantially greater number of daily trips on area roadways than does Alternative 6R, was determined to have no significant adverse impacts relative to localized carbon monoxide, per the Caline model run for a number of on-base and off-base intersections (modeling worksheets enclosed in Appendix C). There would be even less emissions and impacts associated with Alternative 6R. Furthermore, because less commercial/industrial land use is associated with this alternative than with the proposed project, the potential for future toxic emissions associated with this

alternative will be less. The cumulative impacts in this scenario would be less because of the fewer daily vehicle trips associated with this alternative. Consistency with the AQMP is subject to the same conditions associated with the proposed project, which are discussed above in the cumulative discussion (Section 5.1).

Noise

As with the proposed project, Alternative 6R would require construction of new major arterials within the former Fort Ord. Because less development would occur under Alternative 6R than under the proposed project, less traffic and traffic noise would be generated under this alternative. Alternative 6R would generate 228,000 daily trips at buildout versus 390,000 trips generated by the proposed project at buildout. However, as with the proposed project, substantial increases in traffic noise would occur along several existing roadway segments and noise-generating land uses would be located adjacent to noise-sensitive land uses.

Biological Resources

Alternative 6R would result in the removal of approximately 1,550 acres of common biological communities and associated common wildlife species. These communities include approximately 55 acres of beach blowouts, ice plant mats, and disturbed dune; about 90 acres of coastal scrub; 580 acres of oak woodland and savanna; about 820 acres of annual grassland. Additionally, Alternative 6R would result in the removal of the following acreages of sensitive habitats: 925 acres of maritime chaparral, 1 are of dune scrub, 32 acres of native perennial grasslands and 2 acres of vernal ponds, riparian corridors and other wetland areas.

In the analysis of impacts on biological resources for Alternative 6R in the FEIS and supplemental Biological Assessment (US Army Corps of Engineers, Sacramento District 1993), it was assumed that no habitat would be removed in all areas designated as no proposed use (NPU). However, in response to concerns raised by the community regarding the NPU designation, the Army modified Alternative 6R to include land uses for the NPU areas that were consistent with the community's reuse plan. As a result, the analysis of impacts on biological resources was modified for the Record of Decision (ROD) and the HMP. The Army determined that the modifications to Alternative 6R were consistent with the range of alternatives analyzed in the FEIS, and therefore would not result in impacts not analyzed in the FEIS.

Both the ROD and the HMP are based on Modified Alternative 6R. The impacts on biological resources analyzed for this alternative are different than the analysis of Alternative 6R, primarily because land uses were designated for the NPU areas. Modified Alternative 6R would result in the removal of approximately 3,785 acres of common biological communities and associated common wildlife species. These communities include approximately 134 acres of beach blowouts, ice plants mats, and disturbed dune; about 280 acres of coastal scrub; 1,956 acres of oak woodland and savanna; about 1,415 acres of annual grassland. Additionally, Modified Alternative 6R would result in the removal of approximately 2,145 acres of freshwater marsh, riparian corridors and other wetland areas. The habitat losses under Modified Alternative 6R are slightly increased over the proposed project.

Visual Resources

The development proposed under Alternative 6R would reduce the visual quality of some areas of the former Fort Ord seen from the Salinas Valley. Proposed development would reduce the amount and

diversity of natural vegetation cover and introduce built elements with contrasting attributes of form, line, color and texture. Views from state-designated and proposed scenic routes heavily traveled by tourists and recreationists, particularly SR 1, would be reduced in visual quality by proposed development along these roadways. Impacts would be more adverse than with the proposed project due to location and design controls on development, such as the transit center west of SR 1.

Cultural Resources

The potential effects of each of the alternatives are related, in part, to the intensity of the proposed land use. The more intense the land use, the more likely these types of cultural resources would be adversely affected by the alternative. Since this alternative would represent a somewhat reduced intensity compared to the proposed project, the alternative has less chance to affect archaeological or Native American sites or buildings potentially identified for the National Register. This alternative includes mitigation measures such as protective covenants and coordination with appropriate agencies and interested parties. However, Alternative 6R does not require local jurisdictions to adopt policies and implement programs to reduce or eliminate any project impacts. This would lead to greater impacts associated with this alternative related to cultural resources.

6.2 Alternative 7

6.2.1 Description

Alternative 7 refers to the initial FORA Base Reuse Plan that was accepted on December 12, 1994. Approximately 19,000 acres of the former Fort Ord, which have been requested by other federal, state, and local agencies through the real estate screening process, would be transferred to public agencies for the uses identified in the screening process. Alternative 7 is a three-phased, 40-60 year buildout reuse plan that would result in approximately 13,800 dwelling units and 58,500 jobs. The population would be approximately 41,500 plus 20,000 CSUMB students by ultimate buildout. This population represents 8% of AMBAG's county-wide population estimate of 519,969 for the year 2015, which is the farthest into the future that AMBAG projects. [For a more extensive description of Alternative 7 and its impacts, refer to the Army's DSEIS (p3-2, and 5-10)].

The proposed land use scenario under Alternative 7 is shown in Figure 6.2-1. The land use division for all of the former Fort Ord would be as follows:

62% Habitat Management	6% Parks and Recreation (includes beach, golf)
10% Educational/Institutional/Public Facilities (includes airport)	3% Agribusiness
1% Retail	4% Other (rights-of-way; POM annex)
7% Business/Planned Development/ Light Industrial	1% Visitor Serving
6% Residential	

Infrastructure at the former Fort Ord, including water supply and distribution, electricity and gas distribution, sewage collection and disposal, roads and street lights, solid waste collection and disposal, stormwater collection and disposal, telephone service, and cable television would be retained by the Army in the short-term to serve the POM annex, reserve center, and any interim uses approved prior to land disposal. The Army would complete engineering analyses of these systems to determine their

LEGEND:

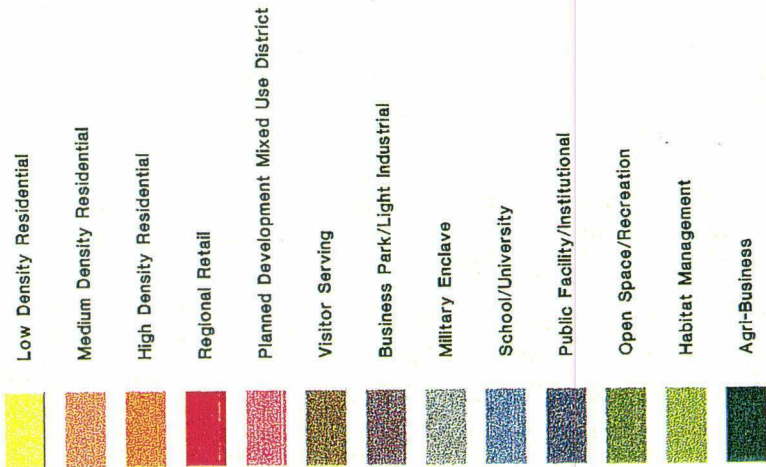


Figure 6.2-1
Alternative 7 Land Use

Source: Jones & Stokes, 1993



condition and remaining life, and would upgrade ownership of the systems serving remaining Army properties.

Alternative 7 would result in the transfer of most sensitive environmental areas to other federal and state agencies which would manage the lands without causing significant environmental impacts. Transfer of portions of the former Fort Ord to local agencies would allow for development of educational, recreational, airport, business, and institutional uses that would significantly add to the economic output of the region.

Mitigation Summary

Alternative 7 encompasses conceptual mitigation strategies as part of the proposed project, in order to reduce impacts to the resources of concern. These include additional mitigations for specific road segments and parcels developed to minimize impacts to biological resources (refer to the Army's DSEIS, p3-11 and Appendix D of the DSEIS). Since the DSEIS was completed, mitigation measures preferable to the conceptual mitigation strategies have been developed, and were agreed on during a meeting between the Army, USFWS, and FORA on March 15, 1996. For the purpose of this analysis, however, Alternative 7 as described in the DSEIS has been used. Capital improvement strategies contain concept plans for improvement to the communication systems, wastewater system, energy supply systems, water distribution system, stormwater system, road network, and transportation corridor rights-of-way).

6.2.2 Impacts

Land Use

The land use pattern for Alternative 7 closely resembles the uses included in the proposed project. Compared with the proposed project, this alternative represents higher land use densities associated with commercial and industrial uses, lower densities associated with housing, more jobs created, and a larger-sized circulation plan.

Major differences in land use between Alternative 7 and the proposed project as shown in Table 3.2-1, occur in Polygon 1c (remains a light industrial use area under Alternative 7, but without opportunities for golf and hotel), Polygon 4 (low density housing only under Alternative 7, without any other uses); and Polygon 11b (agribusiness center/public safety training only under Alternative 7, no business park or equestrian use opportunities). These differences represent less intense land uses for these areas and therefore, potentially reduced impacts related to land use incompatibility and policy inconsistency. However, as discussed under Alternative 6R above, Alternative 7 does not request local jurisdictions to adopt specific policies and implement programs to reduce or eliminate any project impacts which would otherwise lead to more land use incompatibilities and policy inconsistencies. Alternative 7, as with the proposed project, would be inconsistent with the previous Coastal Commission Consistency Determination.

Socioeconomics

Alternative 7 would increase the resident population from 31,270 persons in 1991 to a buildout population of approximately 61,500 (including CSUMB students), which would be approximately 86% of the population for the proposed project. Approximately 58,500 new jobs (28% more than the proposed project) would occur and 13,800 housing units (approximately 80% of the proposed project

units) would be provided (including to CSUMB student housing). Alternative 7 would intensify the jobs/housing imbalance that exists in Monterey County by supporting more jobs than can be accommodated by the proposed number of housing units. Additional grade schools for the region would be provided to accommodate the growth of students generated. Regional economic activity, as measured by countywide employment, personal income, and industrial output, would increase substantially over 1991 conditions. Alternative 7 would make less land available for undeveloped recreational opportunities and developed recreational opportunities than under the proposed project.

Soils and Geology

Alternative 7 is very similar to the proposed project. Impacts to soil resources would not be significantly different under Alternative 7 except for the potential difference in impacts associated with polygon 11b, as described above in the discussion of Alternative 6R. Impacts on this area would be less under Alternative 7 than under the proposed project.

Public Services, Utilities and Water Supply

The total population and dwelling units under Alternative 7 would be less than the proposed project and thus would require less solid waste and waste water requirements. Upgrades and expansion of existing services and infrastructure would still be needed for this alternative. An increase in Stormwater/runoff and services would result under this alternative and would be similar to the proposed project. Annual water demand on the former Fort Ord would be approximately 17,500 acre feet per year. The existing supply consists entirely of groundwater; local groundwater could not supply the water needed for this alternative and new supplies would need to be found, as with the proposed project.

Hydrology and Water Quality

As compared to the proposed project, Alternative 7 would result in the development of 5% more acreage in business-related uses, 6% less acreage in residential-related uses, and the same percentage of acreage in habitat management uses. Therefore, this alternative is expected to result in hydrology and water quality impacts of slightly greater magnitude as compared to the proposed project.

Public Health and Safety

Alternative 7 would require a similar number of law enforcement officers, firefighters, and emergency medical services as for the proposed project. The alternative would also increase the demand for community medical services. Other potential impacts include susceptibility of new and existing structures to damage from seismically-induced ground shaking. The installation is in a seismic and tsunami risk area, and people would be exposed to risks from buildings subject to ground shaking. After hazardous and toxic waste remediation activities are complete at the former Fort Ord, reuse of former hazardous and toxic waste sites would pose slight risks to public health and safety. Development could occur on unidentified hazardous waste or unexploded ordnance areas. Additional hazardous waste would be generated on the installation by demolishing buildings that may contain asbestos and other potentially hazardous materials. Reuse of the landfill for university research purposes could increase soil and groundwater contamination and risks to human health and the environment. The amount of hazardous waste generated at the former Fritzsche Army Airfield could also increase now that the airport is converted to civilian use.

Traffic and Circulation

Alternative 7 would include approximately 20% fewer dwelling units than the proposed project, but approximately 28% more jobs. These differences would be expected to result in an increase for Alternative 7 in the number of trips generated by the former Fort Ord development (435,000 daily vehicle trips versus 390,000) resulting in an increased demand placed on both the internal and regional transportation systems. More significantly, this alternative would result in a jobs-housing ratio of approximately 3.10:1 compared to 2.05:1 for the proposed project. This higher imbalance means that a significantly higher percentage of trips would have one trip end outside of the former Fort Ord area, thus creating a greater impact on the regional transportation system.

Climate and Air Quality

The number of daily vehicle trips generated by Alternative 7 is close enough to that of the proposed project to conclude that the impacts of this alternative would be similar, including impacts associated with toxic pollutants and cumulative conditions. Consistency with the AQMP is subject to the same conditions associated with the proposed project, which are discussed above in the cumulative discussion (Section 5.1).

Noise

As with the proposed project, Alternative 7 would require the construction of new major arterials within the former Fort Ord. Traffic and traffic noise under Alternative 7 would be slightly greater than under the proposed project. Alternative 7 would generate 435,000 daily trips at buildout versus the 390,000 trips generated under the proposed project. As with the proposed project, substantial increases in traffic noise would occur along several existing roadway segments and noise-generating land uses would be located adjacent to noise-sensitive land uses.

Biological Resources

Alternative 7 would result in the removal of or effects on approximately 3,380 acres of common biological communities and associated common wildlife species. These communities include approximately 92 acres of beach blowouts, ice plant mats, and disturbed dune; about 260 acres of coastal scrub; 1,828 acres of oak woodland and savanna; about 1,200 acres of annual grassland. Additionally, Alternative 7 would result in the removal of or effects on approximately 2,160 acres of maritime chaparral, 5 acres of native coastal strand and dune scrub, 2 acres of native perennial grasslands and 2 acres of freshwater marsh, riparian corridors and other wetland areas. These habitat losses would be slightly less (ca. 300 acres) than the proposed project. However, there would be less oak woodland habitat lost under the proposed project than under this Alternative.

Visual Resources

Similar development would occur under Alternative 7 as the proposed project. Alternative 7 would result in reduced visual unity and inactness for some visually sensitive areas due to short- and long-term construction impacts, and reduced visual quality of areas seen from SR 1. Implementation of land uses would require construction of a substantial number of buildings, renovation of existing buildings, and modification of infrastructure. These activities would produce short-term visual impacts and could produce long-term visual impacts. Implementing the land uses for the excessed lands and the revised use

areas would also substantially alter the visual character and reduce the visual quality of some areas seen from SR 1. Viewed from SR 1, which is a proposed scenic route that is heavily traveled by tourists and recreationists, high-intensity land uses would encroach on the foreground and middleground distance zones of some views. Visual impacts would be more adverse than with the proposed project due to less vegetative screening in Polygons 2a and 15 and less restoration of disturbed areas west of SR 1. The visual policies and programs described in Chapter 4.0 for the proposed project would also reduce visual impacts substantially relative to Alternative 7.

Cultural Resources

The impacts of Alternative 7 on cultural resources would closely resemble the uses of the proposed project. There would be less intense uses under this alternative in the areas most changed from the proposed project (Polygons 1c, 4 and 11b) as well as in residential land use. This would impact the East Garrison area (Polygon 11b) most, both in the area of historically significant buildings and archaeological resources which occur in the area's terraces and bluffs along the Salinas River. However, this alternative represents higher land use densities associated with commercial and industrial uses and a larger-sized circulation plan. This would potentially impact more archaeological resources as well as the East Garrison historical district which is located near a major transportation corridor proposed for alternative 7. Again, this alternative does not require local jurisdictions to adopt policies and implement programs to reduce or eliminate any project effects which would lead to less mitigation and hence, greater impacts.

6.3 Alternative 8

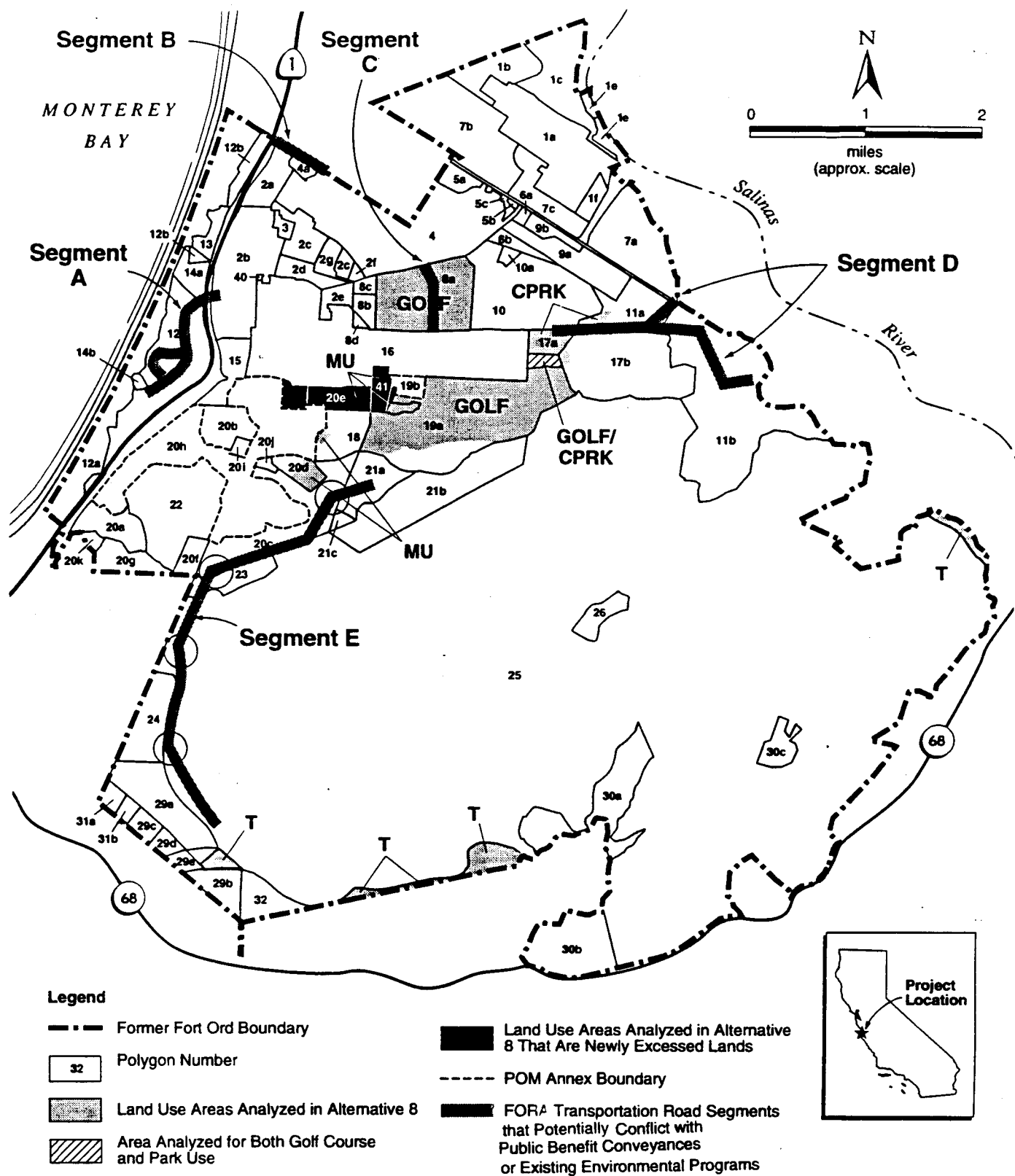
6.3.1 Description

Alternative 8 is a slight modification of Alternative 7, which includes the addition of two golf courses (polygons 8a and 19a) and 1,200 additional residential units proposed in conjunction with one of the golf courses. The golf courses would replace a large university research area overlying the the former Fort Ord landfill in the City of Marina's sphere of influence and a large area of planned light industrial uses in Monterey County's sphere of influence. The other differences represent a minor adjustment to the range of uses expected in office park and transit center areas, adjustments in the boundaries of a community park (polygon 17a), the addition of some rights-of-way to be dedicated to CalTrans, and minor changes in the boundary of the large natural resources management area (NRMA) in the undeveloped portion of the former Fort Ord. [For a more extensive description of Alternative 8 and its impacts, refer to the Army's DSEIS (p3-12, and 5-86)].

The proposed land use scenario under Alternative 8 is shown in Figure 6.3-1. Implementation of Alternative 8 would result in 15,000 dwelling units (plus CSUMB accommodation) and 48,100 jobs. The buildout population would be approximately 45,100 plus 20,000 CSUMB students. This population represents 9% of AMBAG's countywide population estimate of 519,969 for the year 2015, which is the farthest into the future that AMBAG projects.

The land use division for all of former Fort Ord would be as follows:

61% Habitat Management	7% Parks and Recreation (includes beach, golf)
10% Educational/Institutional/Public Facilities (includes airport)	3% Agribusiness
	5% Other (rights-of-way; POM annex)



1% Retail
6% Business/Planned Development/
Light Industrial
6% Residential
1% Visitor Serving

The support structure required to implement the Alternative 7 land use scenario would also be needed to support Alternative 8 (i.e. communication systems, wastewater system, energy supply systems, water distribution system, stormwater system, road network improvements, and transportation corridor rights-of-way). [For a more detailed discussion of Alternative 8, refer to the Army's DSEIS (p3-11) and Appendix D].

Mitigation Summary

Alternative 8 involves the same mitigation strategy as proposed under Alternative 7, to reduce impacts to the resources of concern. Concept plans have been developed for the infrastructure needed to support land use development under this alternative (i.e. communication systems, wastewater system, energy supply systems, water distribution system, stormwater system, road network improvements, and transportation corridor rights-of-way). Additional mitigation for specific road segments are developed to minimize impacts to biological resources (refer to the Army's DSEIS, p3-11 and Appendix D).

6.3.2 Impacts

Land Use

Alternative 8 most closely resembles the proposed project, with only a few minor differences in proposed land uses. Under this alternative, 18% of undeveloped land would be developed, with a slight decrease in open space, an increase in commercial/business/industrial acreage and a decrease in residential units. Land use incompatibilities and policy inconsistencies would be similar to Alternative 7. Addition of the golf courses in Polygons 8a and 19a would bring the land use scenario of this alternative in closer alignment with the proposed project.

As with the previous alternatives, Alternative 8 does not request local jurisdictions to adopt policies and implement programs to reduce or eliminate any project impacts which would lead to more land use incompatibilities and policy inconsistencies. As with Alternative 7 and the proposed project, a revised Coastal Zone Consistency Determination would be required.

Socioeconomics

Implementing Alternative 8 would increase the jobs to housing ratio imbalance, as compared with the proposed project. Alternative 8 would have a lower resident population at buildout of approximately 45,100. A total of 15,000 housing units and 48,100 jobs would be provided by Alternative 8. Alternative 8 would have less land available for undeveloped recreational opportunities and developed recreational opportunities than the proposed project.

Soils and Geology

Alternative 8 is very similar to the proposed project. Impacts to soil resources would not be significantly different except for the potential difference in impacts associated with polygon 11b, as described above

in the discussion of Alternative 6R. Impacts on this area would be less under Alternative 8 than under the proposed project.

Public Services, Utilities and Water Supply

Increased demand for wastewater and solid waste under this alternative would be similar though slightly less than the proposed project. Increased services and stormwater runoff would be the same as the proposed project. Alternative 8 would increase annual water demand on the former Fort Ord from the proposed project demand to approximately 18,000 afy.

Hydrology and Water Quality

As compared to the proposed project, Alternative 8 would result in the development of 4% more acreage in business-related uses, 5% less acreage in residential-related uses, and 1% less acreage in habitat management uses. Therefore, this alternative is expected to result in hydrology and water quality impacts of slightly greater magnitude as compared to the proposed project.

Public Health and Safety

Alternative 8 would require similar numbers of law enforcement officers and firefighters as under the proposed project, and similar medical or emergency medical services. Public health and safety risks would result from buildings subject to seismically-induced ground shaking and the reuse of former hazardous and toxic waste sites.

Traffic and Circulation

Alternative 8 is most similar to the proposed project in terms of trip generation characteristics. This alternative has 12% fewer housing units, but 6% more jobs. The net result is that the total number of trips generated under this alternative would be slightly more than in the proposed project. The internal transportation needs would be similar. However, the higher jobs-housing ratio (2.39:1 versus 2.05:1 for the project) would be expected to result in a higher number of trips between the former Fort Ord and areas outside the base. This would increase the impact of the former Fort Ord development on the regional transportation system. However, the jobs-housing imbalance and regional traffic impacts in this alternative are not as great as in Alternative 7.

Climate and Air Quality

This alternative would result in a similar number of daily trips as compared with the proposed project, but allows a slightly higher amount of area set aside for industrial/commercial land uses. Therefore, it is projected that air contaminants associated with future development would be slightly higher. Consistency with the AQMP is subject to the same conditions associated with the proposed project, which are discussed above in the cumulative discussion (Section 5.1).

Noise

As with the proposed project, Alternative 8 would require the construction of new major arterials within the former Fort Ord. Traffic and traffic noise under Alternative 8 would be slightly greater than under the proposed project. Alternative 8 would generate 425,000 to 430,000 daily trips at buildout versus the 390,000 trips generated under the proposed project. As with the proposed project, substantial increases in traffic noise would occur along several existing roadway segments and noise-generating land uses would be located adjacent to noise-sensitive land uses.

Biological Resources

Alternative 8 is almost identical to Alternative 7 in terms of the extent of habitat removal. Alternative 8 would result in the removal of or effects on approximately 3,389 acres of common biological communities and associated common wildlife species. These communities include approximately 92 acres of beach blowouts, ice plant mats, and disturbed dune; about 260 acres of coastal scrub; 1,828 acres of oak woodland and savanna; about 1,209 acres of annual grassland. Additionally, Alternative 8 would result in the removal of or effects on approximately 2,221 acres of maritime chaparral, 5 acres of native coastal strand and dune scrub, 2 acres of native perennial grasslands and 2 acres of freshwater marsh, riparian corridors and other wetland areas. The habitat losses under Alternative 8 would be slightly less (ca. 300 acres) than the proposed project but, as with Alternative 7, more oak woodland would be removed under Alternative 8 than with the proposed project.

Visual Resources

Generally, similar development would occur under Alternative 8 as in Alternative 7 and the proposed project. Alternative 8 would result in reduced visual unity and inactness for some visually sensitive areas resulting from short- and long-term construction impacts, and reduced visual quality of areas seen from SR 1. Implementation of land uses would require construction of a substantial number of buildings, renovation of existing buildings, and modification of infrastructure. These activities would produce short-term visual impacts and could produce long-term visual impacts. Implementing the land uses for the excess lands and the revised use areas would also substantially alter the visual character and reduce the visual quality of some areas seen from SR 1. Viewed from SR 1, which is a proposed scenic route that is heavily traveled by tourists and recreationists, high-intensity land uses would encroach on the foreground and middleground distance zones of some views. Visual impacts overall would be more adverse than with the proposed project, as described for Alternative 7 above (Section 6.2).

Cultural Resources

Alternative 8 shows only a few differences from the proposed project which would not substantially impact the protection of cultural resources at the former Fort Ord. This alternative would be slightly less intense and therefore show a somewhat reduced potential for impact on cultural resources. However, the beneficial impact would be negated by the lack of required policies and programs to help mitigate any impacts which would add to the effects under this alternative.

Fort Ord Reuse Plan
Draft EIR

EDAW, Inc. May, 1996

LEGEND

- Former Fort Ord Boundary
- ▨ Transferred
- ▤ Memorandum of Understanding
- ▥ Pending Public Benefit Conveyance
- ▧ Not Available
- Caretaker Status
- - - Sub Parcel Boundary
- - - Historic District Boundary



Figure 6.4-1
No Project Alternative
Land Conveyances

Source: EDAW, 1996; Jones & Stokes, 1996; Reimer Associates (Re-Projected), 1995; Monterey County, 1996

6.4 No Project Alternative

6.4.1 Description

The No Project Alternative would occur if the former Fort Ord was unable to adopt a reuse plan. The resulting land use scenario would be a combination of land under Army caretaker status and land conveyances that are either completed or are able to proceed without the *Draft Fort Ord Reuse Plan*. The completed and proposed land conveyances that would endure under this alternative are shown in Figure 6.4-1. Approximately 19,960 acres of the former Fort Ord land would be transferred to federal, state, and local agencies for the uses identified in the real estate screening process. The Army would retain approximately 805 acres for its POM annex and reserve center, and it would place the excess 7,200 acres into caretaker status indefinitely.

As shown in Figure 6.4-1, those properties assumed as of January, 1996 to be conveyed by the Army include:

- properties for which the land transfer is complete;
- properties for which the Army currently has a Memorandum of Understanding (MOU) to dispose of in phases and for which transfer of ownership could be completed without the *Draft Fort Ord Reuse Plan*; and
- properties pending public benefit conveyance for which transfer of ownership could be completed without the *Draft Fort Ord Reuse Plan*.

Completed land conveyances have been transferred to the California State University Monterey Bay (CSUMB), University of California MBEST (UCMBEST), Monterey Peninsula Unified School District (MPUSD), and the City of Marina for the airport and adjacent lands. Under this alternative, CSUMB would have the jurisdiction and land area needed to continue buildout of the campus to 25,000 FTE. Similarly, University of California would have the jurisdiction to continue with buildout of the UCMBEST center.

The buildout population would be approximately 14,388, with an additional 20,000 CSUMB students on-campus. The land use division for all of the former Fort Ord property would be as follows:

56% Habitat Management	5% Parks and Recreation (includes golf)
5% Educational/Institutional/Public Facilities	0% Agribusiness
3% Business/Planned Development/ Light Industrial	4% Other (rights-of-way; POM annex)
2% Residential	<1% Visitor Serving
	26% Caretaker Status (under the Army)

Under the No Project Alternative, approximately 61% of the former Fort Ord would be left undeveloped for habitat management (15,648 acres) and parks and recreation (1,320 acres), and an additional 26% (7,200 acres) would be left undeveloped under Army caretaker status. Approximately 13% (3,800 acres) of the former Fort Ord would be developed according to the uses described above (including military) but would include already-existing development. Lands transferred to government and educational groups would allow for the development of educational, recreational, airport, and institutional uses that would offset some of the economic effects of the closure of the former Fort Ord. A minimal amount of Business/Light Industrial and Planned Development uses, as well as residential, would be included for development under this alternative.

Only those agencies having jurisdiction on the former Fort Ord property or lands conveyed under special legislation (Seaside golf course) would be allowed full development under this alternative. For example, the City of Seaside could operate its newly acquired golf courses (through special legislation), but would not have the required jurisdiction to be able to develop its intended hotel uses.

Proposed conveyances under a MOU will be transferred to: the US Bureau of Land Management; University of California at Santa Cruz; Golden Gate University; the City of Seaside (for the golf courses); and CSUMB, UCMBEST, and the City of Marina for small parcels pending environmental cleanup. Pending public benefit conveyances that are anticipated to be completed include the California Department of Parks and Recreation's beach park property, CalTrans' Highway SR 1 rights-of-way, and McKinney Act housing. Lands that are shown to be Not Available on Figure 6.4-1 are lands that would remain in operation under the Army (i.e., the POM annex and reserve center).

Reuse of those conveyed lands identified in Figure 6.4-1 would be dependent on Army services, at least in the short-term. Utilities, water supply, and safety services would be retained by the Army until any required upgrading and transfer of services was completed. Excess utilities, structures, and operation and maintenance systems (which would not be required for POM annex and reserve center operations) would be placed by the Army into a caretaker status until potential reuse decisions were defined and allowed for.

Approximately 7,200 acres of Army excess lands would remain in caretaker status indefinitely, until such time as they could be disposed to private entities. For the purpose of analyzing a No Project Alternative with a minimum level of development and based on minimal speculative assumptions, no further development of these Army caretaker lands is assumed through the buildout period. Caretaker status is defined by Army regulation as the minimum required staffing to maintain an installation in a state of repair that maintains safety, security, and health standards. In order to meet required safety, security, and health standards, caretaker operation will include: the periodic maintenance of utilities, landscaping, and security systems; the stabilization of unoccupied structures; fire department protection; land management programs; occasional public access for recreational events; and utilities servicing.

Mitigation Summary

It is assumed that the same mitigations as under Alternative 6R would be implemented by the Army prior to reuse, as follows:

- Limit properties that may be outgranted and restrict access to redevelopment areas.
- Encourage additional CHAMPUS/PRIME medical providers.
- Provide for public utilities easements.
- Maintain facilities that collect wastewater from areas outside of the POM annex and reserve center.
- Disclose information on buried utilities infrastructure to the Underground Service Alert.
- Conduct periodic maintenance.
- Maintain cable service.
- Create a joint powers agreement to ensure proper oversight and maintenance.
- Implement measures during renovation to minimize NO_x emissions (for establishment of the POM annex only).

- Develop and coordinate an installation-wide multispecies habitat management plan. (Agencies and entities receiving the former Fort Ord lands would implement the HMP.)
- Maintain historic buildings and condition their sale or transfer with protective covenants.
- Conduct archeological surveys of the former Fort Ord lands.
- Contact California Native American groups that may have traditional cultural properties located on the former Fort Ord lands.

6.4.2 Impacts

Land Use

Under the No Project Alternative, only 19,960 acres of the former Fort Ord would be transferred to federal, state, and local agencies for uses identified in the real estate screening process. The remaining acreage would be split between the Army for its POM Annex and Reserve Center (approximately 805 acres) and caretaker status (7,200 acres). This compares to a total of 27,964 acres to be transferred under the proposed project.

Under the No Project Alternative, there would only be minimal development of educational, recreational, airport, and institutional uses. The completed land transfers that would be included are the BLM land, the City of Seaside golf courses, and most of the educational conveyances. In addition, the pending public benefit conveyances that would be completed include the former Fort Ord Dunes State Park, State Highway 101 right-of-way, and McKinney Act housing.

The intensity of land use under this alternative would be greatly reduced from the proposed project and would therefore imply a reduced impact. Land use related to the BLM lands and the golf courses would not differ significantly from the proposed project. It is also assumed that the educational institutions would proceed with their plans as intended under the proposed project. This would lead to similar impacts for these uses as under the proposed project, as would development of the coastal zone as a state park, use of the highway right-of-way, and implementation of McKinney Act housing. These impacts would not be reduced to insignificant levels as under the proposed alternative because there would be no FORA Reuse Plan and therefore no policies and programs for the local jurisdictions. This would lead to more land use incompatibilities and policy inconsistencies than under the proposed project.

Socioeconomics

Less development would occur under this alternative than compared with the proposed project, resulting in a substantially smaller population (14,388 plus CSUMB students), less jobs (25,630), and less housing units (9,916 including CSUMB housing). The reduced housing would increase the jobs to housing imbalance in comparison with the proposed project. Placing the former Fort Ord lands in caretaker status could result in economic impacts to the Army and local public agencies. There would be significantly less local and regional economic output, as measured by employment, value added, business taxes, and residential property taxes.

Geology and Soils

Impacts to soil resources associated with development would be greatly reduced under the No-Project Alternative, relative to the proposed project, due to the relatively low level of development associated with this alternative. However, for those properties currently in open space uses that are proposed to be

in caretaker status, little to no active management of these properties' vegetation and biological resources would occur. Therefore, the Loss of Soil Fertility Caused by Fire Suppression impact could be greater under this alternative than under the proposed project; depending on the length of time these properties are in caretaker status. The longer these properties are in caretaker status and conveyance is delayed, the greater the probability of increased fuel loads leading to wildfires that could be hot enough to adversely affect soil fertility.

Public Services, Utilities and Water Supply

Requirements for all utilities and services would be substantially less than under the proposed project. Placing lands in caretaker status may result in impacts associated with utility system deterioration. The requirements for utilities and services would be less than under the proposed project, but would still necessitate upgrades of existing systems. The demand for water would be approximately 9,346 afy, and the amount of wastewater generated would be approximately 5.80 mgd.

Hydrology and Water Quality

As compared to the proposed project, the No-Project Alternative would result in the development of 3% less acreage in business-related uses, 16% less acreage in residential-related uses, and 6% less acreage in habitat management uses. This alternative assumes 26% of the base would be designated in caretaker status. Therefore, this alternative is expected to result in hydrology and water quality impacts of less magnitude as compared to the proposed project.

Public Health and Safety

Placing Army lands in caretaker status may produce health risks from building demolition and exposure to asbestos. Potential safety impacts may result from increased illegal entry, illegal dumping, and vandalism of structures to lands in caretaker status. Reduced ability to respond to fires and medical emergencies as well as calls for mutual aid to the region may result under this alternative.

Traffic and Circulation

The No Project scenario would include approximately one-half the number of dwelling units and jobs as in the proposed project. As a result, the number of trips generated by uses within the former Fort Ord under this alternative would be approximately 50% of that under the proposed project alternative. The No Project alternative is estimated to generate 120,000 daily person trip ends in 2015 and 270,000 daily person trip ends (195,000 vehicle trips) at buildout. Although termed No Project, this alternative would include a significant amount of development within the former Fort Ord. This development would require improvements to the internal transportation system, and would contribute to needs outside of the base boundaries. As with the Project alternative, development under this scenario combined with growth throughout the region would place significant additional demand on the regional transportation system.

The internal transportation system would need to provide access to all developed areas at reasonable levels of service. Under this alternative, development activity is concentrated at two locations: near Light Fighter Drive/North South Road (CSU and POM Annex) and along Reservation at Blanco (airport, Marina Light Industrial Park and MBEST). The combination of the lower number of trips and smaller area of development would greatly reduce the transportation system requirements within the base. For the most part, roadways serving these areas currently exist, but would need to be upgraded primarily for

safety reasons as opposed to capacity concerns. Additional local access and circulation roads, consistent with the proposed uses, would also be required. The reduced travel demand would allow for the closure of many roads and gates except those most proximate to the development areas, and preclude the need for construction of additional connections such as the 2nd/Del Monte extension.

Outside the former Fort Ord, the impact on the regional system would also be reduced. This alternative is forecast to generate 90,000 person trips or 64,000 vehicle trips between Fort Ord and off-site areas by the year 2015. However, this demand combined with increases related to growth outside of the former Fort Ord would result in deficient operating conditions on many regional roadways if improvements are not implemented. Deficient locations would occur at a level between those identified under the "Financially Constrained" scenario (see Section 4.7.4 above) and those projected under the "POM Use Only" scenario, as follows:

As shown in Table 4.7.3, in general, volumes on all roadway segments would increase under the POM Use Only scenario, although the majority of segments analyzed would operate at LOS D or better. However, those segments that would experience significant drops in service levels (from LOS D or better to LOS E/F) include: State Highway 1 in Seaside, State Highway 183 in Castroville, Fremont Boulevard in both Monterey and Seaside, and Blanco Road/Sanborn Road in Salinas. Roads that experienced a decrease in LOS from E to F include: State Highway 1 north of Castroville, State Highway 156, State Highway 183 north to Salinas, Reservation Road in Marina, and Blanco Road. Roadways experiencing increased volumes, but no change in service levels include: State Highway 68 from State Highway 1 to San Benancio Road, Del Monte Boulevard in Monterey, and Davis Road from Blanco Road to US 101.

A complicating issue under this scenario would be the impact on the regional system created by the absence of an extensive arterial system on the former Fort Ord. Under the proposed project, the internal arterial system provides not only for access to and travel between locations at the former Fort Ord, but also provides an alternative to other regional routes and relief for congested facilities.

Climate and Air Quality

Air quality within the Monterey Peninsula area under this alternative is expected to remain similar to 1991 levels with fluctuations in emissions reflecting atmospheric conditions and peak emissions events in the region associated with the peak visitation periods. Impacts related to increased PM₁₀ and NO_x emissions from future development associated with this alternative would be slight due to the relatively small population. Exceedance of the state and federal standards would occur infrequently and not primarily as a result of the proposed project. With implementation of the AQMP, existing air quality impacts would continue to decrease until the standards are achieved.

Noise

Because substantially less development would occur under the No-Project Alternative relative to the proposed project, less traffic and traffic noise would be generated under those alternative. The No-Project Alternative would generate approximately 195,000 trips at buildout versus the 390,000 trips that would be generated by the proposed project. Some new roadways would be constructed under this alternative, and some increases in noise along existing roads are expected, as with the proposed project. Under the No-Project Alternative, fewer noise-generating land uses would be located adjacent to noise-sensitive land uses. The primary exception is the Marina Municipal Airport which would be a source of

noise under the proposed project and all of the project alternatives. Under this alternative, fewer noise sensitive land uses would be affected by aircraft noise as compared to the proposed project.

Biological Resources

Under the no project alternative, approximately 26% of the land on the former Fort Ord would be placed in caretaker status. Caretaker status is defined by Army regulation as "the minimum required staffing to maintain an installation in a state of repair that maintains safety, security, and health standards." This would not include active habitat management of lands placed in caretaker status. Some of these lands include key habitat corridors designated in the HMP that link the conservation areas on the coastal portion of Ford Ord with the interior NRMA lands. This corridor linkage is essential to lessen the effect of natural fluctuations on small populations, allow for recolonization of habitats when local extinction occurs, and maintain genetic diversity. Active management practices often are required to maintain the ecological integrity of habitats within the conservation areas and corridors. Under caretaker status, this active management would not occur on some of the lands designated as conservation areas and corridors--in particular the lands connecting the NRMA to the coastal portions of Ford Ord.

Although the removal of habitat would be less under the No Project Alternative than under the Proposed Project, the lack of active habitat management could result in degradation of habitats, and even habitat loss where non-native species outcompete and replace native habitats. Therefore, the overall impact on biological resources for the No Project Alternative could be greater than under the Proposed Project.

Visual Resources

The No Project Alternative would introduce visual impacts to the SR 1 corridor from modifications to the State Parks area (including landscape restoration) and development of housing in Polygon 20b. However, as described for the proposed project, these would be implemented without the same policies and programs as defined for the proposed project, potentially resulting in higher adverse effects on the scenic corridor. Visual impacts would be similar to the proposed project at the northern boundary and the adjoining Salinas Valley bluffs. The larger area of open space left in caretaker condition would reduce the overall visual impacts for the majority of the Base area as compared with the proposed project, resulting in similar levels of visual impact overall.

Cultural Resources

The No Project Alternative assumes that FORA would not adopt a reuse plan. As a result, only 19,960 acres of the former Fort Ord would be transferred to various agencies. This would constitute a substantially less intense use of the land, with a corresponding reduced potential for impact on cultural resources. Included in the completed land transfers would be the the former Fort Ord Dunes State Park with Stilwell Hall, a structure which is eligible for the National Register status. It is assumed that the California Department of Recreation and Parks would assume responsibility for this coastal zone which would render the impacts to cultural resources similar to those in the proposed project.

The East Garrison historical district would be part of the 7,200 acres to remain in caretaker status indefinitely and could potentially be disposed to private entities without the Army determining future uses. Caretaker status does not include historical preservation and would constitute a negative impact over the long-term, either through deterioration of resources or lessened protection of resources after

disposal. This same impact would be evident in identification and protection of archaeological and Native American cultural resources.

For the land that would be transferred by the Army--mostly for educational uses, BLM stewardship, the Dunes State Park and State Highway 101 rights-of-way--there would not be any comprehensive required policies and programs to mitigate impacts. This would constitute a larger impact than the proposed project.

7.0 REPORT PREPARATION

7.1 List of Preparers

EDAW, Inc.
753 Davis Street
San Francisco, CA 94111

Barbara Maloney, Principal-in-Charge
Stephen Sheppard, Senior Associate, Project Mgr.
Gretchen Grani, Environmental Planner
Luisa Castro, Environmental Planner
Nadine Wilmot, Planner
Steven Appleton, Planner
Mary Heim, GIS
Lorraine Rath, Graphics

JHK & Associates
2000 Powell Street, Suite 1090
Emeryville, CA 94608

Terry Klim, Senior Transportation Engineer

Zander Associates
150 Ford Way, Suite 101
Novato, CA 94945

Michael Zander, Principal - Biologist
Leslie Zander, Principal - Biologist

EMC Planning Group Inc
P.O. Box 414
Monterey, CA 93940

Michael Groves, Principal-in-Charge
Matthew Sundt, Planning Associate
Heidi-Marie Feldman, Planner

Jones & Stokes Assoc. Inc.
2600 V Street, Suite 100
Sacramento, CA 95818

Michael Rushton, Principal-in-Charge
Debbie Loh, Associate Principal, Project Mgr.
Gus Yates, Environmental Scientist
Monique Magolske, Environmental Specialist 2
Sean Bechta, Environmental Specialist 3
David Buehler P.E., Associate Principal

7.2 Persons and Organizations Consulted

FORA Working Group

City of Marina, Jeff Dack
City of Seaside, Dennis Potter
City of Monterey, Bill Fell
Monterey County, Bill Phillips
Sand City, Steve Matarazzo
City of Salinas, Dave Mora
UCSC, Michael Houlemard & Graham Bice
BTC, Kathy Clack
MST, Doran Barnes
Zander Associates, Michael Zander
CSUMB, Trisha Lord
EDAW/EMC, Bob Grace
Corps of Engineer, Jay Verett

FORA ITAC GROUP

AMBAG, David Fairchild
BRAC, Pat Keeley & Jon Wreschinsky
CAL-AM Water, Larry Foy
California Water Service, Jim Smith
Del Rey Oaks, Clayton Neill
City of Marina, Vince DiMaggio
City of Monterey, Tom Reeves
Sand City, Public Works Director
Sand City/Consultant, Stan Kulakow
City of Salinas, Public Works Director
City of Seaside, Rich Guillen and Mike Bittner
CSUMB, John Miller
Department of the Army, Carrol Patterson
LAFCO, Jim Cook
MCWD, Malcom Crawford
MCWRA, Bob Meyer
Monterey County, Mike Nichols
MPWMD, Joe Oliver
MRWPCA, Bob Jaques and Keith Israel
MST, Frank Lichtanski & Doran Barnes
Pacific Bell, Birt Johnson
PG&E, Rob Stump
Monterey County, George Divine
Reimer Associates, Paul Reimer and Kristie Reimer
TAMC, Doug Bilse
UCSC, Michael Houlemard
Coastside Cable, Tony Iacopi
State Parks, Ken Gray
Cal Trans, Don Steiger and David Murray
Corps of Engineers, Jay Verett

FORA Administrative Committee

Del Rey Oaks, Jack Barlich
Monterey County, Veronica Ferguson
City of Marina, John Longley
City of Seaside, Tim Brown
City of Monterey, Fred Meurer
Sand City, Kelly Morgan
City of Salinas, Dave Mora
City of Carmel, Jere Kersnar
Pacific Grove, Mike Huse
University of California, Lora Martin and Michael Houlemard
California State University, David Salazar
MPC, Phil Nash
Base Transition Coordinator, Kathy Clack

Doug Holland
Congressman Sam Farr

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7.4 List of Acronyms

AF	Acre Feet
AFY	Acre Feet per Year
AMBAG	Associated Monterey Bay Area Governments
AQMP	Air Quality Management Plan
BLM	United States Bureau of Land Management
BRAC	Defense Base Closure and Realignment Act of 1990
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDPR	California Department of Parks and Recreation
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CHAMPUS	Civilian Health and Medical Program of the Uninformed Services
CMA	Monterey County Congestion Management Agency
CMP	Congestion Management Program
CNEL	Community Noise Equivalent Level
CNPPA	California Native Plant Protection Act
CNPS	California Native Plant Society
CO	Carbon Monoxide
CPRK	Community Park (land use designation)
CRMP	Coordinated Resource Management Plan
CSUMB	California State University Monterey Bay
dB	Decibels
DNL	Day-Night Average Sound Level
DOL	Directorate of Logistics
DSEIS	Draft Supplemental Environmental Impact Statement
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FDOT	Florida Department of Transportation
FFA	Federal Facility Agreement
GMPAP	Greater Monterey Peninsula Area Plan
FORA	Fort Ord Reuse Authority
FORIS	Fort Ord Infrastructure Study
HMP	Habitat Management Plan
HMX	Cyclotetramethylene tetranitramine
HTRW	Hazardous, Toxic and Radioactive Waste
IDL	Infantry Division (Light)
LAFCO	Local Agency Formation Commission
LCP	Local Coastal Program
L _{dn}	Day-Night Average Sound Level
L _{eq}	Equivalent Continuous Sound Level
LOS "E" or "F" or "D" or "C"	Level of Service
MBEST	Monterey Business, Education, Science and Technology Center

MBUAPCD	Monterey Bay Unified Air Pollution Control District
MCFH	Million cubic feet per hour
MCTAM	Monterey County Transportation Analysis Model
MCWRA	Monterey County Water Resources Agency
MGD	Million gallons per day
MOU	Memorandum of Understanding
MOUT	Military Operations Urban Terrain
MPC	Monterey Peninsula College
MPUSD	Monterey Peninsula Unified School District
MRWPCA	Monterey Regional Water Pollution Control Agency
MU	Multi-use (Office Park/Institutional/University/Community College/Transit Center)
MW	Megawatts
NCCAB	North Central Coast Air Basin
NCCP	Natural Communities Conservation Planning Act of 1991
NCUSD	North County Unified School District
NDDB	Natural Diversity Data Base
NEPA	National Environmental Protection Act
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
NOP	Notice of Preparation
NOx	Nitrogen Oxides
NPU	No Proposed Use
NRHP	National Register of Historic Places
NRC	Nuclear Regulatory Commission
NRMA	Natural Resource Managed Area
OE	Stored or Unused Ordnance and Explosives
PG&E	Pacific Gas and Electric Company
POM	Presidio of Monterey
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
ROG	Reactive Organic Gases
ROI	Region of Influence
RWQCB	Central Coast Regional Water Quality Control Board
ROP	Regional Occupation Program
SB	Senate Bill
SEIS	Draft Supplemental Environmental Impact Statement
SOI	Sphere of Influence
SWPPP	Storm Water Pollution Prevention Plans
SWRCB	California State Water Resources Control Board
TAMC	Transportation Agency for Monterey County
TAZ	Traffic Analysis Zone
TC	Transportation Corridor
TCE	Trichloroethene
TDM	Transportation Demand Management
TPD	Tons Per Day
USBLM	U.S. Bureau of Land Management
UCMBEST	University of California Monterey Bay
UCNRS	University of California Natural Reserve System

VMT
VOC

Vehicle Miles of Travel
Volatile Organic Compounds

NOTICE OF PREPARATION

TO: State of California
Office of Planning and Research
1400 Tenth Street
Sacramento, CA 95814

FROM: Fort Ord Reuse Authority (FORA)
100-12th Street, Building 2880
Marina, CA 93933

SUBJECT: Notice of Preparation of an Environmental Impact Report on the Fort Ord Reuse Authority (FORA) Reuse Plan in accordance with Public Resources Code Section 21083.8.

The Fort Ord Reuse Authority (FORA) will be the Lead Agency and will prepare an Environmental Impact Report (EIR) for the Reuse Plan on the closed Federal military facility at Fort Ord. Fort Ord's location is illustrated in Attachment A. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Public Resources Code Section 21083.8 allows FORA to rely in part on the Fort Ord Disposal and Reuse Environmental Impact Statement (EIS) and the Draft Fort Ord Disposal and Reuse Draft Supplemental Environmental Impact Statement (SEIS), which are incorporated herein by reference, for environmental review on the Reuse Plan. FORA intends to utilize the EIS and SEIS as the Draft EIR and requests comments on whether, and to what extent, the EIS and SEIS provide adequate information to serve as the Draft EIR for the Reuse Plan, and what specific additional information, if any, is necessary to comply with the California Environmental Quality Act (CEQA). The EIS and SEIS will be made available to the public for review at FORA's offices (address listed below) and at major public libraries in each of FORA's member land use jurisdictions and agencies. The Draft SEIS summary is attached as Attachment B. Written comments must be sent or faxed to FORA at the address or number listed below, no later than 5:00 PM on February 12, 1996.

Fort Ord Reuse Authority (FORA)
100-12th Street, Building 2880
Marina, California 93933
FAX: 408-883-3675

As provided by Public Resources Code Section 21083.8, the purpose of this process for closed Federal military facilities is to facilitate the environmental review process on Reuse Plans, to avoid duplication and to utilize or build on the environmental work already completed by a Federal agency in a consistent manner with CEQA.

It is FORA's intent that this Program EIR shall provide environmental review and/or clearance of the following types of plans and implementation programs, and actions under the heading of the FORA Reuse Plan (herein after "Project"), which include, but are not limited to, the following:

- Reuse Plan,
- Conservation Plan,
- Capital Improvement Program/Capital Improvement Plan,
- Local General Plan modifications to incorporate the Fort Ord properties,
- Redevelopment planning for Fort Ord properties, and
- Potential changes in City, County and Special District boundaries within the Fort Ord properties.

Further, as provided by Public Resources Code Section 21083.8.1, it is FORA's intent to make the determination of whether the Project may have a significant effect on the environment in the context of the physical conditions which were present at the time that the Federal decision became final for closure of Fort Ord. However, FORA may, but is not required to, also look beyond this baseline, where necessary and feasible, to mitigate impacts that extend beyond the physical conditions which were present at the time of base closure.

All public and private activities taken pursuant to, or in furtherance of, the Project shall be deemed a single project under this Program EIR. However, further environmental review of any such public or private activity shall be conducted if any of the events specified in Public Resources Code Section 21166 have occurred.

This Program EIR will analyze an ultimate buildout scenario for the 27,964± acre closed Federal military facility known as Fort Ord. The FORA Board adopted a preliminary Ultimate Buildout scenario on December 12, 1994. That scenario has been slightly modified and reduced in scale in terms of land use designation locations, land use intensity and size of the overall circulation plan. The FORA Reuse Plan Ultimate Buildout Land Use Map (Attachment C) and Land Use Data (Attachment D) are attached as the basis of the project description; with the EIR to also analyze at a program level (beyond land use and circulation) a conservation plan, a recreation plan and base-wide and local facilities as a part of a capital improvement program. As a subset to the project description, attached is the FORA Reuse Plan 2015 Scenario Land Use Data (Attachment E). The 2015 land use scenario is the time frame given to the Operations Plan (including a Capital Improvement Program) and all other implementing measures. The 2015 scenario is intended to be flexible to market demands over time, and therefore, the implementation measures may shift over time.

The general land uses to be analyzed as a part of the project include, but are not limited to:

- Single Family Residential Low Density
- Single Family Residential Medium Density
- Multiple Family Residential High Density
- Planned Development Mixed Uses
- Residential Infill Opportunities
- Convenience Retail
- Neighborhood Retail
- Regional Retail
- Visitor Serving Commercial
- Golf Course Opportunity
- Hotel Opportunity
- Business Park/Light Industrial/Office/R & D
- Military Enclave
- School/University
- Public Facility/Institutional
- Open Space/Recreation
- Habitat Management

Of these general land uses, habitat management is the designated land use on approximately 15,000 acres of the 27,964± acre closed Federal military facility, and is to be managed by the U.S. Bureau of Land Management. An additional 2,700 to 3,000 acres is also preserved for habitat management by the State Department of Parks and Recreation, University of California Natural Reserve System, Monterey County, and the City of Marina. The remaining lands are

being considered for development, but also include open space and parks, public facilities, schools/universities and a remaining military enclave.

Jurisdictionally, the City of Seaside includes 4,028 acres, the City of Marina 3,115 acres and Monterey County 20,565 acres within the boundaries of the closed facility. Other cities affected by their proposal to annex a portion of the former base to their jurisdictions are the City of Del Rey Oaks and the City of Monterey. Other agencies with land use jurisdiction include the State of California Parks and Recreation Department, the California State University, the University of California, and the U.S. Department of the Army (relating to the remaining military enclave). Other agencies involved with land conveyances are Monterey Peninsula College, Monterey Peninsula Unified School District, and the U.S. Bureau of Land Management.

The above information, along with the attachments, provides a description of the "project" to be analyzed by the Program EIR. As required by California Administrative Code, Title 14, Chapter 3, Section 15082, the potential environmental effects to be analyzed are contained in the Draft SEIS summary, attached hereto as Attachment B and referenced in the Draft SEIS and the EIS (available at FORA and major public libraries in the area of Fort Ord).

A copy of the initial study is not attached, and as provided by California Administrative Code, Title 14, Chapter 3, Section 15063, has been waived in lieu of the preparation of an Environmental Impact Report and the provisions cited herein for focusing the environmental discussion. Please send or fax your written response to this Notice to FORA at the address or number shown above. We will need the name for a contact person in your agency.

PROJECT TITLE: FORA Reuse Plan

DATE: 1-8-96

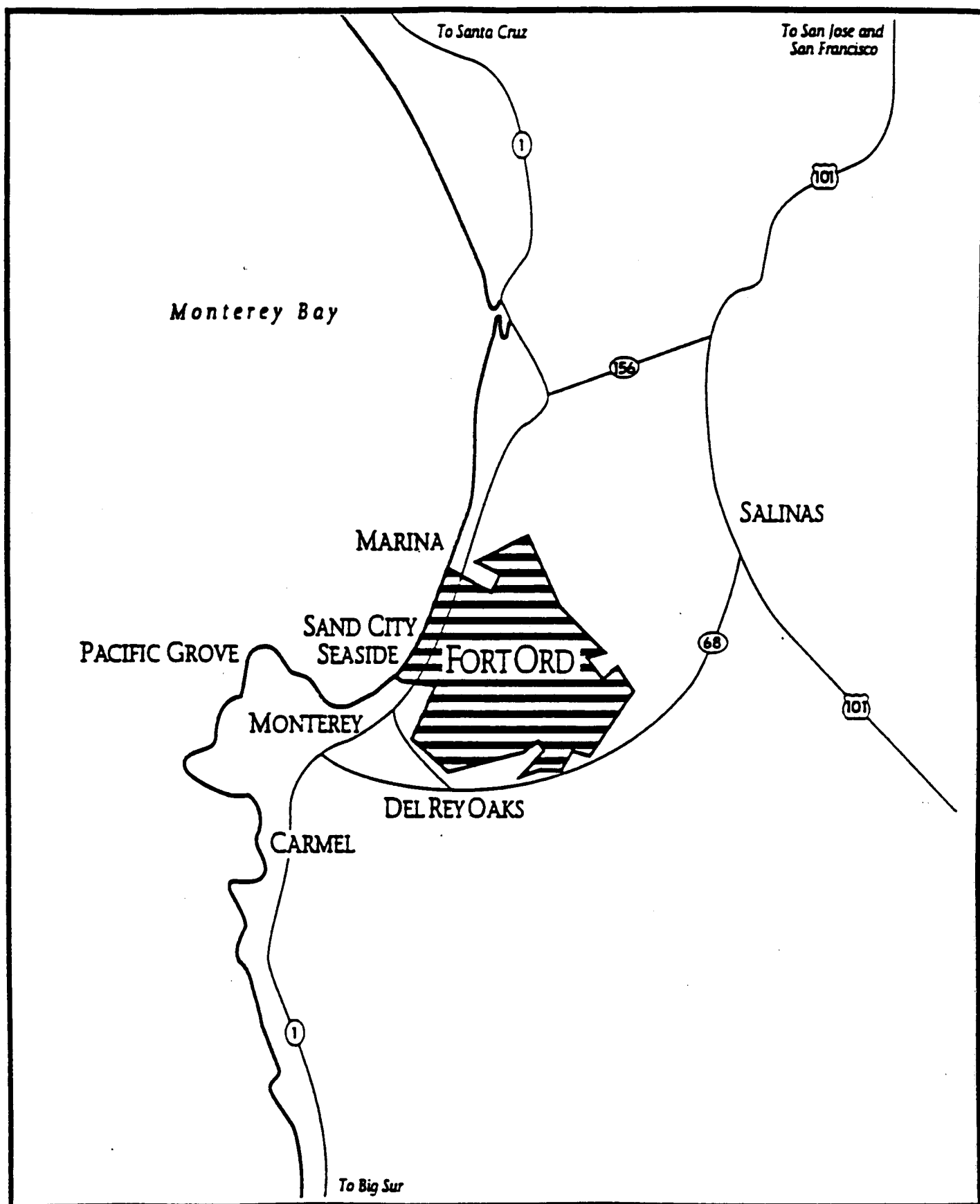
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TITLE planner

TELEPHONE 408-883-3672

Reference: California Administrative Code, Title 14, Chapter 3, sections 15082(a), 15103 and 15375. Public Resources Code, Division 3, Section 21080.4, 21080.6, 21083.7 and 21083.8.

ATTACHMENT A
Fort Ord Location Map



ATTACHMENT B

**Fort Ord Disposal and Reuse
Supplemental Environmental Impact Statement**

Table of Contents

Executive Summary	ES-1
Section 1.0 Purpose, Need, and Scope	1-1
1.1 PURPOSE AND NEED	1-1
1.2 SCOPE	1-2
1.2.1 Focus of the Supplemental EIS	1-2
1.2.2 Update of Public Benefit Conveyance Requests	1-2
1.2.3 Screening Process	1-4
1.2.4 Update of Environmental Information	1-4
1.2.5 Other NEPA Documents (Record of Environmental Consideration)	1-5
1.2.6 Other Disposal Considerations	1-5
1.3 PUBLIC INVOLVEMENT	1-8
1.3.1 Notice of Intent	1-8
1.3.2 Scoping Process	1-8
1.3.3 Coordination with Local Community	1-9
1.3.4 Coordination with Regulatory Agencies	1-9
1.3.5 Draft Supplemental Environmental Impact Statement	1-11
1.3.6 Public Hearing	1-11
1.3.7 Final Supplemental Environmental Impact Statement	1-11
Section 2.0 Proposed Action	2-1
2.1 REGIONAL LOCATION	2-1
2.2 DISPOSAL OF NEWLY EXCESSED LANDS	2-1
Section 3.0 Alternatives	3-1
3.1 DISPOSAL	3-1
3.1.1 Introduction	3-1
3.1.2 Proposed Action	3-1
3.1.3 No Action	3-1
3.2 REUSE BY OTHERS	3-1
3.2.1 Introduction	3-1
3.2.2 Alternative 7	3-2
Revised Alternative 7	3-11
3.2.3 Alternative 8	3-12
Section 4.0 Affected Environment	4-1
4.1 INTRODUCTION	4-1
4.2 LAND USE	4-1
4.2.1 Presidio of Monterey Annex	4-3
4.2.2 Newly Excessed Lands and Revised Use Areas	4-3
4.3 SOCIOECONOMICS	4-3
4.4 SOILS, GEOLOGY, TOPOGRAPHY, AND SEISMICITY	4-8
4.5 PUBLIC SERVICES AND UTILITIES	4-8
4.6 WATER RESOURCES	4-8
4.6.1 Water Supply and Demand	4-8
4.6.2 Hydrology and Water Quality	4-10

4.7 PUBLIC HEALTH AND SAFETY	4-11
4.7.1 Law Enforcement	4-11
4.7.2 Fire Protection	4-11
4.7.3 Medical and Emergency Medical Services	4-11
4.7.4 Seismic Safety	4-11
4.8 TRAFFIC AND CIRCULATION	4-11
4.9 AIR QUALITY	4-12
4.10 NOISE	4-13
4.11 HAZARDOUS AND TOXIC WASTE SITE REMEDIAL ACTION	4-13
4.11.1 New Hazardous and Toxic Waste Site Remedial Action Data	4-13
4.11.2 Summary of Remedial Investigations, Risk Assessments, and Feasibility Studies	4-15
4.12 ORDNANCE AND EXPLOSIVES	4-19
4.13 VEGETATION, WILDLIFE, AND WETLAND RESOURCES	4-23
4.13.1 New Biological Resource Data	4-23
4.13.2 Fort Ord Habitat Management Plan (HMP)	4-27
4.13.3 Important Biological Resources in Newly Excessed Lands and Revised Use Areas	4-28
4.14 VISUAL RESOURCES	4-33
4.15 CULTURAL RESOURCES	4-33
4.15.1 Historic Properties	4-33
4.15.2 Regulatory Compliance	4-34
4.16 COASTAL RESOURCES	4-35
4.17 ENVIRONMENTAL JUSTICE	4-35

Section 5.0 Environmental and Socioeconomic Consequences	5-1
5.1 INTRODUCTION	5-1
5.1.1 Organization	5-1
5.1.2 Significance Criteria and Assumptions	5-2
5.2 DISPOSAL IMPACTS (PRIMARY ACTION BY ARMY)	5-2
5.2.1 Overview	5-2
5.2.2 Land Use	5-4
5.2.3 Socioeconomics	5-4
5.2.4 Soils, Geology, Topography, and Seismicity	5-5
5.2.5 Public Services and Utilities	5-5
5.2.6 Water Resources	5-5
5.2.7 Public Health and Safety	5-5
5.2.8 Traffic and Circulation	5-6
5.2.9 Air Quality	5-6
5.2.10 Noise	5-7
5.2.11 Hazardous and Toxic Waste Site Remedial Action	5-7
5.2.12 Ordnance and Explosives	5-7
5.2.13 Vegetation, Wildlife, and Wetland Resources	5-8
5.2.14 Visual Resources	5-9
5.2.15 Cultural Resources	5-9
5.2.16 Coastal Resources	5-9
5.2.17 Cumulative Impacts	5-9
5.3 REUSE IMPACTS (SECONDARY ACTION BY OTHERS)	5-10
5.3.1 Alternative 7: FORA Base Reuse Plan	5-10
Revised Alternative 7	5-11
5.3.1.1 Newly Excessed Lands and Revised Use Areas	5-12
Land Use	5-12
Socioeconomics	5-17

	Soils, Geology, Topography, and Seismicity	5-19
	Public Services and Utilities	5-20
	Water Resources	5-22
	Public Health and Safety	5-23
	Traffic and Circulation	5-24
	Air Quality	5-26
	Noise	5-26
	Hazardous and Toxic Waste Site Remedial Action	5-31
	Ordnance and Explosives	5-31
	Vegetation, Wildlife, and Wetland Resources	5-32
	Visual Resources	5-44
	Cultural Resources	5-45
	Coastal Resources	5-47
5.3.1.2	Cumulative Impacts	5-48
	Land Use	5-48
	Socioeconomics	5-49
	Soils, Geology, Topography, and Seismicity	5-52
	Public Services and Utilities	5-53
	Water Resources	5-55
	Public Health and Safety	5-57
	Traffic and Circulation	5-58
	Air Quality	5-61
	Noise	5-65
	Hazardous and Toxic Waste Site Remedial Action	5-66
	Ordnance and Explosives	5-66
	Vegetation, Wildlife, and Wetland Resources	5-66
	Summary	5-67
	Development and Analysis of Revised Alternative 7	5-75
	Visual Resources	5-85
	Cultural Resources	5-85
	Coastal Resources	5-86
5.3.2	Alternative 8: Modification in Public Benefit Conveyances and Preliminary Requests for Newly Excessed Lands	5-86
5.3.2.1	Alternative Use Areas	5-86
	Land Use	5-87
	Socioeconomics	5-87
	Water Resources	5-87
	Traffic and Circulation	5-88
	Air Quality	5-88
	Vegetation and Wildlife	5-88
	Hazardous and Toxic Waste Site Remedial Action	5-91
5.3.2.2	Cumulative Impacts	5-92
	Land Use	5-92
	Socioeconomics	5-92
	Water Resources	5-93
	Traffic and Circulation	5-93
	Vegetation and Wildlife	5-93
5.4	ENVIRONMENTAL JUSTICE	5-93
Section 6.0	Summary Comparison	6-1
6.1	OVERVIEW	6-1
6.2	ALTERNATIVE 7 VERSUS ROD	6-6

6.2.1	Land Use	6-6
6.2.2	Socioeconomics	6-6
6.2.3	Soils, Geology, Topography, and Seismicity	6-6
6.2.4	Public Services and Utilities	6-6
6.2.5	Water Resources	6-6
6.2.6	Public Health and Safety	6-9
6.2.7	Traffic and Circulation	6-9
6.2.8	Air Quality	6-10
6.2.9	Noise	6-10
6.2.10	Hazardous and Toxic Waste Site Remedial Action	6-11
6.2.11	Ordnance and Explosives	6-12
6.2.12	Vegetation, Wildlife, and Wetland Resources	6-12
6.2.13	Visual Resources	6-13
6.2.14	Cultural Resources	6-13
6.2.15	Coastal Resources	6-13
6.3	ALTERNATIVE 8 VERSUS ALTERNATIVE 7	6-13
6.4	ALTERNATIVE 8 VERSUS 1993 NEPA ROD	6-15
Section 7.0	References and Persons Consulted	7-1
7.1	REFERENCES	7-1
7.2	PERSONS CONSULTED	7-3
Section 8.0	List of Preparers	8-1
8.1	U.S. ARMY CORPS OF ENGINEERS	8-1
8.2	JONES & STOKES ASSOCIATES, INC.	8-1
8.2.1	Project Management	8-1
8.2.2	Technical Expertise	8-1
8.2.3	Document Production	8-2
Section 9.0	Distribution List	9-1
Appendix A.	Status of Facilities in the Newly Excessed Lands and Existing Golf Courses	A-1
Appendix B.	Methodology Used to Evaluate Regional Socioeconomic Impacts of Alternative 7	B-1
Appendix C.	Fort Ord Cultural Resources Programmatic Agreement	C-1
Appendix D.	Proposed Mitigation Strategies for Impacts on Biological Resources Associated with the Proposed FORA Road Network	D-1
Appendix E.	USFWS Approval of Proposed Revised HMP Scenario	E-1
Index		
Reference Maps		
List of Acronyms and Report Terminology		

List of Figures

Figure	Page
1-1 Areas Covered in Supplemental Environmental Impact Statement	1-3
1-2 Areas for Which Records of Environmental Consideration Have Been Prepared by the Army	1-6
1-3 Properties Transferred to Date and Areas Where Army Has a Memorandum of Agreement to Dispose of Land in Phases (As of August 15, 1995)	1-7
2-1 Regional Location of Presidio of Monterey and Former Fort Ord Lands	2-2
2-2 Changes to the Presidio of Monterey Annex	2-3
3-1 Alternative 7 Land Use Map with Polygon Numbers	3-4
3-2 Alternative 7 Land Use Map	3-5
3-3 Alternative 7 Road Network	3-10
3-4 Alternative 8 Land Use Map	3-13
4-1 Newly Excessed Lands and Revised Use Areas	4-2
4-2 Groundwater Contaminant Plumes	4-14
4-3 Hazardous and Toxic Waste Sites (June 1995)	4-17
4-4 Conceptual Multi-Range Area Land Reuse Plan	4-21
4-5 Potential Habitat and Newly Discovered Breeding Ponds for California Tiger Salamander at Fort Ord	4-25
4-6 HMP Reuse Scenario Showing Newly Excessed Lands and Revised Use Areas	4-29
5-1 FORA Communication Systems	Follows 5-94
5-2 FORA Phased Wastewater System	Follows 5-94
5-3 FORA Phased Energy Supply Systems	Follows 5-94
5-4 FORA Phased Water Distribution System	Follows 5-94
5-5 FORA Stormwater System	Follows 5-94
5-6 FORA Phased Transportation System Improvements	Follows 5-94

Figure	Page
5-7 FORA Proposed Transportation Corridor Rights-of-Way	Follows 5-94
5-8 Visual Impact Potential of Newly Excessed Lands and Revised Use Areas Associated with Alternative 7	5-46
5-9 Key Locations Where Habitat Reserve and Development Areas Differ Between Alternatives 7 and 8 and the HMP	5-68
5-10 Comparison between the HMP and Alternative 7	5-76
5-11 Proposed Revised Habitat Management Plan for Former Fort Ord	5-84
6-1 Fort Ord Disposal and Reuse Modified Alternative	6-7

List of Tables

Table	Page
ES-1 Comparison of Alternative 7 and Alternative 8 and the Reuse Scenario Contained in the 1993 NEPA ROD by Key Resource Areas	ES-5
3-1 General Land Use Division Comparison	3-3
3-2 Alternative 7 Data Table	3-6
4-1 Designed and Current Uses for Newly Excessed Lands and Revised Use Areas	4-4
4-2 Status of Public Services and Utilities Provided to Revised Use Areas	4-9
4-3 Hazardous and Toxic Waste Sites on Former Fort Ord	4-16
4-4 Changes in Listing Status for Special-Status Plant and Wildlife Species Since Publication of the Final EIS	4-26
4-5 Habitat Acreage within Newly Excessed and Revised Use Areas	4-30
4-6 Acreage Supporting Special-Status Plant Populations in Newly Excessed and Revised Use Areas	4-31
4-7 Acreage of Potential Habitat for Special-Status Wildlife Species Occurring in Newly Excessed Lands and Revised Use Areas	4-32
5-1 Reasonably Foreseeable Future Projects in the Fort Ord Vicinity (as of May 9, 1995)	5-3
5-2 Continuation of Existing or Urban Use in the Newly Excessed Lands, Revised Use Areas, and Existing Golf Courses	5-13
5-3 Estimated Public Services and Utilities Requirements	5-21
5-4 Estimated Public Health and Safety Requirements	5-24
5-5 Trips Generated in Newly Excessed Lands and Revised Use Areas of Alternative 7	5-25
5-6 Fort Ord Reuse Construction Emissions	5-27
5-7 Total Operational Emissions Associated with Reuse	5-28
5-8 Summary of Noise Modeling for Alternative 7	5-29

Table	Page
5-9 Losses to Biological Communities on Newly Excessed Lands and Revised Use Areas	5-35
5-10 Loss of Occupied Habitat of Special-Status Plant Species in Newly Excessed Lands and Revised Use Areas	5-36
5-11 Losses to Special-Status Wildlife Species in Newly Excessed Lands and Revised Use Areas	5-39
5-12 Projected Countywide Socioeconomic Impacts under Alternative 7	5-50
5-13 Estimated Water Demand for the Presidio of Monterey Annex	5-56
5-14 Transportation Impacts under Alternative 7	5-59
5-15 Predicted Worst-Case Carbon Monoxide Levels for Alternative 7	5-63
5-16 Comparison of Losses to Biological Communities between the Original Alternative 7 and the ROD	5-69
5-17 Comparison of Loss of Occupied Habitat of Special-Status Plant Species between the Original Alternative 7 and the ROD	5-70
5-18 Comparison of Losses to Special-Status Wildlife Species between the Original Alternative 7 and the 1993 NEPA ROD	5-72
5-19 Changes in Acreage of Habitat Reserve or Corridor under the Revised Alternative 7 (Including the Proposed Road Network and Mitigation Strategy) Compared to the Habitat Management Plan	5-78
5-20 Acreage Change to Key Habitat Management Plan Resources under the Revised Alternative 7 (Including the Proposed Road Network and Mitigation Strategy) Compared to the Habitat Management Plan	5-79
6-1 Population, Housing, and Employment Comparison of the 1993 ROD and Alternatives 7 and 8	6-1
6-2 General Land Use Division Comparison	6-2
6-3a Current and Proposed Uses for Newly Excessed Lands, and Revised Use Areas, and Existing Golf Courses	6-3
6-3b Proposed Uses for Land Use Areas Analyzed in Alternative 8	6-5
6-4 Comparison of Public Services, Utilities, and Water Requirements between Alternative 7 and the ROD	6-8
6-5 Comparison of Public Health and Safety Requirements between Alternative 7 and the 1993 NEPA ROD	6-9

Table	Page
6-6 Comparison of Air Emissions (Pounds per Day) between Alternative 7 and the 1993 NEPA ROD	6-10
6-7 Comparison of Overall Traffic Noise Generated Under Alternative 7 and the 1993 NEPA ROD	6-11

Section 1.0 Purpose, Need, and Scope

1.1 PURPOSE AND NEED

This supplemental environmental impact statement (EIS) supplements the June 1993 Fort Ord Disposal and Reuse Final EIS and 1993 Record of Decision (ROD) (U.S. Army Corps of Engineers 1993). It has been prepared under 40 CFR, Section 1502.9, the Council on Environmental Quality (CEQ) regulations implementing the National Environmental Policy Act (NEPA); Section 6-5n of Army Regulation 200-2; and amendments to Title XXIX of Public Law 101-510, commonly referred to as the Pryor Amendment. The referenced CEQ and Army regulations provide for supplementing an existing EIS when the lead agency determines that the purposes of NEPA will be furthered by doing so.

The Army has downsized the Presidio of Monterey (POM) Annex because of the reduction in the number of students to be trained at the Defense Language Institute (DLI). This supplemental EIS is needed to address the Army's action of disposal and subsequent reuse of 250 acres of excess lands by non-Army entities (newly excess lands).

Special legislation is pending that would allow the Secretary of the Army to transfer the existing golf courses and the adjacent Hayes housing area to the City of Seaside. The disposal of the two golf courses was addressed in the alternatives analyzed for establishing the POM Annex in the June 1993 EIS but not in Alternative 6RM, included in the NEPA ROD. Alternative 1B described Seaside's recommended POM Annex, with the golf courses and adjacent area being transferred from Army ownership. Alternatives 1A and 1C described high-intensity mixed use alternatives without a POM Annex, while Alternatives 2A and 2B described medium-intensity mixed use without a POM Annex. The 1993 NEPA ROD described the POM Annex as including the golf courses, reflecting a continuing requirement for the golf courses in support of the installation's moral and welfare programs. Special legislation may allow the two existing golf courses to be sold to the City of Seaside and the funds from the transfer to be deposited for use in the installation's moral and welfare programs. Because the impacts of disposal of the golf courses were addressed in the 1993 EIS, the NEPA documentation for transfer will be based on the information in the EIS with a record of environmental consideration (REC) being used to document that no new significant impacts would occur as a result of the transfer of the golf courses. However, this supplemental EIS describes the impacts of disposal and the cumulative impacts of reuse of lands next to the golf courses (Hayes housing area) that may be transferred to the City of Seaside. The planned use of this housing area is as a resort hotel complex. The Supplemental EIS ROD would be used to document this disposal action.

In the 1993 NEPA ROD, the Army agreed to conduct further environmental analysis if needed to cover disposal for new land uses following adoption of a final base reuse plan. The Pryor Amendment, which emphasizes the economic recovery of those communities affected by closing installations and reflects President Clinton's 1993 five-part program for economic assistance to communities affected by base closures, states:

The Secretary of Defense shall, to the extent practicable, complete any environmental impact analyses required with respect to the installation, and with respect to the redevelopment plan, if any, for the installation, pursuant to the base closure law under which the installation is closed, and pursuant to the National Environmental Policy Act of 1969" (National Defense

Authorization Act for Fiscal Year 1994, Pub. L. No. 103-160, 107, Stat. 1547, 1924-25, § 29.11).

Further, 32 CFR Part 91, Revitalizing Base Closure Communities - Base Closure Community Assistance, which implements the Pryor Amendment, states, "The local redevelopment plan will generally be used as the basis for the proposed action in conducting environmental analyses required by the National Environmental Policy Act of 1969 (NEPA), (42 U.S.C. 4332 et seq.)".

On December 12, 1994, the Fort Ord Reuse Authority (FORA) approved its final FORA Base Reuse Plan (Fort Ord Reuse Authority 1994):

The "Final Base Reuse Plan" prepared by the Fort Ord Reuse Group, which the Army and/or other federal agencies may need to rely upon to determine consistency of a proposed land conveyance with a document, can be considered as an adopted local community plan for the purposes of said federal actions.

The Army has reviewed the FORA Base Reuse Plan and has determined that changes in the plan require further NEPA documentation before the Army disposes of some parts of former Fort Ord lands. Those reuse changes (revised use areas), which are actions of the local communities and not the Army, are also considered in this supplemental EIS.

1.2 SCOPE

1.2.1 Focus of the Supplemental EIS

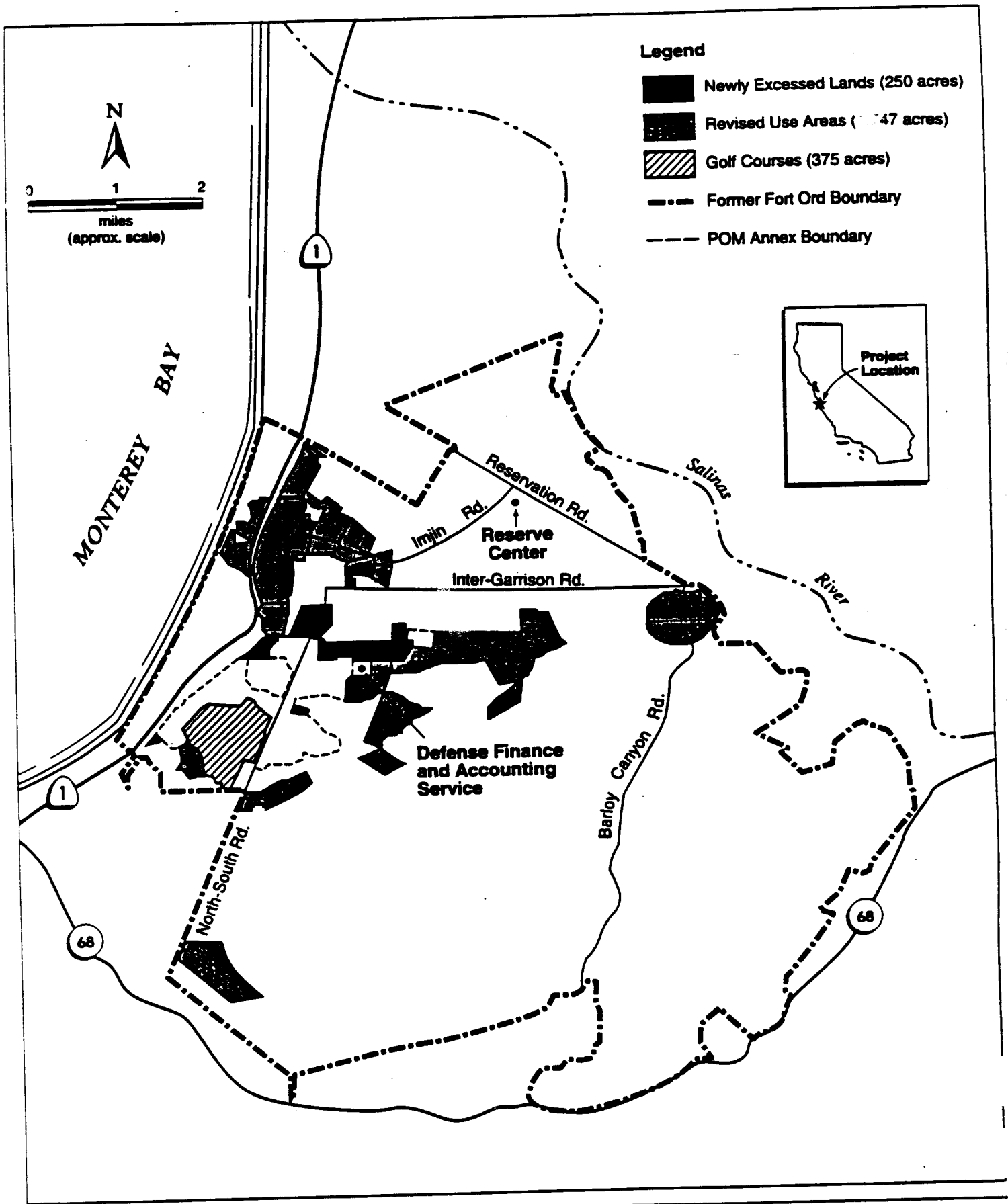
The Fort Ord Disposal and Reuse Final EIS and ROD analyzed the full range of potential environmental impacts related to Army actions leading to disposal and a wide range of potential reuse alternatives developed in coordination with the local communities. The supplemental EIS supplements the 1993 final EIS and ROD to include additional data and an analysis of the following:

- disposal of additional land excess to Army needs resulting from changes in the Army's POM Annex boundary;
- those reuse areas that, as agreed to by the Army in the ROD, require additional analysis to cover disposal for new land uses; and
- land uses contained in the FORA Base Reuse Plan that were not covered fully in the Fort Ord Disposal and Reuse Final EIS and ROD (Figure 1-1). The newly excessed lands comprise 250 acres, and the revised use areas comprise 1,747 acres.

The focus of the NEPA analysis continues to be the Army's disposal of former Fort Ord lands, including the approximately 250 acres available for disposal resulting from downsizing the POM Annex.

1.2.2 Update of Public Benefit Conveyance Requests

Since the final EIS was published, formal requests for public benefit conveyances have been reviewed and approved by sponsoring federal agencies. In several cases, duplicate requests for overlapping areas were approved by the federal sponsors. The Army, federal sponsors, requesting agencies, and local communities (FORA) have been engaged in the process to determine how these requests could best be resolved to further the purpose of the communities' reuse plan as well as the purpose for the presently



**Figure 1-
Areas Covered in Supplemental
Environmental Impact Statement†**
Attachment D, p. 357 of 1882

authorized public conveyance programs. Three key areas of conveyance conflicts remain to be resolved. Competing requests have been received by various agencies for several roads at Fort Ord, including North-South Road, South Boundary Road, Beach Range Road, and Barloy Canyon Road. Portions of the U.S. Department of Education-sponsored request for the Peace Officers Training Academy in and near the East Garrison overlap with U.S. Department of the Interior-sponsored request for the RV Park/Youth Camp parcel. In addition, a portion of the FORA Equestrian Center polygon overlaps slightly with a transit center parcel request sponsored by the Federal Highway Administration.

This supplemental EIS describes the differences in locations and other modifications in public benefit conveyance requests that have resulted to date from this process when they are different from the alternative reuse proposals described in the final EIS. These changes have been included in Section 5.3.2, "Alternative 8: Modification in Public Benefit Conveyances and Preliminary Requests for Newly Excessed Lands". The areas included in Alternative 8 because of changes in public benefit conveyance requests are polygons 17a (Monterey County Community Park), 20d (Seaside Mixed Use Area), and 20e/41 (Seaside/Monterey County Mixed Use Area). Polygon 17a was requested for an expansion of a planned community park. Polygon 20d contains several public benefit conveyance request changes for various institutional and office park uses. Polygons 20e and 41 also contain several public benefit conveyance request changes to support uses such as office park, transit center, institutional, National Guard, and youth hostel. These polygons are shown in Figures 3-1 and 3-4.

1.2.3 Screening Process

The DOD and federal screening of the additional excess properties were completed on July 7, 1995, and included the following three requests:

- Department of Veterans Affairs, Veteran Health Administration - building 3723 and adjacent parking lot.
- Department of the Army United States Army Reserve Command submitted a letter of intent to receive buildings 4488 and 4489 and adjacent parking areas. The Reserve Command also requested as its second choice buildings 4423, 4438, 4448, 4480, 4483, 4550, and 4560. However, it did not submit a formal application.
- Department of the Army California National Guard - buildings 4482, 4487, 4488, and 4489 and adjacent parking areas. (The U.S. Army Corps of Engineers [Corps] has issued the National Guard a 1-year renewable license for the period March 24, 1995 to March 23, 1996, for use of buildings 4482, 4487, 4488, and 4499 and adjacent parking areas. The National Guard also has obtained FORA concurrence to acquire the property.)

The local and McKinney Act screening have not been completed. Alternative 8 includes preliminary indications of requests that may be received through the local screening process. These include university-related, institutional, office park, and transit center uses.

1.2.4 Update of Environmental Information

This supplemental EIS includes new information relevant to the following ongoing coordination actions:

- completion and implementation of the installation-wide multispecies habitat management plan (HMP);
- coordination with communities and the California Department of Fish and Game (DFG) regarding local implementation of the HMP and California Environmental Quality Act (CEQA)

documentation requirements relating to area-specific DFG concerns about special-status species and special-status habitats;

- completion of the draft remedial investigation/feasibility study (RI/FS);
- execution of remedial action requirements for some of the installation restoration sites requiring action under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), including hazardous toxic radiological waste (HTRW) action sites;
- investigation and response to sites potentially containing ordinance and explosives (OE);
- investigation, identification, and/or removal of underground storage tanks;
- completion of and continued coordination concerning the coastal consistency determination;
- coordination with the Monterey Bay Unified Air Pollution Control District (MBUAPCD) on the transfer of air emissions credits and the process by which the communities comply with state and regional air policies and programs;
- implementation of disposal actions for transportation conveyances and coordination relating to transportation, traffic, and congestion management; and
- status of planning and implementation of National Pollutant Discharge Elimination System (NPDES) plans and permits.

1.2.5 Other NEPA Documents (Record of Environmental Consideration)

Since the Fort Ord Disposal and Reuse Final EIS and ROD were issued, some former Fort Ord lands have undergone minor land use changes and minor boundary modifications (related to more accurate boundary surveys), some requests for individual parcels have been refined, and some proposals have been made for a continuation of an existing use. These changes have been addressed using a NEPA documentation process that involved preparing a REC, a requirement of Army Regulation (AR) 200-2, before disposal. Parcels for which the Army has prepared a REC are shown in Figure 1-2.

Separate NEPA documentation was prepared for the Laguna Seca Raceway Turn 11 Expansion project located south of former Fort Ord (Jones & Stokes Associates 1995). The Environmental Assessment and FONSI for the Laguna Seca Turn 11 expansion were completed on July 17, 1995. A thirty day public review period was initiated on July 24, 1995 and completed on August 24, 1995. The final Environmental Assessment and FONSI were published on August 31, 1995.

A REC is planned to be used to support transfer of the existing golf courses if special legislation is passed to allow the Army to dispose of them as described in Section 1.1.

1.2.6 Other Disposal Considerations

Other real estate disposal actions have proceeded for former Fort Ord lands since the Fort Ord Disposal and Reuse Final EIS and ROD was issued in 1993. Approximately 1,700 acres of land have been transferred to California State University, Monterey Bay (CSUMB); University of California, Santa Cruz (UCSC); and the Monterey Peninsula Unified School District for reuse (Figure 1-3). Additionally, the Army has signed memoranda of agreement (MOAs) to transfer property to the U.S. Bureau of Land Management (BLM) and to dispose of lands in phases to CSUMB and UCSC (Figure 1-3). The Army has continued to work with requesting entities and local communities to resolve conflicts in public benefit conveyance requests. Some of these conflicts are analyzed as part of the reuse scenarios discussed in Section 3.0, "Alternatives".

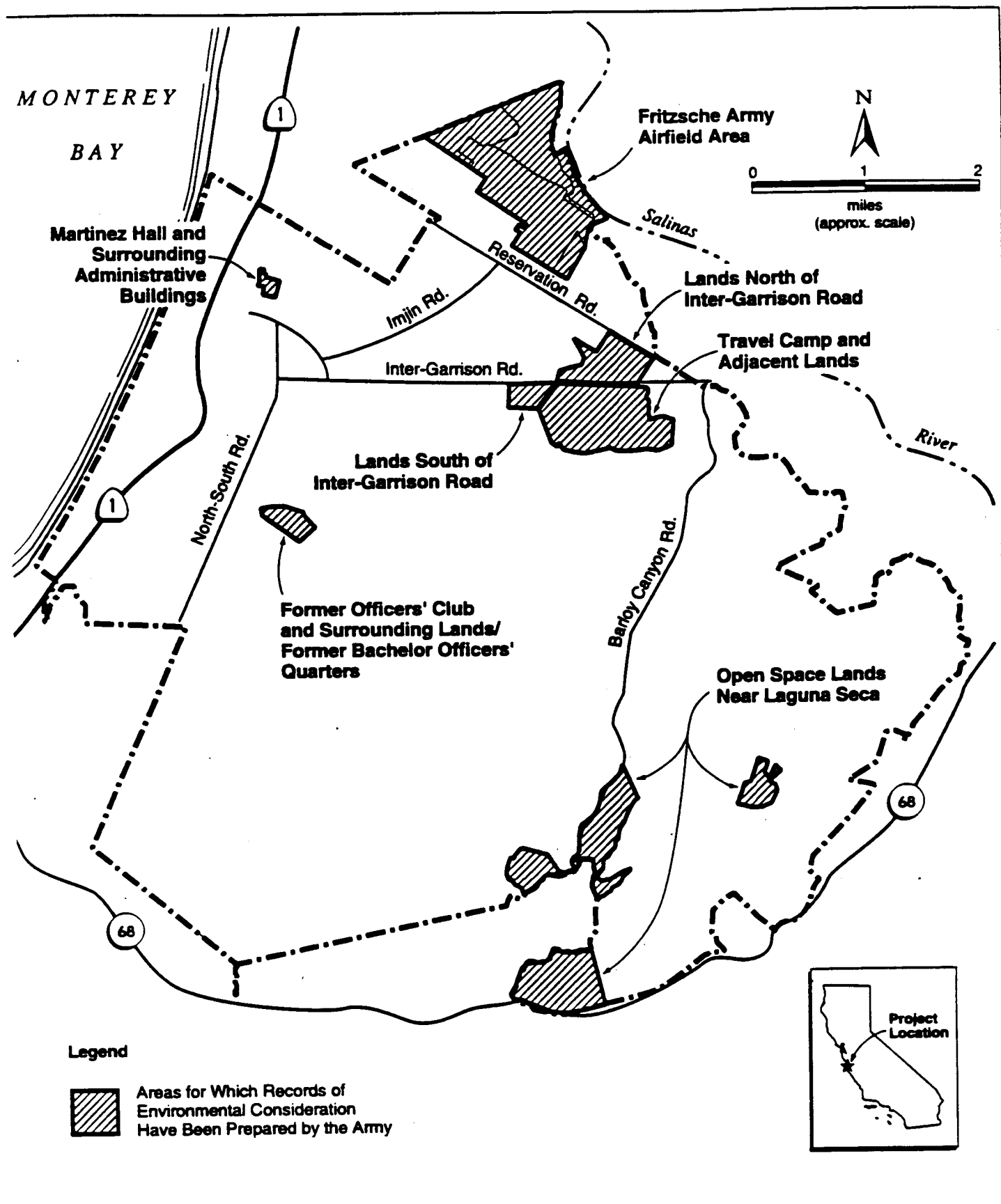


Figure 1-2
Areas for Which Records of
Environmental Consideration Have Been
Prepared by the Army

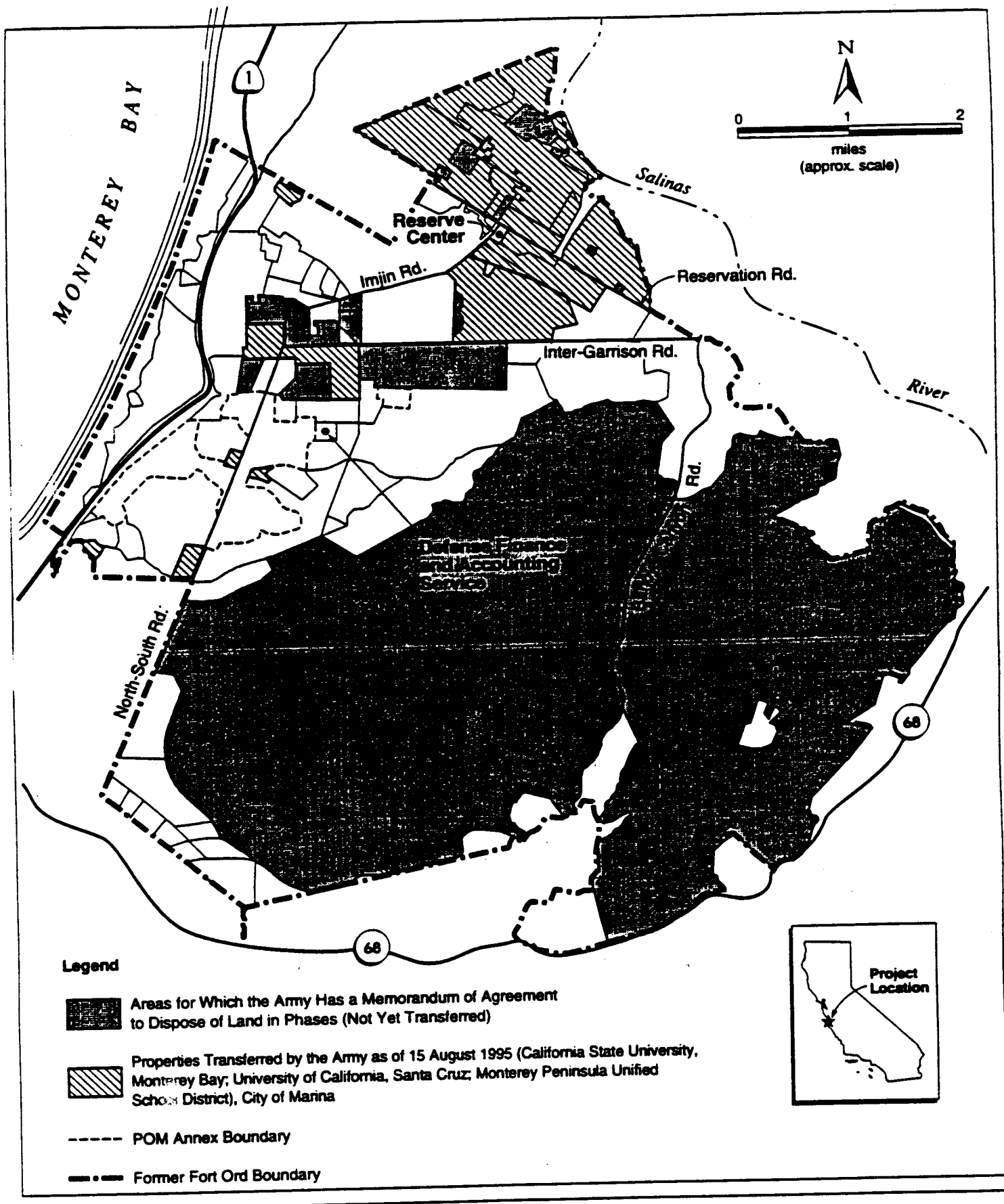


Figure 1-3
Properties Transferred to Date and Areas Where Army Has
a Memorandum of Agreement to Dispose of Land in Phases
(As of August 15, 1995)

The final EIS (Volume I, pp. 2-13, 5-13, and 5-15) also described the Army's disposal of former Fort Ord infrastructure and indicated that final decisions on the disposal would depend on further engineering studies and negotiations with potential purveyors. More detailed information on the present infrastructure systems has been obtained, and negotiations with potential purveyors have been initiated. These include FORA (as a potential recipient), local communities, services districts, and quasi-public and private providers.

1.3 PUBLIC INVOLVEMENT

1.3.1 Notice of Intent

The Army's notice of intent (NOI) to prepare this supplemental EIS was published in the Federal Register on Wednesday, April 12, 1995 (Federal Register/Vol. 60 No. 70/Notices).

1.3.2 Scoping Process

The Army distributed notices for a public scoping meeting and held the meeting on April 4, 1995, to obtain comments on the scope of the supplemental EIS. The close of the scoping process was April 19, 1995. All persons and organizations thought to have potential interest, including minority, low-income, disadvantaged groups, and Native American groups, were informed of the public meeting and given the opportunity to participate in the decision-making process. Public announcements were distributed to local newspapers, news media, libraries, and all recipients of and commenters on the final EIS.

Most of the issues presented by the commenters were directly incorporated into the supplemental EIS. The following summarizes issues raised during the scoping process that were addressed but not analyzed at the level of detail that the commenter seemed to desire and the reasoning behind the Army's approach:

- Incorporate CEQA requirements into the NEPA analysis.

The scope of the supplemental EIS is focused on the Army action of disposal of property. The supplemental EIS also addresses the secondary effects of reuse. An EIS can be used as an EIR to the extent that the EIS complies with the provisions of the State CEQA Guidelines (Section 21083.5, Guidelines Section 15221). To the extent practicable, provisions of the CEQA guidelines have been incorporated into the final EIS and supplemental EIS to allow their use as an EIR in the future.

- Evaluate all aspects of the FORA plan (e.g., infrastructure, road network).

Infrastructure for the FORA Base Reuse Plan was analyzed based on the infrastructure descriptions included in the plan and coordination with FORA. Infrastructure was considered to be a cumulative impact. A specific analysis was conducted of the road network contained in the FORA Base Reuse Plan.

- Address the relationship of the 1994 FORA Base Reuse Plan to ongoing FORA efforts to refine the plan.

Ongoing efforts to revise the FORA Base Reuse Plan were incorporated into the development of Alternative 8.

- Evaluate land uses that differ from those uses proposed in the FORA Base Reuse Plan.

Some proposed variations in land uses were incorporated into the development of Alternative 8.

- Address land use proposals as identified in the Fort Ord Economic Assessment and Conceptual Base Reuse Plan.

Ongoing efforts to revise the FORA Base Reuse Plan were incorporated into the development of Alternative 8.

- Address Caltrans easement requests, including the State Route (SR) 68 corridor area from Laguna Seca easterly to the area of Toro Park.

Caltrans will receive an easement to the transportation corridor north of SR 68 as shown in the 1993 NEPA ROD. However, Caltrans will not receive an easement to the SR 68 in-corridor alignment from Laguna Seca easterly to the area of Toro Park. Property in this corridor has been included in an MOA with BLM and is unavailable for transfer to other agencies. Any existing easements associated with the existing SR 68 corridor that occur in land planned for transfer to BLM will continue to be valid.

- Discuss the applicability of the federal transportation conformity rule for new highways or other projects that would be included in the Monterey Transportation Plan (MTP).

Federal transportation conformity was not addressed in the supplemental EIS because current information on transportation plans is not sufficiently detailed to allow a proper assessment. Information on general federal conformity was included in the document. The transportation elements from the FORA Final Reuse Plan, December 12, 1994, have been considered by the Transportation Agency for Monterey County (TAMC) and included by the Association of Monterey Bay Area Governments (AMBAG) in the Federal Transportation Improvement Program. The program has been approved by the California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA).

- Include a cultural resource analysis.

Impacts on cultural resources have been included based on updated information available since preparation of the final EIS.

1.3.3 Coordination with Local Community

FORA published its Base Reuse Plan on December 12, 1994 (Fort Ord Reuse Authority 1994). The Army has coordinated with FORA to obtain information on the assumptions used in developing that plan (Fort Ord Reuse Authority 1995). FORA provided information on the reuse proposals for the additional areas available for excess. In addition, FORA and local communities have continued to develop implementation strategies on the reuse of former Fort Ord lands. In some cases, land uses that differ from those described in the FORA Base Reuse Plan are being considered for portions of lands to be available for disposal. These uses are analyzed in this supplemental EIS along with the areas of the Base Reuse Plan that were not analyzed in the 1993 final EIS and ROD.

1.3.4 Coordination with Regulatory Agencies

The Army's ability to analyze FORA's land use changes and the minor changes in the POM Annex footprint has been aided by a number of ongoing consultation and coordination efforts that the Army has undertaken since the 1993 NEPA ROD was issued.

2
1
3
U.S. Fish and Wildlife Service. Working with the U.S. Fish and Wildlife Service (USFWS) as part of its consultation responsibility under the federal Endangered Species Act (ESA), the Army developed and successfully negotiated an installation-wide multispecies HMP for all of former Fort Ord. This plan, completed in February 1994, provides a framework for protecting the many threatened or endangered plant and animal species found at former Fort Ord (U.S. Army Corps of Engineers 1994a).

7
U.S. Environmental Protection Agency. In December 1994, working with the U.S. Environmental Protection Agency (EPA), the Army also completed the draft final RI/FS of hazardous and toxic substances found at former Fort Ord, in compliance with the mandates of CERCLA. EPA is also a signatory to the Federal Facility Agreement (FFA).

2
1
U.S. Bureau of Land Management. The Army and BLM have worked cooperatively to develop the site use management plan for the multi-range area and implementation measures for the HMP.

3
California Coastal Commission. The Coastal Zone Management Act (CZMA) requires federal agencies taking actions that could affect coastal resources to show how they will carry out their activities in a manner consistent to the maximum extent practicable with the provisions of the CZMA. After consulting with California Coastal Commission staff, the Army prepared a CZMA federal consistency determination describing the direct and indirect effects of the Army's action of disposing of land at former Fort Ord. The consistency determination also assessed the effects on coastal zone resources of subsequent reuse of former Fort Ord according to an earlier version of the local communities' reuse plan.

2
3
On March 17, 1994, the California Coastal Commission concurred with the Army's CZMA consistency determination on the disposal and reuse of Fort Ord, California (U.S. Army Corps of Engineers 1994b). This action, taken after two public hearings and extensive coordination between the Army, local communities, and commission staff, was a necessary step in allowing the Army to dispose of land on Fort Ord.

3
California Department of Parks and Recreation. The California Department of Parks and Recreation (State Parks) is in the process of preparing a state park general plan for the coastal area, currently named the Fort Ord Dunes State Park General Plan (although the name of the state park is still under consideration). As of July 1995, the department has developed a general plan map, which they are using as a base for the general plan text, and has held three public meetings. The department anticipates completing the preliminary general plan by fall 1995 and submitting the general plan to the State Parks and Recreation Commission for approval by January 1996. Upon receiving approval, the department intends to submit the plan to the California Coastal Commission for certification as a public works plan. (Gray pers. comm.)

3
California Department of Transportation. The involvement of Caltrans in reuse planning for former Fort Ord was related principally to the location of the proposed SR 68 bypass on the southern portion of former Fort Ord. This bypass was proposed by Caltrans to relieve existing and projected traffic congestion on SR 68. Caltrans submitted a request for a public benefit conveyance of the right-of-way for this facility to the Army. Because this request conflicted with requests submitted by others, the Army has been negotiating with Caltrans to determine a location for the bypass that best serves all interested parties.

3
California Department of Toxic Substances Control. The State Department of Toxic Substances Control is involved with environmental restoration, is a signatory to the Fort Ord FFA, and provides oversight for the RI/FS process.

3
California Regional Water Quality Control Board. The Regional Water Quality Control Board, Central Coast region, is involved with environmental restoration, is a signatory to the Fort Ord FFA, and provides oversight for the RI/FS process.

4
3
Transportation Agency for Monterey County. TAMC is a multijurisdictional agency responsible for countywide transportation planning in Monterey County. The Army sought TAMC input through the Fort

1 Ord Reuse Group working group and FORA. TAMC representatives were present at some working group
2 meetings where transportation issues were discussed, and the Army worked with TAMC staff in conducting
3 the traffic modeling for the final EIS.

4
5 **Monterey Bay Unified Air Pollution Control District.** The Army has been working with the
6 MBUAPCD in two primary areas: transferring stationary source operating permits and obtaining emission
7 credits for stationary sources that have been shut down.

8
9 Some transferred lands contained stationary air emission sources, such as boilers, for which the Army
10 held air permit(s). For those land transfers, the Army has worked with the MBUAPCD to ensure that the air
11 permits also would be transferred to the new landowners (such as CSUMB). In some situations, however,
12 transferring the permit to a third party has not been a feasible option, either because the third party did not
13 need the emission source or because the Army was shutting down an emission source on land not slated for
14 transfer. In these situations, the Army has worked with the MBUAPCD to obtain emission credits that the
15 Army is transferring with real estate or reserving for its future use.

16
17 **Other Agencies.** The Army is working with several other agencies in conjunction with preparation
18 of the supplemental EIS and other studies. These agencies include, but are not limited to, the National
19 Oceanographic and Atmospheric Administration (NOAA), DFG, and Monterey County Department of Health.

1.3.5 Draft Supplemental Environmental Impact Statement

22 The public is invited to review and comment on the supplemental EIS. The supplemental EIS or
23 notice of its availability was mailed to a list of agencies, organizations, and individuals who commented on the
24 final EIS or are known to be interested in the proposed action. Copies of the draft supplemental EIS and
25 related reports are available for review at the information repository established at the Seaside Branch Library
26 and other local public libraries listed in Section 9.0, "Distribution List". Comments should be sent to Mr. Bob
27 Verkade (Attn: CESPK-ED), U.S. Army Corps of Engineers, Sacramento District, 1325 J Street, Sacramento,
28 CA 95814-2922.

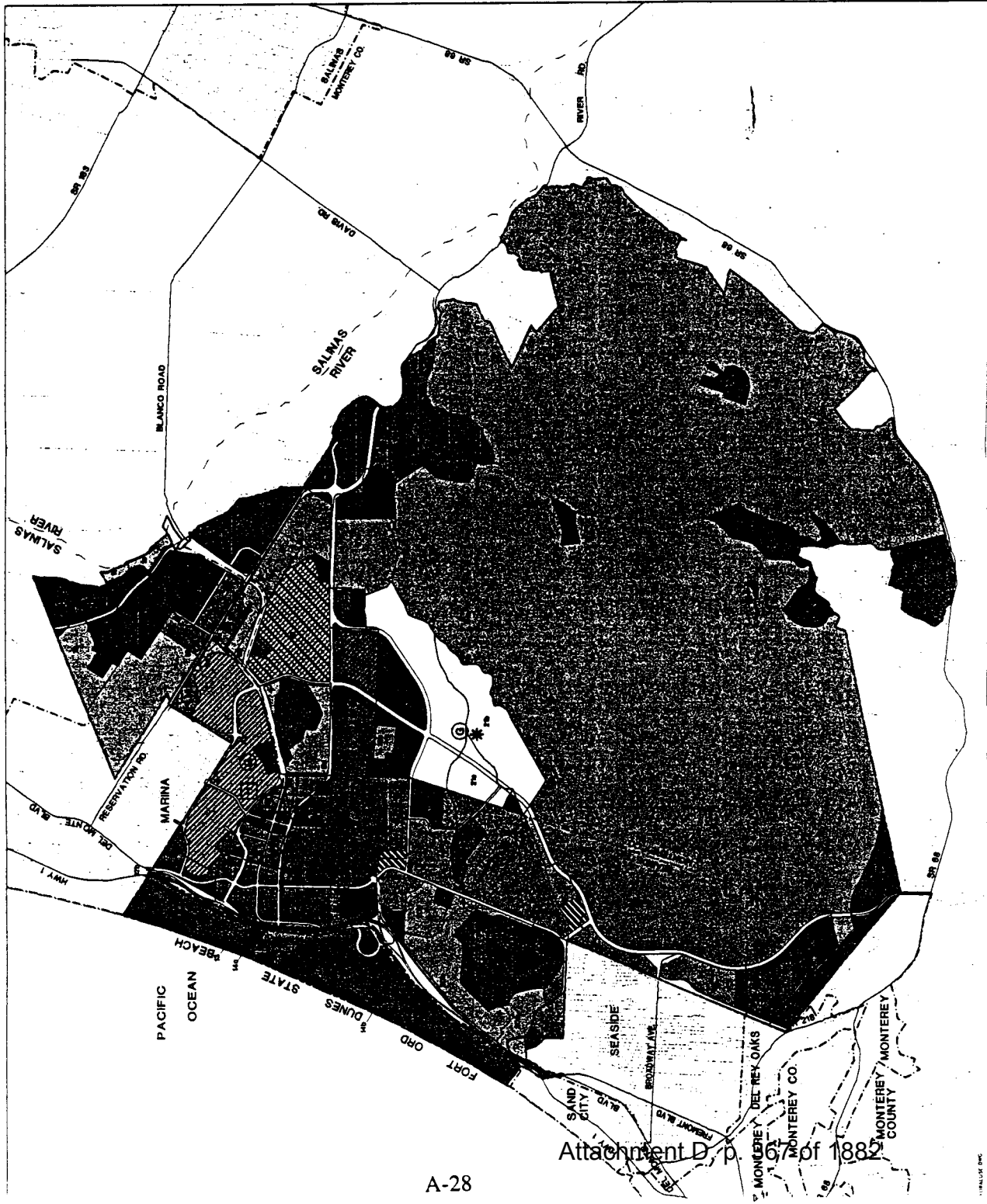
1.3.6 Public Hearing

32 A public hearing will be held in Monterey during the review period for this supplemental EIS to receive
33 verbal and written comments on the document. Comments may be submitted in writing until 45 days following
34 the date of this document.

1.3.7 Final Supplemental Environmental Impact Statement

38 A final supplemental EIS that incorporates or responds to comments received on the draft
39 supplemental EIS will be published and made available for public review before the ROD for this supplemental
40 EIS is prepared, which completes the NEPA process.

ATTACHMENT C
FORA Reuse Plan Ultimate Buildout
Land Use Map



FORT ORD REUSE PLAN

Fort Ord Reuse Authority (FORA)

Land Planning EMC Planning Group, Inc. Sedway Koth Mouchy Group Transportation Engineering JHK and Associates Civil Engineering Reiner Associates Fiscal Analysis Angus McDonald Associates Habitat Planning Zander Associates Public Communications The Ingram Group Community Development Resource Corps International	LEGEND: <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="width: 15px; height: 15px; background-color: black; margin-right: 5px;"></div> <div>SFD Low Density Residential</div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="width: 15px; height: 15px; background: repeating-linear-gradient(45deg, transparent, transparent 2px, black 2px, black 4px); margin-right: 5px;"></div> <div>SFD Medium Density Residential</div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="width: 15px; height: 15px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, black 2px, black 4px); 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align-items: center; margin-bottom: 5px;"> <div style="width: 15px; height: 15px; background: repeating-linear-gradient(405deg, transparent, transparent 2px, black 2px, black 4px); margin-right: 5px;"></div> <div>Golf Course Opportunity Site</div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="width: 15px; height: 15px; background: repeating-linear-gradient(450deg, transparent, transparent 2px, black 2px, black 4px); margin-right: 5px;"></div> <div>Hotel Opportunity Site</div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="width: 15px; height: 15px; background: repeating-linear-gradient(50deg, transparent, transparent 2px, black 2px, black 4px); margin-right: 5px;"></div> <div>Equestrian Center Opportunity Site</div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="width: 15px; height: 15px; background: repeating-linear-gradient(55deg, transparent, transparent 2px, black 2px, black 4px); margin-right: 5px;"></div> <div>Open Space/Recreation</div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="width: 15px; height: 15px; background: repeating-linear-gradient(60deg, transparent, transparent 2px, black 2px, black 4px); margin-right: 5px;"></div> <div>Habitat Management</div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="width: 15px; height: 15px; background: repeating-linear-gradient(65deg, transparent, transparent 2px, black 2px, black 4px); margin-right: 5px;"></div> <div>School/University</div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="width: 15px; height: 15px; background: repeating-linear-gradient(70deg, transparent, transparent 2px, black 2px, black 4px); margin-right: 5px;"></div> <div>University Medium Density Residential</div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="width: 15px; height: 15px; 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align-items: center; margin-bottom: 5px;"> <div style="width: 15px; height: 15px; border: 1px solid black; margin-right: 5px;"></div> <div>Business Park/Light Industrial Office/R&D</div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="width: 15px; height: 15px; border: 1px solid black; margin-right: 5px;"></div> <div>Convenience Retail</div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="width: 15px; height: 15px; border: 1px solid black; margin-right: 5px;"></div> <div>Neighborhood Retail</div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="width: 15px; height: 15px; border: 1px solid black; margin-right: 5px;"></div> <div>Regional Retail</div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="width: 15px; height: 15px; border: 1px solid black; margin-right: 5px;"></div> <div>Visitor Services</div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="width: 15px; height: 15px; border: 1px solid black; margin-right: 5px;"></div> <div>Golf Course Opportunity Site</div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="width: 15px; height: 15px; border: 1px solid black; margin-right: 5px;"></div> <div>Hotel Opportunity Site</div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="width: 15px; height: 15px; border: 1px solid black; margin-right: 5px;"></div> <div>Equestrian Center Opportunity Site</div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="width: 15px; height: 15px; border: 1px solid black; margin-right: 5px;"></div> <div>Open Space/Recreation</div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="width: 15px; height: 15px; border: 1px solid black; margin-right: 5px;"></div> <div>Habitat Management</div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="width: 15px; height: 15px; border: 1px solid black; margin-right: 5px;"></div> <div>School/University</div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="width: 15px; height: 15px; border: 1px solid black; margin-right: 5px;"></div> <div>University Medium Density Residential</div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="width: 15px; height: 15px; border: 1px solid black; margin-right: 5px;"></div> <div>Alternative High School Sites</div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="width: 15px; height: 15px; border: 1px solid black; margin-right: 5px;"></div> <div>Public Facility/Institutional</div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="width: 15px; height: 15px; border: 1px solid black; margin-right: 5px;"></div> <div>Military Enclave</div> </div> </div> </div>
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SHEET TITLE:

DRAFT

LAND USE CONCEPT:

ULTIMATE DEVELOPMENT

3.3-1

ATTACHMENT D
FORA Reuse Plan Ultimate Buildout
Land Use Data

SUMMARY LAND USE CONCEPT: ULTIMATE DEVELOPMENT

DRAFT FORT ORD BASE REUSE PLAN

4 January 1996 (NOP)

LAND USE
CSUMB (25,000 FTE) (units)(A)(B)
POM ANNEX (units)(C)
HOUSING (units)
BUSINESS PARK/LIGHT INDUSTRIAL/ OFFICE /R&D (000's SF)
RETAIL (000's SF)
VISITOR SERVING
Hotels
Golf (four 18 hole courses)(F)
Other
PARKS & OPEN SPACE
Fort Ord Dunes State Park
Other
PUBLIC FACILITIES (incl. military)
HABITAT MANAGEMENT
AREA WIDE ROW's
TOTALS
% OF FORT ORD TOTALS

SOURCE: EDAAW, Inc.

(A) FTE = Full Time Equivalent student enrollment

(B) assessment generated on employees and students, not square footage

(C) existing retail assessed on basis of existing employees

(D) assessment generated on basis of rooms, not square footage

(E) assessment generated on basis of facilities, not square footage

(F) Accommodates 1 new 18-hole golf course and the redevelopment of 1 18-hole golf course to industrial use.

The plan also identifies 2 additional golf opportunity sites to be able to respond to market conditions.

TOTAL DEVELOPMENT					
Acres	Percent (total area)	Dwelling Units	Hotel Rooms	Commercial Square Feet (000's)	Employees
1,287	5%	8,193		n/a	3,200
782	3%	1,590		n/a	310
2,042	7%	12,449			
1,346	5%			12,036	34,060
183	1%			1,968	4,372
80	0%		1,750	(D)	1,750
678	2%				140
50					20
991	4%		40		60
1,009	4%				70
1,002	4%			(E)	1,460
17,367	62%				15
1,147	4%				
27,964	100%	22,232	1,790	14,004	45,457
100%					

ATTACHMENT E
FORA Reuse Plan 2015 Scenario
Land Use Data

SUMMARY LAND USE CONCEPT: 2015 SCENARIO

DRAFT FOR ORD REUSE PLAN

4 January 1996 (NOP)

LAND USE	
CSUMB (25,000 FTE)(units)(A)(B)	
POM ANNEX (units) (C)	
HOUSING (units)	
BUSINESS PARK/LIGHT INDUSTRIAL/ OFFICE /R&D (000's SF)	
RETAIL (000's SF)	
VISITOR SERVING	
Hotels	
Golf (four 18 hole courses)	
Other	
PARKS & OPEN SPACE	
Fort Ord Dunes State Park	
Other	
PUBLIC FACILITIES (incl. military)	
HABITAT MANAGEMENT	
AREA WIDE ROW's	
2015 TOTALS	
PLANNED FUTURE DEVELOPMENT	
ULTIMATE DEVELOPMENT TOTALS	

SOURCE: EDAAW, Inc.

- (A) FTE = Full Time Equivalent student enrollment
- (B) assessment generated on employees and students, not square footage
- (C) existing retail assessed on basis of existing employees
- (D) assessment generated on basis of rooms, not square footage
- (E) assessment generated on basis of facilities, not square footage

TOTAL DEVELOPMENT					
Acres	Percent of Buildout	Dwelling Units	Hotel Rooms	Commercial Square Feet (000's)	Employees
1,287	50%	3,803		n/a	1,600
782	100%	1,590		n/a	310
1,379	64%	7,973			
399	30%			3,860	11,350
98	60%			1,066	2,372
45	56%		1,000	(D)	1,000
683					140
10	40%				15
991	100%				20
1,023	100%				70
979	99%			(E)	1,450
17,367	100%				15
1,147					
26,190		13,366	1,000	4,926	18,342
1,774		8,866	790	9,078	27,115
27,964		22,232	1,790	14,004	45,457

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Appendix B

Traffic: Background Information

Controversial Areas

The reuse of Fort Ord will place an increased demand on the transportation system both within and outside Fort Ord. The nature of this demand, characterized by type of trip and origin-destination locations, will also vary from that of Fort Ord as a military installation. Internally, the existing transportation system was developed by the Army as the base expanded over the past fifty years. The layout is a collage of roadways and parking facilities scattered about to serve the Army's unique needs. The Army, unlike the civilian sector, was not constricted by property lines, easements, or aesthetic standards. In addition, land use patterns by the Army did not produce the same types of travel patterns as those that might be found in a civilian urban population. This has resulted in a transportation system that is, in many instances, not compatible with the proposed civilian land uses.

Enhancements to the internal transportation network are needed to respond to changing travel demand. Within Fort Ord this means developing a roadway network to meet the needs of development that, for the most part, does not yet exist. In some instances, particularly in the near term, existing facilities may be used with only minor improvements. In the longer term, upgraded roadways along existing alignments may be necessary. The opportunity also exists for "wiping the slate clean" and developing a new roadway network designed specifically for the redevelopment land use plan. It is proposed that a combination of these approaches be used for the internal Fort Ord roadway network. Similarly, improvements to the internal transit, pedestrian and bicycle systems must also be made with the opportunity to build upon existing elements and to develop new ones.

Enhancing the regional transportation system, however, is a more complex matter. Several factors contribute to the complexity of this issue including:

1. For the most part, the layout of the network may be viewed as fixed. Improvements to existing roadway will be needed, with only limited opportunity for the construction of new facilities.
2. In most instances, there are numerous physical and environmental constraints on the type of improvements that can be made.
3. Implementing improvements is difficult because facilities/services are not under direct control of the Fort Ord jurisdictions. Caltrans is the responsible agency for many of the key regional roadways, while transit service is operated by Monterey-Salinas Transit (MST).
4. It is difficult to isolate the impacts of Fort Ord reuse because these facilities are regionally significant and many already or will operate at deficient service levels even without Fort Ord.
5. Funding for regional improvements, both for the roadway and transit systems, is limited.

Beyond these factors, specific areas or issues of particular relevance to Fort Ord include the following:

State Highway 1 Widening. The 1993 Regional Transportation Plan (RTP) recommended that State Highway 1 be increased to six lanes from State Highway 68 to Fremont Boulevard, with modifications to the Fremont interchange. However, none of these improvements are currently funded in the State Transportation Improvement Program (STIP) or in the RTP's Action Element.

The California Coastal Commission has indicated that there should be no widening of State Highway 1 to accommodate Fort Ord reuse unless all other feasible alternatives for serving the transportation demand of the base have been exhausted (California Coastal Commission, February 1994). The close proximity of the roadway to the coastline introduces significant environmental concerns involving both habitat and wetlands issues.

State Highway 1 Interchanges. Issues have also arisen related to the design and operation of key interchanges in the Fort Ord area. In fact, the increased volumes due to the Fort Ord development could require the redesign of three major interchanges on State Highway 1 within the cities of Marina, Seaside, and Sand City. Specifically, the interchanges at Del Monte Boulevard, 12th Street, and Fremont Boulevard could require redesign. In addition to circulation and safety issues, the redesign would have to include consideration of how new roads might link the reuse area with State Highway 1 and the impact of increased volumes on existing roadways.

State Highway 68. This Salinas-Monterey corridor is currently experiencing heavy congestion during peak periods where it is a two-lane facility. Caltrans is completing an environmental assessment for a major improvement to State Highway 68 that includes as alternatives the widening of the existing roadway, and a new alignment north of the existing roadway through a portion of the base reuse area. An improved State Highway 68 would provide an attractive alternative to Blanco and Davis Roads for travel between U.S. 101 and the Monterey Peninsula.

Westside Bypass. The proposed Westside Bypass is to be a four- to six-lane facility extending from the Espinosa/Russell interchange of U.S. 101 to Blanco Road. The alignment of the proposed roadway has yet to be determined. Included within the consideration of alignment will be its initial and ultimate sizing and the right-of-way requirements for the Bypass. TAMC completed the *Westside Salinas Bypass and Fort Ord Multimodal Corridor Transportation Study* in July 1993. The study reviewed alternative Westside Bypass locations to relieve congestion in Salinas, but no conclusive recommendations were made because of insufficient information on future traffic demands associated with reuse of Fort Ord. As stated in the Monterey County RTP, alternatives for the Westside Bypass will be finalized by TAMC, Monterey County, the City of Salinas, and the agricultural community as part of a separate study.

Blanco Road/Davis Road. The Blanco/Davis corridor serves as the primary connection from the Fort Ord area to Salinas and U.S. 101. Both of these facilities are two-lane roads through agricultural land, and traffic operations are complicated by farm vehicles using the road. Both Blanco and Davis currently operate at poor service levels. As Fort Ord is redeveloped, the demand on this corridor will increase significantly.

Currently, there are plans for widening Blanco Road as part of the Westside Bypass project, but there are open issues about the right-of-way requirements. The right-of-way requirements for both the Westside Bypass and Blanco Road will be assessed by considering the number of lanes

necessary to carry automobile traffic for short-, medium-, and long-term needs of the reuse area, and also whether the right-of-way should include space for transit or HOV facilities. Previous analysis has suggested that as many as six lanes may be required and recommendations have been made for right-of-way for transit or HOV facilities. These recommendations directly conflict with the desire to minimize the amount of agricultural land lost through the widening of Blanco Road and the development of the Multimodal Corridor.

Multimodal Corridor. The phrase "Multimodal Corridor" is used here to refer to a high-capacity transit corridor between Fort Ord and Salinas. As mentioned above, there is a significant concern regarding the alignment and the conveyance of the right-of-way for this corridor. Other unresolved issues include the type of facility (rail, light rail, bus, or exclusive HOV) and level of service (operating hours, frequency).

<p align="center">Table B-1 Existing (1993/94) Condition Level-Of-Service Analysis</p>							
Roadway	Segment	Roadway Attributes					L O S
		Facility Type	Lanes	Div/ Und	Left Turn Bays? ⁽¹⁾	Daily Volume	
State Highway 1	State Highway 68 to Del Monte Blvd (Seaside)	Freeway	4	N/A	N/A	56,000	D
	Del Monte Blvd (Seaside) to State Highway 218	Freeway	4	N/A	N/A	60,000	D
	State Highway 218 to Fremont Blvd	Freeway	4	N/A	N/A	59,000	D
	Fremont Blvd to Main Gate	Freeway	6	N/A	N/A	75,000	D
	Main Gate to 12th Street	Freeway	6	N/A	N/A	65,000	C
	12th Street to S. Marina (Del Monte Blvd)	Freeway	6	N/A	N/A	71,000	C
	S. Marina (Del Monte Blvd) to Reservation Road	Freeway	4	N/A	N/A	35,500	C
	Reservation Road to N. Marina (Del Monte Blvd)	Freeway	4	N/A	N/A	35,500	C
	N. Marina (Del Monte Blvd) to State Highway 156	Freeway	4	N/A	N/A	37,500	C
	State Highway 156 to Santa Cruz County line	Highway	2	U	Y	30,000	E
State Highway 68	State Highway 1 to State Highway 218	Arterial-Class Ia	2	U	Y	22,800	F
	State Highway 218 to San Benancio Road	Arterial-Class Ia	2	U	Y	20,600	F
	San Benancio Road to Reservation Road	Freeway	4	N/A	N/A	22,800	B
	Reservation Road to E. Blanco Road	Freeway	4	N/A	N/A	29,500	B
State Highway 156	Hwy 1 to 0.1 miles East of Castroville Blvd.	Freeway	4	N/A	N/A	22,000	B
	0.1 miles East of Castroville Blvd. to US 101	Uninterrupted Arterial	2	U	Y	25,000	E
State Highway 183	US 101 to Davis Road	Arterial-Class Ib	4	D	Y	29,500	E
	Davis Road to Espinosa Road	Uninterrupted Arterial	2	U	Y	16,000	C
	Espinosa Road to State Highway 156	Uninterrupted Arterial	2	U	Y	22,000	D

Table B-1 Existing (1993/94) Condition Level-Of-Service Analysis							
Roadway	Segment	Roadway Attributes					L O S
		Facility Type	Lanes	Div/ Und	Left Turn Bays ⁽¹⁾	Daily Volume	
State Highway 218	State Highway 1 to Fremont Boulevard	Arterial-Class II	4	D	Y	14,000	D
	Fremont Boulevard to State Highway 68	Arterial-Class Ia	2	U	Y	10,850	B
Del Monte Boulevard	El Estero to State Highway 1	Arterial-Class Ib	4	D	Y	34,300	F
	State Highway 1 to Broadway Ave	Arterial-Class Ib	4	D	Y	27,026	D
	Broadway Ave to Fremont Blvd	Arterial-Class Ib	4	D	Y	9,757	C
	State Highway 1 (S. Marina) to Reservation Road	Arterial-Class Ib	5	D	Y	28,836	E
	Reservation Road to State Highway 1 (N. Marina)	Uninterrupted Arterial	2	U	Y	4,825	A
Fremont Blvd	State Highway 1/State Highway 68 to Broadway Ave	Arterial-Class Ib	4	D	Y	25,166	D
	Broadway Ave to State Highway 1	Arterial-Class Ib	4	D	Y	16,363	C
Broadway Avenue	Del Monte Blvd to Noche Buena Street	Arterial-Class Ib	4	D	Y	13,985	C
	Noche Buena Street to North-South Road	Arterial-Class Ib	4	D	Y	8,742	C
Reservation Road	Hwy 1 to Del Monte Boulevard	Arterial-Class Ia	2	U	Y	10,205	B
	Del Monte Boulevard to Crescent Ave	Arterial-Class II	4	D	Y	26,046	E
	Crescent Ave to Blanco Road	Arterial-Class Ia	4	D	Y	22,874	B
	Blanco Road to Intergarrison Road	Uninterrupted Arterial	2	U	Y	3,700	A
	Intergarrison Road to Davis Road	Uninterrupted Arterial	2	U	Y	4,000	A
	Davis Road to State Highway 68	Uninterrupted Arterial	2	U	Y	6,200	A
Blanco Road	Reservation Road to Davis Road	Uninterrupted Arterial	2	U	N	20,252	E
	Davis Road to State Highway 68	Arterial-Class Ia	4	U	Y	18,836	B

Table B-1 Existing (1993/94) Condition Level-Of-Service Analysis							
Roadway	Segment	Roadway Attributes					L O S
		Facility Type	Lanes	Div/ Und	Left Turn Bays? ⁽¹⁾	Daily Volume	
Blanco Rd/Sanborn Rd	State Highway 68 to US 101	Arterial-Class Ia	4	U	Y	26,600	C
Davis Road	Reservation Road to Blanco Road	Uninterrupted Arterial	2	U	Y	7,500	A
	Blanco Road to Rossi Street	Uninterrupted Arterial	2	U	Y	24,000	E
	Rossi Street to US 101	Arterial-Class Ia	4	D	Y	34,829	F

(C-1.TBL)

Note:

⁽¹⁾ Roadway segments with very few or no left turn movements have been classified as having left turn bays.

Table B-2 2015 No-Build Scenario 1 Level-of-Service Analysis (Off-Site Facilities)							
Roadway	Segment	Roadway Attributes					LOS
		Facility Type	Lanes	Div/Und	Left Turn Bays? ⁽¹⁾	Daily Volume	
State Highway 1	State Highway 68 to Del Monte Blvd (Seaside)	Freeway	4	N/A	N/A	66,700	E
	Del Monte Blvd (Seaside) to State Highway 218	Freeway	4	N/A	N/A	72,700	F
	State Highway 218 to Fremont Blvd	Freeway	4	N/A	N/A	75,000	F
	Fremont Blvd to Main Gate	Freeway	6	N/A	N/A	92,600	E
	Main Gate to 12th Street	Freeway	6	N/A	N/A	77,900	D
	12th Street to S. Marina (Del Monte Blvd)	Freeway	6	N/A	N/A	84,100	D
	S. Marina (Del Monte Blvd) to Reservation Road	Freeway	4	N/A	N/A	41,500	C
	Reservation Road to N. Marina (Del Monte Blvd)	Freeway	4	N/A	N/A	41,200	C
	N. Marina (Del Monte Blvd) to State Highway 156	Freeway	4	N/A	N/A	46,700	C
	State Highway 156 to Santa Cruz County line	Highway	2	U	Y	60,800	F
State Highway 68	State Highway 1 to State Highway 218	Arterial-Class Ia	2	U	Y	27,600	F
	State Highway 218 to San Benancio Road	Arterial-Class Ia	2	U	Y	25,500	F
	San Benancio Road to Reservation Road	Freeway	4	N/A	N/A	28,100	B
	Reservation Road to E. Blanco Road	Freeway	4	N/A	N/A	34,600	C
State Highway 156	Hwy 1 to 0.1 miles East of Castroville Blvd.	Freeway	4	N/A	N/A	31,060	B
	0.1 miles East of Castroville Blvd. to US 101	Highway	2	U	Y	31,700	F

Table B-2 2015 No-Build Scenario 1 Level-of-Service Analysis (Off-Site Facilities)							
Roadway	Segment	Roadway Attributes					LOS
		Facility Type	Lanes	Div/Und	Left Turn Bays? ⁽¹⁾	Daily Volume	
State Highway 183	US 101 to Davis Road	Arterial-Class Ib	4	D	Y	43,900	F
	Davis Road to Espinosa Road	Uninterrupted Arterial	2	U	Y	33,800	F
	Espinosa Road to State Highway 156	Uninterrupted Arterial	2	U	Y	53,900	F
State Highway 218	State Highway 1 to Fremont Boulevard	Arterial-Class II	4	D	Y	17,200	D*
	Fremont Boulevard to North-South Road	Arterial-Class Ia	2	U	Y	12,000	C
	North-South Road to Hwy 68	Arterial-Class Ia	2	U	Y	12,000	C*
Del Monte Boulevard	El Estero to State Highway 1	Arterial-Class Ib	4	D	Y	38,900	F
	State Highway 1 to Broadway Ave	Arterial-Class Ib	4	D	Y	26,900	D*
	Broadway Ave to Fremont Blvd	Arterial-Class Ib	4	D	Y	10,500	C*
	State Highway 1 (S. Marina) to Reservation Road	Arterial-Class Ib	5	D	Y	37,800	E
	Reservation Road to State Highway 1 (N. Marina)	Uninterrupted Arterial	2	U	Y	9,400	B
Fremont Blvd	State Highway 1/State Highway 68 to Broadway Ave	Arterial-Class Ib	4	D	Y	29,200	E
	Broadway Ave to State Highway 1	Arterial-Class Ib	4	D	Y	16,800	C*
Broadway Avenue	Del Monte Blvd to Noche Buena Street	Arterial-Class Ib	4	D	Y	12,200	C*
	Noche Buena Street to North-South Road	Arterial-Class Ib	4	D	Y	6,000	C*
Reservation Road	Hwy 1 to Del Monte Boulevard	Arterial-Class Ia	2	U	Y	13,800	C
	Del Monte Boulevard to Crescent Ave	Arterial-Class II	4	D	Y	33,300	F

Table B-2 2015 No-Build Scenario 1 Level-of-Service Analysis (Off-Site Facilities)							
Roadway	Segment	Roadway Attributes					L O S
		Facility Type	Lanes	Div/ Und	Left Turn Bays? ⁽¹⁾	Daily Volume	
	Crescent Ave to Imjin Road	Arterial-Class Ib	4	D	Y	25,600	D
	Imjin Road to Blanco Road	Arterial-Class Ia	4	D	Y	27,100	C
	Blanco Road to Intergarrison Road	Uninterrupted Arterial	2	U	Y	4,300	A
	Intergarrison Road to Davis Road	Uninterrupted Arterial	2	U	Y	4,700	A
	Davis Road to State Highway 68	Uninterrupted Arterial	2	U	Y	10,200	B
Blanco Road	Reservation Road to Davis Road	Uninterrupted Arterial	2	U	Y	25,700	E
	Davis Road to State Highway 68	Arterial-Class Ia	4	U	Y	23,500	B*
Blanco Rd/Sanborn Rd	State Highway 68 to US 101	Arterial-Class Ia	4	U	Y	35,700	F
Davis Road	Reservation Road to Blanco Road	Uninterrupted Arterial	2	U	Y	10,800	B
	Blanco Road to Rossi Street (Hwy 183)	Uninterrupted Arterial	2	U	Y	29,300	E
	Rossi Street (Hwy 183) to US 101	Arterial-Class Ia	4	D	Y	38,300	F

(C-2.TBL)

Note:

⁽¹⁾ Roadway segments with very few or no left turn movements have been classified as having left turn bays.

Table B-3
2015 Financially-Constrained Scenario 2A Level-of-Service Analysis (Off-Site Facilities)

Roadway	Segment	Roadway Attributes					LOS
		Facility Type	Lanes	Div/Und	Left Turn Bays? ⁽¹⁾	Daily Volume	
State Highway 1	State Highway 68 to Del Monte Blvd (Seaside)	Freeway	4	N/A	N/A	65,000	E
	Del Monte Blvd (Seaside) to State Highway 218	Freeway	4	N/A	N/A	72,200	F
	State Highway 218 to Fremont Blvd	Freeway	4	N/A	N/A	87,500	F
	Fremont Blvd to Main Gate	Freeway	6	N/A	N/A	101,200	E
	Main Gate to 12th Street	Freeway	6	N/A	N/A	80,200	D
	12th Street to S. Marina (Del Monte Blvd)	Freeway	6	N/A	N/A	75,100	D
	S. Marina (Del Monte Blvd) to Reservation Road	Freeway	4	N/A	N/A	48,400	D
	Reservation Road to N. Marina (Del Monte Blvd)	Freeway	4	N/A	N/A	47,400	C
	N. Marina (Del Monte Blvd) to State Highway 156	Freeway	4	N/A	N/A	53,800	D
	State Highway 156 to Santa Cruz County line	Highway	2	U	Y	60,200	F
State Highway 68	State Highway 1 to State Highway 218	Freeway	4	D	Y	36,300	C
	State Highway 218 to San Benancio Road	Arterial-Class Ia	2	U	Y	30,200	F
	San Benancio Road to Reservation Road	Freeway	4	N/A	N/A	32,900	C
	Reservation Road to E. Blanco Road	Freeway	4	N/A	N/A	43,900	C
State Highway 156	Hwy 1 to 0.1 miles East of Castroville Blvd.	Freeway	4	N/A	N/A	35,600	C
	0.1 miles East of Castroville Blvd. to US 101	Highway	2	U	Y	26,500	E
State Highway 183	US 101 to Davis Road	Arterial-Class Ib	4	D	Y	37,900	F
	Davis Road to Espinosa Road	Highway	2	U	Y	32,900	F
	Espinosa Road to State Highway 156	Highway	2	U	Y	53,300	F

Table B-3 2015 Financially-Constrained Scenario 2A Level-of-Service Analysis (Off-Site Facilities)							
Roadway	Segment	Roadway Attributes					L O S
		Facility Type	Lanes	Div/ Und	Left Turn Bays? ⁽¹⁾	Daily Volume	
State Highway 218	State Highway 1 to Fremont Boulevard	Arterial-Class II	4	D	Y	19,700	D*
	Fremont Boulevard to North-South Road	Arterial-Class Ia	2	U	Y	10,900	B*
	North-South Road to Hwy 68	Arterial-Class Ia	4	U	Y	16,500	B*
Del Monte Boulevard	El Estero to State Highway 1	Arterial-Class Ib	6	D	Y	50,000	F
	State Highway 1 to Broadway Ave	Arterial-Class Ib	6	D	Y	29,500	D
	Broadway Ave to Fremont Blvd	Arterial-Class Ib	4	D	Y	9,400	C*
	State Highway 1 (S. Marina) to Reservation Road	Arterial-Class Ib	5	D	Y	29,700	D
	Reservation Road to State Highway 1 (N. Marina)	Uninterrupted Arterial	2	U	Y	10,800	B
Fremont Blvd	State Highway 1/State Highway 68 to Broadway Ave	Arterial-Class Ib	4	D	Y	27,200	D
	Broadway Ave to State Highway 1	Arterial-Class Ib	4	D	Y	31,300	F
Broadway Avenue	Del Monte Blvd to Noche Buena Street	Arterial-Class Ib	4	D	Y	16,800	C*
	Noche Buena Street to North-South Road	Arterial-Class Ib	4	D	Y	15,100	C*
Reservation Road	Hwy 1 to Del Monte Boulevard	Arterial-Class Ia	2	U	Y	14,800	D
	Del Monte Boulevard to Crescent Ave	Arterial-Class II	6	D	Y	31,600	D*
	Crescent Ave to Imjin Road	Arterial-Class Ib	6	D	Y	32,300	D
	Imjin Road to Blanco Road	Arterial-Class Ia	6	D	Y	47,500	D
	Blanco Road to Inter-garrison Road	Uninterrupted Arterial	4	D	Y	22,700	B
	Intergarrison Road to Davis Road	Uninterrupted Arterial	2	U	Y	24,200	E
	Davis Road to State Highway 68	Uninterrupted Arterial	2	U	Y	9,600	B

Table B-3 2015 Financially-Constrained Scenario 2A Level-of-Service Analysis (Off-Site Facilities)							
Roadway	Segment	Roadway Attributes					L O S
		Facility Type	Lanes	Div/ Und	Left Turn Bays? ⁽¹⁾	Daily Volume	
Blanco Road	Reservation Road to Davis Road	Uninterrupted Arterial	2	U	Y	18,300	D
	Davis Road to State Highway 68	Arterial-Class Ia	4	U	Y	18,400	B*
Blanco Rd/Sanborn Rd	State Highway 68 to US 101	Arterial-Class Ia	4	U	Y	31,100	C
Davis Road	Reservation Road to Blanco Road	Uninterrupted Arterial	2	U	Y	23,800	E
	Blanco Road to Rossi Street (Hwy 183)	Uninterrupted Arterial	2	U	Y	29,000	E
	Rossi Street (Hwy 183) to US 101	Arterial-Class Ia	4	D	Y	35,900	F

(C-3.TBL)

Note:

⁽¹⁾ Roadway segments with very few or no left turn movements have been classified as having left turn bays.

Table B-4
2015 Financially-Constrained Scenario 6 Level-Of-Service Analysis (On-Site Facilities)

Roadway	Segment	Roadway Attributes					LOS
		Facility Type	Lanes	Div/Und	Left Turn Bays? ⁽¹⁾	Daily Volume	
12th/Imjin	State Highway 1 to California Avenue	Arterial-Class Ib	4	D	Y	20,800	D
	California Avenue to Eastside Road	Arterial-Class Ia	4	D	Y	12,800	B*
	Eastside Road to Reservation Road	Arterial-Class Ia	4	D	Y	19,400	B*
8th Street	State Highway 1 Overpass to 2nd Avenue	Arterial-Class Ib	2	U	Y	300	C*
	2nd Avenue to Inter-garrison	Arterial-Class Ib	2	U	Y	2,800	C*
Inter-garrison Road	8th Street to Gigling Connector	Arterial-Class Ia	2	U	Y	3,500	B*
	Gigling Connector to Reservation Road	Uninterrupted Arterial	2	D	Y	13,100	C
Lightfighter	State Highway 1 to North-South Road	Arterial-Class Ib	4	D	Y	24,400	D
Gigling	North-South Road to Eastside	Arterial-Class Ia	4	D	Y	16,900	B*
	Eastside to Inter-garrison	<i>Segment Removed</i>					
Coe Avenue	Ord Avenue to North-South Road	Local	2	U	Y	600	C*
2nd Avenue	Del Monte Blvd to 12th Street	Arterial-Class Ib	4	D	Y	3,900	C*
	12th Street to Lightfighter	Arterial-Class II	4	D	Y	12,100	D*
North-South Road	Lightfighter to Gigling	Arterial-Class Ib	4	D	Y	19,700	D
	Gigling to Coe/Eucalyptus	Arterial-Class Ia	4	D	Y	16,900	B*
	Coe to Broadway	Arterial-Class Ia	2	U	Y	15,500	E
	Broadway to State Highway 218	Uninterrupted Arterial	2	U	Y	5,500	A
California Avenue	Reservation Road to 12th Street	Arterial-Class Ib	2	U	Y	9,600	D
	12th Street to 8th Street	Arterial-Class II	2	U	Y	1,700	D*
Eastside Road	Imjin to Gigling	Arterial-Class Ia	2	D	Y	9,900	B*
	Gigling to North-South Road	<i>Segment Removed</i>					

Segment Removed
Attachment D, p. 384 of 1882

Table B-4 2015 Financially-Constrained Scenario 6 Level-Of-Service Analysis (On-Site Facilities)							
Roadway	Segment	Roadway Attributes					LOS
		Facility Type	Lanes	Div/ Und	Left Turn Bays ⁷⁽¹⁾	Daily Volume	
North-South Road to Broadway		Segment Removed					
Eucalyptus Road	POM Collector to North-South Road	Local	2	U	Y	2,500	C*
Abrams	Del Monte Blvd to Imjin	Local	2	U	Y	2,400	C*
Monterey/Ord	Fremont Blvd to Gigling	Local	2	U	Y	6,300	D
POM Collector	Gigling to Eastside	Local	2	U	Y	900	C*

(C-4.TBL)

Note:

⁽¹⁾ Roadway segments with very few or no left turn movements have been classified as having left turn bays.

Table B-5
2015 Optimistic Financing Scenario 3F Level-of-Service Analysis (Off-Site Facilities)

Roadway	Segment	Roadway Attributes					L O S
		Facility Type	Lanes	Div/ Und	Left Turn Bays? ⁽¹⁾	Daily Volume	
State Highway 1	State Highway 68 to Del Monte Blvd (Seaside)	Freeway	4	N/A	N/A	65,000	E
	Del Monte Blvd (Seaside) to State Highway 218	Freeway	6	N/A	N/A	71,900	D
	State Highway 218 to Fremont Blvd	Freeway	6	N/A	N/A	89,000	D
	Fremont Blvd to Main Gate	Freeway	6	N/A	N/A	99,700	E
	Main Gate to 12th Street	Freeway	6	N/A	N/A	79,700	D
	12th Street to S. Marina (Del Monte Blvd)	Freeway	6	N/A	N/A	75,600	D
	S. Marina (Del Monte Blvd) to Reservation Road	Freeway	4	N/A	N/A	48,900	D
	Reservation Road to N. Marina (Del Monte Blvd)	Freeway	4	N/A	N/A	47,600	C
	N. Marina (Del Monte Blvd) to State Highway 156	Freeway	4	N/A	N/A	52,800	D
	State Highway 156 to Santa Cruz County line	Freeway	4	N/A	N/A	70,700	F
State Highway 68	State Highway 1 to State Highway 218	Freeway	4	D	Y	38,700	C
	State Highway 218 to San Benancio Road	Freeway	4	D	Y	21,900	B
	San Benancio Road to Reservation Road	Freeway	4	N/A	N/A	34,600	C
	Reservation Road to E. Blanco Road	Freeway	4	N/A	N/A	42,500	C
Old Highway 68	State Highway 218 to San Benancio Road	Arterial-Class Ia	2	U	Y	10,000	B*
State Highway 156	Hwy 1 to 0.1 miles East of Castroville Blvd.	Freeway	4	N/A	N/A	30,900	B
	0.1 miles East of Castroville Blvd. to US 101	Uninterrupted Arterial	4	U	Y	35,500	C
State Highway 183	US 101 to Davis Road	Arterial-Class Ib	4	D	Y	38,200	F
	Davis Road to Espinosa Road	Uninterrupted Arterial	4	D	Y	30,700	B

Table B-5 2015 Optimistic Financing Scenario 3F Level-of-Service Analysis (Off-Site Facilities)							
Roadway	Segment	Roadway Attributes					L O S
		Facility Type	Lanes	Div/ Und	Left Turn Bays? ⁽¹⁾	Daily Volume	
	Espinosa Road to State Highway 156	Uninterrupted Arterial	4	D	Y	50,900	D
State Highway 218	State Highway 1 to Fremont Boulevard	Arterial-Class II	4	D	Y	22,600	D*
	Fremont Boulevard to North-South Road	Arterial-Class Ia	2	U	Y	12,200	C
	North-South Road to Hwy 68	Arterial-Class Ia	4	U	Y	17,800	B*
Del Monte Boulevard	El Estero to State Highway 1	Arterial-Class Ia	6	D	Y	49,300	D
	State Highway 1 to Broadway Ave	Arterial-Class Ib	6	D	Y	29,400	D
	Broadway Ave to Fremont Blvd	Arterial-Class Ib	4	D	Y	10,000	C*
	State Highway 1 (S. Marina) to Reservation Road	Arterial-Class Ib	6	D	Y	29,600	D
	Reservation Road to State Highway 1 (N. Marina)	Uninterrupted Arterial	2	U	Y	9,800	B
Fremont Blvd	State Highway 1/State Highway 68 to Broadway Ave	Arterial-Class Ib	4	D	Y	27,500	D
	Broadway Ave to State Highway 1	Arterial-Class Ib	4	D	Y	28,200	D
Broadway Avenue	Del Monte Blvd to Noche Buena Street	Arterial-Class Ib	4	D	Y	16,800	C*
	Noche Buena Street to North-South Road	Arterial-Class Ib	4	D	Y	15,000	C*
Reservation Road	Hwy 1 to Del Monte Boulevard	Arterial-Class Ia	2	U	Y	14,800	D
	Del Monte Boulevard to Crescent Ave	Arterial-Class II	6	D	Y	30,000	D*
	Crescent Ave to Imjin Road	Arterial-Class Ib	6	D	Y	32,300	D
	Imjin Road to Blanco Road	Arterial-Class Ia	4	D	Y	29,700	C
	Blanco Road to Inter-garrison Road	Arterial-Class Ia	4	D	Y	15,600	B*

Table B-5 2015 Optimistic Financing Scenario 3F Level-of-Service Analysis (Off-Site Facilities)							
Roadway	Segment	Roadway Attributes					L O S
		Facility Type	Lanes	Div/ Und	Left Turn Bays? ⁽¹⁾	Daily Volume	
	Intergarrison Road to Davis Road	Uninterrupted Arterial	2	U	Y	15,600	C
	Davis Road to State Highway 68	Uninterrupted Arterial	2	U	Y	11,600	B
Blanco Road	Reservation Road to Davis Road	Uninterrupted Arterial	4	D	Y	36,300	C
	Davis Road to State Highway 68	Arterial-Class Ia	4	U	Y	23,100	B*
Blanco Rd/Sanborn Rd	State Highway 68 to US 101	Arterial-Class Ia	4	U	Y	30,700	D
Davis Road	Reservation Road to Blanco Road	Uninterrupted Arterial	2	U	Y	14,800	B
	Blanco Road to Rossi Street (Hwy 183)	Uninterrupted Arterial	2	U	Y	24,100	E
	Rossi Street (Hwy 183) to US 101	Arterial-Class Ia	4	D	Y	36,300	F

(C-5.TBL)

Note:

⁽¹⁾ Roadway segments with very few or no left turn movements have been classified as having left turn bays.

Table B-6 2015 Optimistic Financing Scenario 9 Level-Of-Service Analysis (On-Site Facilities)							
Roadway	Segment	Roadway Attributes					L O S
		Facility Type	Lanes	Div/ Und	Left Turn Bays ⁽¹⁾	Daily Volume	
12th/Imjin	State Highway 1 to California Avenue	Arterial-Class Ib	4	D	Y	19,900	D
	California Avenue to Eastside Road	Arterial-Class Ia	4	D	Y	12,500	B*
	Eastside Road to Reservation Road	Arterial-Class Ia	4	D	Y	7,400	B*
Blanco-Imjin Connector	Eastside to Reservation	Arterial Class Ia	2	D	Y	10,800	B
8th Street	State Highway 1 Overpass to 2nd Avenue	Arterial-Class Ib	2	U	Y	300	C*
	2nd Avenue to Inter-garrison	Arterial-Class Ib	2	U	Y	2,500	C*
Inter-garrison Road	8th Street to Gigling Connector	Arterial-Class Ia	2	U	Y	3,000	B*
	Gigling Connector to Reservation Road	Uninterrupted Arterial	2	D	Y	7,400	A
Lightfighter	State Highway 1 to North-South Road	Arterial-Class Ib	4	D	Y	23,500	D
Gigling	North-South Road to Eastside	Arterial-Class Ia	4	D	Y	15,200	B*
Coe Avenue	Ord Avenue to North-South Road	Local	2	U	Y	600	C*
2nd Avenue	Del Monte Blvd to 12th Street	Arterial-Class Ib	4	D	Y	3,900	C*
	12th Street to Lightfighter	Arterial-Class II	4	D	Y	11,800	D*
North-South Road	Lightfighter to Gigling	Arterial-Class Ib	4	D	Y	18,400	D
	Gigling to Coe/Eucalyptus	Arterial-Class Ia	4	D	Y	16,200	B*
	Coe to Broadway	Arterial-Class Ia	2	U	Y	14,900	D
	Broadway to State Highway 218	Uninterrupted Arterial	2	U	Y	5,400	A
California Avenue	Reservation Road to 12th Street	Arterial-Class Ib	2	U	Y	13,200	D
	12th Street to 8th Street	Arterial-Class II	2	U	Y	2,100	D*

Table B-6 2015 Optimistic Financing Scenario 9 Level-Of-Service Analysis (On-Site Facilities)							
Roadway	Segment	Roadway Attributes					L O S
		Facility Type	Lanes	Div/ Und	Left Turn Bays? ⁽¹⁾	Daily Volume	
Eastside Road	Imjin to Gigling	Arterial- Class Ia	2	D	Y	12,100	C
Eucalyptus Road	POM Collector to North-South Road	Local	2	U	Y	2,400	C*
Abrams	Del Monte Blvd to Imjin	Local	2	U	Y	2,600	C*
Monterey/Ord	Fremont Blvd to Gigling	Local	2	U	Y	6,300	D
POM Collector	Gigling to Eastside	Local	2	U	Y	900	C*

(C-6.TBL)

Note:

⁽¹⁾ Roadway segments with very few or no left turn movements have been classified as having left turn bays.

LOS Results

LOS results for the individual scenarios are presented below.

12th Street/Imjin Road - This remains a key corridor between State Highway 1 and Reservation Road in Fort Ord. For the 2015 proposed network this facility will be four lanes from State Highway 1 to Reservation Road. In addition, a new two-lane roadway is proposed connecting the Reservation/Blanco intersection to Imjin near the intersection with Eastside. This roadway, termed the Blanco/Imjin Connector, would provide direct access onto Fort Ord from Blanco. For the buildout network, it is expected that this corridor will be six lanes from State Highway 1 to Eastside Road and will include an upgraded interchange at State Highway 1. The connector would be widened to four lanes at buildout.

Gigling Road/Inter-Garrison Connector - Gigling Road would serve as the major roadway serving the area immediately south of the CSUMB campus. In the 2015 proposed network, this facility would exist as a four lane arterial from North-South Road to Eastside Road. In the buildout network, it is anticipated that a four-lane connector to Inter-Garrison will be built.

Inter-Garrison Road/8th Street - This facility is intended to be more attractive to drivers for accessing the southern portion of the reuse area from the east, thus reducing the demand on Blanco Road and the 12th Street/Imjin Road corridor. West of the connection to Eastside Road, however, Inter-garrison Road would be de-emphasized as major vehicular route with greater emphasis placed on pedestrian and bicycle traffic. This entire facility is two lanes in the 2015 proposed network, and four lanes in the ultimate buildout network. Between the CSUMB campus and the designated mixed-use area, 8th Street would possess design features (i.e., intersection and signal spacing) that reflect an urban, circulatory character. These urban design features will apply to this facility west of the Inter-Garrison Connector in the ultimate building network.

2nd Ave./North-South Road - This corridor would serve as the north-south spine through the reuse area. It will provide a connection from Del Monte Boulevard in Marina to State Highway 218 in Del Rey Oaks. The 2nd Avenue portion of this corridor would serve the key commercial and mixed-use development areas within Fort Ord. This facility would be designed to emphasize its role in serving as the primary circulation and access route for these areas, and de-emphasize it as an alternative to State Highway 1. For the 2015 proposed network, this facility will be two lanes on the 2nd Ave segment from Del Monte to 12th street and on the North-South Road segments from Coe/Eucalyptus to State Highway 218. The remaining segments of 2nd Ave and North-South Road will be four lanes. For buildout network, the portion of 2nd north of 12th would be widened to four lanes, while the segment south of 12th to Gigling would be six lanes.

Eastside Road - For 2015 a new two lane facility is proposed between Imjin and Gigling along the eastern portion of the primary redevelopment area in Fort Ord. Access to State Highway 68 would be via State Highway 218 and the existing North-South Road. Improvements to each of these segments are proposed to support this circulation pattern. In its ultimate form, this facility would provide a four lane connection between the

proposed State Highway 68 freeway, around the east side of the CSUMB campus, to Imjin Road. A connection to the North-South Road/Coe Avenue intersection would be built along with this facility. Eastside Road would serve as a primary southwest-northeast corridor. In this manner, it would serve to reduce demand along State Highway 1, 12th Street and the Del Monte/2nd/North-South corridor.

California Ave. - In the 2015 proposed network, California Ave would be extended south from Marina as far as 8th Street as a two lane arterial. For buildout, this facility will be upgraded to a four lane arterial to serve as a key access and circulatory route in the Marina Village area.

Appendix C

Caline 4 Modeling Worksheets

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: F
RUN: worse case w (WORST CASE ANGLE)
POLLUTANT: CO

I. SITE VARIABLES

U= 1.0 M/S	Z0= 195. CM	ALT= 5. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 6 (F)	VS= .0 CM/S	
MIXH= 1000. M	AMB= 3.0 PPM	
SIGTH= 10. DEGREES	TEMP= 13.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	* * *	LINK COORDINATES (M)				* * *	TYPE	VPH	EF (G/MI)	H (M)	W (M)
		X1	Y1	X2	Y2						
A. northbound d	*	12	-8	12	2	*	AG	1000	11.7	.5	6.6
B. northbound a	*	12	2	12	12	*	AG	1000	4.8	.5	6.6
C. southbound d	*	8	12	8	2	*	AG	1000	11.7	.5	6.6
D. southbound a	*	8	2	8	-8	*	AG	1000	4.8	.5	6.6
E. eastbound de	*	0	3	10	3	*	AG	1000	11.7	.5	6.6
F. eastbound ac	*	10	0	20	0	*	AG	1000	4.8	.5	6.6
G. westbound de	*	20	3	10	3	*	AG	1000	11.7	.5	6.6
H. westbound ac	*	10	3	0	3	*	AG	1000	4.8	.5	6.6

III. RECEPTOR LOCATIONS

RECEPTOR	* * *	COORDINATES (M)		
		X	Y	Z
1. residence	*	24	-8	1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

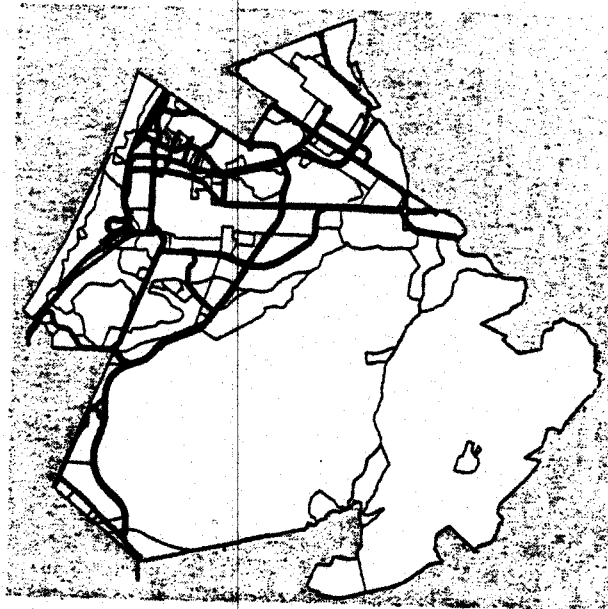
RECEPTOR	* * *	BRG (DEG)	* * *	PRED CONC (PPM)	* * *	CONC/LINK (PPM)							
						A	B	C	D	E	F	G	H
1. residence	*	308.	*	4.0	*	.2	.0	.2	.0	.2	.2	.2	.0

Base intersection
 1CO
 195. 28. 0. 0. 1 8 1. 1 1 5
 residences
 24. -8. 1.8
 northbound decel munras
 northbound accel munras
 southbound decel munras
 southbound accel munras
 eastbound decel fremont
 eastbound accel fremont
 westbound decel fremont
 westbound accel fremont
 1 11.7 -8.3 11.7 1.7 0.5 6.6 0. 0. 0
 1 11.7 1.7 11.7 11.7 0.5 6.6 0. 0. 0
 1 8.4 11.7 8.4 1.7 0.5 6.6 0. 0. 0
 1 8.4 1.7 8.4 -8.3 0.5 6.6 0. 0. 0
 1 0. 3.3 10. 3.3 0.5 6.6 0. 0. 0
 1 10. 0. 20. 0. 0.5 6.6 0. 0. 0
 1 20. 3.3 10. 3.3 0.5 6.6 0. 0. 0
 1 10. 3.3 0. 3.3 0.5 6.6 0. 0. 0
 31111worse case wind direction
 1000.
 1000.
 1000.
 1000.
 1000.
 1000.
 1000.
 11.70
 4.83
 11.70
 4.83
 11.70
 4.83
 11.70
 4.83
 0. 1.0 6 1000. 10. 3. 13.

Public Draft

FORT ORD REUSE PLAN

Fort Ord Reuse Authority



May 1996

Volume 1:

CONTEXT AND FRAMEWORK

EDAW, Inc. and EMC Planning Group, Inc.

Attachment D, p. 395 of 1882

9

Public Draft

FORT ORD REUSE PLAN

Prepared For:

Fort Ord Reuse Authority

Prepared By:

EDAW, Inc.

EMC Planning Group, Inc.

In Association with:

Sedway Kotin Mouchly Group

Market Analysis and Financial Plan

JHK and Associates

Transportation Engineering

Reimer Associates

Infrastructure Engineering

Angus McDonald & Associates

Fiscal Analysis and Public Services Plan

Zander Associates

Habitat Planning

Jones & Stokes Associates, Inc.

Environmental Coordination

Resource Corps International

Community Development Planning

The Ingram Group

Public Communications

May 1996

Volume 1:

CONTEXT AND FRAMEWORK

TABLE OF CONTENTS

FORT ORD REUSE PLAN

Public Review Draft
May, 1996

Volume I: Summary, Context, and Framework of the Reuse Plan

1.0	Summary Of The Reuse Plan	1-1
1.1	Organization of the Reuse Plan and Business and Operations Plan	1-1
1.2	Major Provisions of the Reuse Plan and Business and Operations Plan	1-5
1.2.1	Volume 1 - Context & Framework of the Reuse Plan	1-5
1.2.2	Volume II - Elements of the Reuse Plan	1-18
2.0	Context For The Reuse Plan	2-1
2.1	Introduction	2-1
2.1.1	Fort Ord Reuse Authority	2-1
2.1.2	History	2-2
2.1.3	Strategic Themes for the Reuse Plan	2-6
2.1.4	Public Outreach Process	2-8
2.2	Socioeconomic Setting	2-10
2.2.1	Existing Regional Demographics	2-10
2.2.2	Existing Employment Trends	2-12
2.2.3	Impacts of Closure: Demographics & Employment	2-14
2.2.4	Demographic Forecasts	2-14
2.2.5	Employment Forecast	2-17
2.3	Market Opportunities	2-19
2.3.1	Light Industrial/Business Park	2-19
2.3.2	Office and Research and Development	2-22
2.3.3	Residential Uses	2-26
2.3.4	Retail	2-31
2.3.5	Lodging Facilities	2-33
2.3.6	Recreation	2-33
2.3.7	Employment	2-34
2.4	Reuse Considerations	2-35
2.4.1	Base Closure & Realignment	2-35
2.4.2	National Reuse Model	2-35
2.4.3	PBC, EDC Process	2-36
2.4.4	NEPA/CEQA Compliance	2-37
2.4.5	Habitat Management Plan	2-38
2.4.6	Environmental Remediation	2-39
3.0	Framework For The Reuse Plan	3-1
3.1	Community Design Vision	3-1
3.1.1	Design Principles	3-3

3.1.2	Design Objectives	3-9
3.2	Existing Setting & Character of Fort Ord	3-21
3.2.1	Regional Character	3-21
3.2.2	Urbanism of Monterey Peninsula	3-13
3.2.3	Existing Development at Fort Ord	3-31
3.2.4	Development Opportunities & Assets	3-35
3.3	Land Use Concept: Ultimate Development Plan and Map	3-41
3.3.1	Development Capacity	3-41
3.3.2	Public Uses at Fort Ord	3-41
3.3.3	Economic Development	3-43
3.3.4	Employment Projections	3-44
3.3.5	Population Projections	3-44
3.3.6	The Ultimate Development Map	3-44
3.3.7	Context for the Proposed Land Use	3-44
3.4	Land Use Designations and Land Resources	3-49
3.4.1	Opportunity Sites/Overlay Designation	3-49
3.4.2	Land Use Designations	3-49
3.5	Circulation Concept	3-58
3.5.1	Regional Network	3-58
3.5.2	Fort Ord Network Issues	3-61
3.5.3	Funding Issues	3-63
3.5.4	Proposed Roadway Network	3-64
3.5.5	Demand Management	3-72
3.6	Conservation, Open Space, and Recreation Concept	3-79
3.6.1	Landscape Character of Fort Ord	3-79
3.6.2	Open Space	3-79
3.6.3	Habitat Management Plan	3-84
3.6.4	Major Open Space Areas at Fort Ord	3-84
3.7	Planning Areas & Districts	3-97
3.7.1	California State University Monterey Bay (CSUMB) Planning Areas	3-99
3.7.2	University of California/UCMBEST Center Cooperative Planning District	3-100
3.8	City of Marina Planning Areas & Districts	3-103
3.8.1	CSUMB (Marina Planning Area)	3-103
3.8.2	Existing City of Marina Neighborhood Area	3-103
3.8.3	Town Center Planning Area	3-108
3.8.4	Marina Airport Planning Area	3-114
3.9	City of Seaside Planning Areas & Districts	3-118
3.9.1	CSUMB Planning Area	3-118
3.9.2	University Planning Area	3-118
3.9.3	Residential Planning Area	3-125
3.10	County of Monterey Planning Areas and Districts	3-129
3.10.1	Fort Ord Dunes State Park Planning Area	3-129
3.10.2	CSUMB/Recreational Planning Area	3-133

3.10.3	Reservation Road Planning Area	3-135
3.10.4	Eucalyptus Road Planning Area	3-139
3.10.5	South Gate Planning Area	3-141
3.10.6	York Road Planning Area	3-143
3.11	Implementation	3-147
3.11.1	Economic Recovery & Growth Management Approach	3-147
3.11.2	Community Development Themes	3-147
3.11.3	Phasing Scenarios & Development Strategies	3-149
3.11.4	FORA's Growth Management Principles & Approach	3-151
3.11.5	Implementation Process & Procedures	3-155
3.11.6	Implementation of the HMP	3-162

Volume 2: Reuse Plan Elements

4.1	Land Use Element	4-1
4.1.1	Introduction	4-1
4.1.1.1	The Fort Ord Planning Area	4-5
4.1.1.2	The Local Setting	4-7
4.1.1.3	Permitted Range of Land Uses for Fort Ord	4-15
4.1.1.4	Permitted Development Capacity	4-16
4.1.2	Residential Land Use	4-25
4.1.2.1	Summary of Existing Land Use Conditions	4-25
4.1.2.2	Residential Land Use Objectives	4-25
4.1.2.3	Residential Land Use Policies and Programs	4-29
4.1.3	Commercial Land Use	4-45
4.1.3.1	Summary of Existing Conditions	4-45
4.1.3.2	Commercial Land Use Objectives	4-45
4.1.3.3	Commercial Land Use Policies and Programs	4-49
4.1.4	Recreation/Open Space Land Use	4-61
4.1.4.1	Summary of Existing Conditions	4-61
4.1.4.2	Recreation/Open Space Land Use Objectives	4-62
4.1.4.3	Recreation/Open Space Land Use Policies and Programs	4-64
4.1.5	Institutional Land Use	4-74
4.1.5.1	Summary of Existing Conditions	4-74
4.1.5.2	Institutional Land Use Objectives	4-74
4.1.5.3	Institutional Land Use Policies and Programs	4-75
4.2	Circulation Element	4-83
4.2.1	Land Use and Transportation	4-83
4.2.2	Streets and Roads	4-84
4.2.2.1	Operating Conditions	4-85
4.2.2.2	Existing Conditions	4-89
4.2.2.3	Future Conditions	4-95
4.2.2.4	Objectives	4-102

4.2.2.5	Policies and Programs	4-104
4.2.3	Transit	4-108
4.2.3.1	Existing Conditions	4-108
4.2.3.2	Objectives	4-109
4.2.3.3	Policies and Programs	4-111
4.2.4	Pedestrian and Bicycles	4-112
4.2.4.1	Existing Conditions	4-112
4.2.4.2	Objectives	4-113
4.2.4.3	Policies and Programs	4-114
4.2.5	Transportation Demand Management	4-116
4.2.5.1	Existing Conditions	4-116
4.2.5.2	Objectives	4-117
4.2.5.3	Policies and Programs	4-117
4.3	Recreation and Open Space Element	4-123
4.3.1	Recreation	4-123
4.3.1.1	Summary of Existing Conditions	4-123
4.3.1.2	Recreation Standards	4-123
4.3.1.3	Objectives	4-127
4.3.1.4	Policies and Programs	4-129
4.4	Conservation Element	4-145
4.4.1	Soils and Geology	4-145
4.4.1.1	Summary of Existing Conditions	4-145
4.4.1.2	Objectives	4-147
4.4.1.3	Policies and Programs	4-149
4.4.2	Hydrology and Water Quality	4-158
4.4.2.1	Summary of Existing Conditions	4-158
4.4.2.2	Objectives	4-160
4.4.2.3	Policies and Programs	4-161
4.4.3	Biological Resources	4-171
4.4.3.1	Summary of Existing Conditions	4-171
4.4.3.2	Objectives	4-172
4.4.3.3	Policies and Programs	4-181
4.4.4	Air Quality	4-207
4.4.4.1	Summary of Existing Conditions	4-207
4.4.4.2	Objectives	4-208
4.4.4.3	Policies and Programs	4-213
4.4.5	Cultural Resources	4-214
4.4.5.1	Summary of Existing Conditions	4-214
4.4.5.2	Objectives	4-217
4.4.5.3	Policies and Programs	4-217
4.5	Noise Element	4-223
4.5.1	Introduction	4-223

4.5.2	Summary of Existing Conditions	4-223
4.5.2.1	City of Marina	4-224
4.5.2.2	City of Seaside	4-224
4.5.2.3	Monterey County	4-226
4.5.3	Summary of Future Conditions	4-228
4.5.3.1	City of Marina	4-228
4.5.3.2	City of Seaside	4-231
4.5.3.3	Monterey County	4-231
4.5.4	Objectives	4-234
4.5.5	Policies and Programs	4-235
4.6	Safety Element	4-249
4.6.1	Seismic and Geologic Hazards	4-249
4.6.1.1	Summary of Existing Conditions	4-249
4.6.1.2	Objectives	4-252
4.6.1.3	Policies and Programs	4-253
4.6.2	Fire, Flood and Emergency Management	4-261
4.6.2.1	Summary of Existing Conditions	4-261
4.6.2.2	Objectives	4-263
4.6.2.3	Policies and Programs	4-264
4.6.3	Hazardous and Toxic Materials Safety	4-271
4.6.3.1	Summary of Existing Conditions	4-271
4.6.3.2	Objectives	4-274
4.6.3.3	Policies and Programs	4-275

Appendix A: 2/21/96 Draft HMP Implementing/Management Agreement

Document Preparers

List of Acronyms

List Of Figures

3.2-1	Regional Vicinity Map	3-22
3.2-2	Topographic Relief	3-23
3.2-3	Regional Land Use Context	3-25
3.2-4	Existing Development	3-33
3.2-5	Fort Ord Assets and Opportunities	3-37
3.3-1	Land Use Concept: Ultimate Development	3-45
3.3-2	Proposed Land Use and Regional Context	3-47
3.5-1	Proposed 2015 Transportation Network	3-65
3.5-2	Roadway Classification and Multimodal Corridor	3-69
3.6-1	Regional Open Space System	3-81
3.6-2	Habitat Management Framework	3-87
3.6-3	Open Space & Recreation Framework	3-91
3.8-1	Marina Planning Areas	3-105
3.9-1	Seaside Planning Areas	3-119
3.3-3	County Planning Areas	3-131
3.11-1	Legislative Land Use Consistency Determination	3-159
3.11-2	Development Entitlements and Appeals	3-163
4.1-1	Existing Development Pattern at Fort Ord	4-3
4.1-2	Planning Areas and Local Jurisdiction	4-6
4.1-3	Generalized Land Use Setting	4-9
4.1-4	Sphere of Influence and Annexation Requests	4-17
4.1-5	City of Marina Land Use Concept	4-19
4.1-6	City of Seaside Land Use Concept	4-21
4.1-7	County of Monterey Land Use Concept	4-23
4.1-8	Reconfigured POM Annex	4-36
4.2-1	Existing Transportation Network	4-90
4.2-2	Proposed 2015 Transportation Network	4-98
4.2-3	Buildout Transportation Network	4-99
4.2-4	Roadway Design Standards	4-106
4.2-5	Transit Activity Centers and Corridors	4-111
4.2-6	Proposed Bicycle Network	4-115
4.2-7	Transportation Rights-of-Way Reservations	4-121
4.3-1	Marina Open Space and Recreation Element	4-131
4.3-2	Seaside Recreation and Open Space Element	4-137
4.3-3	County Recreation and Open Space Element	4-141
4.4-1	Oak Woodlands Areas	4-187
4.4-2	Archaeological Resource Sensitivity	4-216
4.5-1	Noise Contours for Monterey Peninsula Airport	4-227
4.5-2	Forecast Year 2015 Airport Noise Contours	4-232

4.5-3	Forecast Year 2010 and CNEL 65db Noise Contour for Monterey Peninsula Airport	4-233
4.6-1	Seismic Hazards	4-250
4.6-2	Fire, Flood, and Evacuation Routes	4-262
4.6-3	Hazardous and Toxic Waste Sites	4-273
 List Of Tables		
2.2-1	Historical and Recent Population: Monterey County, 1980-1995	2-11
2.2-2	Wage and Salary Employment by Industry - Historical and Recent, Monterey County, 1980-1995	2-13
2.2-3	Population Projections: Monterey County 1995-2015	2-15
2.2-4	Estimated and Projected Age Distribution: Monterey County, 1990-2020	2-16
2.2-5	Employment Forecasts: Monterey County, 1990-2015	2-18
2.3-1	Fort Ord Development and Absorption Potential: 1996-2015	2-20
2.3-2	Distribution of Projected Supply and Demand Office and R&D Space: Monterey Peninsula, 1996-2015	2-24
2.3-3	Projected Average Wages by Land Use	2-31
3.3-1	Summary Land Use Capacity: Ultimate Development	3-42
3.4-1	Permitted Range of Uses for Designated Land Uses	3-50
3.4-2	Land Resources	3-53
3.7-1	Planning Area and District Matrix	3-98
3.8-1	City of Marina - Land Development Intensity Summary	3-104
3.9-1	City of Seaside - Land Development Intensity Summary	3-121
3.10-1	Monterey County - Land Development Intensity Summary	3-131
3.11-1	Level of Service Standards and Timing Standards	3-152
4.2-1	LOS Grades by Facility Type	4-87
4.2-2	Regional (Off-Site) Roadway Facilities LOS Summary	4-91
4.2-3	On-Site Facilities LOS Summary	4-100
4.2-4	Roadway Design Standards	4-107
4.3-1	Projected Park Demand	4-125
4.3-2	Facility Demand for Selected Facilities	4-126
4.3-3	Fort Ord- 2015 Park Program for all Jurisdictions	4-127
4.4-1	Resources Considered in the HMP - "HMP Species"	4-173
4.4-2	Resources Not Considered in the HMP - "Non-HMP Species"	4-175
4.4-3	Known or Potential Occurrences of HMP and Non-HMP Resources within each Jurisdiction	4-178
4.5-1	Summary of Traffic Noise Analysis for Existing Conditions (1990-1992)	4-225
4.5-2	Summary of Noise Modeling for the Fort Ord Reuse Plan in 2015	4-229
4.5-3	Land Use Compatibility Criteria for Exterior Community Noise	4-236



1.0 SUMMARY OF THE REUSE PLAN

1.1 ORGANIZATION OF THE REUSE PLAN AND BUSINESS AND OPERATIONS PLAN

The Reuse Plan is organized into three volumes:

- Reuse Plan Context and Framework, which focuses on the broad concepts for re-development of the former Fort Ord military reservation;
- Reuse Plan Elements, defining individual topics for the three land use/political jurisdictions; and
- Business and Operations Plan, an appendix to the Reuse Plan, which provides the dynamic tools for managing growth over the next 20 years (to 2015), and consists of the Comprehensive Business Plan (CBP) for Fort Ord Reuse Authority (FORA), the Public Facilities Implementation Plan (PFIP) required to serve development, and the Public Services Plan (PSP), required by each land use jurisdiction.

Section 1 is intended to provide a brief overview of the Reuse Plan and to serve as a guide to the individual topics which are addressed in detail in the subsequent sections.

Volume 1: Contains the Context and Framework for the Reuse Plan.

Section 2, Context for the Reuse Plan, provides the major underlying foundation on which the document was prepared. It describes briefly:

- FORA, including a short history of the reuse planning that has taken place at the former Fort Ord;
- The socioeconomic setting that summarizes the existing and projected demographic and employment characteristics of the region;
- The market opportunities projected to the year 2015 for light industrial/business park, office/research and development, housing, retail, and lodging facilities; and
- The Reuse Considerations that derive from the Base Realignment and Closure Commission (BRAC) process guiding the disposition of surplus military bases.

Section 3, the Framework of the Reuse Plan, focuses on issues related to integrating the former Fort Ord property into the regional economy of the Monterey Peninsula. The Framework provides the overall context and rationale appropriate to the "General Plan" elements for all of the former Fort Ord lands, consistent with the provisions of SB 899 which establish FORA's roles and responsibilities. The Framework includes:

- Community Vision;
- Development Framework for Land Use, Circulation, and Conservation, Open Space and Recreation;
- Planning Areas and Districts; and
- Implementation.

Section 4, the Reuse Plan Elements of the Reuse Plan, focuses on the specific provisions appropriate for each land use jurisdiction approving development within the former Fort Ord. Current responsibilities lie with: the City of Marina, the City of Seaside, and Monterey County.

Volume 2: Contains the Reuse Plan Elements.

The heart of the Reuse Plan Elements is a set of integrated and internally consistent goals, objectives, policies and programs for each of the three land use jurisdictions. They reflect their vision for the former Fort Ord and establish who will carry out the activities needed to reach each goal. Goals and objectives are the same for each jurisdiction, while the policies

and programs have been designed to meet the specific needs of each jurisdiction.

Goal: A general, overall and ultimate purpose, aim, or end toward which the City or County will direct effort.

Objective: A specific statement of desired future conditions which the City or County will try to reach.

Policy: A specific statement of principle or of guiding actions that the City or County elects to follow in order to meet its goals and objectives.

Program: An action, activity or strategy carried out in response to adopted policy to achieve a specific goal or objective.

Section 4 includes Goals, Objectives, Policies and Programs by land use jurisdiction for each element, including:

- Land Use Element;
- Circulation Element;
- Recreation and Open Space Element;
- Conservation Element;
- Noise Element; and
- Safety Element.

Appendix A, in Volume 2 contains the Habitat Management Program (HMP) Implementation Management Agreement

Appendix A, the Habitat Management Program (HMP) Implementation Management Agreement defines the respective rights and obligations of FORA, its member agencies, California State University (CSU), and the University of California with respect to the implementation of HMP.

Volume 3: Appendix B contains the Business and Operations Plan.

Appendix B, the Business and Operations Plan is the fundamental implementing tool for the Reuse Plan. It is based on a 20-year horizon, to the year 2015. The Business and Operations Plan is a dynamic tool designed to respond to changing conditions and commitments made during the course of future development. In addition, the Business and Operations Plan has been prepared to meet the requirements of the base closure procedures that govern the disposal actions of the Federal government, as defined by the BRAC. In this way, it will serve as the basis for the preparation of the Economic Development Conveyance (EDC) that FORA will prepare to accomplish the transfer of the remaining lands to local control.

The Business and Operations Plan is based on the real estate market projections prepared as a baseline for the reuse planning and is integrated

with the public facility requirements identified to serve a development scenario that accommodates the market projections, and the coordinated public facilities and services requirements of the three land use jurisdictions. The plan includes:

- CBP: Comprehensive Business Plan;
- PFIP: Public Facilities Implementation Plan; and
- PSP: Public Services Plan

1.2 MAJOR PROVISIONS OF THE REUSE PLAN

1.2.1 Volume 1 - Context and Framework for the Reuse Plan

Context for the Reuse Plan

The context for the Reuse Plan provides the major underlying foundation on which the document was prepared.

Purpose of the Reuse Plan

The Reuse Plan for the former Fort Ord was prepared FORA pursuant to the provisions of Senate Bill 899 to guide the development of the Former Military Reservation.

Socioeconomic Setting

Impacts of Closure: Fort Ord has been a significant presence in Monterey County since 1917 when it was established to serve primarily as a training and staging facility for infantry. It had maintained a large military population numbering approximately 14,500 military personnel and 17,000 family members of active duty personnel, and employed 3,800 civilian employees. The resident population of Fort Ord totaled 31,270 in 1991. On January 19, 1990, the Secretary of Defense officially announced proposals for defense installation realignment and closures including the down-sizing of Fort Ord.

The reuse of the former Fort Ord precipitates significant impacts on the region's economy, population, and demography.

A significant decline of 4.6 percent in employment was experienced in 1994, reflecting the full down-sizing of Fort Ord and spin-off impacts. During the first seven months of 1995, with the closure of Fort Ord, employment declined a further 5.8 percent. Assuming that there has been some nominal employment growth in the Salinas Valley and in the Peninsula's tourism industry, the secondary impacts of Fort Ord's closure exceed losses of the 4,500 civilian jobs (including directly employed civilians). As of July 1995, Monterey County's unemployment rate was a relatively high 9.3 percent.

Demographic Forecasts: The Association of Monterey Bay Area Government's (AMBAG) forecasts suggest relatively modest growth for the Peninsula between 1995 and 2000, with rather stronger growth in the Salinas Valley. This reflects the initial stages of recovery on the Monterey Peninsula (Peninsula) following the closure of Fort Ord and continued strong growth in the Salinas Valley. During the following 2000-through-2015 period, however, AMBAG anticipates strong growth on the Penin-

sula, with an average annual growth rate of 2.61 percent. During this period, an average of nearly 3,300 persons are expected to be added annually to the Peninsula's population. Approximately 84% of this growth is anticipated to be accommodated in Marina and Seaside, reflecting the redevelopment and reuse of the former Fort Ord property located in those municipalities.

Employment Forecast: Between 1995 and 2015, AMBAG forecasts the creation of over 79,000 net additional jobs for the region. This rate of growth would produce a net additional 4,000 jobs annually and an average annual growth rate of 2.2 percent. Such job growth would not only replace the approximately 20,000-21,000 jobs lost as a result of the Fort Ord closure, but would add 58,000-59,000 jobs. The successful redevelopment of the former Fort Ord will allow the Peninsula to potentially capture between 25 and 35% of County employment growth, or between 20,000 and 25,000 jobs between 1995 and 2015.

Market Opportunities.

Market analysis for the 2015 time period projects intensities of demand and capture for the following the former Fort Ord land uses:

- Light industrial/business park land uses could potentially occupy 1,137,000 sq. ft. of space at the former Fort Ord as 25% of the regional demand of 4.55 million sq. ft. is captured.
- The former Fort Ord stands to capture a total of 1,794,000 sq. ft. or 45% of demand for office and R&D space on the Peninsula, and an additional 750,000 sq. ft. of R & D from Santa Clara County firm demand.
- For housing, a capture of 6,520 new homes at the former Fort Ord is projected, representing a capture of about 18% of market rate new home demand in the county and 63% of demand on the Peninsula.
- A demand for 500,000 sq. ft. of local-serving retail is anticipated at the former Fort Ord.
- The former Fort Ord has the potential to capture 250,000 sq. ft. of regional and entertainment retailing by 2015, with an additional 250,000 sq. ft. anticipated by the ultimate buildout date.
- The former Fort Ord stands to capture 750 to 800 rooms or approximately 50% of Peninsula demand for lodging facilities.

Reuse Considerations

Reuse planning is directly influenced by the Federal legislation procedures that govern military base closures.

Fort Ord was included in the 1991 round of military installations listed for closure by the BRAC.

National Reuse Model: The Fort Ord Reuse process was designated a National Model for base conversion by Secretary of Defense, Dr. William Perry, in September of 1993. Fort Ord was chosen because of the unique opportunity to meet key defense conversion goals by utilizing education and research to create quality jobs as part of the President's desire to expedite communities' rapid economic recovery from base closures.

PBC, EDC Process: Through the base closure process, State and local government agencies as well as non-profit institutions which serve a specific public purpose can receive property at no cost or at a discounted price through the Public Benefit Conveyance (PBC) process. At the former Fort Ord, a total of 34 PBC's were filed, of which 11 were McKinney Act requesters. FORA is in the process of resolving any conflicts in requests.

The Defense Authorization Act of 1993 created a new conveyance mechanism allowing Local Reuse Authorities (LRAs) to request property specifically for economic development purposes. An LRA is an agency with authority to prepare and administer land use plans for properties within the former Fort Ord and includes: the California Department of Parks and Recreation; Monterey County; the cities of Seaside and Marina; any surrounding city for which annexation within the former Fort Ord proceeds; and the University of California and California State University at Monterey Bay. This mechanism, the EDC provides communities with considerably more flexibility and local control over development than was possible under the previous regulatory framework. The LRA can hold and manage the property over the long-term, or sell the property and retain the proceeds to finance infrastructure and other improvements necessary to support future development. The ability to control these real property interests to benefit locally from any market transactions creates a powerful mechanism for local communities to proactively support economic development and job generating activities that replace the economic benefits to the local economy lost through the base closure process. However, the LRA must also share any net proceeds from real estate transactions, after subtracting the costs of infrastructure improvements, with the U.S. Department of Defense (DoD).

At the former Fort Ord, major conveyances consist of:

- A Memorandum of Understanding with the Bureau of Land Management (BLM) for the Habitat Protection area (soon to be conveyed);

- An economic development conveyance to California State University for a Monterey Bay campus (CSUMB);
- An economic development conveyance to the University of California for the Monterey Bay Education, Science and Technology (UCMBEST) Center;
- A public benefit conveyance to the City of Marina for the Marina Municipal Airport;
- A conveyance to the California Department of Parks and Recreation (State Parks) for state park lands along the coast.

NEPA/CEQA Compliance: In compliance with the National Environmental Protection Act and the California Environmental Quality Act, FORA will be the Lead Agency in preparing an Environmental Impact Report (EIR) on the closed Federal military facility at Fort Ord. It will analyze an ultimate buildout scenario for the approximately 27,964 acre former Fort Ord facility. Public Resources Code Section 21083.8 allows FORA, local governments, and governmental entities meeting the definition of a redevelopment agency to rely in part on the Fort Ord Disposal and Reuse Environmental Impact Statement (EIS) and the Draft Fort Ord Disposal and Reuse Supplementary Environmental Impact Statement (SEIS) in preparing this EIR on a Reuse Plan to avoid duplication and to utilize or build on the environmental work already completed by a federal agency in a manner consistent with the CEQA.

Habitat Management Plan: The Habitat Management Plan (HMP) was developed to support binding legal agreements among the receiving jurisdictions, the Corps and the Service that would establish detailed plans to manage lands designated for natural resources conservation. The HMP describes the specific management goals for each parcel and provides detailed procedures for the enhancement, restoration, and management of subject parcels, and methods to fund these activities. Recipients of disposed or transferred lands are required to follow land use guidelines established in the HMP.

Four principal entities were identified as recipients of the largest, most important conservation areas and corridors. These entities were:

- the BLM (with approximately 15,000 acres in the interior of the base);
- the UC Natural Reserve System (with about 600 acres of prime maritime chaparral habitat reserve in the Marina Municipal Airport area);
- the California Department of Parks and Recreation (scheduled to receive virtually all the beach frontage and coastal dune land west of State Highway 1, comprising nearly 1,000 acres); and

- Monterey County (with over 1,000 acres in key habitat and corridor areas between the developed parts of the base and the inland range areas).

Environmental Remediation: Cleaning up contaminated property is a critical part of the legal process for transferring ownership of military property. Under federal law, title may not be transferred until the toxic or hazardous situation is remedied, or the remediation process is in place and operating correctly. Successful reuse of the former Fort Ord requires the Army to clean up each parcel on the base to the level required for its intended use as designated by this document. The duration and nature of clean-up activities will affect interim and long term reuse implementation. The former Fort Ord was listed on the Superfund list in 1990. Cleanup here will include extracting and treating contaminated groundwater and capping the landfills to limit future infiltration and minimize additional leaching.

Forty-one sites have been identified as potentially hazardous sites.

Framework for the Reuse Plan

The Framework for the Reuse Plan establishes the broad development considerations that link the various Reuse Plan elements for each of the land use jurisdictions into an integrated and mutually supporting structure.

Community Design Vision: The design and planning vision for the future of the former Fort Ord draws its inspiration from several sources:

- the nature of the land and existing facilities on the base;
- the history and culture of the Monterey Peninsula, and particularly Fort Ord itself;
- sound principles of community-making; and
- on a responsible and positive attitude toward the environment.

The opportunity provided by this 28,000-acre resource is inestimable. The challenge, however, to not squander or abuse the special qualities of this place is substantial as well. The designation of Fort Ord as a model reuse project chosen among the 1990 round of base closures is indicative both of the challenges to be met in the future and the opportunities inherent in this unique site and its surrounding region.

The prevalence of the Peninsula academic and environmental communities has in recent years spawned a variety of educational and research initiatives. Following this lead, UC and California State University

(CSU) have both begun to plan and implement ambitious and important facilities at the former base. These facilities in many ways will form the nucleus of the future community envisioned to grow at this site.

The vision for the future of the former Fort Ord is that a community will grow up on the former Base, having a special character and identity. This community, at the same time, will fit with the character of the Peninsula, complementary with the scale and density of the existing communities from Marina to Carmel. It will demonstrate a respect for the special natural environment of the Peninsula and the scenic qualities of the Bay, coastal dune areas, and upland reaches. It will also be complementary to the rich tradition and reality of agriculture in the Salinas Valley, which forms such an important part of the regional character and economy, while enhancing the experience of visitors to the Peninsula. Most importantly, the community will be a special place for living and working. It will provide a diversity of experience and opportunity, with a development approach that is sustainable and appropriate.

Design Principle 1: Create a unique identity for the new community around the educational institutions.

The centerpiece of the community at the former Fort Ord will be the education centers that have been integrated into the reuse of the former Fort Ord and which provide a central focus for the reintegration of the former military base into the regional economy. Three major post-secondary institutions are participating in the reuse of the base. The CSUMB campus, the UCMBEST Center, and the Monterey Peninsula College District will all become significant catalysts to the economic development of the region.

Design Principle 2: Reinforce the natural landscape setting consistent with Peninsula character. The former Fort Ord is part of the gentle crescent that frames Monterey Bay, situated between the great Salinas River Valley and the dramatic coastal range that juts into the Pacific to form the Monterey Peninsula.

Design Principle 3: Establish a mixed-use development pattern with villages as focal points. Consistent with the character of a college town with a vibrant, around-the-clock level of activity and vitality, the community is planned to consist of a series of villages with mixed-use centers.

Design Principle 4: Establish diverse neighborhoods as the building blocks of the community. The special character of the communities in the Monterey Peninsula is due in part to the diversity of their residential neighborhoods. They are typically small scaled, with one and two story buildings. Open

space is plentiful, giving the overall impression of a green and lush landscape.

Design Principle 5: Encourage sustainable practices and environmental conservation. The reuse of the former Fort Ord as a mixed-use community within the larger Monterey Peninsula provides the opportunity to demonstrate a wide range of design and planning practices that are consistent with accepted notions of sustainability and environmental conservation. A majority of the area of the former Fort Ord will be set aside for habitat management with limited recreation opportunities included. The remaining portions of the former base will be developed into a mixed-use community which provides housing and employment opportunities, reducing the need for long distance commuting throughout the region.

Design Principle 6: Adopt regional urban design guidelines. The visual character of the former Fort Ord will play a major role in supporting its attractiveness as a destination for many visitors every year. Maintaining the visual quality of this gateway to the peninsula and where necessary enhancing it is of regional importance to ensure the economic vitality of the entire peninsula. Regional urban design guidelines will be prepared and adopted by FORA to govern the visual quality of areas of regional importance within the former Fort Ord.

The Reuse Plan provides Design Objectives to guide development of the former Fort Ord that address:

- Community Form;
- Development Pattern;
- Town and Village Centers;
- Existing Neighborhoods;
- New Neighborhoods;
- Major Development Sites; and
- Landscape and Open Space.

Existing Setting and Character of the Former Fort Ord

The regional character provides a description of the landscape and communities of the Peninsula. The urbanism of the Peninsula provides a description of the architectural and urban design resources.

The existing development at the former Fort Ord describes the various land use zones that make up the current land resource. The major development opportunities and assets are identified including:

- CSUMB;
- UCMBEST Center;

- Marina Municipal Airport;
- Fort Ord Dunes State Park;
- BLM Land Management;
- Golf Courses;
- Existing Housing Resources;
- Monterey Peninsula Unified School District (MPUSD) Resources; and
- Military Enclave including the POM Annex, DFAS, and other facilities.

The Land Use Concept

The Ultimate Development Plan and Map is a consensus plan and the product of the on-going reuse planning process at the former Fort Ord. The Land Use Concept reflects the ultimate reuse of the lands at the former Fort Ord and expresses a long range vision for the property consistent with the role the former Fort Ord will play in the region.

Development Capacity: The land supply is expected to accommodate growth for 40 to 60 years depending on the land use type and future market conditions.

Public Uses at the former Fort Ord: Of the nearly 28,000 acres at the former Fort Ord, 85 to 86% of the lands are reserved for public use.

Economic Development at Fort Ord: The remaining 14 to 15% of the lands at the former Fort Ord are planned in a coordinated way to provide a mix of uses that reflect market projections, promote the strategic objectives identified during the course of the reuse planning efforts, and can pay for infrastructure costs.

Employment Projections: The ultimate development land use plan is expected to generate a total of 45,000 to 46,000 jobs.

Population Projections:

The ultimate development land use plan will accommodate a resident population of an estimated 51,770 people, excluding the resident student population at CSUMB. With the resident full-time equivalent (FTE) students, the population at the former Fort Ord will rise to 71,770.

Land Use Designations and Land Resources

The land use designations which are shown on the Ultimate Development Map are organized by:

- Residential Uses
- Mixed Use and Commercial Uses

- Retail Uses;
- Visitor Serving Uses;
- Open Space, Recreation, and Habitat Uses;
- Institutional and Public Facilities; and
- Community ROW.

Circulation Concept

It is clear that the redevelopment of the former Fort Ord, plus growth throughout the remainder of Monterey County and the region, will significantly increase the demand placed on the region's transportation infrastructure and services. While the former Fort Ord will be the location of a portion of this growth, reuse will only contribute to a region-wide traffic problem. To some extent, the increases in travel demand will be managed by building or improving transportation facilities, but there also exists a variety of concepts and objectives that can be used to minimize the demand for vehicle trips as an alternative to increasing roadway capacity. The approach taken as part of the Fort Ord Reuse Plan seeks to balance these two components to achieve a transportation system that is both financially feasible and operationally acceptable.

The Circulation Concept identifies the major regional and localized issues and defines the proposed roadway network. Approaches to travel demand management are identified including:

- Jobs/Housing Balance;
- Mixed-Use Development/Increased Densities;
- Design of the Street Networks;
- Pedestrian Facilities;
- Bicycle Programs;
- Transit-Oriented Design;
- Transit Service and Facilities;
- Park-and-ride Lots;
- Rideshare Program;
- Parking Management;
- Employer-Based Transportation Demand Management (TDM) Programs; and
- Telecommunications.

Conservation, Open Space, and Recreation Concept

Many of the land uses proposed for the future development of the former Fort Ord fall into the category of open space. Among these are lands set aside for habitat protection, park lands dedicated to public recreation, commercial recreation lands such as golf courses, institutional settings such as the CSUMB campus, and some isolated peripheral areas which form image gateways along major roadways.

In order to take advantage of these existing land-based opportunities, and to form a meaningful greater whole throughout the former Fort Ord with regards to conservation and recreation, four major concepts, or themes, were developed to guide conservation and recreation planning. These themes are seen as ways to ground planning in a conceptual framework based on sound ecological ideas combined with a vision of economic redevelopment. The essence of these themes can be summarized as follows:

Theme 1: Connect the individual open space parcels into an integrated system for movement and use of both native plant and animal species and people.

Theme 2: Integrate the former Fort Ord with the regional open space system, creating a network of recreation and habitat resources which is unique considering the adjacent agricultural and urban amenities, and which will attract economic growth through a variety of recreation experiences.

Theme 3: Achieve a balance between recreation and conservation with appropriate land use designations to support both functions. Plan with multiple goals in mind, so that lands identified primarily as recreation resources will also be managed for value as habitat, and habitat lands can also serve as a recreation resource. For example, habitat can promote a recreation value, such as serving as a trail conduit, or for nature viewing.

Theme 4: Achieve a permanent conservation of all habitat types. A multiplicity of habitat types have been identified at the former Fort Ord, each with its own complement of special status species. True conservation means regarding each as having some value in its own right, not just those identified as having the highest habitat values. This may best be achieved by distributing open space areas throughout the former Fort Ord.

Planning Areas and Districts

Planning Areas and Districts within each of the former Fort Ord jurisdictions are designated to manage long-term growth and reinforce the community design vision for the former Fort Ord. They are based on the surrounding development context and the Development Framework, Circulation Framework, and Conservation, Open Space and Recreation Framework. They build on the major assets within the former Fort Ord including: CSUMB, UCMBEST, the Marina Municipal Airport, the East Garrison and the existing housing resources and recreational and open space features. The Planning Areas and Districts provide a flexible tool for planning and implementing coordinated development to take advantage of these assets for achieving the desirable community vision.

Planning Areas and Districts are defined for the City of Marina, the City of Seaside, and Monterey County. For each district, the Reuse Plan:

- Projects a development program based on the land use provisions; and
- Identifies Development Character and Design Objectives.

Reuse Plan Implementation

The strategies for economic recovery from the realignment of the former Fort Ord depend upon the following foundation:

- Community Development Themes to identify desirable outcomes;
- The on-going use of Phasing Scenarios as a strategic planning tool to help formulate policy and forecast future conditions and feasibility; and
- the Principles and Approaches to growth management which will form the basis for preparing a Community Improvements Plan and for managing growth.

Community Development Themes: The Reuse Plan articulates four Community Development Themes to facilitate the economic recovery at the former Fort Ord:

Theme 1: Recovery and Long Term Economic and Fiscal Health of the former Fort Ord Communities, the Monterey Peninsula, and the Region with respect to:

- Job Replacement;
- Balanced Growth;
- Rapid Redevelopment;
- Positive Fiscal Impact;
- Managed Water Supply; and
- Managed Residential Development.

Theme 2: Environmental Responsibility with respect to:

- Habitat Management;
- Allocating the Costs of Habitat Management;
- Open Space and Recreational Resources;
- Visual Gateway to the Monterey Peninsula;
- Sustainability; and
- Clean-Up of Hazardous Materials

Theme 3: Regulatory Framework with respect to:

- Simple But Flexible Growth Management;
- Equitableness; and
- Responsibility.

Theme 4: Regional Accountability with respect to:

- Integration of Long Range Plans for the former Fort Ord.

Business and Operations Plan Development Strategies: The Business and Operations Plan has been prepared for a twenty-year planning horizon (to the year 2015) which attempts to optimize financial performance in order to see whether, under optimal conditions, the identified program can be feasibly constructed in the market place. The Business and Operations Plan is built from the following development strategies:

Market Strategy: Accommodate the broadest number of segments of the desirable real estate market during the initial years. This strategy will: 1) allow leverage of the housing market to enhance the attractiveness of the former Fort Ord as a jobs center; 2) use market support to generate investment capital for infrastructure improvements; and 3) if properly managed, put into place the threshold investments that will carry the vision for the former Fort Ord beyond the 2015 horizon.

Circulation Strategy: Build on the existing transportation network to the greatest advantage so that the most expensive improvements can be postponed for the longest time. This strategy will: 1) maximize the available capacity at the existing interchanges located on State Highway 1; 2) utilize the existing roadway alignment and capacity in the Imjin Road Corridor for the longest period possible; 3) implement a new east-west corridor between Reservation Road (extending north-east along the Davis corridor to Salinas) and North-South Road to augment the capacity in the Imjin/Blanco Corridor; 4) connect the existing Marina neighborhoods north of the former Fort Ord with the existing housing resources in the northwest corner of the former Fort Ord; and 5) preserve sufficient ROW's to serve long-range build-out.

Infrastructure Strategy: Maximize the use of existing infrastructure improvements to support development in the initial years while preserving the greatest flexibility to respond to future development opportunities. Establish the principle that every area covers "its own cost of service." This strategy will: 1) identify opportunities that can be developed easily and with modest improvements in the service network; 2) take advantage of the existing network of services that facilitates the long-range development opportunities; 3) identify opportunity areas where infrastructure can be more cost

effectively provided with services independent of the main former Fort Ord network or where special financing will cover the cost of the service; and 4) set the stage for development after 2015 with a sufficient reserve to finance major investments in capacity.

Community-Building Strategy: Capitalize on the valuable synergy that can be achieved by developing coherent and balanced communities that take advantage of the major existing assets and public investments. This strategy will: 1) provide a community that supports the emerging CSUMB campus; 2) build on the activity that is emerging at the new Marina Municipal Airport; 3) support the inherent opportunities at the UCMBEST Center to attract new technology-driven and research-based employers; 4) fully integrate the communities within the former Fort Ord with the regional recreation and open space resources managed by the State Parks and BLM; 5) take advantage of the proximity to State Highway 1 to create a gateway to the former Fort Ord; 6) utilize the two existing golf courses in Seaside; 7) integrate the existing housing stock into the surrounding communities; and 8) build on the continuing commitments by the DoD represented by the Defense Finance and Accounting Service (DFAS), and POM Annex and other elements of the military enclave.

Fiscal Strategy: Balance the cost of services with the potential revenue stream to the various jurisdictions within the former Fort Ord boundaries to optimize the fiscal health and self-sufficiency of each governmental entity. This strategy should result in a positive cost/revenue balance for each land use agency.

Growth Management Principles: The CIP will be the primary tool for growth management at the former Fort Ord by guiding the provisions for infrastructure. Two basic principles have been identified for managing the provision of infrastructure within FORA. These principles underlie all management approaches that were considered for the implementation of the Reuse Plan.

Growth Management Principle 1: All of the developable lands within FORA's jurisdiction have the potential to be served with infrastructure.

Growth Management Principle 2: Properties within FORA's jurisdiction will have access to infrastructure on a "first-come, first-served" basis based on the adopted CIP.

Implementation Process and Procedures: The Reuse Plan defines the process and procedures for Plan Amendments, Consistency Determination, and

Development Entitlements and Appeals, pursuant to California Government Code Section 67675.

Implementation of the HMP: The Reuse Plan describes the "Implementing/Management Agreement" and its relationship to the HMP and the member agencies of FORA.

1.2.2 Volume 2 - Elements of the Reuse Plan

Each land use jurisdiction approving development within the former Fort Ord will need to adopt General Plan Elements or Master Plans consistent with the Reuse Plan. The Elements of the Reuse Plan provide the specific provisions for each of the three land use jurisdictions with current responsibility for controlling development of the former Fort Ord lands: the City of Marina, the City of Seaside, and Monterey County.

The heart of the Reuse Plan Elements is a set of integrated and internally consistent goals, objectives, policies and programs for each of the three land use jurisdictions. They reflect the vision for the former Fort Ord and establish who will carry out the activities needed to reach each goal. Goals and objectives are the same for each jurisdiction, while the policies and programs have been designed to meet the specific needs of each jurisdiction.

Section 4 includes Goals, Objectives, Policies and Programs by land use jurisdiction for each element, including:

- Land Use Element;
- Circulation Element;
- Recreation and Open Space Element;
- Conservation Element;
- Noise Element; and
- Safety Element

The goals for the Reuse Plan Elements are:

Land Use Goal: Promote orderly, well-planned, and balanced development to ensure educational and economic opportunities as well as environmental protection.

Circulation Goal: Create and maintain a balanced transportation system, including pedestrian ways, bikeways, transit, and streets, to provide for the safe and efficient movement of people and goods to and throughout the former Fort Ord.

Recreation and Open Space Goal: Establish a unified open space system which preserves and enhances the health of the natural environment while contributing to the revitalization of the former Fort Ord by providing a wide range of accessible recreational experiences for residents and visitors alike.

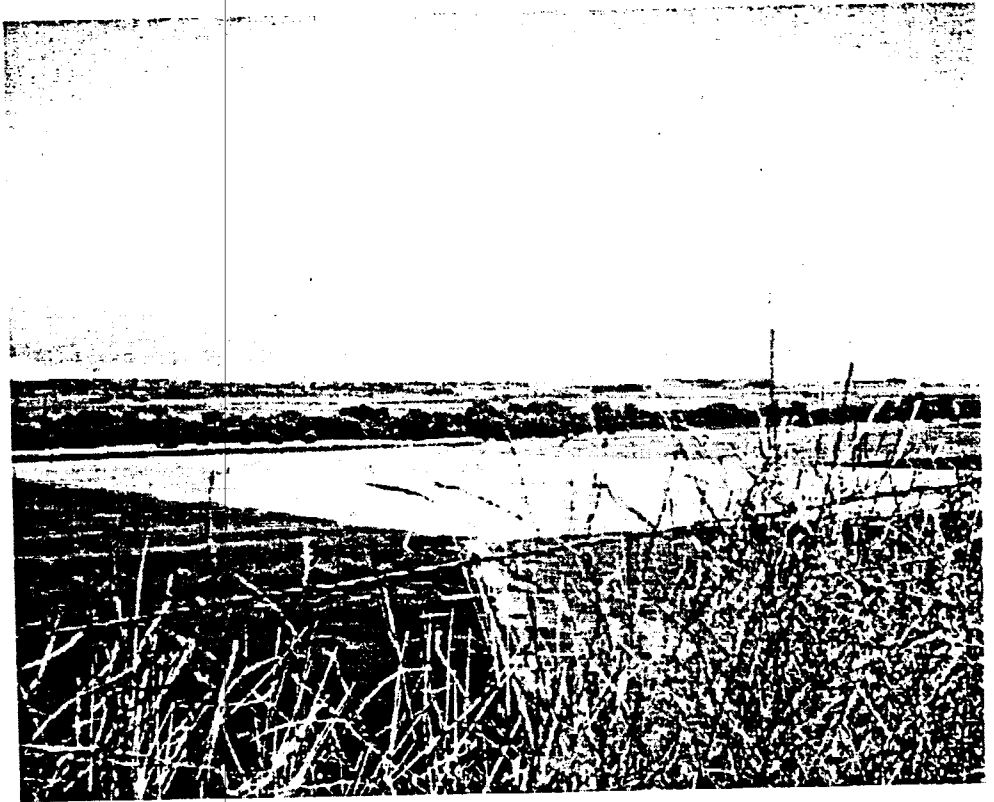
Conservation Goal: Promote the protection, maintenance and use of natural resources, with special emphasis on scarce resources and those that require special control and management.

Noise Goal: To protect people who live, work, and recreate in and around the former Fort Ord from the harmful effects of exposure to excessive noise; to provide noise environments that enhance and are compatible with existing and planned uses; and to protect the economic base of the former Fort Ord by preventing encroachment of incompatible land uses within areas affected by existing or planned noise-producing uses.

Seismic and Geologic Hazards Goal: To prevent or minimize loss of human life and personal injury, damage to property, and economic and social disruption potentially resulting from potential seismic occurrences and geologic hazards.

Fire, Flood and Emergency Management Goal: To prevent or minimize loss of human life and personal injury, damage to property, and economic and social disruption potentially resulting from fire, flooding, or other natural disasters.

Hazardous and Toxic Material Safety Goal: To prevent or minimize loss of human life and personal injury, damage to property, and economic and social disruption potentially resulting from hazardous and toxic materials.



2.0 CONTEXT FOR THE REUSE PLAN

2.1 INTRODUCTION

2.1.1 Fort Ord Reuse Authority

The foundation for FORA was laid in December of 1993 when Senator Henry Mello proposed legislation [Senate Bill (SB) 899] to create a Fort Ord Reuse Authority. SB 899 was approved unanimously by the State Assembly Ways and Means Committee in April 1994 and was signed into law by Governor Pete Wilson on May 10, 1994. SB899, as amended, has been codified as Title 7.85 of the Government Code, sections 76750, et. seq. known as the "Fort Ord Reuse Authority Act."

FORA was formally established on May 20, 1994 as a corporation of the State of California. Its purpose is to prepare, adopt, finance and implement a plan for the land formerly occupied by Fort Ord, including the development of strategies for land use, transportation, conservation, and a five-year capital improvement program.

FORA is governed by a 13-member Board consisting of three members of the Monterey County Board of Supervisors, two city council members

each from the Cities of Marina and Seaside and one city council member from each of the cities of Carmel, Del Rey Oaks, Sand City, Monterey, Pacific Grove and Salinas. The enabling legislation provides for ex-officio membership which currently includes UC, CSU, Monterey Peninsula College, MPUSD, U.S. Army, Congressman 17th District, State Senator 15th District, State Assemblyman 27th District, Transportation Agency of Monterey County, and Monterey County Water Resources Agency.

The Board is authorized to:

- Appoint an Executive Officer;
- Set policy regarding governing the acquisition and disposition of existing Fort Ord real property and facilities;
- Plan, finance, and construct new public capital facilities;
- Levy assessments, reassessments, special taxes or development fees, and issue bonds to finance projects in accordance with State statutes.

Additionally, the Board has the authority to enter into contracts to mitigate the impacts of the reuse of the former Fort Ord on rare and endangered species of flora and fauna and to study, evaluate and recommend cleanup of toxic and other hazardous materials on the Fort. This last responsibility is in keeping with the Board's commitment to protecting the region's natural resources and environment while sustaining the productive capacity of the region's people, physical assets, environment, and financial resources.

The FORA Act also authorizes the Board to prepare and adopt a Reuse Plan for the future use and development of the land formerly occupied by Fort Ord to serve as the official local plan for reuse of the base. After the Board has adopted a Reuse Plan, an agency that is a member of FORA may adopt and rely on the Reuse Plan as its local general plan for land in its jurisdiction that is also within the territory of the former Fort Ord. The Act indicates that all Fort Ord property that has been transferred from the federal government must be used in a manner consistent with the Board's Reuse Plan, except for property transferred to the California State University or the University of California that is used for educationally related or research-oriented purposes, and except for property transferred to the California Department of Parks and Recreation.

2.1.2 History

Once the proposal to downsize the military presence at Fort Ord was announced, Congressman Leon Panetta called together Peninsula leaders and, on February 3, 1990, appointed a Fort Ord Community Task Force to assist in evaluating the closure proposal's impact on Monterey County.

In mid-April 1991, the Secretary of Defense announced the proposed list of bases to be closed or realigned in accordance with the Base Closure process legislated several months earlier, Fort Ord was once again listed for closure.

The Army plans for Fort Ord's closure included the following:

- Move the 7th Infantry (L) to Fort Lewis, Washington; and
- Retain portions of Fort Ord to satisfy requirements for a Reserve Center and support for the Defense Language Institute (DLI), the Navy and other Department of Defense (DoD) elements in the area.

The Task Force's role in the community was further defined as an unchartered organization acting as a citizens group in an advisory capacity that reflected a regional perspective. Planning and implementation were acknowledged as the function of local governmental bodies.

On October 1, 1992, the Fort Ord Reuse Group (FORG) was organized by local governments to begin the next step in planning based on the Fort Ord Task Force Strategy Report of June 1992. FORG included representatives from Marina, Seaside, Monterey County, Del Rey Oaks, Monterey and Sand City. FORG was funded by the Office of Economic Adjustment (OEA).

Within FORG, a Working Group was organized consisting of planners from each of the six FORG jurisdictions, UC, and CSU to formulate and adopt the Initial Reuse Plan.

The Initial Reuse Plan was approved by all jurisdictions in April, 1993. After the Army issued its Environmental Impact Statement in July, 1993, FORG worked to present a Revised Reuse Plan in October, 1993.

As noted earlier, FORA was established in May 1994 as the successor to FORG based on the passage of SB899. A Vision and Goals workshop was held in September of the same year. This workshop identified the following principles for FORA's role in the reuse process:

- Develop and implement a Reuse Plan which balances regional interests with respect for the underlying and contiguous local land use planning process.
- Adopt a Reuse Plan which enhances the economic potential of the underlying and contiguous local jurisdictions, while protecting the natural resources of the area.

- Develop an infrastructure and management plan that provides adequate tools to facilitate public and private property development and use.
- Involve all affected agencies, so that FORA's actions reflect the needs of the regional community and the ability of each local community to provide and sustain public services.
- Communicate effectively with community and agency representatives and the public at large.

The following specific goals and objectives for eight general areas of priority were identified to be incorporated into the Reuse Plan:

Funding

- Identify specific funding tools to achieve FORA goals.
- Develop a long-term funding strategy for FORA.

Economic Development

- Develop local tax base.
- Incorporate balance and sustainability.
- Identify projects which meet local goals for the short term and put them into action.
- Use public and private partnerships where feasible.

Environmental Quality

- Focus on base clean-up as the first priority.
- Look for opportunities to expand the environmental technology and clean-industries.
- Address habitat management issues.

Human Resources

- Identify and implement projects which have the potential of hiring local community residents.
- Provide new training and/or coordinate with external agencies who are providing training.
- Formulate a human resources development plan.

Urban Design/Planning

- For the short term, complete the Presidio of Monterey (POM) annex project.
- Address urban design and planning as an interactive process.
- Identify priorities for allocation of land use.

- Assess water supply and capacity, and determine what improvements are needed.

Community Services

- Establish community services as a high priority goal area.
- Assess the economic impact CSUMB may have on surrounding cities' community services.

Infrastructure Development

- Consider goals and objectives related to community services when developing infrastructure.
- Develop the water, sewer, and transportation systems.

Public Information and Involvement

- Create and discuss public involvement program direction.
- Present goals and objectives of public involvement at the local community level, then at the state and national levels.
- Develop FORA into a model for base reuse planning; use status as a prototype to obtain funds for assisting other communities through the process.

FORA adopted an Interim Base Reuse Plan on December 12, 1994, emphasizing the eight general areas of priority and relying on the Fort Ord Reuse Infrastructure Study (FORIS) completed in June, 1995.

A selection process was authorized to choose a team of consultants to prepare a Reuse Plan, including General Plan elements for local land use agencies such as the County of Monterey, and the municipalities of Marina and Seaside. Les White was selected as the Executive Officer of FORA in February 1995. The EDAW/EMC consulting team began work soon after May 24, 1995, to test the FORA Reuse Plan adopted on December 12, 1994 from a regional and local component standpoint. Using this plan as a baseline, the team assessed the market support for land uses that could be absorbed in the former Fort Ord reuse area within the year 2015 planning horizon. This assessment was used to formulate an updated plan that looks at the ultimate buildout at the former Fort Ord as a community.

2.1.3 Strategic Themes Proposed for the Interim Base Reuse Plan

The Reuse Plan presents a balanced approach to the reuse of the former Fort Ord with an emphasis on job creation, environmental preservation, education, and a jobs/housing balance, taking into consideration the strategic themes elaborated in the Interim Base Reuse Plan, December 12, 1994.

Innovative Opportunities for Collaborative Education and Research (UCMBEST and CSUMB)

"The University of California spells out a significant strategic theme of the Reuse Plan, to support the Monterey Bay Education, Science and Technology Center (UCMBEST) within an education/research consortium complex. The proposed center intends to address environmental, infrastructure and policy issues of the 21st Century through the development of public and private partnerships. The center will bring together the strengths and resources of state and federal agencies, policy makers, industry, educational institutions and others to address these issues. Key to the vision of the center are strategic research alliances, technology transfer and the integration of science, technology, and policy.

The University of California, Santa Cruz (UCSC) campus is coordinating the development of this multi-institutional research center that will provide the physical manifestation of regional economic development mainly in the fields of marine and environmental science.

The Educational institutions at the former Fort Ord include a 25,000 full time equivalent student campus of the CSU system with an academic focus on the environmental sciences (e.g. marine biology, ecological and atmospheric studies) while still providing a full-spectrum of graduate and under-graduate programs. California State University at Monterey Bay (CSUMB) represents California's first attempt to create a model 21st Century "magnet" campus to attract students from throughout the state and the nation. Included in this vision is a cooperative relationship with local agencies and institutions involved in scientific research, language training and international studies.

The CSUMB campus is projected to create a level of economic activity almost equal to that of the military departing the area. It will employ 3,000 when fully developed, with an estimated annual budget of approximately \$200 million. The full-time students are

*Strategic Themes:
Strategic Themes of
the December 12,
1994 Interim Base
Reuse Plan:*

- Education
- Support for the Military
- Open Space
- Environmental Clean-up / Infrastructure
- Economic Development

projected to spend an amount equal to that spent in the local economy by the soldiers that have relocated to Fort Lewis.

In conjunction with the research center, plans for CSUMB also include a language center, environmental research center, advanced degree and training programs, an alternative high school program, health professions training, cultural and performing arts, multicultural professional development, studies of Pacific Rim countries, hotel and management programs and agricultural research.

POM Annex Support for Military

The Defense Language Institute (DLI), Fort Hunter Liggett (FHL) and the Naval Postgraduate School (NPS) will all remain on active status in the area. These substantial investments by the federal government must continue to receive federal support. DLI, FHL, and NPS provide direct support to the economy through payrolls, civilian jobs, contract for goods and services and federal impact aid to local schools.

Retention of a military enclave at the former Fort Ord is one way to support the presence of the remaining 16,600 active military and their family members through facilities such as the (Post Exchange) PX and the commissary. The final footprint of the POM Annex had not been established at the time of this report's preparation. Several innovative proposals for lease back facilities in cooperation with the local governments and the elimination or reconfiguration of the POM Annex are under consideration at the time of this writing.

Parks, Recreation, and Open Space

The Reuse Plan supports expansion of the region's parks, recreation, and open space. The County's recreational opportunities attract more than \$1.2 billion in annual tourism income without aggressive local protection of habitats, particularly those of rare and endangered species. Commerce has been allowed to prosper but not at the expense of a world-class environment. Many of the former Fort Ord's properties are part of these ecosystems and must be protected. The change in status of the former Fort Ord presents an additional opportunity to protect environmental resources. The Reuse Plan includes a Biological Resource Management Program for this purpose.

The Bureau of Land Management (BLM) will be responsible for the interior areas to be preserved in their natural state yet put to productive uses. Environmentally sensitive areas include those

with steep slopes, endangered species or unique habitats, wildlife areas including wetlands to be preserved as open space or other areas that could support recreational uses judged to be consistent with resource preservation guidelines.

Environmental Cleanup / Infrastructure

The Reuse Plan assumes the development of a support structure to implement major economic development strategies and land use. The former Fort Ord property cannot be put to productive uses without environmental pollution cleanup, as discussed in Section 2.3.6, and necessary infrastructure in place for phased future development as the reuse process begins. Full consideration must be given to critical areas of water, sewer, solid waste, air quality, transportation, housing, job creation and training, health, community, and public services.

Economic Development

The Reuse Plan endorses a variety of economic development opportunities, including an agricultural center, an educational conference center, light industrial uses, commercial areas, business parks, a general aviation airport, tourism uses, high tech manufacturing, aquaculture, telecommunications, and an international trade resource center. "

-December 12, 1994, Interim Base Reuse Plan

2.1.4 Public Outreach Process

Public involvement and information is an important part of the reuse planning program. This component is meant to ensure that the affected public has both awareness of and information about the reuse planning efforts, and has opportunities for meaningful input into the process of development of the Reuse Plan/EIR.

Public information activities for the Fort Ord Reuse Planning process have included early identification of key issues and interests affecting the Reuse Plan/EIR program, and production of newsletters for use by FORA, local jurisdictions, media, and interest groups for duplication and distribution. Newsletter topics have ranged from the presentation of information about the history of the base closure and reuse process, to the process and purposes of the Reuse Plan/EIR, to information about policy decision affecting the reuse, and coverage of topics of special interest to the community, such as infrastructure and planning design issues. The program also provides for public information presentations as requested, and activities to assist local jurisdictions with hearings on general plan amendments once an adopted Reuse Plan/EIR is available.

Public involvement activities have also included public hearings, production of informational materials and advertisements of meetings for use by the general public, and provision of information to the media during the Notice of Preparation process for the EIR to receive public comments on items that should be addressed in the environmental review process. In addition, hearings which are part of the legally required process are being held and materials provided for the public and media. Involvement activities also include coordination with FORA staff and officials, participation in Board workshops, and participation in meetings of committees related to the reuse effort.

2.2 SOCIOECONOMIC SETTING

Fort Ord has been a significant presence in Monterey County since 1917 when it was established to serve primarily as a training and staging facility for infantry. It had maintained a large military population numbering approximately 14,500 military personnel and 17,000 family members of active-duty personnel, and employed 3,800 civilian employees. The resident population of Fort Ord totaled 31,270 in 1991. On January 19, 1990, the Secretary of Defense officially announced proposals for defense installation realignment and closures including the downsizing of Fort Ord.

The closure and reuse of Fort Ord precipitates significant impacts on the region's economy, population, and demography. This section provides a broad overview of these impacts on projected economic and demographic trends. Much of the information contained in this section is derived from the Sedway Kotin Mouchly Group's *Assessment of Planning Baseline and Market Data* (November 1995) for the Fort Ord Reuse Authority.

2.2.1 Existing Regional Demographics

The region includes the counties of Monterey, Santa Cruz and San Benito. According to AMBAG, the population of this region increased from 585,391 in 1990 to 605,227 in 1995, reflecting an average increase of 0.7 percent annually, a modest rate of growth. Monterey County grew at an average rate of 0.8 percent annually, a slightly stronger rate of growth, despite the closure of Fort Ord during this period. Monterey County dominates the region, comprising 61% of its population in 1995.

For the purpose of this analysis, Monterey County has been divided into two portions: (1) the Peninsula, which includes the former Fort Ord; and (2) the non-Peninsula communities, including the Valley. Demographically, the two areas are quite distinct, with the Peninsula representing a relatively affluent, high-cost, environmentally-sensitive and slow-growth area, and the Valley a vibrant and fast-growing area. Table 2.2-1 shows that the seven communities that generally comprise the Peninsula experienced population growth averaging 1.1 percent annually between 1980 and 1991, a moderate rate of growth. Approximately 70% of this growth was accommodated in the communities of Marina and Seaside, with only nominal growth in the other communities. Monterey Peninsula population peaked in 1991 and has declined in subsequent years, with modest declines in 1992 and 1993.

The Valley, on the other hand, has experienced strong population growth, averaging 2.5 percent annually between 1980 and 1995. During this period, nearly 83,000 persons were added to the population, of which 51%

were accommodated in Salinas. Growth rates were particularly strong in the emerging south county communities of Soledad, Greenfield and Gonzales.

Table 2.2-1 Historical and Recent Population Monterey County 1980-1995 (1)									
	1980	1985	1990	1991	1992	1993	1994	1995	Growth Rate 1980-95
Monterey Peninsula									
Carmel-by-the-Sea	4,707	4,499	4,241	4,268	4,326	4,440	4,421	4,512	-0.3%
Del Rey Oaks	1,557	1,475	1,661	1,648	1,661	1,691	1,693	1,692	0.6%
Marina	20,647	24,797	26,436	26,830	25,864	26,298	19,625	18,356	-0.8%
Monterey	27,558	29,581	31,954	31,818	32,314	32,122	32,904	32,587	1.1%
Pacific Grove	15,755	16,007	16,117	16,166	16,382	16,793	16,841	17,406	0.7%
Sand City	182	193	192	194	192	195	198	198	0.6%
Seaside	36,567	37,247	38,901	40,288	39,979	38,785	31,558	30,102	-1.3%
Subtotal Monterey Peninsula:	106,973	113,799	119,502	121,212	120,718	120,324	107,240	104,853	-0.1%
Salinas Valley Communities									
Gonzales	2,891	3,586	4,660	4,833	5,309	5,549	5,794	6,108	5.1%
Greenfield	4,181	5,218	7,464	7,711	7,977	8,440	8,723	9,159	5.4%
King City	5,495	6,651	7,634	7,825	8,307	8,753	9,108	9,697	3.9%
Salinas	80,479	94,570	108,777	110,675	112,895	115,822	119,840	122,390	2.8%
Soledad	5,928	6,346	7,146	13,886	13,817	14,693	15,406	15,635	6.7%
Unincorporated	84,497	93,787	100,474	95,418	97,603	102,044	104,794	103,154	1.3%
Subtotal Salinas Valley Communities:	183,471	210,158	236,155	240,348	245,908	255,301	263,665	266,143	2.5%
Monterey County Total:	290,444	323,957	355,657	361,560	366,626	375,625	370,905	370,996	1.6%
Notes:									
1. Figures for January 1 of each year, except for 1980 and 1990 which are April 1.									
Sources: California Department of Finance; Association of Monterey Bay Area Governments; and Sedway Kotin Mouchly Group.									

Household growth has mirrored patterns in population growth. During the 1980-to-1991 period, of 441 households were added annually on the Peninsula, but 906 households were lost annually during the following four years. In the Salinas Valley, an average of 1,069 households were added annually between 1980 and 1995. Overall, the County added an average of over 1,150 households annually during the past 15 years, despite the closure of Fort Ord.

The 1990 U.S. Census describes particular population characteristics of Peninsula residents, as follows:

- A small percentage of Peninsula households, or 1,084, are seasonal residents. About 58% of these households are located in Carmel (27%

of Carmel's households); most of the remainder of the seasonal households reside in Pacific Grove and Monterey.

- Carmel houses a high proportion of retirees, with 64% of its households aged 65 and over, according to the 1990 U.S. Census. The percentage of residents aged 65 and over totals 35% in Pacific Grove, 28% in Del Rey Oaks, and 24% in Monterey.
- Average household size is smallest in Carmel, with 1.82 residents per household, but is also relatively small in Pacific Grove, Monterey, Sand City and Del Rey Oaks, with between 2.16 and 2.39 residents per household. Marina and Seaside tend to house a higher proportion of families with children, with household sizes averaging 3.05 and 3.10, respectively.
- The Monterey Peninsula's overall population is predominantly Caucasian (over 80%). However, in Marina, Seaside and Sand City, Caucasian residents comprise between 47 and 63% of the total. Marina's Asian and African American populations represent a significant proportion of the total population; Seaside houses significant African American and Latino populations, and the small community of Sand City contains a largely Latino population.
- Median household incomes in 1989 were highest in Del Rey Oaks, Carmel, Pacific Grove and Monterey (\$33,000 and over), and were lowest in Seaside and Marina (\$28,655 and \$29,043, respectively). Sand City's small population was particularly low in income (\$16,875).

2.2.2 Existing Employment Trends

In 1990, the Monterey, Santa Cruz and San Benito counties area accommodated 250,200 wage and salary employees. Monterey County clearly dominates the region, with 64% of this total employment. AMBAG estimated a modest increase of 1.5 percent annually between 1990 and 1995 within the three-county region, or an average of 3,740 net additions annually. This produces a total of 268,900 jobs for the region in 1995. However, given losses experienced in Monterey County as a result of the closure of Fort Ord (discussed below), these employment increases would have necessarily been captured in Santa Cruz and San Benito counties. This assumption reflects that AMBAG's regional 1995 estimates are somewhat high.

Wage and salary employment in Monterey County peaked in 1990 with an average of nearly 160,000 jobs, reflecting an average annual growth of 1.0 percent since 1980. These figures include active duty military estimates

provided by AMBAG, in addition to figures assembled by the California Employment Development Department (EDD). Employment generally held steady through 1992, with a slight decline in 1993. Table 2.2-2 shows salary and employment trends in Monterey County.

Table 2.2-2 Wage and Salary Employment by Industry (1) Historical and Recent Monterey County 1980 - 1995								
Category	1980	1985	1990	1991	1992	1993	1994	1995
Agriculture	21,700	24,200	28,500	29,000	30,500	31,500	30,500	30,000
Mining	400	500	300	400	300	300	200	200
Construction	3,300	3,300	4,100	4,100	3,900	3,600	3,800	4,200
Manufacturing	8,900	8,800	9,500	8,600	8,900	9,100	9,000	8,300
Transportation & Public Utilities	5,200	4,700	4,700	4,700	5,100	5,100	4,800	4,500
Wholesale Trade	3,300	3,600	5,200	5,300	5,000	5,000	5,200	5,100
Retail Trade	19,400	23,400	24,900	24,000	23,800	23,800	23,600	23,500
Finance, Insurance & Real Estate	4,400	4,500	6,000	6,300	6,300	6,700	6,700	6,500
Service	19,600	24,000	28,100	27,800	28,200	28,100	28,200	28,300
Government								
Federal	7,300	8,600	8,600	8,200	7,900	7,300	6,200	5,200
State & Local	16,600	17,200	19,100	19,700	20,000	19,700	19,800	19,900
Active Duty Military	20,500	23,100	20,900	20,000	20,000	18,000	13,000	6,500
TOTAL:	130,600	145,900	159,900	158,100	159,900	158,200	151,000	142,200
Notes:								
1. All figures are for average annual employment.								
2. Estimated annual average, based upon first seven months of year.								
Sources: Economic Development Department, Annual Planning Information; Association of Monterey Bay Area Governments; and Sedway Kotin Mouchly Group.								

While EDD does not desegregate these data for the Peninsula and the Valley, it seems that the bulk of job growth between 1980 and 1992 was in the Valley. Between 1992 and 1995, most job losses were on the Peninsula. Although data are unavailable, it is likely that the Salinas Valley held steady during this period, and possibly experienced modest growth.

The largest employment sectors in Monterey County in 1995 are as follows: Agriculture (30,000 jobs), Services (28,300 jobs), Retail Trade (23,500 jobs) and federal, state and local government (25,100 jobs, not including active duty military). Wholesale Trade is the fastest growing employment sector, increasing its number of jobs by 55% over the 1980-to-1995 period. Mining, Manufacturing, Transportation and Public Utilities, and Federal Government are the only sectors that experienced an

overall loss of jobs during this time period, except for the major losses experienced in active duty military jobs directly resulting from the closure of Fort Ord. Between 1992 and 1995, 13,500 active duty military personnel jobs were lost. It is estimated that active duty military personnel currently include 3,500 at the Defense Language Institute, 2,500 at the Naval Postgraduate School, and 500 at Fort Hunter Liggett near King City.

It is estimated that between 40 and 45% of County employment is located on the Peninsula. However, with the closure of Fort Ord, this figure is probably closer to 40%. Thus, 1995 wage and salary employment is estimated to total around 57,000 on the Peninsula.

2.2.3 Impacts of Closure: Demographics & Employment

Between 1991 and 1995, the Peninsula lost a net total of nearly 16,400 persons, about 13% of its 1991 population. Marina and Seaside lost an estimated 18,700 persons, while Monterey, Pacific Grove and Carmel experienced some modest growth.

Job Losses: Closure of Fort Ord has resulted in a net loss of 18,000 jobs.

Close to 21,000 jobs were anticipated to be lost as a result of the Fort Ord closure. Actual losses largely occurred in 1994 and 1995, as follows:

Active Duty Military	13,500
Civilian	4,500
Total:	18,000

A significant decline of 4.6 percent in employment was experienced in 1994, reflecting the full down-sizing of Fort Ord and spin-off impacts. During the first seven months of 1995, with the closure of Fort Ord, employment declined a further 5.8 percent. Assuming that there has been some nominal employment growth in the Salinas Valley and in the Peninsula's tourism industry, the secondary impacts of Fort Ord's closure exceed losses of the 4,500 civilian jobs (including directly employed civilians). As of July 1995, Monterey County's unemployment rate was a relatively high 9.3 percent.

2.2.4 Demographic Forecasts

For the three-county region, AMBAG forecasts population to grow from 605,200 in 1995 to 654,100 in 2000, reflecting an average annual growth rate of 1.6 percent, compared with the relatively anemic 0.7 percent annual growth rate achieved during the past five years. Between 2000 and 2015, AMBAG forecasts an annual rate of growth of 1.4 percent, for a to-

tal of 811,100 residents in 2015. While comprising 60% of the regional population in 1995, Monterey County is expected to represent 64% in year 2015.

Table 2.2-3 reflects AMBAG's forecasts for population growth in Monterey County and does not include CSUMB students. AMBAG's 1995 estimates are lower than those provided by the State Department of Finance on Table 2.2-1, which are based upon more recent data. Assuming the relative accuracy of the State data, the Peninsula has not suffered from population loss to the extent that was anticipated by AMBAG.

Table 2.2-3 Population Projections Monterey County 1995-2015						
	1995	2000	2005	2010	2015	1995-2015
Monterey Peninsula						
Carmel-by-the-Sea	4,350	4,671	4,791	4,846	4,930	0.6%
Del Rey Oaks	1,553	1,674	1,696	1,709	1,721	0.5%
Marina	16,595	18,950	28,040	36,590	43,688	5.0%
Monterey	31,378	32,727	34,193	34,826	36,419	0.7%
Pacific Grove	15,987	16,758	17,216	17,630	18,151	0.6%
Sand City	227	592	905	975	1,006	7.7%
Seaside	26,942	28,650	32,747	39,432	47,132	2.8%
Subtotal Monterey Peninsula:	97,032	104,022	119,588	136,008	153,047	2.3%
Salinas Valley Communities						
Gonzales	6,000	7,200	7,600	8,200	8,500	1.8%
Greenfield	9,301	10,800	11,500	12,000	12,600	1.5%
King City	9,450	10,190	10,730	11,140	11,840	1.1%
Salinas	124,702	141,521	160,448	175,995	194,765	2.3%
Soledad	18,290	20,380	21,300	22,200	23,400	1.2%
Unincorporated	96,673	100,058	109,129	113,080	115,817	0.9%
Subtotal Salinas Valley:	264,416	290,149	320,707	342,615	366,922	1.7%
Monterey County Total:	361,448	394,171	440,295	478,623	519,969	1.8%
Sources: Association of Monterey Bay Area Governments; and Sedway Kotin Mouchly Group.						

AMBAG's forecasts project relatively modest growth for the Peninsula between 1995 and 2000, with rather stronger growth in the Valley. This reflects the initial stages of recovery on the Peninsula following the closure of Fort Ord and continued strong growth in the Valley. During the following 2000-through-2015 period, however, AMBAG anticipates strong growth on the Peninsula, with an average annual growth rate of 2.61 percent. During this period, an average of nearly 3,300 persons are expected to be added annually to the Peninsula's population. Approxi-

mately 84% of this growth is anticipated to be accommodated in Marina and Seaside, reflecting the redevelopment and reuse of the the former Fort Ord property.

The median age for Monterey County residents was 29.5 years in 1990, and is projected to increase slightly over the next several decades as shown in Table 2.2-4. In 1990, the largest age cohort in Monterey County was 25 to 34 years, accounting for 19.5% of the overall population. Projections through the year 2020, however, indicate that residents between the ages of 10 and 44 years will account for a smaller percentage of the overall population, while residents 45 years of age and older will represent a greater share. The age group projected to increase the most between 1990 and 2020 is the 55 to 64 years cohort. In 1990, this cohort accounted for 7.0 percent of Monterey County's population; by 2020, this cohort is projected to represent 10.6 percent of the overall population. This pattern generally reflects national trends but is accentuated by the Monterey Peninsula's appeal to pre-retirement and retirement households.

Table 2.2-4
Estimated and Projected Age Distribution
Monterey County
1990 Through 2020

Age Distribution	1990		Projected July 1, 2000		Projected July 1, 2010		Projected July 1, 2020	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Under 10	61,098	17.0%	77,757	18.8%	80,141	16.5%	102,866	17.9%
10 to 19	51,323	14.3%	66,797	16.1%	83,081	17.1%	85,555	14.9%
20 to 24	34,795	9.7%	28,940	7.0%	41,351	8.5%	44,694	7.8%
25 to 34	70,041	19.5%	57,293	13.8%	65,552	13.5%	90,149	15.7%
35 to 44	52,194	14.5%	64,656	15.6%	56,453	11.6%	64,409	11.2%
45 to 54	29,689	8.3%	50,598	12.2%	63,267	13.0%	55,394	9.6%
55 to 64	25,037	7.0%	27,602	6.7%	48,363	10.0%	60,652	10.6%
65 to 74	20,574	5.7%	20,842	5.0%	24,250	5.0%	43,085	7.5%
75+	<u>14,049</u>	<u>3.9%</u>	<u>19,529</u>	<u>4.7%</u>	<u>22,839</u>	<u>4.7%</u>	<u>27,278</u>	<u>4.8%</u>
Total Population	358,800	100.0%	414,014	100.0%	485,297	100.0%	574,082	100.0%
Median Age	29.5		31.0		30.3		30.6	

Sources: Department of Finance; Sedway Kotin Mouchly Group.

Non-household population in the Peninsula is projected to increase, reflecting the increasing number of students at CSUMB. For the Valley, only slight growth is projected for non-household populations. An increasing average household size for the Peninsula as more families are accommodated on the the former Fort Ord property. In the Salinas Val-

2015 Peninsula Population: If a substantial supply of new housing can be developed on the former Fort Ord during the first few years of development (1995 to 2000), the Peninsula could capture more than the projected 16% of County demand during this period.

ley, a declining average household size is forecast in keeping with national trends. Growth projections for the Peninsula follow:

- An increase of nearly 1,900 net new households annually between 1995 and 2000, of which only 16% would be accommodated on the Peninsula;
- The addition of over 2,800 new households annually between 2000 and 2005, of which 33% could be captured on the Peninsula;
- Over 2,500 new households to be added annually between 2005 and 2010, of which 43% would be accommodated on the Peninsula; and
- An increase of nearly 2,800 new households annually between 2010 and 2015, of which 43% would be captured on the Peninsula.

If a substantial supply of new housing can be developed on the former Fort Ord during the first few years of development (1995 to 2000), the Peninsula could capture more than the projected 16% of County demand during this period.

2.2.5 Employment Forecast

2015 Peninsula Employment: The successful redevelopment of the former Fort Ord will allow the Monterey Peninsula to potentially capture between 25 and 35% of County employment growth, or between 20,000 and 25,000 jobs between 1995 and 2015.

Within the three-county region, AMBAG forecasts that, between 1995 and 2000, regional employment will increase by an average of 1.1 percent annually, or a net addition of fewer than 3,000 jobs annually. Thus, during this period, employment will increase from 268,900 to 283,850. Between 2000 and 2015, nearly 3,500 net additional jobs are forecast annually, for an average annual increase of 1.1 percent. During this period, jobs are forecast to increase to 357,200. Between 1995 and 2015, employment is projected to increase by 88,300 in the region.

Monterey County is expected to capture much of the employment growth between 1995 and 2015. In 1995, the County is estimated to accommodate about 53% of regional employment. In 2015, AMBAG projects the County will accommodate 62% of regional employment.

Employment projections for Monterey County are shown in Table 2.2-5. According to recent AMBAG forecasts, County employment is expected to increase from 160,800 in 1990 to 221,600 in 2015. Based upon current 1994 figures from EDD, recent trends and known employment loss estimates due to the closure of Fort Ord, current total employment is estimated at about 147,000 in the County. This reflects a net loss of nearly 13,000 jobs during the 1990-to-1995 period. Given that the closure of Fort

Ord was estimated to precipitate a total loss of over 20,000 jobs, Monterey County has clearly experienced job gains in other sectors.

Between 1995 and 2015, AMBAG forecasts the creation of over 79,000 net additional jobs for the region. This rate of growth would produce a net additional 4,000 jobs annually and an average annual growth rate of 2.2

**Table 2.2-5
Employment Forecasts
Monterey County
1990 - 2015**

1990	1995	2015	<u>Percent Annual Increase</u>	
			1990 - 1995	1995 - 2015
159,900	142,200	221,600	-2.3%	2.2%

Sources: California Department of Finance; Association of Monterey Bay Area Governments; and Sedway Kotin Mouchly Group.

percent. Such job growth would not only replace the approximately 20,000-21,000 jobs lost as a result of the Fort Ord closure, but would add 58,000-59,000 jobs.

The successful redevelopment of the former Fort Ord will allow the Monterey Peninsula to potentially capture between 25 and 35% of County employment growth, or between 20,000 and 25,000 jobs between 1995 and 2015.

2.3 MARKET OPPORTUNITIES

Market analysis for the 2015 time period projects intensities of demand and capture for the following former Fort Ord land uses: Light industrial & business parks, offices and research and development, residential, retail, lodging facilities, and recreation. The information contained in this section was drawn from the Sedway Kotin Mouchly Group's *Assessment of Planning Baseline and Market Data*.

Table 2.3-1 shows the former Fort Ord's development and absorption potential. In summary:

- Light industrial/business park land uses could potentially occupy 1,137,000 sq. ft. of space at the former Fort Ord as 25% of the regional demand of 4.55 million sq. ft. is captured.
- The former Fort Ord stands to capture a total of 1,794,000 sq. ft. or 45% of demand for office and R&D space on the Monterey Peninsula, and an additional 750,000 sq. ft. of R&D from Santa Clara County firm demand.
- For housing, a capture of 6,520 new homes at the former Fort Ord is projected, representing a capture of about 18% of market rate new home demand in the county and 63% of demand on the Peninsula.
- A demand for 500,000 sq. ft. of local-serving retail is anticipated at the former Fort Ord.
- The former Fort Ord has the potential to capture 250,000 sq. ft. of regional and entertainment retailing by 2015, with an additional 250,000 sq. ft. anticipated by the ultimate buildout date.
- The former Fort Ord stands to capture 750 to 800 rooms or approximately 50% of Peninsula demand for lodging facilities.

2.3.1 Light Industrial/Business Park

Forecasts of light industrial and business park performance for Monterey County through 2015 have been prepared as part of the market analysis. Historical absorption has averaged between 125,000 and 175,000 sq. ft. annually. For the purposes of this plan, a mid-point of 150,000 sq. ft. annually for historical absorption is used.

Future forecasts are based upon an assumption of moderate economic growth in the county, particularly with the reuse and development of the former Fort Ord. As previously discussed, AMBAG forecasts the creation of about 79,000 additional jobs in the county between 1995 (after Fort Ord's closure) and 2015. This reflects a projected strong growth rate of 2.2 percent annually (this is slightly greater than the high rate of growth experienced in the county during the 1980s). A somewhat higher future

Table 2.3-1
Fort Ord Development and Absorption Potential
1996 - 2015

Land Use	FAR/ DU/AC	1996 - 2000 Sq. Ft./Units	Acres	2001 - 2005 Sq. Ft./Units	Acres	2006 - 2010 Sq. Ft./Units	Acres	2011 - 2015 Sq. Ft./Units	Acres	Total 1996 - 2015 Sq. Ft./Units	Acres
Light Industrial/R&D/Office											
Light Industrial/Business Park	0.25 FAR	206,250	21	250,000	25	306,250	28	375,000	32	1,137,500	106
Office/R&D	0.25 FAR	300,000	28	382,000	35	488,000	45	624,000	57	1,794,000	165
Induced demand	0.25 FAR	0	0	250,000	23	300,000	29	375,000	34	925,000	86
Subtotal (Sq. Ft.)		506,250	49	882,000	83	1,094,250	102	1,374,000	123	3,856,500	357
Residential											
Reuse of Existing Units		1,522	---	0	---	0	---	0	---	1,522	---
Reuse of Existing CSU Units		1,253	---	0	---	0	---	0	---	1,253	---
Detached											
Low Density	4 DU/AC	50	13	100	25	150	38	200	50	500	125
Medium Density	6 DU/AC	600	100	800	133	800	133	900	150	3,100	517
High Density	8 DU/AC	350	44	600	75	600	75	600	75	2,150	269
Attached											
Low Density	10 DU/AC	0	0	0	0	100	10	100	10	200	20
High Density	20 DU/AC	0	0	0	0	100	5	200	10	300	15
Subtotal (Units)		3,775	156	1,500	233	1,750	261	2,000	295	9,025	945
Retail											
Neighborhood/Community	.25 FAR	191,000	18	99,000	9	114,000	10	131,000	12	535,000	49
Regional/Outlet	.25 FAR	0	0	0	0	0	25	250,000	25	250,000	50
Subtotal (Sq. Ft.)		191,000	18	99,000	9	114,000	35	381,000	37	785,000	99
Lodging											
Conference Center	.20 FAR	0	0	200	15	0	0	0	0	200	15
Resort/Hotel (Golf-Oriented)	.25 FAR	300	20	0	0	300	20	200	15	800	55
Subtotal		300	20	200	15	300	20	200	15	1,000	70
Recreation											
Equestrian Center		0	0	---	.15	0	0	0	0	---	15
Golf Course		0	0	0	0	---	160	---	160	---	320

Sources: Sedway Kotin Mouchly Group.

rate of growth in overall demand for light industrial and business park space through 2015 is assumed, given stronger levels of demand anticipated for key industrial sectors. This forecast assumes that an effective reuse plan is implemented at the former Fort Ord. Utilizing a four percent annual growth rate in demand, projections of demand total approximately:

- 165,000 sq. ft. annually from 1996 to 2000;
- 200,000 sq. ft. annually from 2001 to 2005;
- 245,000 sq. ft. annually from 2006 to 2010; and
- 300,000 sq. ft. annually from 2011 to 2015.

A total addition of approximately 4.55 million feet of light industrial/business park space in Monterey County is projected for the next 20 years.

A large share of industrial and business park space in Monterey County has historically been captured in Salinas and in Castroville. Relatively little has been captured in the Peninsula area due to limited land supply at competitive prices. Recent strong response to a small business park development in Marina at relatively high prices is encouraging for the prospects of the former Fort Ord to capture such space. In addition, a small business park in Del Rey Oaks has largely sold out.

The current supply of light industrial and business park space is approximately equally divided between the Salinas Valley and the Castroville-Peninsula area. With a large supply of serviced land available in both areas, an approximately equal capture between the two areas during the next 20 years is expected. Thus, the Castroville-Peninsula area has the potential to capture over 2.27 million sq. ft. of light industrial/business park space during the next 20 years.

The former Fort Ord has the potential to capture 50% of Castroville-Peninsula demand, or 25 % of county demand, assuming substantial improvements in infrastructure (especially road connections to inland areas), availability of a wide range of site sizes and locations, moderately-priced housing availability (especially single-family homes in the \$150,000-to-\$275,000 price range), and the development of attractive business parks. The former Fort Ord will primarily compete with Castroville for this demand. To a lesser extent, small business parks in Marina will provide some competition. Following is a distribution of projected future light industrial business park space in Monterey County:

- 50% of demand captured in Salinas Valley;

- 25% of demand captured outside of the former Fort Ord within the Castroville-Peninsula area; and
- 25% of demand captured by the former Fort Ord.

In order to achieve this capture rate, substantial high-quality light industrial/business park properties will have to be developed within the former Fort Ord comprising at least 150 acres during the first 20 years of development. Such acreage would equal the size of the Castroville Industrial Park, the county's largest industrial park. Thus, by achieving 50% of Castroville-Peninsula demand, the former Fort Ord would approximately achieve its "fair share" capture, given the anticipated supply of competitive land and the attributes of competitive locations. Based upon this capture rate, the following total of industrial and business park demand could be captured at the former Fort Ord:

- 206,000 sq. ft. between 1996 and 2000;
- 250,000 sq. ft. between 2001 and 2005;
- 306,000 sq. ft. between 2006 and 2010; and
- 375,000 sq. ft. between 2011 and 2015.

Thus, a total of 1,137,000 sq. ft. of light industrial/business space could be captured at the former Fort Ord through 2015. In order to achieve this capture, highly competitive land prices must be offered. In current 1995 dollars, a land charge of between \$4.00 and \$5.00 per square foot has been estimated, assuming no major assessment fees.

2.3.2 Office and Research and Development

Projected Demand

Office and R&D projections are based upon Monterey County's recent and historical office absorption, which has averaged approximately 150,000 sq. ft. annually. For the period 1996 through 2000, demand for 150,000 sq. ft. of new space per year will continue. There is currently a significant inventory of vacant space to be filled, and efforts to draw significant firms, such as major R&D firms, will await the development of a critical mass of research activity at the UCMBEST Center and elsewhere in the county.

As the former Fort Ord and Peninsula economies mature, and as the UCMBEST Center is developed, CSUMB becomes better established, and a "critical mass" of R&D activity emerges, approximately five percent annual growth is projected in county-wide demand for office and R&D space, beginning in year 2001 through 2015. This assumes relatively strong growth in employment sectors that generate office and R&D demand, and the maturation of the Monterey Bay economy as an increasing number of

services are provided locally rather than depending on San Francisco Bay Area firms. Thus, projections show that Monterey County will capture office and R&D space per year as follows:

- 150,000 sq. ft. from 1996 to 2000;
- 191,000 sq. ft. from 2001 to 2005;
- 244,000 sq. ft. from 2006 to 2010, and
- 312,000 sq. ft. from 2011 to 2015.

The county is projected to generate demand for nearly 4.49 million sq. ft. of office and R&D space during the next 20 years. Accommodation of this demand, in addition to an existing inventory of high-quality office space of approximately 2.5 million sq. ft. will nearly triple the county's supply of office and R&D space during the next 20 years. Submarkets that could potentially capture this future supply are identified as follows:

- Carmel — there are limited additional development opportunities in this submarket.
- Downtown Monterey — sites could be assembled for new office development, but these are likely to be expensive and heavily regulated. Little capture is forecasted for this submarket.
- Garden Road Area — with only about 14 acres remaining, this area has little ability to capture future demand.
- Ryan Ranch — the highest quality office/R&D park in Monterey County, and with 138 available acres, Ryan Ranch will be the major competitive influence within the county during the next 20 years.
- Laguna Seca Office Park — this high-quality park is small, with only about 17 undeveloped acres. Thus, Laguna Seca will provide little competitive space.
- Salinas — thus far, Salinas has provided little high-quality office space. However, this is likely to change in the future.

Although Salinas has captured little office or R&D demand in the past, it is expected that the city will capture around ten percent of county demand during the next 20 years, for a total of nearly 449,000 sq. ft.. Thus, the remaining 4.036 million sq. ft. of space is forecast to be captured on the Peninsula. Should the former Fort Ord deliver 250 to 300 acres of high-quality and well-located office/R&D park land during the next 20 years, this property will be able to compete aggressively with Ryan

Ranch. The former Fort Ord could potentially capture 45% of this Peninsula demand. Following is projected former Fort Ord capture:

- 300,000 sq. ft. between 1996 and 2000;
- 382,000 sq. ft. between 2001 and 2005;
- 488,000 sq. ft. between 2006 and 2010; and
- 624,000 sq. ft. between 2011 and 2015.

Thus, a total capture of 1,794,000 sq. ft. of office/R&D space is projected at the former Fort Ord during the next 20 years.

This capture rate is based upon a somewhat limited new supply of suitable property for office/R&D development on the Peninsula and the development of excellent quality product at the former Fort Ord. This analysis further assumes substantial improvements in infrastructure (particularly road connections to Salinas and Highway 101), affordable and managerial housing availability, and the provision of attractive and desirable office and R&D parks. According to preliminary plans, these parks will be provided within strategic locations around the former Fort Ord property.

Table 2.3-2 shows a projection of distribution of supply and demand for office and R&D space on the Peninsula. As indicated, the former Fort Ord is projected to capture 45% of demand. Existing space and existing and inventory in Ryan Ranch, Laguna Seca Office Park, and in the Garden Road area could accommodate most of the non-Fort Ord Peninsula demand. These parks will be expanded or new office/R&D parks will be developed.

Table 2.3-2
Distribution of Projected Supply and Demand Office and R&D Space
Monterey Peninsula, 1996-2015

Projected Demand	Square Feet
Total Peninsula	4,036,000
Fort Ord Capture	1,794,000
Non- Fort Ord Capture	2,242,000
 Projected Supply	
Excess Current Inventory	151,500
Supportable on Current Land	1,000,000
Other	90,500
Fort Ord	1,794,000
Total	3,036,000

Source: Sedway Kotin Mouchly Group

Additional Demand

The potential exists to attract additional R&D users to the former Fort Ord, over and above the projections provided above. This assumes 1) an

aggressive and concerted regional marketing effort; 2) the development of research laboratories and/or other venues for facilitating university and private sector joint research and technology transfer; and 3) the attraction of prominent faculty to the former Fort Ord, through either of the universities.

As the world's pre-eminent center of technology research, nearby Santa Clara County is a likely source to target firms that could benefit from a the former Fort Ord location. Santa Clara County firms have absorbed an annual average of between 2.5 and 3.0 million sq. ft. of R&D space within the county between 1980 and 1995. Successful firms are continually evolving, requiring new space for their changing needs and setting up new divisions that can operate away from corporate headquarters. Between internal "Silicon Valley" expansion and relocation of portions of the firm outside the area, Santa Clara County firms generate a demand for between 3 and 4 million sq. ft. annually.

Santa Clara County was targeted for several major reasons:

The county is the closest major employment center to the Peninsula, located less than two hours away by automobile.

The county is the largest generator of new economic activity in the State of California, and possibly the United States. Forecasts indicate that this is likely to continue to be the case for the foreseeable future.

Economic sectors in which the Peninsula is likely to have an economic advantage, particularly with the establishment of the UCMBEST Center, are heavily concentrated in Santa Clara County.

Santa Clara County economy is positioned for a promising future during the next decade. Its prospects have seldom been as favorable as they are currently. Local industries are extremely dynamic and responsive to market changes, are highly cost competitive, and have attracted many of the world's best researchers.

When selecting sites for expansion or locating new or expanded divisions, most high-technology firms prefer to remain local. However, given high costs associated with Santa Clara County and adjacent county locations (land costs, salaries, and taxes), firms sometimes seek locations that are within two to three hours driving distance, or within two hours flight distance. In order to remain within two to three hours driving distance from headquarters, some firms have sought locations in the Sacramento, Santa Rosa and Scotts Valley areas. However, most firms relocating a division have chosen to locate out-of-state, where significant cost reductions can be

achieved. Favored locations include Arizona, Nevada, Oregon, Idaho and Utah. Some firms tolerate more distant locations such as Texas. Thus, to capture a significant portion of Santa Clara County spin-off demand will be difficult and highly competitive. The former Fort Ord will need to offer significant advantages, including the following:

- Opportunities for joint university, institute, and private sector research (possibly also with government research involvement);
- A defined and operative program for technology transfer;
- Access to major research activity in California;
- Access to convenient, diverse and moderately-priced housing; and
- Good transportation to corporate headquarters.

With well-conceived and aggressive marketing efforts, the former Fort Ord could capture some of this R&D demand from the Silicon Valley. Based on a demand for one million sq. ft. of space out-of-county annually, the former Fort Ord could capture a significant share of this demand. Assuming that a critical mass of R&D users are attracted and research activity at UCMBEST Center is established by the year 2000, a capture is forecast of four percent annually between 2001 and 2005; five percent annually between 2006 and 2010; and six percent annually between 2011 and 2015. Thus, over this 15-year period, capture of an additional 750,000 sq. ft. of R&D demand generated by Santa Clara County firms is projected.

Santa Clara County is the strongest potential source of demand for R&D space at the former Fort Ord. This is due to several factors, including the vibrancy and growth of the electronics, software and technology economy centered there, the attraction that CSUMB and the UCMBEST Center will provide for such industries, and its proximity to the former Fort Ord. While industries are scattered throughout the country that might find the former Fort Ord to be an attractive location, distance will be a strong deterrent. In addition, few industries are likely to relocate into California. Nonetheless, industries located in Southern California and elsewhere will find the former Fort Ord an attractive location. These out-of-area firms will generate between 20% and 25% of additional demand. Thus, demand is forecast for approximately 925,000 sq. ft. of out-of-area space by the year 2015.

3.3 Residential Uses

Residential development will be critical at the former Fort Ord to achieve the employment-generating development capture rates projected above.

The existing 1,522 units of family housing in Marina that have potential for reuse have been examined. These units, located in Patton, Creston and

Abrams parks, could either be used as rental or for-sale condominium units. Currently, they are vacant and deteriorating rapidly. Since conveyance of these units by the U.S. Army is still in the distant future, the most probable immediate reuse would be to refurbish the units and operate them as rental units under an agreement with the U.S. Army. However, in the future after conveyance, many of these units could be sold as condominiums. With a high-quality renovation, these units could sell in the broad price range as low as \$95,000 for two-bedroom units in Patton Park to over \$160,000 for the largest units in Preston and Abrams parks. These units can be rented in a phased approach to prevent flooding the private market. Over a ten-year period, the rental program could be reduced as large clusters of units are sold to private developers for conversion to condominiums. Some units might most appropriately remain as rental units. While the leasing program should be implemented during the first five years to avoid deterioration of the units, a substantial sales program could be effectively implemented over a ten-year period.

The 1,253 units in Schoonover and Fredericks parks are now under the ownership of CSUMB. As a result, it is assumed that the university will renovate these units to house faculty, staff and students.

AMBAG and reuse plan employment projections show demand for about 1,900 additional residential units annually in Monterey County between 1996 and 2000. This demand is projected to increase to 2,800 new units annually between 2001 and 2005, decline slightly to 2,500 units annually between 2006 and 2010, and resume the 2,800 units annual level between 2011 and 2015. Of this demand, about 70% is estimated to support market-rate new home construction (not including the affordable reuse units at the former Fort Ord discussed above).

The Monterey Peninsula captured nearly 28% of county demand for new homes between 1980 and 1994. In recent years, this capture has been substantially less, averaging less than 20% annually during the past five years. However, the Peninsula has been constrained in terms of land supply available for housing development. In addition, the new employment centers forecast at the former Fort Ord will generate additional housing demand. Due to the assumed reuse of the former Fort Ord, the Peninsula will increase its capture of new market rate homes during the next 20 years from recently achieved rates, capturing about 25% annually between 1996 and 2000, increasing to about 35% annually between 2011 and 2015. Thus, Peninsula demand would average as follows:

- 335 homes annually between 1996 and 2000;
- 490 homes annually between 2001 and 2005;
- 525 homes annually between 2006 and 2010; and

- 685 homes annually between 2011 and 2015.

The total Peninsula is forecast to capture over 10,000 new market rate homes during the next 20 years.

The former Fort Ord has the potential to capture a substantial share of Monterey Peninsula housing demand and a considerable share of county demand. This forecast is due both to the large supply of land that will be available for housing development and to the proposed major new employment centers at the former Fort Ord. The former Fort Ord could capture about 15% of the county's new housing demand during the early years, or about 60% of Peninsula demand. This capture is forecast to increase to 20% of county demand in the later years of development during the 2006-through-2015 time frame.

Following is a former Fort Ord capture of housing demand schedule:

- 1996 to 2000 — The former Fort Ord has the potential to capture 15% of the county's new home demand, for an average of about 200 units per year. This equates to a capture of about 60% of Peninsula demand. Thus, a total of about 1,000 new units could be captured during this period. Only five percent of these homes should be "upscale," or priced in the \$300,000 and above range. The remainder should be priced in the \$150,000-to-\$299,000 range, at densities of six to eight units per acre.
- 2001 to 2005 — The former Fort Ord has the continued potential to capture 15% of county new home demand, for an average of about 300 units per year. This equates to a capture of about 61% of Peninsula demand. Thus, a total of about 1,500 new units could be captured during this period. Only about seven percent of these homes should be "upscale," or priced in the \$300,000 and above range. The remainder should be priced in the \$150,000-to-\$299,000 range, at densities of six to eight units per acre.
- 2006 to 2010 — Following more substantial employment growth, the former Fort Ord has the potential to achieve an increased capture of 20% of county new home demand, for an average of about 350 units per year. This equates to a capture of about 67% of Peninsula demand. Thus, a total of about 1,750 new units could be captured during this period. Only about nine percent of these homes should be "upscale," or priced in the \$300,000 and above range. Between 10 and 12% should be multifamily, including a combination of rental apartments and townhome condominiums. The remainder should be priced in the \$150,000-to-\$299,000 range, at densities of six to eight units per acre.

- 2011 to 2015 —During this period, strong employment growth should be attained, and the former Fort Ord will have the potential to achieve a continued capture of 20% of county new home demand, for an average of about 400 units per year. This equates to a Peninsula capture of about 58%. Thus, a total of about 2,000 new units could be captured during this period. About ten percent of these homes should be "upscale," or priced in the \$300,000 and above range. Approximately 15% should be multifamily, including a combination of rental apartments and townhome condominiums. The remainder should be priced in the \$150,000-to-\$299,000 range, at densities of six to eight units per acre.

In summary, a capture of 6,250 new homes at the former Fort Ord is projected, representing a capture of about 18% of market rate new home demand in the county and 63% of demand on the Peninsula. These capture rates are reasonable in view of historical patterns, available developable residential land, commute patterns, the desirability of new home communities planned at the former Fort Ord, and new employment centers forecast for the former Fort Ord.

In general, low-density single-family detached homes are defined as custom or semi-custom homes on lots averaging around 10,000 sq. ft.. These upscale homes will be best received if offered on sites having particularly high environmental quality, including either distant, open space or golf course views. Homes along golf course frontages could achieve high prices with lots smaller than 10,000 sq. ft.. Pricing in the range of \$300,000 and higher could be achieved on a number of sites at the former Fort Ord.

Medium-density single-family detached homes, comparable to several production home subdivisions in northern Salinas, would be priced at an average of between \$200,000 and \$275,000 on average 6,000-square-foot lots. This product will have the strongest demand at the former Fort Ord.

High-density (small-lot) single-family detached homes on 4,500- to 5,000-square-foot lots would be priced at an average of between \$150,000 and \$200,000.

Townhome products are recommended to be introduced to the former Fort Ord after 2005 in order to avoid burdening the market with too much multifamily product, including the reuse of existing military housing. Pricing should average between \$125,000 and \$150,000.

Production of rental housing is not recommended during the first ten years of development at the former Fort Ord due to the abundance of this

housing type existing in local jurisdictions. However, after 2005, demand will exist for new high-quality rental product. Nevertheless, only a modest amount of rental product is likely to be needed through 2015.

Of the new housing potential at the former Fort Ord, eight percent of units are forecast at prices of \$300,000 and above. According to the U.S. Census, in 1990, 0.8 percent of homes in Marina, 1.2 percent of homes in Seaside, and 4.2 percent of homes in Del Rey Oaks were valued at \$300,000 or higher. Values have declined during the past five years, however. Carmel, Monterey and Pacific Grove have decidedly higher percentages of homes in this price range, but their established environments, prestige and image will be difficult to duplicate. However, the forecast capture of expensive homes at the former Fort Ord will substantially increase the supply of homes in the \$300,000 and above price range in their respective communities.

As discussed above, the largest number of homes forecast for development at the former Fort Ord, comprising 50% of the total, is projected to be priced in the \$200,000-to-\$275,000 range. A mid-point of this range is about \$235,000. This compares with a 1990 median value of \$172,500 in Marina, \$150,000 in Seaside, and \$221,000 in Del Rey Oaks. As previously discussed, values have declined in recent years. Thus, the bulk of new housing projected for the former Fort Ord will be priced at levels substantially above the medians for existing homes in communities immediately surrounding the former Fort Ord.

Much of the residential demand at the former Fort Ord will be derived from employment generated on the property. Forecasts show total employment between 13,400 and 22,900 at the former Fort Ord by 2015. A mid-point average totals 18,172 employees. Table 2.3-3 shows a profile of average wages by projected land use. As a result, an average income of nearly \$27,100 is forecast in 1995 dollars. This wage compares with a Monterey County average of \$22,800.

A single-wage household earning an average wage at the former Fort Ord is unlikely to be able to afford a home priced much above \$90,000, unless that household has accumulated savings that would cover more than a ten percent down payment.¹ However, at least 50% of households are likely to contain a second wage earner. Given two average incomes totaling \$54,200 annually, a home of about \$190,000 would be affordable. Assum

¹ Assumes 90% financing at 8% for 30 years, and that 30% of income is available for housing costs including property taxes.

Table 2.3-3
Projected Average Wages by Land Use
Fort Ord

Land Use	Number of Employees (1)	Average Wages (2)
Lt. Industrial/Business Park	2,370	\$31,576 (3)
Office/R&D	9,517	\$31,018 (4)
Retail	1,787	\$15,053
Lodging	1,000	\$16,751
Recreation	153	\$15,053 (5)
Institutional	3,345	\$22,832 (6)
Total/Weighted Average	18,172	\$27,094

1. Employment at buildout; average of projected range

2. Adjusted by CPI (wage earners, 10-county area) from County Business Patterns 1992 for Monterey County.

3. Average of construction, manufacturing, transportation, communication and utilities, and wholesale trade.

4. Average of finance, insurance and real estate, business services, legal services, engineering services, and electronics.

5. Assumed same as retail. 6. Assumed same as average for all jobs

Source: Sedway Kotin Mouchly Group

ing an income at a mid-point between these two extremes of about \$40,000, a home of about \$140,000 would be affordable.

In summary, the three income points relative to home prices are as follows:

<u>Annual Income</u>	<u>Affordable Home Price</u>
\$27,000	\$ 90,000
\$40,000	\$140,000
\$54,000	\$190,000

In higher priced home categories, buyers are typically "move-up" households, having sold a home prior to the move. As a result, these households have typically built up equity that can be used as a down payment on a new home. This equity results in greater home affordability than could be justified by income alone.

Homes in the \$90,000-to \$160,000 range would be provided through reuse of military homes on the property, and townhomes would also be affordably priced in the \$125,000-to-\$150,000 range. The majority of homes recommended would be priced in the \$150,000-to-\$299,000 range, affordable to most two-income households and those employed in the former Fort Ord planning area.

2.3.4 Retail

Convenience, neighborhood and community retail center development will be supported by capturing most local-serving on-site demand gener-

ated by residents, on-site employees and students. During the first 20 years, a demand for approximately 535,000 sq. ft. of such space is projected. This equates to three neighborhood or community centers along with two or three small convenience retail centers.

To determine this neighborhood and community retail center capture, the following assumptions were employed:

- An average of 2.8 persons per household at \$3,500 per capita annually for convenience goods expenditures (from taxable sales data);
- An average expenditure of \$1,000 annually for each employee at the former Fort Ord on retail and eating and drinking near work, utilizing a mid-point projection of about 18,000 (based on a study by the International Council of Shopping Centers);
- An average off-campus expenditure of \$1,000 annually per student for convenience goods and entertainment;
- A Fort Ord capture of 90% for convenience goods; and
- Supportable sales volume of \$200 per sq. ft.

This calculation indicates a demand for 535,000 sq. ft. of local-serving retail space.

The Peninsula has been highly successful in attracting retail sales from regional customers, including those from Santa Cruz County, as well as tourists. Expansion of regional "value-oriented" retailing has been substantial in recent years. However, with a small population base, moderate population growth, and near-term plans for the expansion of a regional power retail center in San Jose, there is little additional demand for regional retailing on the Peninsula.

Although Monterey, Carmel and Pacific Grove provide a substantial supply of specialty and entertainment retailing, much of this is tourist-oriented. Expected demand will support a regional entertainment retail center at the former Fort Ord, focused on serving local residents. This center could include new emerging retail concepts, a cineplex, restaurants, and specialty shops. There will be demand for approximately 250,000 sq. ft. of such space during the 2011-through-2015 period at the former Fort Ord. However, sufficient acreage should be allocated to allow for an eventual expansion to 500,000 sq. ft..

As previously discussed, the population of the Peninsula is forecast to increase by a total of 56,000 between 1995 and 2015. Using a commonly-used industry demand standard of one cinema screen per 10,000 population, the Peninsula should be able to support an additional 5 to 6 screens

by 2015. Thus, the potential cineplex at the former Fort Ord could potentially accommodate four to five screens.

The former Fort Ord could possibly capture more than the expected 250,000 sq. ft. of regional and entertainment retailing by 2015. Regional retailers are constantly changing. In addition, there is a potential for a factory outlet center. However, given demand projections, additional regional retail capture would likely be at the expense of existing retailing on the Peninsula, including high-volume promotional centers in Sand City and Seaside, and an existing factory outlet center in Pacific Grove.

2.3.5 Lodging Facilities

First-class hotels and conference centers on the Peninsula have a total of over 3,000 rooms. Including smaller and more economical, but good quality, establishments, there are over 9,000 rooms. Tourism to the Peninsula and particularly demand for conference facilities have been increasing, largely driven by economic activity in California. As previously discussed, room rates have been increasing at an annual rate of around 2.5 percent, and occupancy rates have been increasing at an annual rate of one percent. As California emerges from its recent recession, demand for rooms on the Peninsula is likely to increase significantly. Utilizing a two percent annual increase in the demand for first-class hotels during the next 20 years shows a demand for an additional 1,500 rooms in high-quality hotels on the Peninsula.

The former Fort Ord could capture about 750 to 800 of these rooms, or between 50 and 53% of total demand. These hotels should have excellent conference facilities, and the bulk of the rooms should be located in golf course-oriented facilities. This estimate is a substantial capture of demand that considers that few new hotels are otherwise likely to be developed on the Peninsula. Other than a few highly controversial hotels proposed in the Coastal Zone in Sand City and Marina, few other new facilities are likely to be developed.

In addition, there is also demand for a smaller focused corporate conference facility and spa. There is a small and growing niche market for such facilities, and the Monterey Peninsula currently lacks such a facility. Its resort orientation, reputation and environment make it an ideal location.

2.3.6 Recreation

Recreational amenities should be developed at the former Fort Ord to support other activities. Additional golf courses could be supportable at the former Fort Ord during the next 20 years, if offered in conjunction

with residential communities and hotel/conference centers. Currently, golf course demand is high, with all Peninsula facilities achieving a high volume of rounds and high fees. As visitors and population increase on the Peninsula, there will be a corresponding increase in demand for golf courses.

A high-quality equestrian center, which offers boarding, training and show activities, could be accommodated. As such facilities are typically unable to support market land costs, an equestrian center might best operate under a ground lease. A professionally operated facility, providing training, shows and events in addition to boarding, can be a self-sustaining and profitable operation.

An equestrian center is not a traditional market-driven use. Typically, operations cannot support capital and land costs. Thus, such facilities are typically either subsidized by a developer as an amenity to a community, operators seek locations where land is inexpensive, or sites are obtained on and lease at favorable rates. A well-managed facility can achieve sufficient revenue to cover capital and operating costs, assuming land costs are inexpensive. Nevertheless, successful implementation of a profitable equestrian center is a major challenge. However, such a center would serve as an amenity to the former Fort Ord's hotels and residents.

2.3.7 Employment

The employment-generating impacts of reuse of the former Fort Ord are indicated in Table 2.3-3. Utilizing standard industry factors for various and uses, an estimate of between 13,400 and 23,000 jobs are projected to be generated by 2015. These figures do not include off-base multiplier employment.

This projected employment reflects jobs that will be occupied by current Monterey County residents and by new residents who will be attracted to the area by these jobs. Some of these jobs will be occupied by CSUMB students, working either part-time or full-time.

2.4 REUSE CONSIDERATIONS

Reuse planning is directly influenced by the Federal legislation procedures that govern military base closures.

2.4.1 Base Closure and Realignment Commission (BRAC)

In 1988, Congress enacted the Base Closure and Realignment Act to establish a process for closing military bases. As part of this process, the Act established an independent commission to review DoD recommendations for closure.

In 1990, Congress enacted the Defense Closure and Realignment Closure and Realignment Commission (BRAC) be reconstituted for each round of base closures, and that its members be selected by the President and confirmed by the Senate. The DoD developed detailed regulations to implement the statute.

The BRAC process requires that each branch of the services analyze its bases according to criteria established by the DoD regulations. Each branch makes its recommendations for closure to the Secretary of Defense, who in turn makes a recommendation which is relayed to the BRAC for independent assessment. The BRAC then submits its final recommendations to the President who can either approve the BRAC list or return it for revisions within a prescribed time period.

Once the President approves the BRAC's recommendations, Congress has 45 days to reject the entire list. If Congress does not act, the list becomes final. DoD is then required to begin closing the listed bases within two years, and to complete the closures within six years.

Fort Ord was included in the 1991 round of military installations listed for closure by the BRAC.

2.4.2 National Reuse Model

The Fort Ord closure process was designated a National Model for base conversion by Secretary of Defense, Dr. William Perry, in September of 1993. Fort Ord was the only base awarded this special status from the 1991 round of base closures. Fort Ord was chosen because of the unique opportunity to meet key defense conversion goals by utilizing education and research to create quality jobs as part of the President's desire to expedite communities' rapid economic recovery from base closures.

2.4.3 PBC, EDC Process

Public Benefit Conveyances

Through the base closure process, State and local government agencies as well as non-profit institutions which serve a specific public purpose can receive property at no cost or at a discounted price through the Public Benefit Conveyance (PBC) process. All entities who want to be considered for a PBC must submit a statement of interest to the Local Reuse Authority (LRA) within the same time frame as the homeless providers. However, groups requesting a PBC must also obtain a sponsoring federal agency. At the former Fort Ord, a total of 34 PBC's were filed, of which 11 were McKinney Act requesters. FORA is in the process of resolving any conflicts in requests.

McKinney Act

The McKinney Act, which was passed in 1987, mandates that the needs of the homeless must be addressed as part of the base closure process. Most provisions of the Act deal with services and programs for homeless people related to interagency coordination: emergency food and shelter, housing assistance, health care, education and training, and food assistance. However, Title V of the Act specifically addresses use of underutilized federal buildings and personal property for assisting the homeless. All property is to be provided to the homeless providers at no cost, although it can be "leased" rather than given to the homeless providers through title transfer.

The former Fort Ord, as a 1991 BRAC closure site, is subject to the McKinney Act in implementing reuse plans and transfer of buildings and property.

Economic Development Conveyance

The Defense Authorization Act of 1993 created a new conveyance mechanism allowing LRAs to request property specifically for economic development purposes. This mechanism, the Economic Development Conveyance (EDC) provides communities with considerably more flexibility and local control over development than was possible under the previous regulatory framework. The LRA can hold and manage the property over the long-term, or sell the property and retain the proceeds to finance infrastructure and other improvements necessary to support future development. The ability to control these real property interests and to benefit locally from any market transactions creates a powerful mechanism for local communities to proactively support economic development and job generating activities that replace the economic benefits to the local economy lost through the base closure process. However, the LRA must also share any net proceeds from real estate transactions, after subtracting the costs of infrastructure improvements, with DoD.

LRAs may obtain property through an EDC at a cost that is either at or below fair market value. However, since this mechanism is relatively new, DoD and the various branches of the military are still exploring options for valuing property and negotiating with the local communities. FORA will be submitting an EDC application for the lands at the former Fort Ord that have not already been conveyed or are not subject to an approved PBC application.

At the former Fort Ord, major conveyances consist of:

*Major Conveyances:
Conveyances in progress or completed for:*

- BLM
 - UCMBEST
 - Marina Municipal Airport
 - CSUMB
 - California DPR
- A Memorandum of Understanding with the Bureau of Land Management for the Habitat Protection area;
 - An economic development conveyance to California State University for CSUMB;
 - An economic development conveyance to the University of California for the UCMBEST Center;
 - A public benefit conveyance to the City of Marina for the Marina Municipal Airport;
 - And a public benefit conveyance to the California Department of Parks and Recreation for state park lands.

FORA is in the process of screening 11 public benefit conveyance requests received in compliance with the McKinney Act.

2.4.4 NEPA/CEQA Compliance

The National Environmental Policy Act (NEPA) creates a federal environmental review process for major federal projects, including military property disposal, cleanup and reuse activities.

The 1990 Base Closure Act specifies that NEPA does not apply to actions of the President, the Commission, and the DoD except "(i) during the process of property disposal, and (ii) during the process of relocating functions from a military installation being closed or realigned to another military installation after the receiving installation has been selected but before the functions are relocated." NEPA does not apply to the BRAC 1991 deliberation and decision process, nor to the closing action itself, but does apply to disposal and reuse of property.

Revising the FORG's Initial Reuse Plan so that it more closely reflected the Army's preferred alternative resulted in the Army's December 3, 1993 Record of Decision (ROD). This ROD will dictate the Army's NEPA review.

In compliance with the National Environmental Protection Act and the California Environmental Quality Act, FORA will be the Lead Agency in preparing an Environmental Impact Report (EIR) on the closed Federal military facility at Fort Ord. It will analyze an ultimate buildout scenario for the approximately 27,964 acre former Fort Ord facility. Public Resources Code Section 21083.8 allows FORA, local governments, and governmental entities meeting the definition of a redevelopment agency to rely in part on the Fort Ord Disposal and Reuse Environmental Impact Statement (EIS) and the Draft Fort Ord Disposal and Reuse Supplementary Environmental Impact Statement (SEIS) in preparing this EIR on a Reuse Plan to avoid duplication and to utilize or build on the environmental work already completed by a federal agency in a manner consistent with the CEQA.

EIR: the EIR on the Reuse Plan will rely in part on the Fort Ord Disposal and Reuse Environmental Impact Statement (EIS) and the Draft Fort Ord Disposal and Reuse Supplementary Environmental Impact Statement (SEIS).

1.4.5 Habitat Management Plan

The December 3, 1993 ROD for the Army's final EIS committed the Army to the development and coordination of an installation-wide multi-species habitat management plan (HMP) as an Army mitigation responsibility. The HMP enabled the United States Fish and Wildlife Service (USFWS) to issue the Army a non jeopardy Biological Opinion under section 7 of the federal Endangered Species Act (ESA):

The HMP is to be developed to support binding legal agreements among the receiving jurisdictions, the Corps and the Service that would establish detailed plans to manage lands designated for natural resources conservation. The HMP would describe the specific management goals for each parcel and provide detailed procedures for the enhancement, restoration, and management of subject parcels, and methods to fund these activities...Recipients of disposed or transferred lands would be required to follow landuse guidelines established in the HMP.

HMP: The HMP will serve as a mitigation plan for the implementation of the Reuse Plan.

The biological opinion included an assumption that reuse would generally follow the land uses described in Alternative 6R of the final EIS, but deferred specific land use guidelines and parcel by parcel restrictions to the HMP. Therefore the HMP becomes the controlling document for the federal Endangered Species Act and National Environmental Policy Act compliance relative to vegetation and wildlife resources at the former Fort Ord.

The HMP identified parties responsible for holding and maintaining these conservation areas and habitat corridors in perpetuity. Most jurisdictions with interests in the former Fort Ord land were assigned some (direct or indirect) habitat management responsibilities under the HMP. Four principal entities were identified as recipients of the largest, most important

conservation areas and corridors. These entities were the Bureau of Land Management (with approximately 15,000 acres in the interior of the base), the University of California Natural Reserve System (with about 600 acres of prime maritime chaparral habitat reserve in the Fritzsche Field area), the California Department of Parks and Recreation (scheduled to receive virtually all the beach frontage and coastal dune land west of Highway 1, comprising nearly 1,000 acres) and Monterey County (with over 1,000 acres in key habitat and corridor areas between the developed parts of the base and the inland range areas). The requirements, restrictions and guidelines established in the HMP are passed on to each of the recipients of disposed land through separate memoranda of agreement (MOAs) and deed covenants. Acceptance of designated habitat land (with its covenants) and execution of the MOA binds those recipients to a commitment to manage the land for habitat purposes in perpetuity.

2.4.6 Environmental Remediation

Cleanup: Successful reuse of the former Fort Ord requires the Army to clean up each parcel on the base to the level required for its intended use as designated by this document.

Cleaning up contaminated property is a critical part of the legal process for transferring ownership of military property. Under federal law, title may not be transferred until the toxic or hazardous situation is remedied, or the remediation process is in place and operating correctly. Successful reuse of the former Fort Ord requires the Army to clean up each parcel on the base to the level required for its intended use as designated by this document. The duration and nature of clean-up activities will affect interim and long term reuse implementation.

The former Fort Ord was listed on the Superfund list in 1990. A Remedial Investigation/Feasibility Study (RI/FS) was completed in 1993 for the Fort Ord landfills, and a remedial action ROD was issued by the Army (FFA) agencies for the cleanup in August 1994. Cleanup here will include extracting and treating contaminated groundwater and capping the landfills to limit future infiltration and minimize additional leaching.

Forty-one sites have been identified as potentially hazardous sites. After initial characterization by the basewide RI/FS for Fort Ord, the sites were characterized as remedial action sites, interim action sites, or no action sites. Nine sites have been characterized for remedial action, and 16 have been listed for Interim action.



3.0 FRAMEWORK FOR THE REUSE PLAN

The Framework for the Reuse Plan establishes the broad development considerations that link the various Reuse Plan elements for each of the land use jurisdictions into an integrated and mutually supporting structure. The Framework concentrates on the interrelated aspects of all development within the former Fort Ord.

The Framework is comprised of the following:

1. Community Design Vision;
2. Existing Setting and Character of the former Fort Ord;
3. Land Use Concept: Ultimate Development Plan and Map;
4. Land Use Designations and Land Resources;
5. Circulation Concept;
6. Conservation, Open Space, and Recreation Concept;
7. Planning Areas and Districts
8. Marina Planning Areas and Districts
9. Seaside Planning Areas and Districts
10. County Planning Areas and Districts
11. Reuse Plan Implementation

ection 4 of the Reuse Plan provides the Goals, Objectives, Policies, and programs for each relevant Plan Element in support of this Framework. The Plan Elements are specific for each of the land use jurisdictions within the former Fort Ord.

1 COMMUNITY DESIGN VISION

The design and planning vision for the future of the former Fort Ord draws its inspiration from several sources: the nature of the land and existing facilities on the base; the history and culture of the Peninsula, and particularly the former Fort Ord itself; sound principles of community-making; and on a responsible and positive attitude toward the environment.

The opportunity provided by this 28,000-acre resource is inestimable. The challenge, however, to not squander or abuse the special qualities of this place is substantial as well. The designation of Fort Ord as a model reuse project chosen among the 1990 round of base closures is indicative both of the challenges to be met in the future and the opportunities inherent in this unique site and its surrounding region.

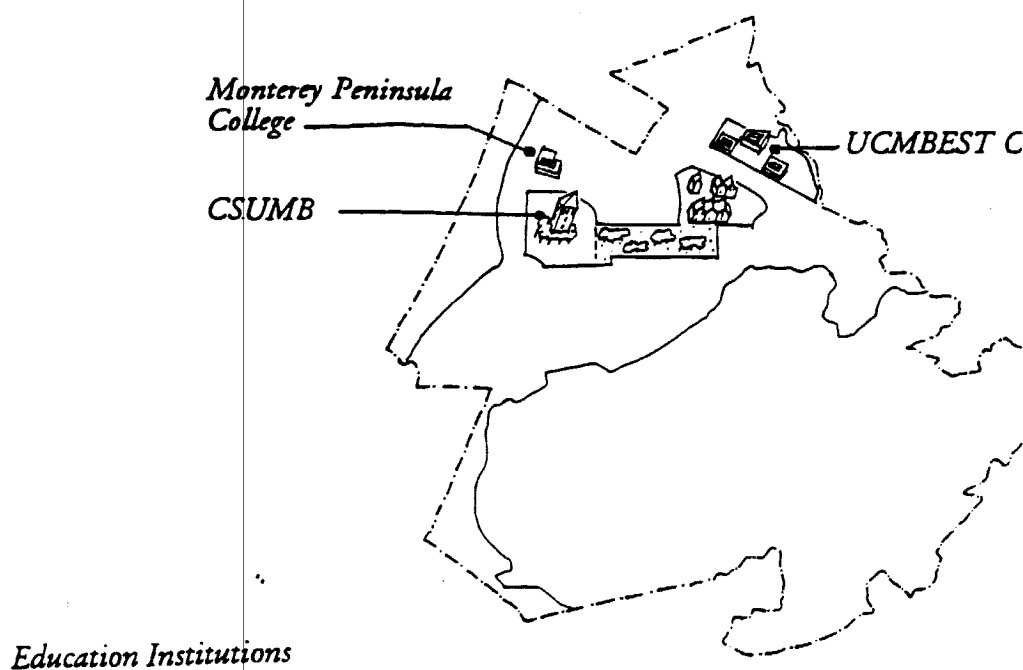
The prevalence of the Peninsula academic and environmental communities has in recent years spawned a variety of educational and research initiatives. Following this lead, the University of California and California State University have both begun to plan and implement ambitious and important facilities at the former base. These facilities in many ways will form the nucleus of the future community envisioned to grow at this site.

The vision for the future of the former Fort Ord is that a community will grow up on the former Base, having a special character and identity. This community, at the same time, will fit with the character of the Peninsula, complementary with the scale and density of the existing communities from Marina to Carmel. It will demonstrate a respect for the special natural environment of the Peninsula and the scenic qualities of the Bay, coastal dune areas, and upland reaches. It will also be complementary to the rich tradition and reality of agriculture in the Salinas Valley, which forms such an important part of the regional character and economy, while enhancing the experience of visitors to the Peninsula. Most importantly, the community will be a special place for living and working. It will provide a diversity of experience and opportunity, with a development approach that is sustainable and appropriate.

3.1.1 Design Principles

Design Principle 1: Create a unique identity for the community around the educational institutions.

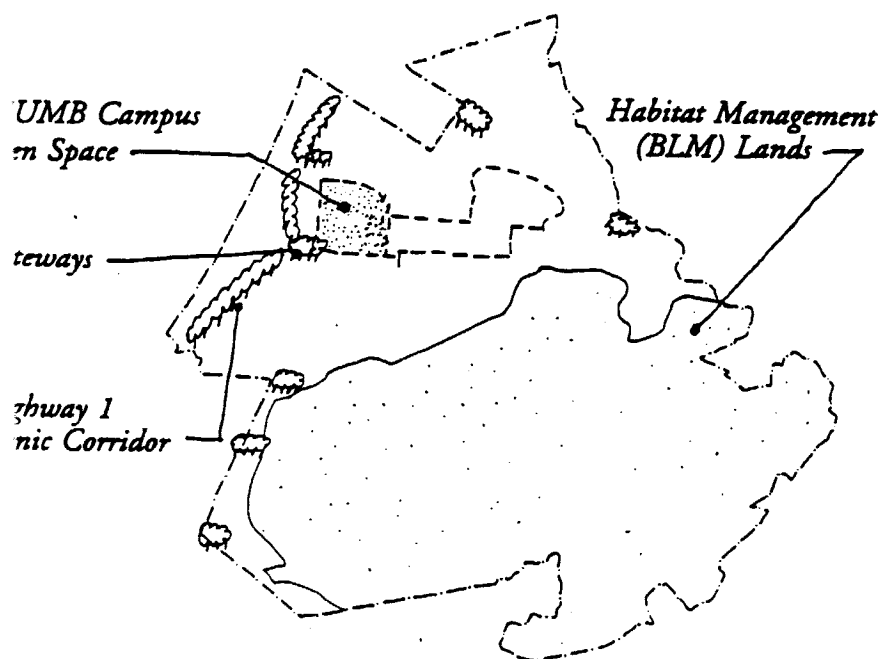
The centerpiece of the community at the former Fort Ord will be the education centers that have been integrated into the reuse of the former Fort Ord. Three major post-secondary institutions are participating in the reuse of the base. The CSUMB campus, the UCMBEST Center, and the Monterey Peninsula College District will all become significant catalysts to the economic development of the region. In addition, land and/or facilities have been subject to public benefit conveyance for Golden Gate University and the Monterey Institute for Research in Astronomy and the Monterey Peninsula Unified School District (MPUSD). The CSUMB campus, currently planned to ultimately accommodate 25,000 full-time equivalent (FTE) students, will occupy a central site, and will support retail and recreation facilities, housing units, and a variety of services and businesses. In addition, the special facilities found on a major university campus such as art galleries, performance and lecture halls, libraries, athletic facilities, and bookstores will greatly enhance the surrounding community and provide opportunities for access by all age groups. The other educational institutions will offer diverse educational opportunities. The UCMBEST Center will become a unique employment center, complementary to other research institutions in the region and capitalizing on the unique physical and intellectual attributes of the area.



Design Principle 2: Reinforce the natural landscape setting consistent with Peninsula character.

The former Fort Ord is part of the gentle crescent that frames Monterey Bay, situated between the great Salinas River Valley and the dramatic coastal range that juts into the Pacific to form the Peninsula. The historic "cantonment" area within Fort Ord is bounded by State Highway 1, sand dunes and ocean beyond to the west and by the native landscapes of the upper elevations to the east. The entire Peninsula, as a whole, is characterized by a highly memorable landscape character. The former Fort Ord is a critical centerpiece of this landscape and serves as the entry and introduction to the Peninsula for the visitor arriving from the Salinas Valley to the east or from Santa Clara State Highway 1 to the north.

The natural landscape setting at the former Fort Ord is not only an important visual resource within the region. It is also a key natural resource with significant biological value. As part of the base reuse, 15,000 acres of the site will be managed as open space for habitat resource protection and for limited recreational use. These environmental resources will add significantly to the supply of protected regional open space within the County of Monterey and will provide linkages to other regional open space assets. Approximately 1,000 acres of the coastal area will be conveyed to the State of California Department of Recreation to create the Fort Ord Dunes State Park.

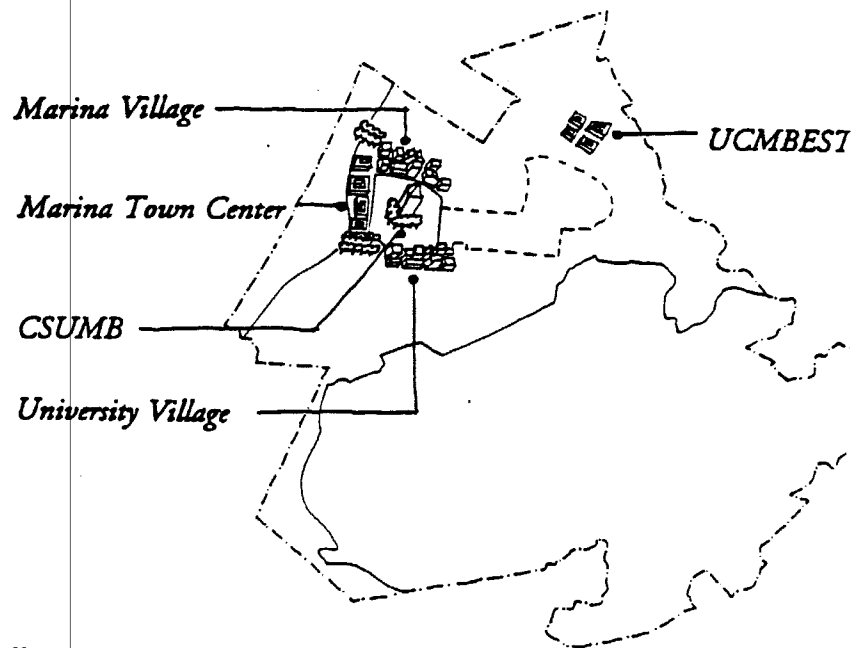


Landscape Setting

Design Principle 3: Establish a mixed-use development pattern with villages as focal points.

Consistent with the character of a college town with a vibrant, around-the-clock level of activity and vitality, the former Fort Ord is planned to consist of a series of villages with mixed-use centers. Some will be built around existing and new residential neighborhoods, while other village themes will include: the Marina Town Center with employment, retail and housing; CSUMB with its educational focus and housing; and the East Garrison with a potential mix of employment, housing and recreation.

The village pattern will sustain a transit and pedestrian friendly development pattern. The core of each village will consist of services and amenities for districts and neighborhood, from retail and service establishments to transit stops and parks. Higher development densities and a mix of uses (e.g. office and housing over retail) will enhance the vitality of the village centers. The villages will be linked by transit routes and by open space corridors suited for cycling and walking. The villages will be designed to be compact and walkable, each developed with its own identity and character.

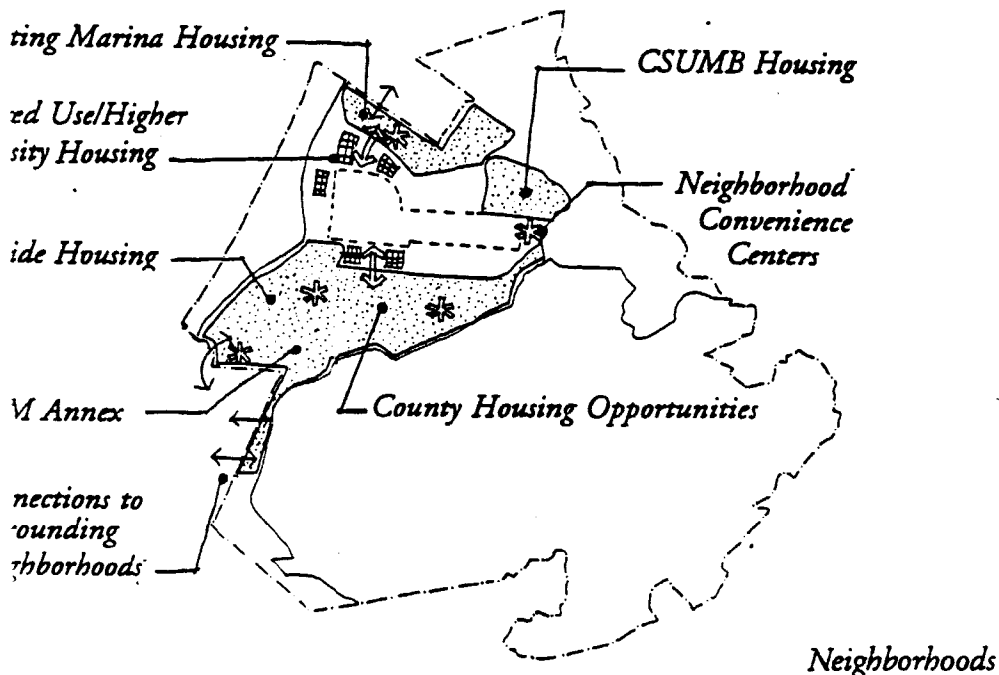


Mixed Use Villages

Design Principle 4: Establish diverse neighborhoods as the building blocks of the community.

The special character of the communities in the Peninsula is due, at least in part, to the diversity of their residential neighborhoods. They are typically small scaled, with one and two story buildings. Open space is plentiful, giving the overall impression of a green and lush landscape. In some neighborhoods, historic styles and buildings predominate, including adobe characteristic of the pre-statehood era. A regional vernacular, the Monterey style which evolved during the colonial period, is joined by an array of other architectural styles: Victorian, California bungalow, Mediterranean, post WWII tract, and more recent modern and post-modern styles.

Several of the existing residential communities on the former base - including portions of Patton, Abrams, Schoonover, and Frederick housing areas - will be retained and renovated for a variety of housing unit types where feasible. In addition, new residential neighborhoods will be added, ranging from high density units in the Town Center and village centers, to large lot single family areas. In all cases, particular attention will be paid to ensuring that the residential neighborhoods retain or establish special identities and characters, and that they have available a full range of amenities - schools, parks, transit, and shopping - within a convenient and walkable distance.



Design Principle 5: Encourage sustainable practices and environmental conservation.

"Sustainable development means economic growth that we can live with and that future generations can live with too. It means growth that improves human welfare but does not squander the resources of the planet nor undermine the biological systems on which life depends."

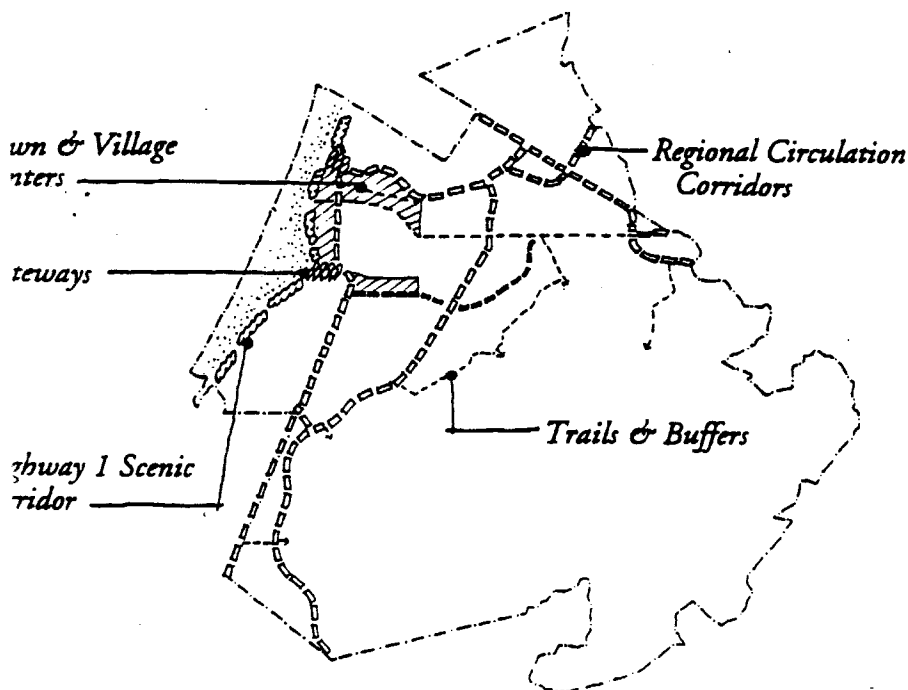
-World Resources Institute

The reuse of the former Fort Ord as a mixed-use community within the larger Peninsula provides the opportunity to demonstrate a wide range of design and planning practices that are consistent with accepted notions of sustainability and environmental conservation. A majority of the area of the former Fort Ord will be set aside for habitat management with limited recreation opportunities included. The remaining portions of the former base will be developed into a balanced community which provides housing and employment opportunities, reducing the need for long distance commuting throughout the region. Major destinations such as employment centers, the university, and regional shopping will be located along transit rights-of-way to ensure the availability of modes of transit besides the automobile. Specific areas of the community will also be designed to include a mix of uses such as housing, shopping and office, and to be pedestrian friendly. In addition, individual sites and buildings should be designed to minimize energy consumption and to take advantage of local climatic conditions to enhance comfort.

Design Principle 6: Adopt Regional Urban Design Guidelines.

The visual character of the Monterey Peninsula plays a major role in supporting the area's attractiveness as a destination for many visitors every year. The location of the Fort Ord property is such that it functions much like a gateway to Peninsula attractions such as the beach and dunes area which will be a state park; the communities of Monterey, Pacific Grove, Carmel; and the Carmel Valley, Big Sur and points south. Maintaining the visual quality of this gateway to the Peninsula and where necessary enhancing it is of regional importance to ensure the economic vitality of the entire Peninsula.

Regional urban design guidelines will be prepared and adopted by FORA as a separate implementation action to govern the visual quality of the following areas of regional importance. The guidelines will address the State Highway 1 Scenic Corridor, the freeway entrances to the former Fort Ord are from State Highway 1 (12th Street and the Main Gate areas) and from the east, areas bordering the public accessible habitat-conservation areas, major through roadways such as Reservation Road and Blanco Road, as well as other areas to be determined. The urban design guidelines will establish standards for road design, setbacks, building height, landscaping, signage, and other matters of visual importance.



Regional Urban Design Guideline Areas

3.1.2 Design Objectives

The following overall objectives will guide the development of the former Fort Ord.

Community Form

Community form should be well defined and discernible; it should be distinctive within the larger Peninsula, but compatible with the form and character of other Peninsula communities. Development at the former Fort Ord will be related and connected to the adjacent cities of Marina and Seaside and will comprise important parts of those cities; however, the former Fort Ord area will also have its own distinct character consisting of definable edges, entries, and structure.

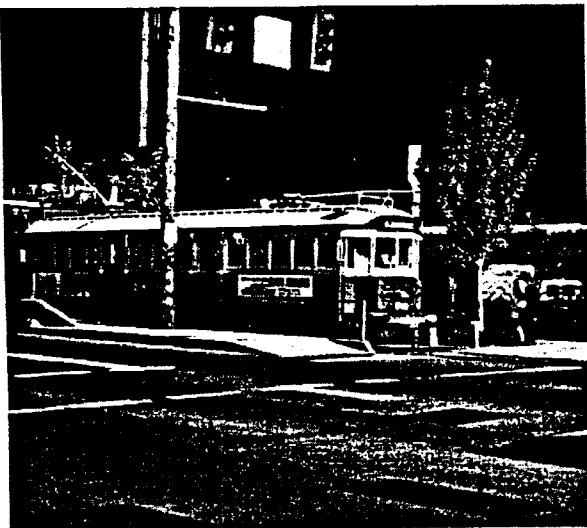
- *Where appropriate establish a readily discernible edge to the new development.*
- *Create compact community form and patterns of development.*
- *Create distinctive and memorable entries to the area.*
- *Establish community form consistent with peninsula prototypes.*
- *Link the new neighborhoods with the surrounding cities' development fabric.*
- *Establish specific design and signage standards for the State Highway 1 Scenic Corridor to minimize the visual impact of development.*



Development Pattern

The community that will develop on the former base at Fort Ord will evolve over time, incorporating some existing buildings, roadways and open space, and creating other places anew. The pattern of development will take its cues both from the historical development of the base and its existing pattern and scale of buildings and facilities. It will also follow sound principles of community planning, emphasizing the use of transit, pedestrian-friendly scale of development and roadways, and generous areas of landscaping and open space.

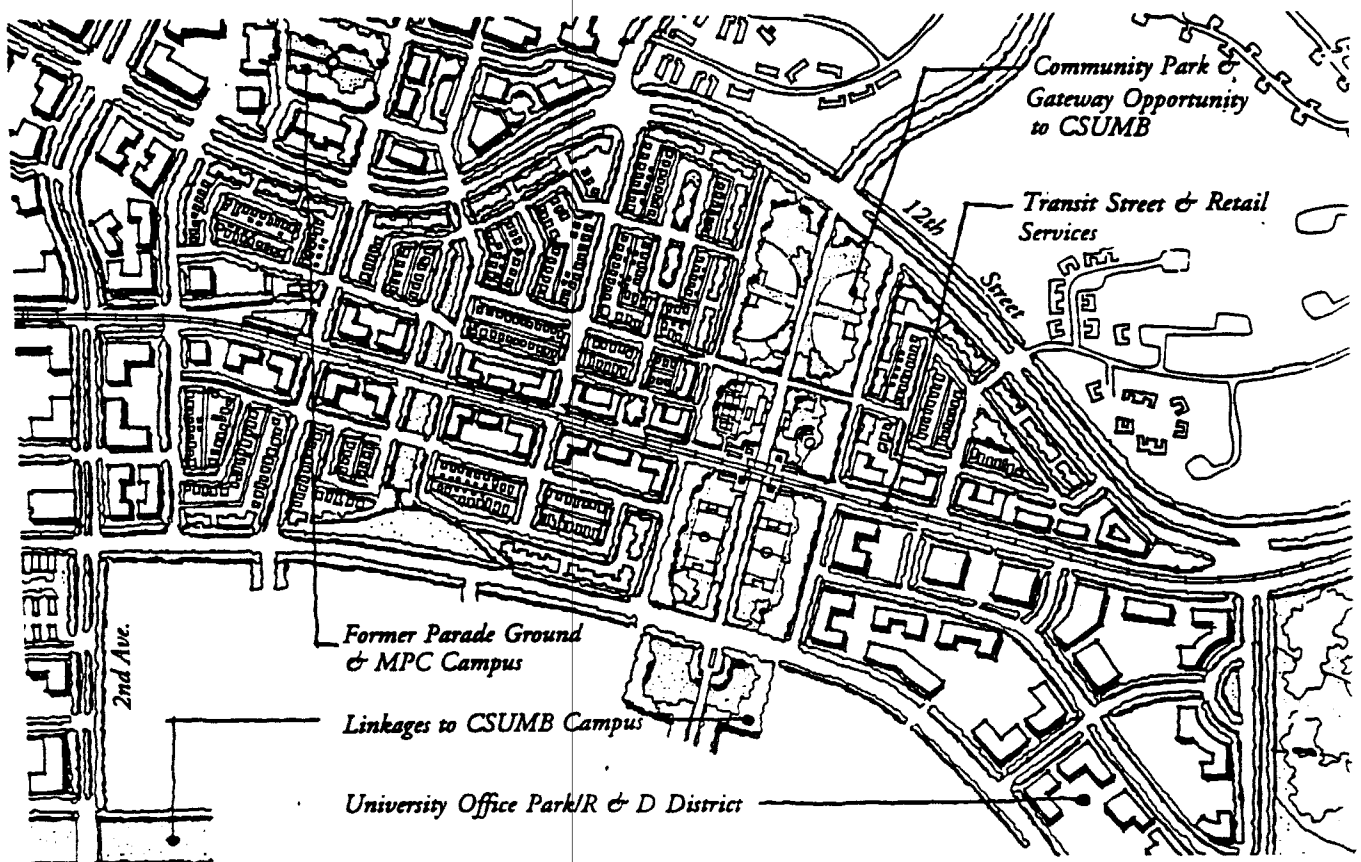
- *Build upon the existing grid pattern of the Main Garrison area to establish the pattern of the higher density core area surrounding CSUMB.*
- *Utilize a lower density, more informal development pattern in areas more distant from the core.*
- *Ensure a high degree of connectivity and accessibility to CSUMB from the surrounding village centers, and vice versa.*
- *Locate concentrations of activity and density along future transit rights-of-way for efficient movement.*
- *Limit the scale, particularly the width, of major roadways to minimize barriers to movement and interaction within the community.*



Town and Village Centers

The town and village centers will feature concentrated activity. The major centers will be located in the vicinity of the CSUMB campus, capitalizing on the inherent high level of activity and vitality of the campus. The Marina Town Center, located to the west of CSUMB adjacent to State Highway 1, will contain the highest density of retail, office and housing in the former Fort Ord area. The Marina Town Center will also play an important role flanked by two principal entries to the Fort Ord community and to CSUMB at the 12th Street and Main Gate interchanges. To the north and south of CSUMB, major village centers will support university related uses and amenities. The South Village, located adjacent to the earlier portion of CSUMB to develop, will consequently have an earlier start and should complement university amenities, such as performance and athletic facilities with cafes and restaurants, shops and other student and local-serving uses.

Away from the CSUMB area, other village centers will support local commercial uses and be compatible with adjacent parks, schools and other neighborhood facilities. The village centers will be developed with a pedestrian orientation and ready access to transit opportunities available early and in the long term.



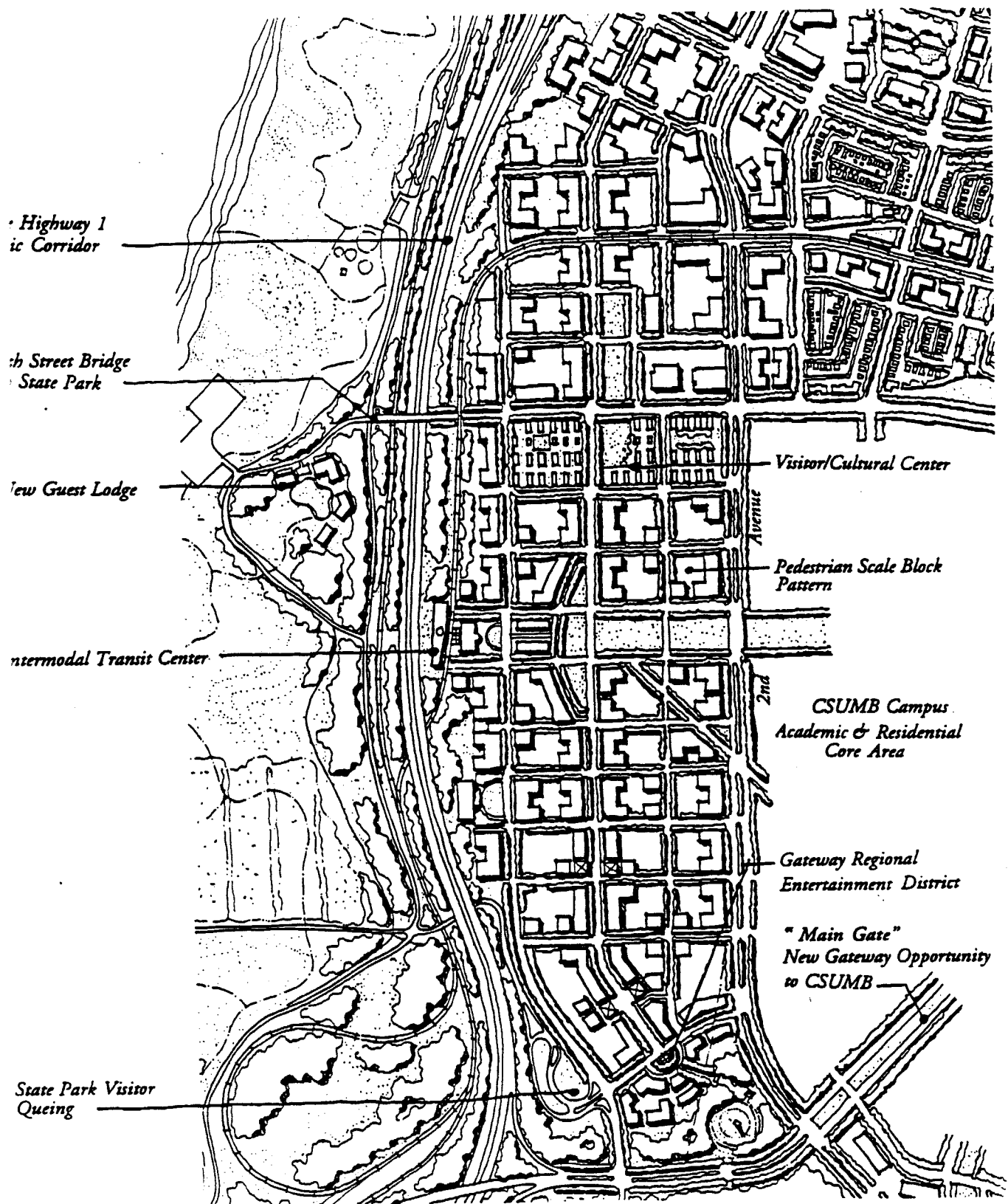
*Marina Village Illustrative
Housing / Retail / Office in Mixed Use Pattern*

- *Maintain the fine-grained development pattern of existing areas of the Main Garrison.*
- *Encourage a development pattern which mixes uses horizontally and vertically for an active streetscape.*
- *Encourage a scale and pattern of development which is appropriate to a village environment and friendly to the pedestrian and cyclists.*

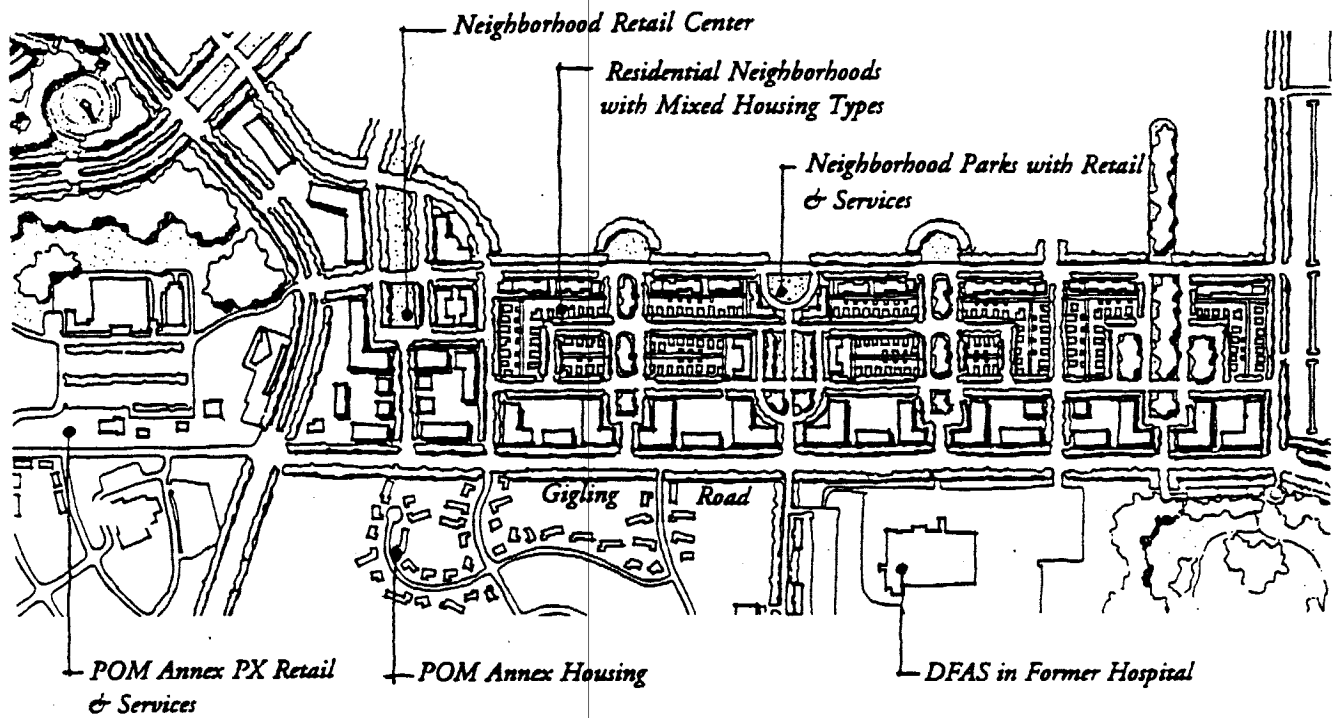


- *Minimize the scale of streets to facilitate pedestrian movement while providing adequate circulation and parking opportunities.*
- *Create strong physical linkages from the villages to the CSUMB campus and other major activity areas.*





*Marina Town Center Illustrative
Housing/ Retail/ Office in Mixed Use Pattern*



*University Village Illustrative
Housing/Retail/ Office in Mixed Use Pattern*

Existing Neighborhoods

The existing neighborhoods at the former Fort Ord will form the nucleus of early development. These neighborhoods are of varying ages and in varying conditions, but each has a unique character and can ultimately anchor an important neighborhood. In some cases, existing neighborhoods will be infilled and redeveloped, changing the unit types or development pattern to be more viable and attractive to future residents. In other cases, existing neighborhoods will continue in their present form, to be extended and expanded, or to remain as distinct neighborhoods to be joined by the many new neighborhoods that will be added during the long term evolution of the area as a whole.

- *Reinforce the positive character of existing residential areas through building and areawide improvements.*
- *Encourage infill of new housing at an appropriate scale to enhance existing neighborhoods.*
- *Reinforce linkages among existing neighborhoods and establish linkages to new neighborhoods and to village centers.*
- *Enhance the physical appearance of existing neighborhoods with special street and landscaping treatments.*

New Neighborhoods

New residential neighborhoods will be developed throughout the former Fort Ord. Each will have locational and programmatic distinctions. The new residential neighborhoods in particular will play an important role in attracting business, jobs, and residents. Thus, the design of the new neighborhoods and their relationship to regional open space and the major activity centers of the former Fort Ord and the Peninsula - the natural open spaces, beach areas, and educational campuses in particular - will be of key importance. The new neighborhoods should be clearly defined while encouraging connections to older existing neighborhoods and to the surrounding developed areas of Marina and Seaside.

- *Connect new residential neighborhoods via continuous streets and/or open space linkages to surrounding neighborhoods and districts.*
- *Promote a sense of community and connectedness in the new neighborhoods by minimizing street widths, providing comfortable pedestrian environments, encouraging housing design which embraces the public street area.*
- *Include local conveniences within or immediately adjacent to neighborhoods.*
- *Encourage residential design diversity and variety, including a mix of densities and style, while following a consistent approach to framing the street and public spaces in a human-scaled manner.*
- *Provide a generous amount of publicly-accessible park and open space for day to day use by residents.*



Major Development Sites

The Reuse Plan envisions several concentrations of intensive new development which will act as employment and activity centers. These major development sites include the CSUMB campus; the UCMBEST Center; the East Garrison development area; the Southgate and York Road area; and the Town Center complex. These areas will constitute major employment centers for the reuse area itself as well as for the region. The major development sites will attract greater concentrations of people and traffic. Therefore, they will generally be located near current or future transit as well as regional roadways. These major sites should, however, not be considered isolated islands of employment; wherever feasible, they will be linked to surrounding neighborhoods and to other activity centers. They will also play an important role in environmental stewardship - several are immediately adjacent to the habitat areas and have substantial acreage set aside for habitat conservation and open space. These major development sites can be models of sustainable development and sensitive site and facility planning and design.

- *Provide physical and visual linkages to surrounding development sites and neighborhoods for continuity and connectedness.*
- *Provide transit accessibility at major development sites by orienting highest concentrations of activity along transit rights-of-way and providing easy pedestrian access to these points.*
- *Employ principles of sustainable design and planning in the site planning and building design of facilities.*
- *Establish a special identity for major development sites, but keep all development compatible with the low density character of the greater Peninsula, particularly in terms of the scale and height of new buildings.*
- *Encourage intensification of site development over time with infill and redevelopment, including transitioning surface parking lots to parking structures.*

Landscape and Open Space

The visual character of the Peninsula is greatly determined by the quality of the natural and introduced landscape pattern and materials. The former Fort Ord encompasses a vast area which ranges from coastal sand dunes to upper reaches of oak woodland and chaparral. The Main Garrison area, where uses were principally located, has very little introduced or formal landscaping; consequently the image of the area is rather bleak and uninviting. As the former Fort Ord will be developed over time, major vegetation and landscaping should be introduced in these development areas to create a more inviting and pedestrian scale environment, and to integrate the site as a whole into the larger Peninsula environment.

- *Incorporate principles articulated in the Habitat Management Plan (HMP) as good practices throughout the entire base.*
- *Ensure that open space connections are provided to link major recreation and open space amenities within the base and also to adjacent regional resources.*
- *Provide a generous pattern of open space and recreation resources through public facilities and publicly-accessible private development. Ensure that the open space resources of CSUMB and other major developments are available to the community at large.*
- *Establish an open space corridor of a minimum of 100 feet along the entire eastern edge of State Highway 1, and landscape this Fort Ord corridor via a master landscape plan, to reinforce the regional landscape setting along the entryway to the northerly peninsula.*
- *Establish a pattern of landscaping of major and minor streets, including continuous street tree plantings to define gateways to the former Fort Ord and enhance the visual quality and environmental comfort within the community.*
- *Encourage a pattern of development at the neighborhood and district levels that ensures a generous provision of open space.*



3.2 EXISTING SETTING AND CHARACTER OF FORT ORD

3.2.1 Regional Character

The former Fort Ord is part of the gentle crescent that frames Monterey Bay, situated between the great Salinas River Valley and the dramatic coastal range that juts into the Pacific to form the Peninsula (see Figure 3.2-1). The historic "cantonment area" within the former Fort Ord visible from State Highway 1 is bounded by the freeway to the west and the native landscapes of the upper elevations to the east. West of State Highway 1 are the remnant firing ranges and tall sand dunes continuously modeled by the winds off the Pacific. Figure 3.2-2 illustrates the topographic relief at the former Fort Ord in a perspective view.

Salinas River Valley

The Salinas River Valley to the north of the former Fort Ord is in continuous cultivation. The broad, flat expanse created by the flood plain is a green and fertile contrast to the subdued colors of the native grasslands, coastal chaparral and oak wood landscape that dominate the upper elevations of the former Fort Ord and stretch beyond to the rugged back-country of the Los Padres Mountains.

The Salinas River Valley is host to a vast agricultural enterprise characterized by high value crops. As trading town and government center for the county, Salinas dominates the River Valley. The heart of the town reflects the heritage of a prosperous commercial center with a well-preserved and distinctive historic commercial district. The available supply of well-served, easily developed lands have made Salinas one of the growth centers in the region. To accommodate economic development, the city is expanding at the perimeter, losing agricultural lands to urbanization.

Communities of the Monterey Peninsula

The communities of the Peninsula reveal themselves slowly as the characteristic early-morning fog burns off. The coastal strand forms a nearly continuous urban pattern stretching from Monterey north to the City of Marina interrupted by the four mile expanse of the former Fort Ord. Figure 3.2-3 illustrates the regional land use context for the former Fort Ord

The City of Monterey: Monterey and its historic Presidio lie on the gentle slopes of the Peninsula extending from old Cannery Row at the shoreline to its crown about 100 feet above sea level. Looking out across the Bay to the curving shoreline, the city has captured the imagination of visitors and long term residents since it was first settled in the 1700's. Visitors are

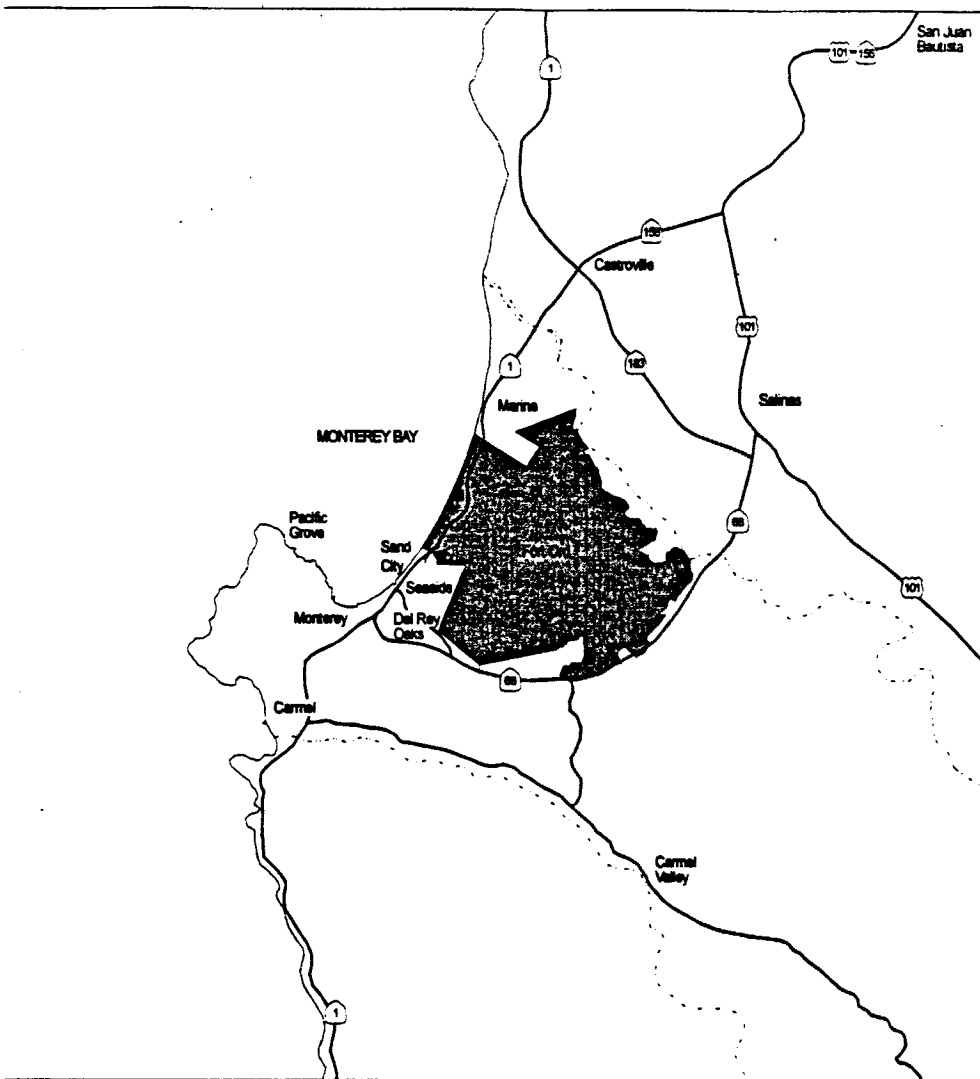


Figure 3.2-1 Regional Vicinity

attracted to the moderate climate, historic and cultural resources, and the unsurpassed beauty of the physical setting.

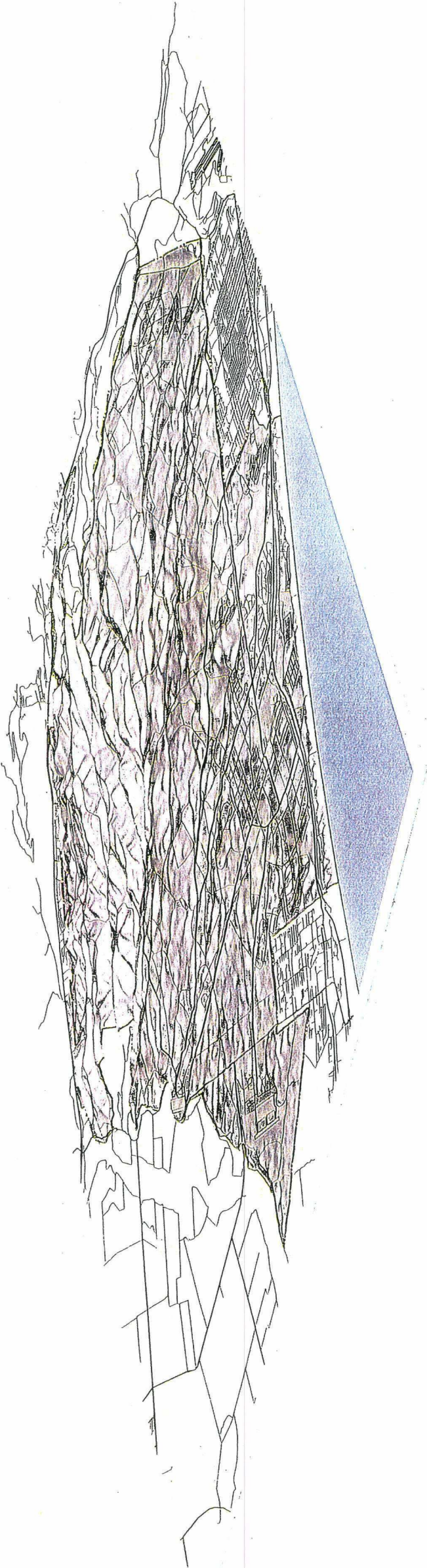
Between Monterey and the former Fort Ord, Sand City and Seaside are nestled in-between the dramatic hillside backdrop and the coastal dunes. The individual communities have nearly grown together along two major circulation routes. State Highway 1 serves as a limited access freeway stretching between Castroville in the north and Carmel in the south. Del Monte Boulevard provides a continuous commercial corridor linking Seaside in the north with downtown Monterey to the south.

Further inland, Monterey shares a boundary with the southern-most portion of the former Fort Ord. The major development in this location is

FORT ORD REUSE PLAN

Fort Ord Reuse Authority (FORA)

Land Planning	EDAW, Inc.
Market Analysis	EMC Planning Group, Inc.
Transportation Engineering	Sedway Kotin Mouchly Group
Civil Engineering	JHK and Associates
Fiscal Analysis	Reimer Associates
Habitat Planning	Angus McDonald Associates
Public Communications	Zander Associates
Community Development	The Ingram Group
	Resource Corps International



Perspective View from Northwest

SHEET TITLE:

DRAFT
TOPOGRAPHIC RELIEF

SOURCE	FIGURE
Jones & Stokes, 1995	
Reimer Associates, (Re-Projected), 1995	
Monterey County, 1995	
EDAW, Inc., 1996	







3.2-2

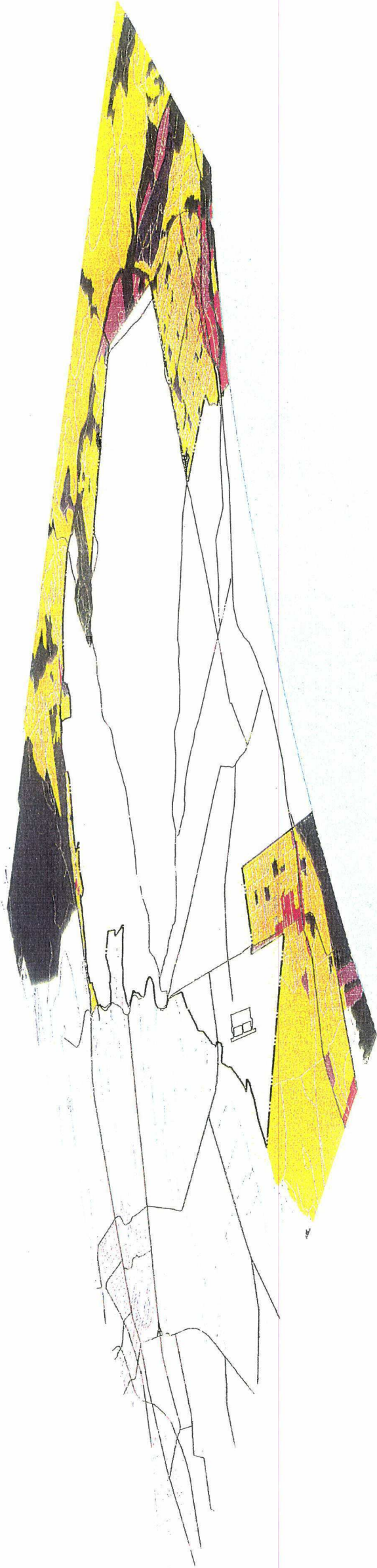
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	Resource Corps International

LEGEND

	Residential
	Commercial / Retail
	Business Park / Industrial
	Public / Institutional
	Parks / Open Space / Recreation
	Agriculture / Grazing



Perspective View from Northwest

SHEET TITLE:

DRAFT

REGIONAL LANDUSE CONTEXT

SOURCE:
Jones & Stokes, 1995
Reimer Associates,
(Re-Projected), 1995
Monterey County, 1995
EDAW, Inc., 1996

FIGURE:

3.2-3

the Ryan Ranch Business Park located adjacent to State Route 68, a successful, planned business park built-out to about 40% of its capacity.

The City of Marina: Marina is located at the transition between the Salinas River Valley and the coastal dune formation and provides the northern gateway to the Peninsula. The community historically has provided a strong service role for the adjacent military installation. The City is oriented to the major crossroads of Del Monte Boulevard and Reservation Road. Neighborhood retail centers have grown up along both of these corridors serving a compact residential community of traditional single family homes and two and three story multi-family neighborhoods.

The City has recently acquired Fritzsche Field from the U.S. Army and is converting it to civilian use as the Marina Municipal Airport. Access from State Highway 1 is limited to an interchange at Reservation Road and ramps at the 12th Street gate at the former Fort Ord. To the south, Reservation Road extends along the perimeter of the base to State Highway 68. Blanco Road provides a critical link east through the agricultural lands to Salinas. Direct connections with the former Fort Ord are limited to Imjin gate at Reservation Road and access via State Highway 1. The neighborhoods in Marina have grown up to the former Fort Ord's boundary but are not directly linked.

The City of Seaside: Seaside grew up on the southern flank of the former Fort Ord and is nestled between Sand City on the coast and the boundary of the former Fort Ord to the north and east. The heart of Seaside is the commercial district along Fremont Boulevard. East of Fremont, Seaside rises gradually, providing predominantly single family neighborhoods in a traditional, fine-grained parterre created by the regular grid and one- and two-story homes. The parterre are accented with neighborhood parks and schools and other open spaces in scale with the community.

The eastern boundary of the developed portions of the city are dramatically defined by the former Fort Ord perimeter along North-South Road. Beyond the road, the landscape gives way to native grasslands, chaparral, and woodlands covering the rolling topography. Broadway Avenue terminates at Broadway Gate, a secondary gateway to the former Fort Ord. To the north, the city includes the residential communities built within the former Fort Ord. Seaside High School dominates this northern boundary with the former Fort Ord. The existing roadway circulation also limits direct connection to the developed portions of the former Fort Ord.

The recently completed Embassy Suites Hotel at the southern boundary of Seaside is 12 stories high, and a landmark visible miles away. The hotel reflects the strong demand for visitor-serving accommodations on the Peninsula.

The City of Sand City: Sand City lies wedged between Seaside and the coast, defined at the north by the former Fort Ord and on the south by the City of Seaside (State Park) and the City of Monterey. The City is bisected by State Highway 1, with limited freeway access. West of State Highway 1, development is limited and the coastal dunes are still largely intact. East of State Highway 1, Sand City has recently evolved into a major regional shopping location. When current expansion plans are complete, the existing outlet retail center will more than double in size. The commercial district's large scale low-rise and flat-roofed buildings are surrounded by continuous parking lots and are visible from the elevated State Highway 1. The area's major residential communities are oriented to the urban fabric within the City of Seaside, with only a small percentage living in Sand City.

The City of Del Rey Oaks: Del Rey Oaks lies in the divide that forms the major drainage for the Canyon Del Rey Creek. State Route 218 provides a link between the two major regional travel corridors, State Highway 1 and State Route 68, and serves as the circulation spine for the community. Del Rey Oaks is dominated by the dramatic landmark oak trees that are the City's namesake and the wetland estuary park. The character of development in Del Rey Oaks follows the more complex and steeper topography. Larger single family homes predominate and commercial development is principally limited to the State Route 218 corridor. North-South Road ends at the South Gate on State Route 218. The Peninsula Airport is located on the southern boundary of Del Rey Oaks in County jurisdiction.

County Residential Districts: Served by State Route 68, several residential districts have developed within the topographic limitations that define State Route 68, the major travel corridor between the Peninsula and Salinas. These low-density residential districts are bounded by several regional open space resources, including Laguna Seca Regional Park and Toro Regional Park.

3.2.2 Urbanism of the Monterey Peninsula

The Peninsula has a rich and varied urban character. The characteristic low-rise development defines the gentle but varied topography. The picturesque Monterey cypress and Monterey pine forests dominate the

regional landscape and obscure the generally low-rise development from long range views. In the vicinity of the former Fort Ord, the scale of the urban fabric along the coastline is dominated by: 1) the low-rise commercial development on the historic Del Monte and Fremont corridors; 2) newer, freeway-oriented regional retail centers; and 3) small-scale residential neighborhoods with typically one- to two-story architecture.

Residential Neighborhoods

Neighborhoods have developed over a long period and several architectural styles are prominent. The historic character grew out of the cultural influences and early construction materials available prior to California statehood. Many prominent historic adobes can be found in Monterey with characteristic shallow roof pitches and extensive use of loggias and balconies that provide deep shadow lines across broad stucco and wood surfaces. Elements of this colonial-era architecture were much imitated in subsequent periods and formed the basis of a very refined and characteristic "Monterey style." To this regional vernacular the Peninsula has added excellent examples of: Victorian gingerbread; one- and two-story bungalows typical of the styles built between the 1910's to 1930's; post WWII tract homes clad in stucco and wood trim; and more current production housing with strong eclectic references to mainstream "Mediterranean" styles with tile roofs and light-colored stucco walls. The Peninsula has retained high concentrations of historic neighborhoods with often eccentric stylistic references that provide a rich and eclectic character to the region's urban resources.

Historic Commercial Centers

Downtown Monterey and Salinas provide the greatest concentration of high quality commercial architecture and urban amenities. Downtown structures in Monterey and Salinas are predominately two to three stories in the commercial core, with higher buildings standing out as cultural or civic landmarks. Taller buildings are few and predominantly limited to special institutional settings and landmark hotels. Prominent commercial architectural styles represent every major period.

Historic Monterey Waterfront

The Monterey waterfront represents a special assemblage of commercial structures that service the fishing fleet and once supported a thriving "Cannery Row." While the canning industry has faded, the shoreline character is still intact and now is home to one of the nation's premier cultural/educational institutions, the Monterey Bay Aquarium. It attracts approximately 1.8 million visitors each year. The integration of the aquarium into the historic sheet-metal sheds along cannery row represents a fine example of reuse that preserves the historic qualities and scale of development on the Peninsula.

Village-scale commercial life

Village-scale life has several notable examples on the Peninsula, including the cities of Carmel and Pacific Grove. Key attributes that contribute to the success of these village centers are:

- Mixed uses that integrate commercial office, retail, personal and professional services with residential and even visitor serving activities;
- A "fine grained" urban texture with small-scale streets and convenient, but not overwhelming, parking areas; and
- A vibrant mix of architectural style and embellishment that encourages pedestrian-scaled exploration and discovery.

Business and Industrial Parks

Business and industrial parks, characteristic of development during the last several decades, have appeared throughout the region. They are representative of two major prototypes:

- Business parks, which generally house light industrial users in office/warehouse space; and
- Office parks, which house office buildings and Research and Development (R&D) users in higher quality space.

The business parks range from those generally located on less expensive land in Salinas and Castroville to examples recently completed in Marina on more expensive land. The office and R&D market is dominated by the Peninsula, with relatively little first-class office space located within the Salinas Valley. More mature examples of this prototype are located adjacent to Peninsula Airport. Ryan Ranch, adjacent to the southern boundary of the former Fort Ord in the City of Monterey, is an exceedingly high quality example of this prototype.

All of the contemporary business and industrial parks are typically low intensity, with a FAR of about .25 generally one- to two-story buildings.

Retail Centers

Retail centers within the Peninsula have been traditionally identified with five locations: downtown Monterey, Del Monte Shopping Center in Monterey, Carmel Plaza within central Carmel, and Northridge Center in Salinas. These centers are defined as those anchored by a department store or stores.

Promotional and outlet centers are newer examples of retailing with generally high-volume sales strategies relying on low-overhead, factory style facilities. There are four promotional and outlet retail centers located on the Peninsula: Sand Dollar Shopping Center in Sand City; the Marina

Landing; the Seaside K-Mart Center; and the American Tin Can Outlet Center in Pacific Grove. These centers are characterized by large expanses of convenient parking surrounding one-story simple "tilt-up" construction prototypes. Higher quality centers often combine considerable architectural embellishment and style with references to "main street" store fronts. Site plans for these centers, however, typically do not stray from the conventional.

The Peninsula has numerous neighborhood, convenience, strip and specialty retail centers. The tourist-oriented centers in Monterey and Carmel are oriented to the high concentration of pedestrian activity and contribute significantly to the mixed-use character of these "urban villages."

3.2.3 Existing Development at the Former Fort Ord

Existing development at the former Fort Ord, as seen in Figure 3.2-4, can be characterized by the following areas:

- Coastal Zone/Practice Range Area
- The Main Garrison Area
- The Residential Communities
- Fritzsche Field Area
- The Historic East Garrison Area
- Upland Areas

Coastal Zone/Practice Range Area

This nearly 1000-acre land unit lies between State Highway 1 and the Pacific Ocean. It is dominated by the continuous coastal sand dune formation that rises dramatically to block ocean views from most of the Highway. The coastal side of the dunes is subject to erosion from wave action and the historic Stilwell Hall Officer's club (now vacant) is threatened by severe storm action and beach erosion. The dunes are host to one of the significant habitats protected by the HMP. On the upland side of the dunes are the practice firing ranges utilized for small arms fire when the Fort was at full complement.

The Main Garrison Area

The Main Garrison area dominates the developed portions of the former Fort Ord and is directly accessed from two freeway ramps along State Highway 1: the Main Gate and 12th Street Gate. The development is limited to a gently tilted plane that is bounded on the west by State Highway 1 and extends approximately two miles before the existing facilities give way to the natural landscape covering an undulating topography. The Main Garrison is typified by a regular street grid, low rise structures, and expansive paved areas. Several landmarks stand out among the typical

military vernacular, including: the parade ground; the Silas B. Hays hospital, being reused as an office building to house the Defense Finance and Accounting Service (DFAS) and the Defense Management Data Center; and many examples of finely-scaled streetscapes with rows of mature tree plantings and beautiful rock curbs.

The Residential Communities

The Main Garrison area is flanked on both the north and south with residential communities that have been built to provide military enlisted and officer housing. To the north are the neighborhoods that stretch from the older Patton housing area, near the 12th Street Gate, to the newer Abrams, Schoonover, and Frederick housing areas. To the south are the residential neighborhoods that surround the two existing golf courses at the former Fort Ord. These neighborhoods include the Marshall, Fitch, Thorsen, Hayes and Stilwell housing areas.

The neighborhoods include a variety of single family and attached housing types, almost exclusively of one- to two-story construction. They are in varying degree of repair. Approximately 1,250 units in the Frederick and Schoonover Housing Areas have been conveyed to CSUMB in support of the educational needs of the campus.

The Thorsen housing area has been developed as a 291-unit, multi-family project. The Sun Bay Apartments are leased and occupied. The Brostrom Park area includes 220 units of mobile homes on an existing land lease.

Fritzsche Field Area

The Fritzsche Army Field, located on the flat terrace overlooking the Salinas River Valley at the northern edge of the Fort, was once the location for an active helicopter training and maintenance facility. It is dominated by a 4,000-foot runway and several large hangers and other airport support facilities. The visual landmark in this area is the red and white striped water tower that is visible from State Highway 1.

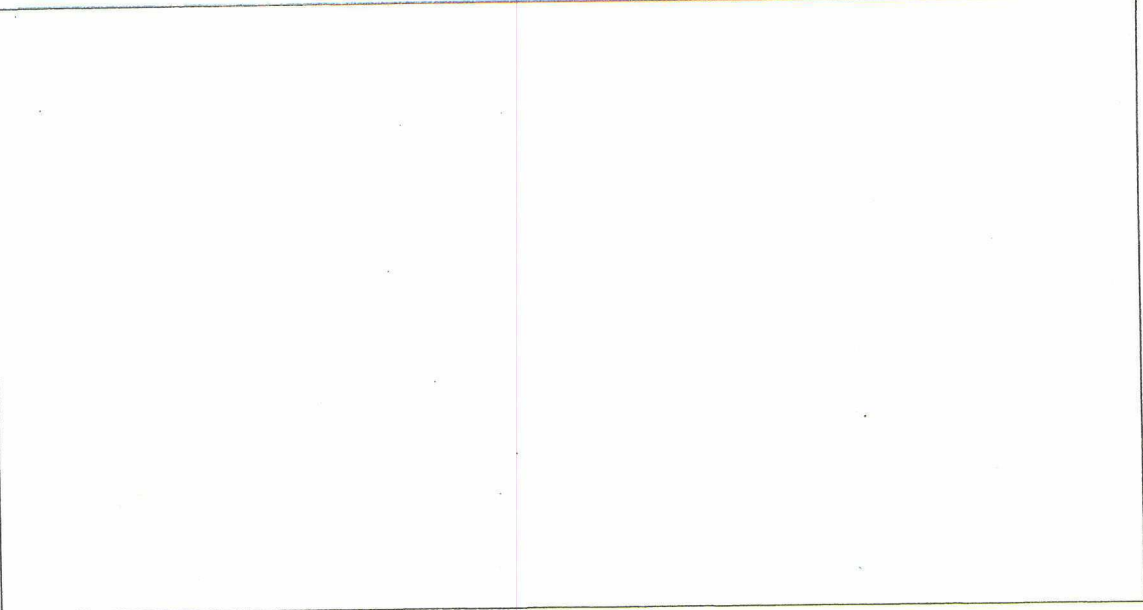
Historic East Garrison Area

The Historic East Garrison is located on a dramatic setting overlooking the Salinas River Valley at the intersection of Inter-Garrison Road and Reservation Road. The East Garrison was the location of the original Fort structures over a century ago. The historic district has been identified and a recommendation for national listing has been made. The area's principal historic period dates back to the 1940's when the Fort played a major role in training and embarkation of troops during WWII.

FORT ORD REUSE PLAN

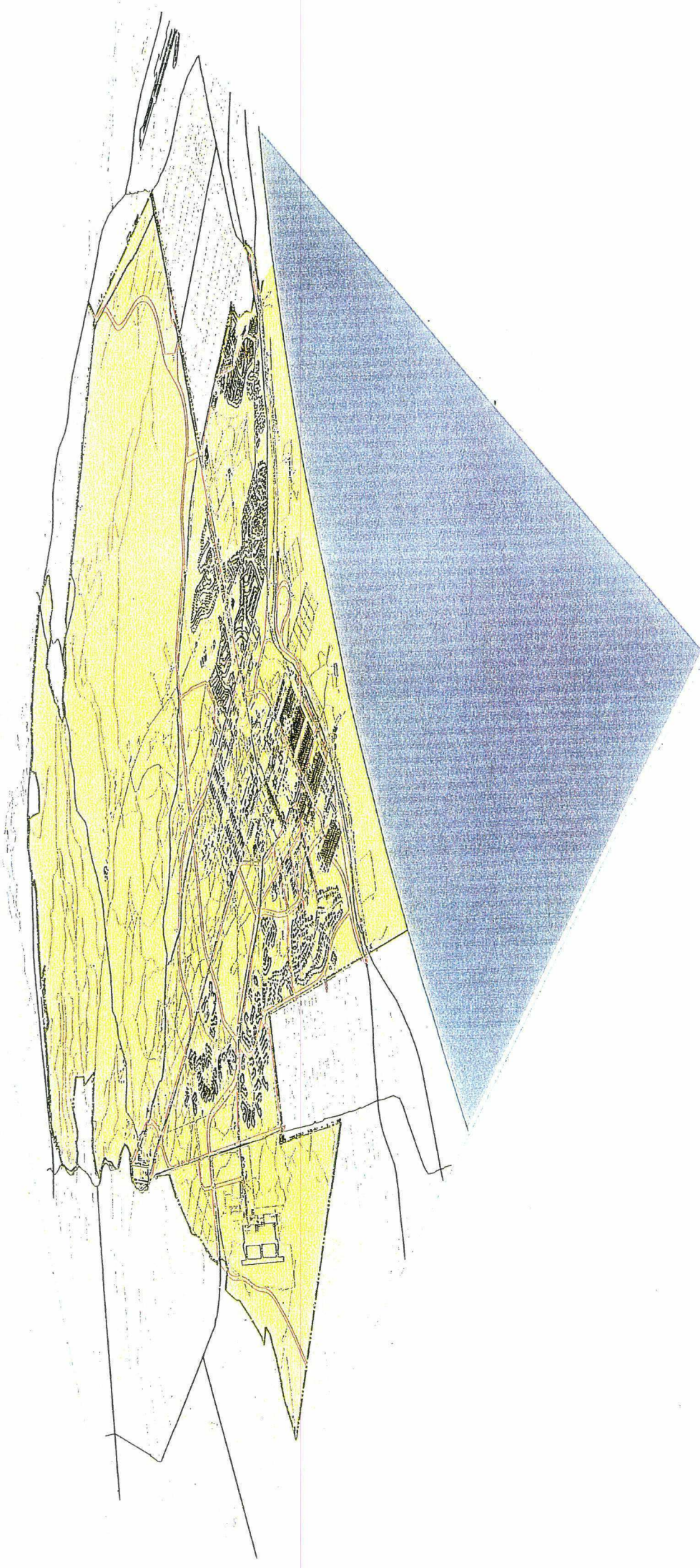
Fort Ord Reuse Authority (FORA)

Land Planning	EDAW, Inc.
Market Analysis	EMC Planning Group, Inc.
Transportation Engineering	Sedway Kotin Mouchly Group
Civil Engineering	JHK and Associates
Fiscal Analysis	Reimer Associates
Habitat Planning	Angus McDonald Associates
Public Communications	Zander Associates
Community Development	The Ingram Group
	Resource Corps International



SHEET TITLE:

DRAFT
EXISTING DEVELOPMENT



Perspective View from Northwest

SOURCE: Jones & Stokes, 1995 Raimer Associates, (Re-Projected), 1995 Monterey County, 1995 EDAW, Inc., 1996	FIGURE
	3.2-4

Upland Areas

Upland areas lie above the Main Garrison and other developed portions of the former Fort Ord. They are crisscrossed with dirt roads that were utilized when the U.S. Army still occupied the Fort. Approximately a third of the upland areas is designated as an "impact area" reflecting its prior use as practice range and is currently subject to ordnance removal operations conducted by the U.S. Army. Barloy Canyon Road runs through the upland areas and connects Intergarrison Road with Laguna Seca Regional Park on the southern perimeter of the former Fort Ord.

3.2.4 Development Opportunities and Assets

Reuse planning at the former Fort Ord has been able to take advantage of many existing assets at the base. These assets support the community vision and promote the development opportunities that are the basis for the economic reuse of the significant land resources available at the former Fort Ord. These assets and opportunities are identified in Figure 3.2-5.

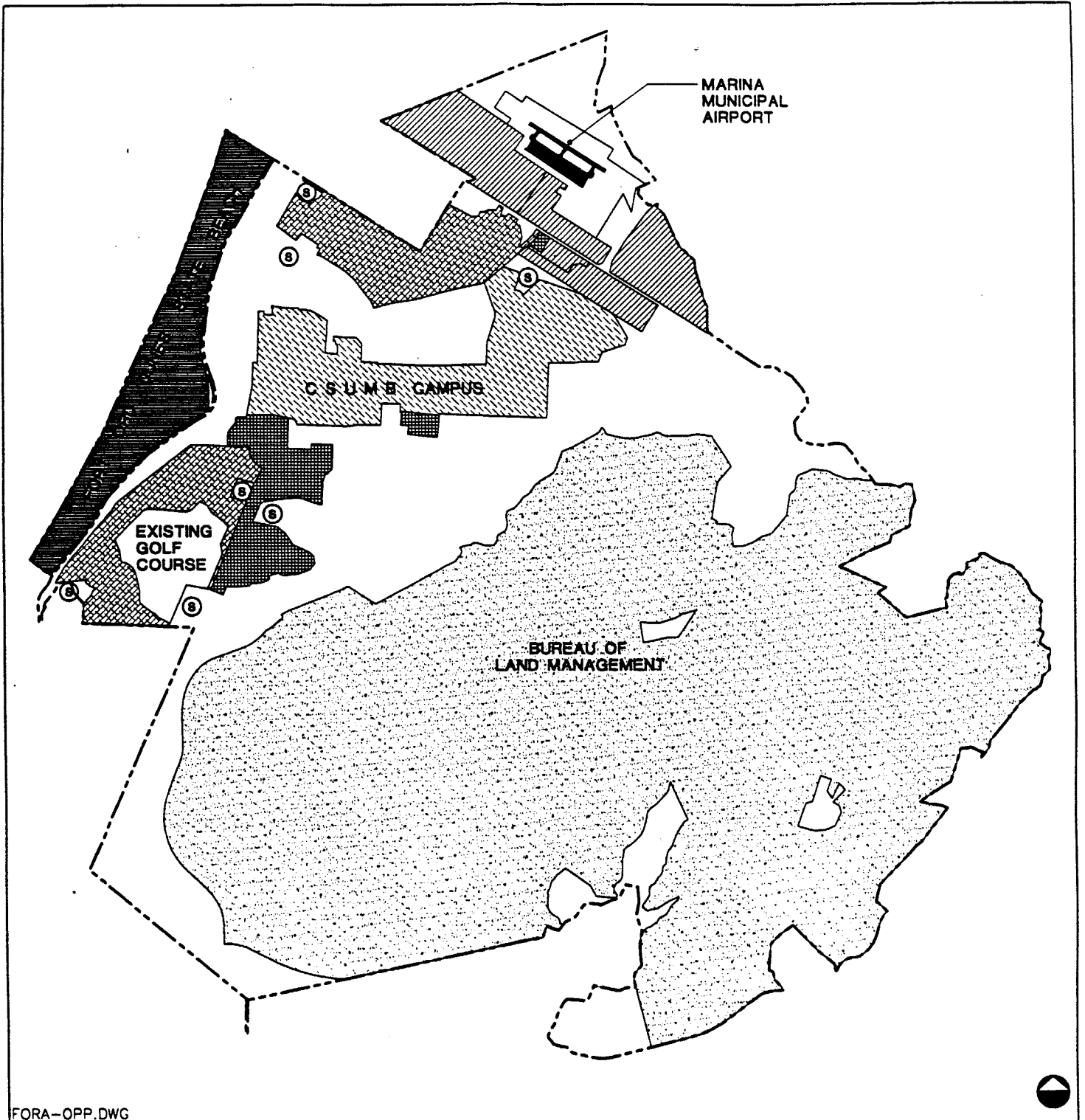
CSUMB

The diligent efforts of a broad segment of the Peninsula community were rewarded when the State of California identified the former Fort Ord as the location of a new California State University campus. This designation represented the achievement of one of the strategic themes that had been identified during the community planning process. The campus has been named California State University Monterey Bay (CSUMB).

CSUMB is planned to be a "full-service" campus eventually accommodating a full complement of 25,000 FTE students. The physical master plan for the campus is currently in preparation. The campus lands will total approximately 1,350 acres. In general, the campus can be divided into the following land units:

- The Core Academic Campus will be located at the western end of the campus lands in an area that was formerly developed as part of the Main Garrison and is located in both the cities of Marina and Seaside.
- A Development Reserve is identified for the lands that extend east into the county along Intergarrison Road on lands that are presently undeveloped under Monterey County jurisdiction.








A Residential Campus is located between Intergarrison Road and Reservation Road on lands that were formerly part of the Army's Frederick Park and Schoonover Park neighborhoods. The campus plans to utilize the existing approximately 1,250 residential units for University-serving residential needs, including students, faculty and housing staff. The Reuse



FORA-OPP.DWG

SOURCE: Jones & Stokes, 1995; Reimer Associates, (Re-projected), 1995; Monterey Co., 1995; EDAW, 1996.

LEGEND:

	CSUMB Campus		Bureau of Land Management Lands
	UC MBEST Center		Existing Housing Resources
	Fort Ord Dunes State Beach		Existing Primary/Middle Schools
			Military Enclave

DRAFT
 FIGURE 3.2-5
**FORT ORD ASSETS
 AND OPPORTUNITIES**
 Attachment D, p. 495 of 1882

Plan provides for intensification of development in this location to take advantage of "infill opportunities."

UCMBEST Center

A second major strategic theme was realized by the Peninsula community when the U.S. Army transferred approximately 1,100 acres of land to the University of California to establish the Monterey Bay Science, Education, and Technology (UCMBEST) Center. Approximately 600 of these lands will be managed by the University's Natural Reserve System (NRS) to maintain the natural habitat and support educational opportunities related to the restoration and management of these valuable natural areas.

The remaining portions of the UCMBEST Center lands will be developed. The University's mission is to "promote a university affiliated mixed-use development where research and innovation will help to place the Monterey Bay Region and central California in a competitive position in the global economy of the coming decades. The UCMBEST Center will link private business, government research and regulatory agencies, public and private education and research institutions, and policy makers in strategic alliances to address the business and environmental opportunities and challenges of the next millennium" (UCMBEST Master Plan Study, March 1995).

Marina Municipal Airport

Fritzsche Field has already been conveyed to the City of Marina and is operating as the Marina Municipal Airport. The City has completed its master plan for the airport and has made available lease opportunities for the existing facilities at the airfield. The City's plan forecasts that, under civilian ownership, the total annual flight operations will range from 39,000 to 61,000 over the 15-year planning period (Marina Municipal Airport Master Plan, June 1993).

There is an opportunity to coordinate development activity at the airport with the adjacent UCMBEST Center to take advantage of potential synergy and to avoid potential adverse impacts that might arise from incompatible uses. The University intends to negotiate a Memorandum of Understanding to guide development at UCMBEST and address the relationship between the two areas.

Fort Ord Dunes State Park

Approximately 1,000 acres of the coastal zone land unit are pending public conveyance to the State of California Department of Parks and Recreation (DPR) to create the Fort Ord Dunes State Park. Master planning is underway that combines the environmental management and protection objectives identified in the base HMP with limited recreational

improvements to accommodate overnight camping and day use recreational activities. Nearly four miles of sand beach and coastal dunes will provide a major regional recreational attraction and amenity for the reuse activities planned at the former Fort Ord.

The Department of Recreation has prepared and is circulating a master plan for the new State Park. The low-intensity program envisioned will retain the existing undeveloped character west of State Highway 1 and maintain the scenic qualities along this major northern gateway to the Peninsula. RV campgrounds will generally be located in the low-lying areas that were formerly used as firing ranges. Access through the dunes to the beach will be limited and managed to protect the environmental resources.

Approximately 14 acres of the conveyance request is located on the east side of State Highway 1 at the Main Gate exit in the City of Seaside. This portion of the conveyance is planned to serve as a staging area for managing the queues of camping vehicles that will form here before entrance into the park. An existing tunnel under State Highway 1 located at the Seaside/Marina boundary will serve as the major gateway to the park for the RV's.

The main entry is planned for the 8th Street bridge across State Highway 1. This main entry location provides an open space link between the coastal zone and uplands along the CSUMB campus. It also provides the basis for a visitor/cultural center in the town center planning area.

BLM Land Management

The Federal Bureau of Land Management (BLM) has signed a Memorandum of Understanding to manage the nearly 15,000 acres of upland that provide the scenic backdrop to the developed portions of the former Fort Ord. This responsibility fulfills two significant objectives. First, the BLM will manage the open space for multi-use purposes that both protect the habitat resources identified in the HMP and permit recreational access to accommodate hikers, bicyclists, and equestrians. Second, the BLM will control access to a limited area within the impact zone to isolate the areas where unexploded ordinance will not be removed. The BLM is currently preparing its master plan.

The environmental resources, visual qualities and recreational potential of this vast area will add significantly to the supply of protected regional open space within the County. The size of the resource will make the area a regional recreation attraction and provide a convenient open space and recreational asset for the reuse activities planned at the former Fort Ord.

Golf Courses

The two existing 18-hole golf courses at the former Fort Ord represent a major existing recreational and visual amenity at the former Fort Ord. They provide some limited ocean views through the trees and above the crest of the coastal sand dunes. The golf courses are a significant existing asset that will provide the focus for a planned new resort hotel complex for up to 800 rooms and a new planned, golf-oriented, residential community.

Existing Housing Resources

The existing housing resources at the former Fort Ord are both an asset and a potential liability. The newer units can be renovated to increase the existing supply of housing within the formerly Fort Ord area. Many of the older units, however, are unoccupied and falling into disrepair. Those that can be economically renovated represent a significant supply of affordable new housing that can quickly be absorbed into the market place and establish new neighborhoods. The housing planned for retention includes:

- A total of 1,590 existing units are currently retained for use as the POM Annex. 805 existing units that the Reuse Plan identifies for continued military housing for the POM Annex enclave are retained within the former Fort Ord. (Approximately 300 acres of land have been identified for new military housing on a "reconfigured" POM Annex to accommodate the approximately 785 units located west of North South Road in the U.S. Army's current POM Annex configuration.)
- Approximately 1,250 existing units have been conveyed to CSUMB and will provide a convenient housing resource for students, faculty, and staff.
- An estimated 1,500 existing units are located in the City of Marina. Several of these have been conveyed under the provisions of the McKinney Act to support qualifying service providers to serve the homeless population in the County.
- Approximately 290 existing units comprise the Sun Bay Apartment complex adjacent to the golf courses in the City of Seaside. The complex is one of the newest housing projects on the former Fort Ord and is currently in the rental market.
- Approximately 220 existing mobile homes are located at Brostrom Park adjacent to Coe Road in the City of Seaside.

Monterey Peninsula Unified School District (MPUSD)

The MPUSD has been conveyed through a Public Benefit Conveyance all of the existing schools that have historically served Fort Ord's resident population. The facilities that have been transferred include five elementary schools, one middle school, and a site for a new school to accommodate future reuse. In addition, the district has been conveyed the former officers club for reuse as an administrative facility.

Military Enclave including the POM Annex, DFAS, and other facilities

The housing to be retained by the U.S. Army is the dominant land use within the military enclave retained after "downsizing." However, this housing resource to serve the POM is augmented by several supporting uses. They include the commissary, PX, theater, credit union, food services, police/fire protection, and miscellaneous services.

The Silas B. Hays hospital, the tallest existing building on the Fort, is being reused to accommodate the DFAS and the Defense Management Data Center.

Other assets retained by the U.S. Army include facilities for the U.S. Army Reserve, motor pool facilities, and miscellaneous warehousing facilities.

3.3 Land Use Concept: Ultimate Development Plan and Map

The Ultimate Development Plan and Map is a consensus plan and the product of the on-going reuse planning process at the former Fort Ord. The Land Use Concept reflects the ultimate reuse of the lands at the former Fort Ord and expresses a long range vision for the property consistent with the role the former Fort Ord will play in the region.

3.3.1 Development Capacity

The General Guide to Development Capacity: The precise mix of uses is expected to vary in response to market conditions and FORA actions. The aggregate totals provide a "not-to-exceed envelope" of development within the former Fort Ord.

The Development Capacity of the lands at the former Fort Ord is based on the balance between the public and private use of the lands and the development intensity that will reflect market-place prototypes for particular reuse activities. The land supply is expected to accommodate growth for 40 - 60 years depending on land use type and future land use conditions.

The land Development Capacity is summarized in Table 3.3-1. This table delineates land use capacity for each jurisdiction (Marina, Seaside, and Monterey County) and provides a summary of the acreage and capacity in: 1) number of dwelling units; 2) number of hotel rooms; or 3) amount of square feet of office, industrial, R&D, and retail uses. The table lists the various land uses, including the CSUMB designation and area-wide rights-of-way, and more specific categories for hotels, golf courses, and the Fort Ord Dunes State Park.

The "Land Use Capacity" is a projected development yield based on anticipated market absorption, land characteristics, and community vision. The capacities indicated are intended to provide a general guide to assist in land resource management and infrastructure commitments and financing. The precise mix of uses is expected to vary in response to market conditions and FORA actions. The aggregate totals provide a "not-to-exceed envelope" of development within the former Fort Ord.

In addition, Table 3.3-1 projects the total employment generated by Reuse of the former Fort Ord.

3.3.2 Public Uses at the Former Fort Ord

Of the nearly 28,000 acres at the former Fort Ord, 85 to 86% of the lands are reserved for public use.

Environmental Resources

62% of the lands are designated as protected habitat; eight percent are designated as parks and open space, including the new Fort Ord Dunes State Park and identified regional and community parks.

Educational Facilities

Five percent of the lands are designated for CSUMB, accommodating a full-service campus for a student population of 25,000 FTE. Other educational facilities are reserved for the Monterey Peninsula Community College District. Five schools and one additional school site are reserved for the MPUSD and several other educational institutions will also have a significant presence at the former Fort Ord.

Table 3.3-1
Summary Land Use Capacity: Ultimate Development

The "Land use Capacity" is a projected development yield based on anticipated market absorption, land characteristics, and community vision. The capacities indicated are intended to provide a general guide to assist in land resource management and infrastructure commitments and financing. The precise mix of uses is expected to vary in response to market conditions and FORA actions. The aggregate totals provide a "not-to-exceed envelope" of development within the former Fort Ord.

LAND USE	MARINA		SEASIDE		MONTEREY CO.		TOTAL DEVELOPMENT				
	Acres	Units/SF/ Rooms	Acres	Units/SF/ Rooms	Acres	Units/SF/ Rooms	Acres	Percent (total area)	Dwelling Units/Rooms	Square Feet (000's)	Employees
CSUMB (25,000 FTE) (units)(A)(B)	224	2,550	313	2,550	755	3,093	1,292	5%	8,193	n/a	3,200
POM ANNEX (units)(C)			782	1,590			782	3%	1,590	n/a	310
HOUSING (units)	704	4,152	818	5,113	520	3,184	2,042	7%	12,449		
BUSINESS PARK/LIGHT INDUSTRIAL OFFICE /R&D (000's SF)	549	5,360	0	0	797	6,676	1,346	5%		12,036	34,060
RETAIL (000's SF)	66	722	104	1,129	13	117	183	1%		1,968	4,372
VISITOR SERVING											
Hotels (rooms)	25	350	25	800	30	600	80	0%	1,750	(D)	1,750
Golf (four 18 hole courses)(F)			350	36	328	36	678	2%			140
Other (acres)					50		50				20
PARKS & OPEN SPACE											
Fort Ord Dunes State Park (rooms)			14		977	40	991	4%	40		60
Other	97		122		804		1,023	4%			70
PUBLIC FACILITIES (incl. military)	528		204		340		1,072	4%		(E)	1,460
HABITAT MANAGEMENT	616		962		15,601		17,179	61%			15
AREA WIDE ROW's	495		570		96		1,161	4%			
TOTALS	3,304		4,264		20,311		27,879	100%	24,022	14,004	45,457
units		6,702		9,253		6,277			(22,232 units)		
square feet (000's)		6,082		1,129		6,793			(1,790 rooms)		
% OF FORT ORD TOTALS	12%		15%		73%		100%				

SOURCE: EDAAW, Inc.

(A) FTE = Full Time Equivalent student enrollment

(B) assessment generated on employees and students, not square footage

(C) existing retail assessed on basis of existing employees

(D) assessment generated on basis of rooms, not square footage

(E) assessment generated on basis of facilities, not square footage

(F) Accommodates 1 new 18-hole golf course and the redevelopment of 1 18-hole golf course to industrial use.

The plan also identifies 2 additional golf opportunity sites to be able to respond to market conditions.

Other Public Facilities

Four percent of the lands are reserved for public facilities that range from the Marina Municipal Airport to various municipal corporation yards and facilities for regional agencies, such as the Monterey Salinas Transit Agency and the Police Officers Safety Training Facility.

POM Annex: Three percent of the lands are reserved for the housing needs for the Presidio of Monterey (POM) and are designated for continued U.S. Army utilization.

Areawide ROWs: Four percent of the lands are reserved for areawide roadway ROW's to accommodate the long-range circulation requirements within the former Fort Ord lands.

3.3.3 Economic Development

The remaining 14 to 15% of the lands at the former Fort Ord are planned in a coordinated way to provide a balance of uses that reflect market projections and promote the strategic objectives identified during the course of the reuse planning efforts. This land supply will accommodate the long range vision of the community and responsibly integrate a major development opportunity into the economy of the region.

Jobs/Housing Mix

The mix of planned land uses at the former Fort Ord is expected to provide at buildout a total of approximately 45,000 to 46,000 jobs and approximately 17,000 dwelling units plus an additional estimated 5,100 on-campus housing units within the core area of CSUMB. This is a very balanced ratio of 2.67 jobs/household excluding the on-site student population and 2.06 jobs/household including student dwelling unit equivalents.

The balance reflects the efforts to optimize the effectiveness of public investment in infrastructure and minimize the off-site effects of reuse of the former Fort Ord.

Residential Component

Seven percent of the lands will be reserved for residential use including rehabilitation of a significant number of existing units and accommodating approximately 12,450 homes excluding CSUMB and the POM Annex.

Commercial Component

Five percent of the lands will be reserved for business park/light industrial and Office/R&D uses. This includes the potentially significant role that

UCMBEST can play in stimulating private economic development at the former Fort Ord.

Visitor Serving Component

Two percent of the lands will be reserved for visitor serving uses including 1,750 hotel rooms (plus 40 lodge units at Fort Ord Dunes State Park), an anticipated three to five additional golf courses (augmenting the two existing courses in Seaside), and other commercial recreation activities.

Retail Component

One percent of the lands is reserved for retail uses that will support the balance of other designated uses. A range of uses are included to accommodate regional, neighborhood, convenience, and specialty markets.

3.3.4 Employment Projections

The ultimate development land use plan is expected to generate a total of 45,000 to 46,000 jobs. Approximately 40,300 of these are the result of the combined economic development program that includes all commercial/industrial, visitor serving, and retail uses. The remaining jobs are the result of the significant public sector activities at the former Fort Ord.

3.3.5 Population Projections

The ultimate development land use plan will accommodate a resident population of an estimated 51,770 people, excluding the resident student population at CSUMB. With a planned residential population of 80% of the 25,000 full-time enrolled students, the population at the former Fort Ord will rise to 71,770. Approximately 4,800 of the total population is expected to be military families residing at the POM Annex.

3.3.6 The Ultimate Development Map

The "Land Use Concept: Ultimate Development" map is the key visual representation of the Land Use Concept of the former Fort Ord (see Figure 3.3-1). It includes General Land Use Designations for 15 land uses and several future "Opportunity Sites" for additional golf courses, hotels, equestrian centers, and two alternative sites for a new high school.

3.3.7 Context For The Proposed Land Use

The Land Use Concept has been carefully integrated into the existing adjacent communities. This fit with the existing context is illustrated in a perspective view in Figure 3.3-2.

FORT ORD REUSE PLAN

Fort Ord Reuse Authority (FORA)

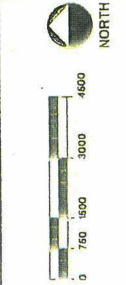
Land Planning	EDAW, Inc.
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Fiscal Analysis	Reimer Associates
Habitat Planning	Angus McDonald Associates
Public Communications	Zander Associates
Community Development	The Ingram Group
	Resource Corps International

LEGEND

	SFD Low Density Residential
	SFD Medium Density Residential
	MFD High Density Residential
	Residential Infill Opportunities
	Planned Development Mixed Use District
	Business Park/Light Industrial Office/R&D
	Convenience Retail
	Neighborhood Retail
	Regional Retail
	Visitor Serving
	Golf Course Opportunity Site
	Hotel Opportunity Site
	Equestrian Center Opportunity Site
	Open Space/Recreation
	Habitat Management
	School/University
	University Medium Density Residential
	Alternative High School Sites
	Public Facility/Institutional
	Military Enclave

SHEET TITLE:

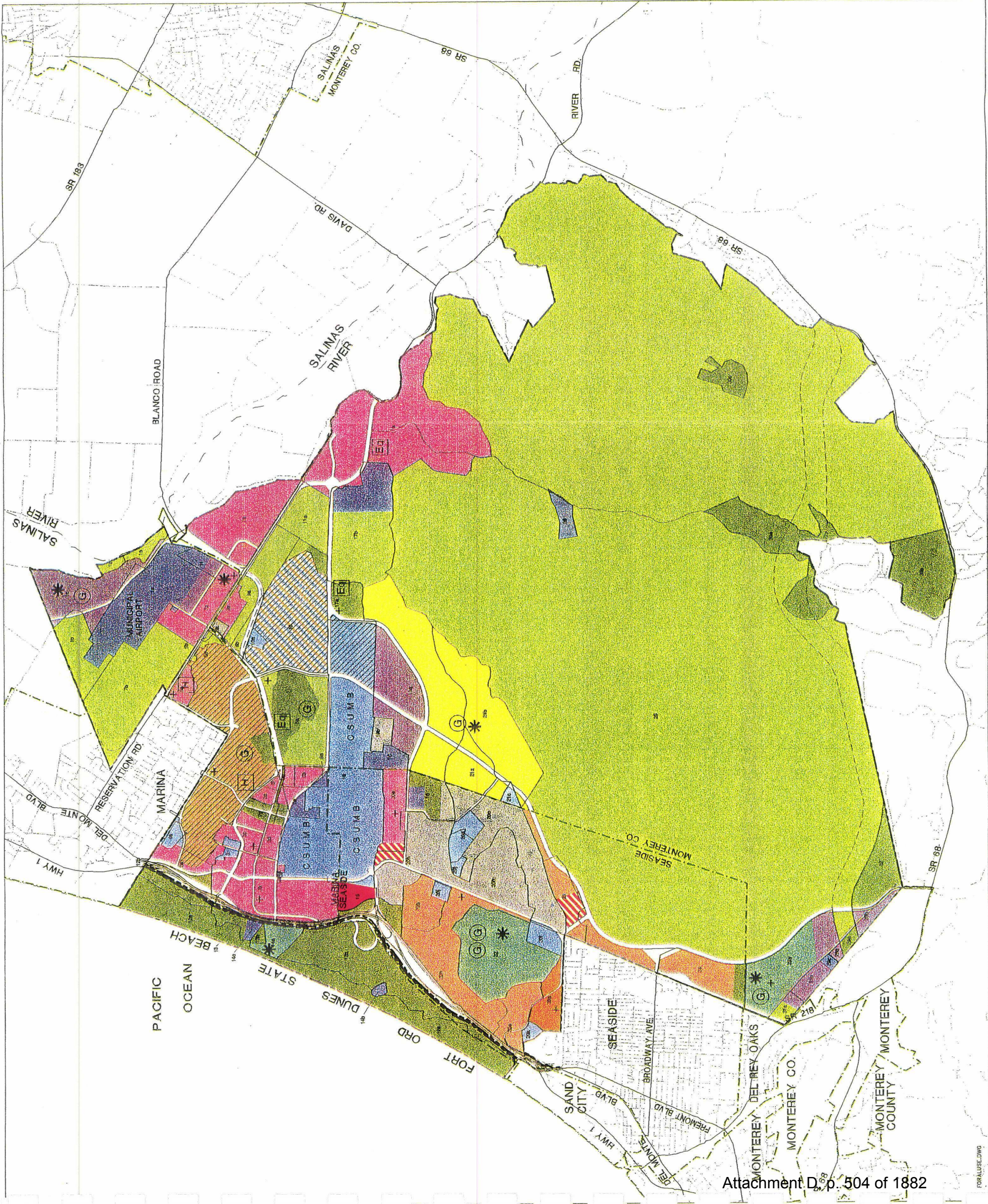
DRAFT
LAND USE CONCEPT:
ULTIMATE DEVELOPMENT



SOURCE:
Jones & Stokes, 1995
Reimer Associates, 1995
(Un-Refined)
Monterey County, 1995
EDAW, Inc., 1996

FIGURE:

3.3-1




FORT ORD REUSE PLAN

Fort Ord Reuse Authority (FORA)

Land Planning	EDAW, Inc.
Market Analysis	EMC Planning Group, Inc.
Transportation Engineering	Sedway Kotin Mouchly Group
Civil Engineering	JHK and Associates
Fiscal Analysis	Reimer Associates
Habitat Planning	Angus McDonald Associates
Public Communications	Zander Associates
Community Development	The Ingram Group
	Resource Corps International

LEGEND

	Residential - Low Density / Unspecified beyond Ft Ord
	Residential - Medium Density
	Residential - High Density
	Commercial / Retail
	Business Park / Light Industrial / Office / R&D
	Public Facility
	School / University
	Visitor Serving
	Military Enclave
	Planned Development / Mixed Use
	Open Space / Recreational
	Habitat Management
	Agriculture / Grazing

SHEET TITLE:

DRAFT
PROPOSED LANDUSE AND
REGIONAL CONTEXT

SOURCE:
Jones & Stokes, 1995
Reimer Associates,
(Re-Projected), 1995
Monterey County, 1995
EDAW, Inc., 1996

FIGURE

3.3-2



Perspective View from Northwest

3.4 LAND USE DESIGNATIONS AND LAND RESOURCES

The Land Use Designations which are shown on the Ultimate Development Map are organized by: Residential Uses; Mixed Use and Commercial Uses; Retail Uses; Visitor Serving, Open Space, Recreation, and Habitat Uses; Institutional and Public Facilities; and Community ROW.

These designations reflect the desirable market-supported uses and public/institutional uses that are illustrated in the Land Use Concept Map. The permitted range of uses for designated land uses is summarized in Table 3.4-1.

3.4.1 Opportunity Sites/ Overlay Designation

The Plan employs the designation of "Opportunity Sites" for a range of desirable uses. This designation is treated as an "overlay" in order to identify sites where an opportunity exists for development of a desired land use, while recognizing that the particular use may not materialize there, due to the existence of competing sites or lack of market demand. Identification of an opportunity site implies compatibility with the designated land use. It is intended to encourage the development of the desired use.

3.4.2 Land Use Designations

The designated uses include:

- Residential Use Designations:
- Mixed Use and Commercial Designations
- Retail Uses
- Visitor Serving/Open Space/Recreation/Habitat Management
- Institutional and Public Facilities
- Community ROW

Table 3.4-2 summarizes the total acreage in each underlying land use designation for each jurisdiction with lands at the former Fort Ord: City of Marina, City of Seaside, and Monterey County.

For each land use designation, a Permitted Intensity establishes the range of development intensity, specifying:

- Dwelling units per acre for residential uses; and
- Floor area ratio (FAR) for Planned Development Mixed-Use, Office/R&D, Business Park/Light Industrial, and Retail uses.

Table 3.4-1
Permitted Range of Uses for Designated Land Uses

Generalized Land Use Designation	Description	Permitted Range of Uses
Low Density Residential (SFD) Ave. lot size = 8,000 SF; Range = 6,000 to 10,000 SF lots	This designation is intended to permit development of single family residences detached at an average overall density of 1 - 5 units per acre. Other single family attached dwelling types will be allowed under certain circumstances, such as duplexes, single-family attached, or accessory (i.e. mother-in-law) dwellings. It is recommended that no more than 10% of all units within a Low Density District may consist of attached housing.	Uses allowed within this land use designation include: <ul style="list-style-type: none"> • SFD detached & attached; • MFD; • convenience retail (where designated); • parks; • certain types of commercial recreation, including golf courses and equestrian facilities; • schools; • day care centers, • houses of worship; • community centers..
Medium Density Residential (SFD) Ave. lot size = 6,000 SF; Range = 4,000 to 8,000 SF lots	This designation is intended to permit development of single family residences detached at an average overall density of 5 - 10 units per acre. Other dwelling types will be allowed under certain circumstances, such as triplexes, duplexes, townhomes, single family attached or accessory dwellings. It is recommended that no more than 25% of all units within a Medium Density District may consist of attached housing.	Uses allowed within this land use designation include: <ul style="list-style-type: none"> • SFD detached & attached; • MFD; • convenience retail (where designated); • parks; • certain types of commercial recreation, including golf courses; • schools; • day care centers; • houses of worship; • community centers.
High Density Residential (MFD)	This designation is intended to permit development of multi-family residences at an average overall density of 10 - 20 units per acre. This designation creates a transition from existing developed urban centers and lower density residential and institutional districts. No more than 25% of all units within a High Density District may consist of attached housing at a density lower than 10 DU's per acre. Single family detached dwellings will not be permitted.	Uses allowed within this land use designation include: <ul style="list-style-type: none"> • SFD attached; • MFD; • convenience retail (where designated); • parks; • certain types of commercial recreation, including golf courses; • schools; • day care centers; • houses of worship; • community centers.
Residential Infill Overlay Ave. lot size = 4,000-5,000 SF	This designation is intended to encourage the development of medium-density residential uses in existing Army-built residential neighborhoods.	Uses allowed within this land use designation include: <ul style="list-style-type: none"> • All uses permitted in the medium density residential (SFD) designation; • Educational and service uses appropriate to the support of University activities on CSUMB lands.
Planned Development Mixed Use Gross FAR to .35, Density to 20 DU's/Acre	This designation is intended to encourage the development of pedestrian-oriented community centers that support a wide variety of commercial, residential, retail, professional services, cultural and entertainment activities. The intent is to locate this designation near future transit facilities or along transit corridors, and near commercial and employment centers. This designation creates a transition from existing developed urban centers and lower density residential and institutional districts.	Uses allowed within this land use designation include: <ul style="list-style-type: none"> • SFD detached & attached; • MFD; • convenience retail; • neighborhood retail; • regional retail • offices; • entertainment uses; • commercial recreation; • parks; • community centers; • public buildings & facilities, including visitor centers, cultural centers, museums, transit centers, etc. • schools; • day care centers; • houses of worship.
Office/R&D Permitted Gross FAR = .25	This designation is intended to allow the development of commercial office/research and development facilities. Business park and light industrial facilities are not a permitted use within this designation.	Uses allowed within this land use designation include: <ul style="list-style-type: none"> • office/research and development uses; • convenience retail; • food service uses; • visitor serving, where designated.

Table 3.4-1 (Continued)
Permitted Range of Uses for Designated Land Uses

Generalized Land Use Designation	Description	Permitted Range of Uses
Business Park/ Light Industrial Permitted Gross FAR = .20	This designation is intended to allow the development of business park and light industrial activities.	Uses allowed within this land use designation include: <ul style="list-style-type: none"> • business parks; • light industrial development; • aviation-related industrial, where designated; • office/research and development uses; • convenience retail; • food service uses; • Interim development of commercial recreation and visitor serving facilities, where designated.
Convenience & Specialty Retail Range of leasing area = 10,000 to 100,000 SF Permitted Gross FAR = .25	This designation is intended to allow the development of commercial uses that are distributed to establish small scale centers to meet the needs of residential districts, and reduce their vehicular trips and trip lengths.	Uses allowed within this land use designation include: <ul style="list-style-type: none"> • restaurants; • personal services • convenience retail (typically less than 10 to 20 KSF leasable area per store • specialty retail to accommodate unique stand-alone retail opportunities related to a special resource.
Neighborhood Retail Range of leasing area = 100,000 to 300,000 SF Permitted Gross FAR = .25	This designation is intended to allow for development of daily retail and personal service uses related to a limited service area while minimizing the impacts of commercial activities on nearby residential properties. This designation excludes industrial and large scale regional commercial uses. It is intended to encourage the development of commercial activities to support the Fort Ord neighborhoods.	Uses allowed within this land use designation include: <ul style="list-style-type: none"> • personal services; • food service uses; • supermarkets; • discount stores; • pharmacies; • neighborhood-oriented retail uses.
Regional Retail Range of leasing area = 300,000 to 1,000,000 SF Permitted Gross FAR = .25	This designation is intended to allow for development of bulk retail centers related to a regional service area.	Uses allowed within this land use designation include: <ul style="list-style-type: none"> • large-scale retail centers; • food service uses • entertainment-oriented uses • visitor-serving uses
Visitor Serving	This designation is intended to promote development of hotel and resort uses, along with associated commercial recreation uses such as golf courses.	Uses allowed within this land use designation include: <ul style="list-style-type: none"> • hotels; • conference centers; • restaurants; • golf courses.
Open Space/ Recreation	This designation has been applied to all planned parkland which will be publicly owned, including Fort Ord Dunes State Beach. In certain cases it has been applied to encourage the development of commercial recreation opportunities such as equestrian centers or golf courses.	Uses allowed within this land use designation include: <ul style="list-style-type: none"> • convenience retail, where specified; • commercial recreation dependent on large open spaces such as equestrian uses and golf courses; • public parks; • all types of recreation activities not specifically prohibited; • habitat management; • public amphitheatres; • environmental education activities.
Habitat Management	This designation has been applied to all open space identified by the Habitat Management Plan as critical to the survival of the natural communities and sensitive species at Fort Ord.	Uses allowed within this land use designation include: <ul style="list-style-type: none"> • habitat management; • ecological restoration activities; • environmental educational activities; • passive recreation activities, such as hiking, nature study, horse and bike riding.
School/University	This designation has been applied to publicly-owned and privately owned educational facilities, including both primary and secondary educational facilities both private and public.	Uses allowed within this land use designation include: <ul style="list-style-type: none"> • public primary schools and related office and maintenance uses; • higher education facilities and related uses, including university housing, sports facilities, support facilities, and open space; • habitat management; environmental education;

Table 3.4-1 (Continued)
Permitted Range of Uses for Designated Land Uses

Generalized Land Use Designation	Description	Permitted Range of Uses
Public Facility/Institutional	This designation has been applied to all manner of planned facilities having public/institutional ownership and/or public benefit.	<p>Uses allowed within this land use designation include:</p> <ul style="list-style-type: none"> • habitat management • light industrial • corporation and transit yards; • public utilities; • public training grounds; • public offices; • community colleges; • youth camps; • maintenance areas; • public airfields.
Military Enclave	This designation identifies lands retained by the United States armed forces for ongoing military-related activities within the former Fort Ord boundary.	<p>Uses allowed within this land use designation include existing military related activities such as:</p> <ul style="list-style-type: none"> • military housing; • schools; • day care centers; • houses of worship; • community centers; • reserve unit training; • exchange retail activities; • motor pool activities.
Opportunity Sites	This designation identifies sites where an opportunity exists for development of a desired land use, while recognizing that that particular use may not materialize there, due to the existence of competing sites or lack of market demand. Identification of an opportunity site implies compatibility with the designated land use. It is intended to encourage the development of the desired uses.	<p>Opportunity sites have been identified for the following activities:</p> <ul style="list-style-type: none"> • a high school; • hotels; • golf courses; • equestrian centers; • a regional visitor center.

**Table 3.4-2
Land Resources**

General Land Use Designation	Permitted Intensity	Summary by Jurisdictions (acres)			Totals (acres)
		Marina	Seaside	Mont. County	
RESIDENTIAL USE DESIGNATIONS					
SFD Low Density Residential	1 - 5 DU's/Acre	—	—	924	924
SFD Medium Density Residential	5 - 10 DU's/Acre	594	751	412	1,757
MFD High Density Residential	10 - 20 DU's/Acre	—	24	0	24
Residential Infill Opportunities		(559)	—	(555)	(1114)
MIXED USE AND COMMERCIAL DESIGNATIONS					
Planned Development Mixed Use	up to .35 FAR and 20 DU's/Acre	1,094	99	1,024	2,217
Office/R&D	.20 to .35 FAR	—	—	404	404
Business Park/Light Industrial	.20 FAR	271	—	—	271
RETAIL USES					
Convenience Retail Overlay(1)	.25 FAR	3 sites	6 sites	13 sites	22 sites
Neighborhood Retail	.25 FAR	—	54	—	54
Regional Retail	.25 FAR	—	44	—	44
VISITOR SERVING/OPEN SPACE/RECREATION/HABITAT MANAGEMENT					
Visitor Serving (2)	varies	—	375	169	544
Golf Course Opportunity Site Overlay		2 sites	2 sites	3 sites	7 sites
Hotel Opportunity Site Overlay		2 sites	1 site	3 sites	6 sites
Equestrian Opportunity Site Overlay		—	—	3 sites	3 sites
Open Space/ Recreation (3)	See Conservation Element	90	113	1,805	2,008
Habitat Management	See Conservation Element	170	962	14,819	15,951
INSTITUTIONAL AND PUBLIC FACILITIES					
School/University	N/A	265	472	342	1,079
Alternative High School sites Overlay		2 sites	—	—	2 sites
Public Facility/Institutional	N/A	391	59	231	681
Military Enclave	N/A	—	713	45	758
COMMUNITY RIGHTS-OF-WAY	N/A	497	570	96	1,163
Total Acreage					27,879

NOTES

(1) permitted use in Mixed Use District

(2) Includes Golf Courses

(3) Includes sufficient neighborhood/community park area reserves to serve anticipated Buildout at local standards (see figures 4-13,14,15)

Intensity of use for the other land uses varies according to their use and location, such as hotels, open space, and habitat management.

Residential Land Use Designation

The intensity of residential use for the Ultimate Development Plan utilizes Market Prototypes defined in the market analysis for residential uses and summarized in Section 2.3 Market Opportunities.

Land use designations in the Ultimate Development Concept, however, reflect an overall development intensity within which a range of residential prototypes would be appropriate. To provide flexibility and diversity within planning areas or districts, the land use designation shall set the range of permissible housing types and an overall maximum development intensity averaged over the entire planning area or district.

The designation of residential lands within the Ultimate Development Plan provides a balance of land supply reflecting market demand segmentation. The range of permitted uses includes: both detached and attached homes, convenience retail, parks, some commercial activities including golf courses, schools, day care centers, houses of worship, and community centers.

The land use designations for the Ultimate Development Plan accommodate:

SFD Low Density Residential: Up to 5 Du/Ac (dwelling units per acre) and average lot sized of 8,000 sq. ft. and range 6,000 to 10,000 sq. ft.. Overall density will range from 0 and 5 units per acre, mostly of larger detached homes. It is recommended no more than ten percent of the homes may consist of attached homes.

SFD Medium Density Residential: Up to 5 Du/Ac and average lot size of 6,000 sq. ft. and range 4,000 to 8,000 sq. ft.. Overall density will range from 5 and 10 units per acre, mostly of larger detached homes. It is recommended that no more than 25 percent of the homes may consist of attached homes.

MFD High Density Residential: up to 10-20 Du/Ac. This designation creates a transition from existing developed urban centers and lower density residential and institutional districts. Overall density will range from 10-20 units per acre.

Residential Infill Opportunities: up to 5-10 Du/Ac and average lot size range 4,000 to 5,000 sq. ft.. This use is intended to encourage renovation and

redevelopment in the existing Army-built residential neighborhoods. This designation also includes MFD housing type renovation and infill opportunities.

Planned Development Mixed Land Use

The use is intended to encourage the development of pedestrian-oriented community centers. They will contain a wide variety of residential detached and attached homes, commercial, various retail, professional office, cultural civic centers, parks, community centers, schools, churches, day care centers, transit centers, and entertainment uses. The typical development intensity for this use is a gross FAR of .35 and housing density of up to 20 dwelling units per acre.

Office/R&D Land Use

The typical development intensity for this use is a gross floor area ratio (FAR) of 0.20. This is based on a net .25 to represent market-oriented development prototypes. A 20% allocation is provided for on-site roads and storm water management. The gross FAR is based on applying a net .25 FAR on the remaining land ($80\% \times .25 = .20$ FAR). This intensity of development will typically rely on surface parking.

Some areas have been assigned higher FAR's to reflect the specific market segment or strategic location that will be able to attract more intensive development (.28 to .35 FAR). These intensities will generally rely on surface parking, though the higher end of the range could also result in some parking structures. The highest FAR (.35) has been targeted at the Marina Town Center and UCMBEST to reflect these key locations within the former Fort Ord and their potential to play a significant long-range role in the reuse of the base.

Business Park / Light Industrial Land Use

The typical development intensity for this use is a gross FAR of .20. This is based on a net .25 FAR to represent market-oriented development prototypes. A 20% allocation is provided for on-site roads and storm water management. The gross FAR is based on applying a net .25 FAR on the remaining land ($80\% \times .25 = .20$ FAR). This intensity of development will typically rely on surface parking.

Some areas have been assigned lower FAR's to account for the presence of significant stands of oak trees, more rolling topography, or are retained as assumptions used in the January 1995 FORIS Infrastructure Plan (.13 to .15 FAR).

Convenience Retail Opportunity Site Overlay Land Use

This type of retail will be encouraged in a more dispersed pattern to support the residential development patterns (see "+" symbol on Ultimate Development Map). It is an overlay designation preserving flexibility in their location. Retail and services are generally served with surface parking in a combination of off-street and on-street locations. The size of the convenience centers is expected to range from 10,000 to 100,000 sq. ft.. The centers typically include: restaurants, personal service, and other services to meet the needs of residential and commercial districts.

Neighborhood Retail Land Use

Neighborhood retail will range from 100,000 to 300,000 sq. ft. with a permitted gross FAR of .25. These centers will typically include: personal and food services, supermarkets, discount stores, pharmacies, and small neighborhood-oriented shops and services. Neighborhood Retail Centers are intended to reinforce the role of the Villages at the former Fort Ord. Two locations have been designated as Neighborhood retail, one adjacent to the CSUMB campus and one at the cross sections of North-South Road and the East boundary road. In addition, neighborhood retail uses are permitted in the planned development mixed-use districts. It is expected that several neighborhood centers will be incorporated into this designation in the City of Marina.

Regional Retail Land Use

Regional retail will range from 300,000 to 1,000,000 sq. ft. with a permitted gross FAR of .25. These uses include: large-scale retail centers, food service, entertainment, and visitor-serving uses. The regional retail uses are located in proximity to convenient vehicular access from State Highway 1 in the planning areas at the western end of the CSUMB campus: 1) the Marina Town Center (mixed-use corporate center); and 2) the Seaside University Planning Area (Gateway Regional Entertainment District).

Visitor-Serving Land Use

Permitted uses include hotels, conference centers, restaurants, and golf courses. Each individual location will take on an appropriate size and character based on the setting. There are sufficient land resources to accommodate the distribution of hotel rooms in the Ultimate Plan within a low-rise building configuration. It is anticipated that most new hotel sites will also be associated with a golf course to enhance the operating performance of this visitor-serving land use.

Additional Visitor-Serving Opportunity Site Overlays

The Ultimate Development Plan and Map (see * symbol on Map) utilizes a series of overlay districts to allow for future planning based on need and

demand for golf courses, hotels, and equestrian centers. Their precise location is based on local community desires. The Plan provides several opportunity sites to retain long-term flexibility.

Open Space/Recreation Land Use

This land use designation includes all park land which will be publicly owned, including Fort Ord Dunes State Park, regional parks, community parks, and neighborhood parks not identified in the land use concept but designated as permitted use in all districts. Permitted uses in this district include: habitat management; active and passive public parks; commercial recreation such as golf, equestrian centers, public amphitheaters, etc; educational facilities; and a limited amount of supporting convenience retail uses.

Habitat Management Land Use

This land use designation applies to all open space identified by the HMP as critical to survival of the natural communities and sensitive species. Limited uses include: ecological restoration and educational activities, and passive recreation such as hiking, nature study, horse and bike riding, and infrastructure services and facilities (water, power, and wastewater systems).

Public Facility/Institutional Land Use

This land use allows for light industrial, corporate and transit yards, public utilities and infrastructure, public training grounds, public offices, community colleges, youth camps, habitat management, and public aviation related uses.

School/University Land Use

This land use applies to publicly owned and privately owned educational facilities, including such uses as primary and secondary schools, higher education classrooms, administrative offices, sport facilities, university housing, open space, and habitat management.

Alternative High School Opportunity Site Overlay Land Use

This land use opportunity site identifies alternative general locations for a new high school in Marina.

Military Enclave Designation

This designation identifies land retained by the U.S. Armed Forces for ongoing military related activities within the former Fort Ord boundary. This includes the POM Annex, military housing, schools, day care facilities, churches, community centers, reserve training centers, exchange retail activities, and motor pool activities.

3.5 CIRCULATION CONCEPT

It is clear that the redevelopment of the former Fort Ord, plus growth throughout the remainder of Monterey County and the region, will significantly increase the demand placed on the region's transportation infrastructure and services. To some extent, the increases in travel demand will be managed by building or improving transportation facilities, but there also exists a variety of concepts and objectives that can be used to minimize the demand for vehicle trips as an alternative to increasing roadway capacity. The approach taken as part of the Fort Ord Reuse Plan seeks to balance these two components to achieve a transportation system that is both financially feasible and operationally acceptable.

The Circulation Framework provides an overview of the proposed transportation system of the Fort Ord Reuse Plan. The overview focuses on a proposed transportation system for the year 2015, chosen because it represents the latest year for which regional land use data and network forecasts are available. These forecasts, along with similar information for the former Fort Ord, will be used to model travel demand for 2015 and estimate performance levels of the regional network. The Circulation Framework includes an overview of the key links in the transportation network and related concepts. Specific design and operating details are provided in the technical working papers that are background to the Reuse Plan.

3.5.1 Regional Network

There are several outstanding issues related to the regional (CMP network) transportation facilities. Most of these issues are also relevant to the local jurisdictions where the potential roadway improvements will take place.

State Highway 1 Widening

The 1993 Regional Transportation Plan (RTP) recommended that State Highway 1 be increased to six lanes from State Highway 68 to Fremont Boulevard, with modifications to the Fremont interchange. However, none of these improvements are currently funded in the State Transportation Improvement Program (STIP) or in the RTP's Action Element.

The California Coastal Commission has indicated that there should be no widening of State Highway 1 to accommodate Fort Ord reuse unless all other feasible alternatives for serving the transportation demand of the base have been exhausted (California Coastal Commission, February 1994). The close proximity of the roadway to the coastline introduces

significant environmental concerns involving both habitat and wetlands issues.

Estimates vary as to the extent of congestion on State Highway 1. Caltrans currently estimates service levels on State Highway 1 to be LOS F south of the Marina Del Monte interchange (LOS C to the north). The Marina Airport Environmental Impact Report (EIR) reported the LOS to be in the C/D range. In any case, it is agreed that the development of the former Fort Ord area will result in an increased demand on this facility.

State Highway 1 Interchanges

Issues have also arisen related to the design and operation of key interchanges in the former Fort Ord area. In fact, the increased volumes due to the development of the former Fort Ord could require the redesign of four major interchanges on State Highway 1 within the cities of Marina, Seaside, and Sand City. Specifically, the interchanges at Del Monte Boulevard, 12th Street, Light Fighter Drive, and Fremont Boulevard could require redesign. In addition to circulation and safety issues, the redesign would have to include consideration of how new roads might link the reuse area with State Highway 1 and the impact of increased volumes on existing roadways.

One specific concern that has been expressed is the potentially insufficient distance for complex merges and weaves between the 12th Street/Main Gate and Del Monte Boulevard interchanges. The current alignment and demand here is acceptable, but as the demand increases from development of the former Fort Ord, the situation may become critical.

Another specific issue is the operation of the local street system at the Fremont Boulevard interchange. There are several factors contributing to this issue:

- the convergence of Del Monte Boulevard, Fremont Boulevard, Military Avenue, and Ord Avenue in close proximity to the interchange;
- the increased demand on the interchange due to new developments in the immediate vicinity, including the approved additional shopping center development in Sand City along Del Monte Boulevard; and
- the railroad tracks on the east side of the interchange.

For Fort Ord, the connection of Coe Avenue to State Highway 1 (via Ord Avenue) through this interchange is important, but is not emphasized as a primary access route. Caltrans is currently working with the cities of Seaside and Sand City on the issues related to access to State

Highway 1 at this interchange and proposals for new development in the immediate vicinity of the interchange.

State Highway 68

This Salinas-Monterey corridor is currently experiencing heavy congestion during peak periods where it is a two-lane facility. Caltrans is completing an environmental assessment for a major improvement to State Highway 68 that includes as alternatives the widening of the existing roadway, and a new alignment north of the existing roadway through a portion of the base reuse area. An improved State Highway 68 would provide an attractive alternative to Blanco and Davis Roads for travel between U.S. 101 and the Peninsula.

Westside Bypass

The proposed Westside Bypass is to be a four- to six-lane facility extending from the Espinosa/Russell interchange of U.S. 101 to Blanco Road. The alignment of the proposed roadway has yet to be determined. Included within the consideration of alignment will be its initial and ultimate sizing and the right-of-way requirements for the Bypass. TAMC completed the *Westside Salinas Bypass and Fort Ord Multimodal Corridor Transportation Study* in July 1993. The study reviewed alternative Westside Bypass locations to relieve congestion in Salinas, but no conclusive recommendations were made because of insufficient information on future traffic demands associated with reuse of the former Fort Ord. As stated in the Monterey County RTP, alternatives for the Westside Bypass will be finalized by TAMC, Monterey County, the City of Salinas, and the agricultural community as part of a separate study.

Blanco Road/Davis Road

The Blanco/Davis corridor serves as the primary connection from the former Fort Ord area to Salinas and U.S. 101. Both of these facilities are two-lane roads through agricultural land, and traffic operations are complicated by farm vehicles using the road. Both Blanco and Davis currently operate at poor service levels. As the former Fort Ord is redeveloped, the demand on this corridor will increase significantly.

Currently, there are plans for widening Blanco Road as part of the Westside Bypass project, but there are open issues about the right-of-way requirements. The right-of-way requirements for both the Westside Bypass and Blanco Road will be assessed by considering the number of lanes necessary to carry automobile traffic for short-, medium-, and long-term needs of the reuse area, and also whether the right-of-way should include space for transit or HOV facilities. Previous analysis has suggested that as many as six lanes may be required and recommendations have been made for right-of-way for transit or HOV facilities. These recommendations

directly conflict with the desire to minimize the amount of agricultural land lost through the widening of Blanco Road and the development of the Multimodal Corridor.

Multimodal Corridor

The phrase "Multimodal Corridor" is used here to refer to a high-capacity transit corridor between the former Fort Ord and Salinas. As mentioned above, there is a significant concern regarding the alignment and the conveyance of the right-of-way for this corridor. Other unresolved issues include the type of facility (rail, light rail, bus, or exclusive HOV) and level of service (operating hours, frequency).

State Highway 156

This Highway in northern Monterey County provides a direct connection between U.S. 101 and State Highway 1. It is part of the primary route between the Peninsula and points north on U.S. 101 including the San Francisco Bay Area. Although short in length, this portion of roadway can act as a significant bottleneck. For the majority of its length, Highway 156 is only one lane in each direction. With traffic volumes of over 25,000 vehicles per day, the two-lane portion of Highway 156 currently operates at LOS E. Elimination of this bottleneck is important for both existing and future regional mobility. For the former Fort Ord, the efficient operation of this facility is especially significant as it provides a vital link between the proposed educational and high technology centers on the base and those in the San Francisco area, notably, Silicon Valley.

3.5.2 Fort Ord Network Issues

In some regards, the design of the transportation network within the former Fort Ord is beginning with a relatively "clean slate." However, there are several factors that will guide and constrain the on-site network. First, the network must meet the needs of the development that is part of the base reuse, but should do so while minimizing infrastructure costs. To do so, the use of existing facilities will be maximized. It is important to consider connections to existing facilities outside the former Fort Ord area.

Planned improvements to other facilities should be considered as well. For example, the transportation network within the former Fort Ord will be influenced by the ultimate decision on the improvements to the Blanco/Davis corridor. Also, improvements to State Highway 1 could result in reduced demand for Fort Ord roadways. Interchange improvements to State Highway 1 at 12th Street and Light Fighter Drive would provide better freeway access to and from the former Fort Ord. Another critical issue for the former Fort Ord is the Multimodal Corridor, which

could provide a significantly higher level of transit service (and therefore potentially less demand for the roadway network).

Marina

Several of the regional network issues are applicable to the Marina area. These include the widening issues on State Highway 1 in the Marina area and the interchange concerns at Del Monte Boulevard. Another issue is the level of access between the former Fort Ord and currently developed areas within Marina. Also of concern is the alignment of the proposed extension of California Avenue north of Reservation Road. Since such an extension would traverse a habitat area, it would be necessary that the extension be habitat sensitive, with the least impact to environment in that area.

Seaside

The regional issues related to the State Highway 1 widening and interchange improvements (particularly at Fremont Boulevard) are of significant importance to Seaside. In addition, the City of Seaside has expressed several other concerns. One issue is the connection from State Highway 68 to the former Fort Ord. Within the 2015 timeframe, access to the former Fort Ord from State Highway 68 will be provided via State Highway 218 and North-South Road. In the ultimate network configuration, the proposed State Highway 68 freeway will have a new interchange (Eastside Road) leading into the former Fort Ord.

Another issue is improved access from State Highway 1 to the planned visitor-serving land uses on the golf courses and the surrounding residential areas. The City has proposed a new interchange between the Fremont Boulevard interchange in Sand City and the Main Gate entrance to the former Fort Ord. TAMC is currently evaluating the need for a new interchange structure at this location.

Seaside would also like to reconfigure the neighborhood street system in existing residential areas on the former Fort Ord, specifically in the Hayes and Stillwell Park areas. The current street system does not meet the standards for the amount of housing planned in these areas.

Del Rey Oaks

State Highway 68 is a key roadway for Del Rey Oaks, so issues related to improvements on State Highway 68 are directly relevant to Del Rey Oaks. The Caltrans proposal to realign State Highway 68 may impact the intersection at Canyon Del Rey Road. The realignment could result in land use and fiscal impacts on the city due to the potential loss of commercial property at the east entrance to the community. The proposed right-of-way will pass through the majority of the remaining vacant land

in Del Rey Oaks with commercial zoning. It may also require the condemnation of the Tarpey's restaurant site, an historic structure and an important landmark. The resulting intersection of new State Highway 68, old State Highway 68, Canyon Del Rey Road (State Highway 218), and the access road for the Montera Ranch development may present a significant circulation problem at the east entrance to the city.

Del Rey Oaks has also acknowledged concern regarding access to the former Fort Ord at North-South Road. They believe there is a need to open the gate at North-South Road/Boundary Road to accommodate the demand on State Highway 218 and the demand to the proposed conference center, hotel, and golf course. In conjunction with this gate opening, the City has suggested that this intersection be upgraded with a signal and that State Highway 218 should be increased to four lanes from North-South Road to State Highway 68 to maintain an appropriate level of service in this area.

Monterey County

The Westside Bypass and improvements to both Blanco and Davis Roads would significantly impact parts of the Monterey County network. Issues related to these roadway projects and the Multimodal Corridor are a key part of future planning for Monterey County. These issues were discussed in Section 3.1.

City of Monterey

An area in the southern portion of the former Fort Ord has been designated as Open Space/Recreation land use, but is also potentially the site for the alignment of the State Highway 68 alternative corridor as discussed under Section 3.1. The City is preparing for both uses, considering a campground and commercial recreation as interim use. If the area is later used for highway purposes, Caltrans will provide the City with a community park site at another location.

3.5.3 Funding Issues

It is generally agreed that the financing of the transportation improvements necessary to serve the base reuse plan will require funding derived from impact fees for the base reuses. What has not been determined is the total cost for infrastructure (including non-transportation improvements), the amount of development fees that would be required to fund the infrastructure improvements, and whether there might be a shortfall in funding that would have to be met by other areawide or countywide funding mechanisms

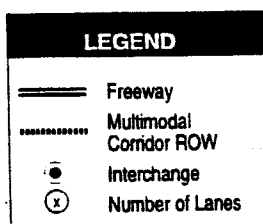
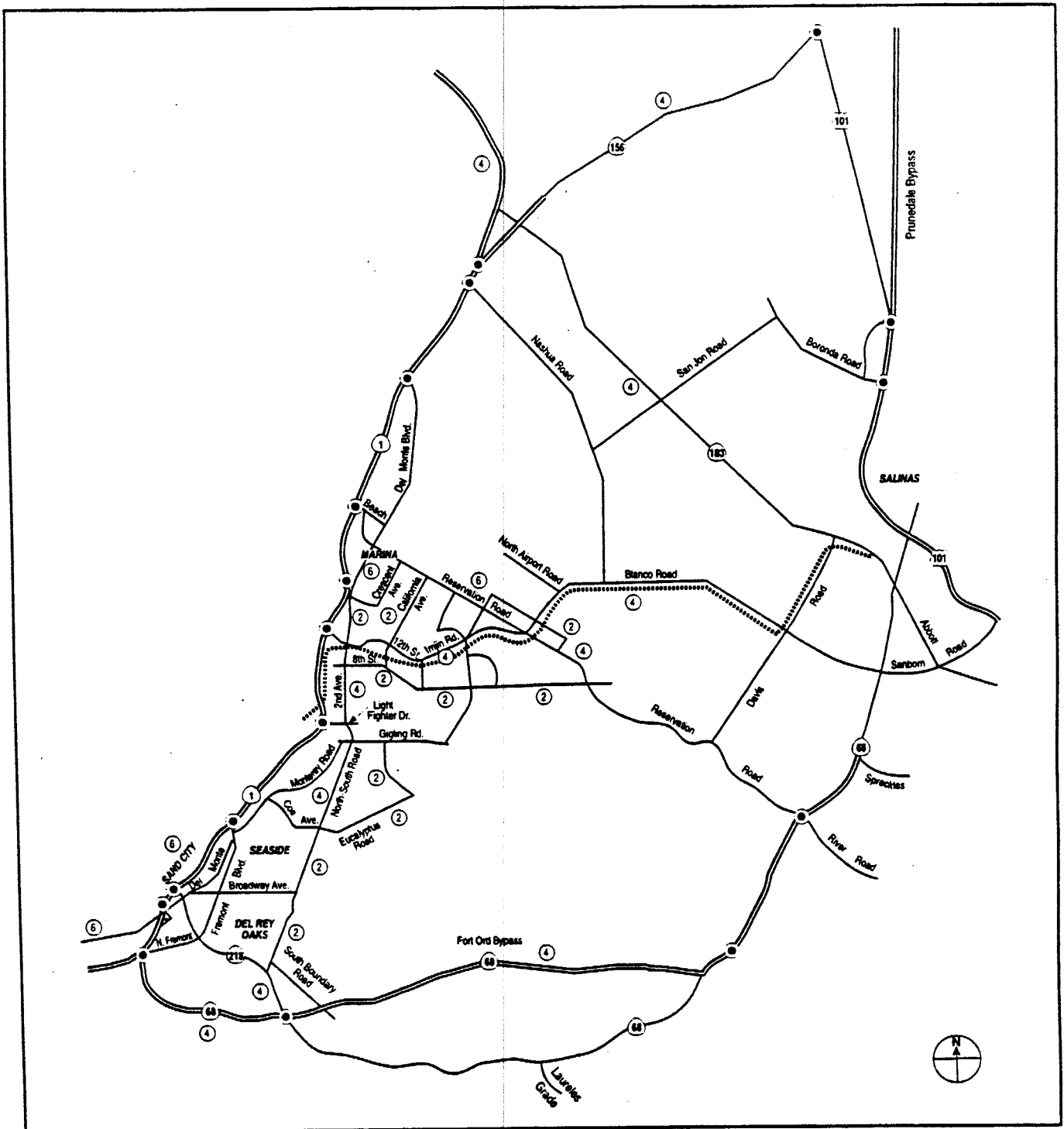
3.5.4 Proposed Roadway Network

The redevelopment of the former Fort Ord will increase the demand for transportation infrastructure and services both within the base area and the region. The Circulation Concept for the former Fort Ord includes strategies and improvements for the system within the base, as well as for those regionally significant facilities that provide access to the former Fort Ord. This plan is comprised of two key elements: a roadway network that includes building or improving roadway facilities, and a demand management network that consists of strategies and actions that can be used to minimize the demand for vehicle trips as an alternative to increasing roadway capacity.

In developing a roadway network for the Reuse Plan, the key goals were to reduce the infrastructure needs, both internally to the former Fort Ord and regionally, and to reduce traffic volumes on key roadways as an effort to eliminate or reduce deficient service levels and other traffic-related impacts. A particular area of concern that was addressed was that of traffic volumes along the 12th/Imjin and Blanco corridor. The principal method used to achieve these goals was to enhance the distribution of trips among the travel routes available. This is accomplished by enhancing regional access alternatives, providing additional local access routes, and enhancing the internal circulation system to reduce through trips on facilities in the higher density or otherwise sensitive areas. The demand management element of the Reuse Plan is also critical to these system goals.

The proposed roadway network for the former Fort Ord area is illustrated in Figure 3.5-1. From a regional perspective, the proposed network includes a number of major improvement projects with varying levels of relationship to the reuse of the former Fort Ord. In some instances, these improvements address existing system deficiencies. Others are proposed with the intent of improving access to the former Fort Ord, recognizing the environmental and financial constraints. It should be noted that funding for most, if not all, of these improvements is not yet secured. For the most part, the proposed regional improvements are consistent with those included in the FORIS project. Key features of the regional road system are described below.

The preferred scenario in the Fort Ord Reuse Plan projects the former Fort Ord's contribution to added trips in terms of percentage increase. The percent given is equal to the percent of growth (new trips) with one trip end in the former Fort Ord. For financing purposes, a trip with only one end in the former Fort Ord was split 50/50 with North County.



DRAFT
Figure 3.5-1
**Proposed 2015
Transportation Network**

Westside Bypass

The proposed ultimate network includes the construction of a limited access, multilane facility between U.S. 101 at Boronda and the Davis-Blanco intersection. For this discussion, improvements to Davis and Blanco are described separately below.

U.S. 101

No improvements directly related to the reuse of the former Fort Ord are required, but the proposed network does include the Prunedale Bypass.

State Highway 1

Based on the constraints described in the previous chapter, the proposed roadway network assumes limited improvement to this facility in the former Fort Ord area. This improvement includes the widening of the Highway to six lanes between the Fremont and Del Monte Interchange resulting in a network pattern intended to minimize the impact on State Highway 1 in this area. The 2015 network also assumes completion of the Hatton Canyon improvements in the Carmel area. The preferred scenario in the Fort Ord Reuse Plan projects the former Fort Ord's contribution to added trips to be 32% in the period to 2015.

State Highway 68

For the 2015 network, it is assumed that the Highway 68 By-Pass freeway will be built. This four-lane facility will run through the southern portion of the former Fort Ord. The preferred scenario in the Fort Ord Reuse Plan projects the former Fort Ord's contribution to added trips to be 6.5% in the period to 2015.

State Highway 218

This facility will be improved between State Highway 68 and North-South Road. The preferred scenario in the Fort Ord Reuse Plan projects the former Fort Ord's contribution to added trips to be 44% in the period to 2015.

Blanco Road

Upgrading of this facility between Davis and Reservation is proposed, although improvements to other portions of the network (notably Davis, Reservation and Inter-garrison) are intended to provide attractive alternatives and lessen demand on Blanco. The preferred scenario in the Fort Ord Reuse Plan projects the former Fort Ord's contribution to added trips to be 60% in the period to 2015.

Davis/Reservation

The upgrading of Davis between Blanco and Reservation, and Reservation between Davis and Inter-garrison is proposed with the intent of establish-

ing this route as an attractive alternative to Blanco between the former Fort Ord and Salinas. The objective of this approach is to lessen the magnitude and impact of improvements along both corridors. The preferred scenario in the Fort Ord Reuse Plan projects the former Fort Ord's contribution to added trips on Davis to be 75% in the period to 2015.

The roadway network also includes the designation of the major roadways that will provide circulation within the reuse area, and improvements to local roads adjacent to the base. In general, this system of major roads provides access to the regional network via the existing entrance locations at 12th Street, Main Gate (Light Fighter), Imjin Road, Inter-garrison Road, Broadway Avenue and North-South Road at State Highway 218. Within the base, these roads connect the entrance points and provide for internal circulation. The Reuse Plan also identifies a limited number of key collector roads that provide access to major development areas. (See Figure 3.5-2, Roadway Classification & Multimodal Corridor.)

State Highway 156

This highway is considered a vital link between the Peninsula, and the former Fort Ord in particular, and the San Francisco Bay Area. Under the proposed network, the two-lane portion of Highway 156 would be upgraded to a four-lane expressway by the year 2015. As a result, this facility would operate at LOS C and would attract trips that otherwise divert to alternative routes in Northern Monterey County. The preferred scenario in the Fort Ord Reuse Plan projects the former Fort Ord's contribution to added trips to be 11.7% in the period to 2015.

State Highway 183

This roadway provides the most direct connection between Salinas and points north on Highway 1 including Castroville and Santa Cruz. To alleviate congestion and provide relief to other routes (U.S. 101 and Highway), the proposed network includes widening of Highway 183 to four lanes between Castroville and Salinas by the year 2015. The preferred scenario in the Fort Ord Reuse Plan projects the former Fort Ord's contribution to added trips to be 1.5% in the period to 2015.

Del Monte (Monterey)

This facility provides the primary link between the Peninsula and points to the east including Highway 1 and the former Fort Ord. Improvements to sections of this roadway are underway. The 2015 network includes widening of this facility to six lanes from Monterey to Highway 1. The preferred scenario in the Fort Ord Reuse Plan projects the former Fort Ord's contribution to added trips to be 50% in the period to 2015.

Key components of the roadway network within and adjacent to the former Fort Ord, including changes from the FORIS plan, are described below.

12th Street/Imjin Road

This remains a key corridor between State Highway 1 and Reservation Road in the former Fort Ord. In comparison to the FORIS plan, the Re-use Plan seeks to reduce demand along this corridor by upgrading alternative routes, eliminating the direct connection to Blanco Road prior to 2015, and reducing the capacity. This was done to mitigate the impacts associated with the high demand on State Highway 1, the 12th Street interchange, and Blanco Road, and within the higher-density development area in the former Fort Ord.

Intergarrison Road/8th Street

Various improvements to this facility are proposed, including a connection to Gigling Road. These measures are intended to make this route more attractive to drivers for accessing the southern portion of the reuse area from the east, thus reducing the demand on Blanco Road and the 12th Street/Imjin Road corridor. West of the connection to Gigling Road, however, Intergarrison Road will be de-emphasized as major vehicular route with greater emphasis placed on pedestrian and bicycle traffic. Between the CSUMB campus and the designated mixed-use area, 8th Street will be a multilane facility, but with design features (e.g., intersection and signal spacing) that reflect an urban, circulatory character.

Gigling Road

This facility will be upgraded between North-South Road and the Intergarrison connector. Gigling Road will serve as the major roadway serving the area immediately south of the CSUMB campus.

Del Monte/2nd/North-South

This corridor will serve as the north-south spine through the reuse area. Del Monte Boulevard will be extended southward from Marina to form a single, multilane roadway extending to the existing North-South Road/Eucalyptus Road intersection. For 2015, North-South Road will continue to be used south of this point connecting with both Broadway and Highway 218. In the ultimate network, the portion of North-South Road between Eucalyptus and Broadway will be eliminated where it will feed into the new Eastside Road described below. The section south of Broadway to State Highway 218 will be maintained. The 2nd Avenue portion of this corridor will serve the key commercial and mixed-use development areas within the former Fort Ord. This facility will be designed to emphasize its role in serving as the primary circulation and

FORT ORD REUSE PLAN

Fort Ord Reuse Authority (FORA)

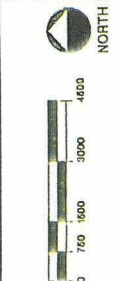
Land Planning	EDAW, Inc.
Market Analysis	EMC Planning Group, Inc.
Transportation Engineering	Sedway Kotin Mouchly Group
Civil Engineering	JHK and Associates
Fiscal Analysis	Reimer Associates
Habitat Planning	Angus McDonald & Associates
Public Communications	Zander Associates
Community Development	The Ingram Group
	Resource Corps International

LEGEND:

- Multi Modal Corridor
- Intermodal Center
- Potential Transit Stations
- P
- Park and Ride Facility
- Freeway
- Freeway Interchange
- ROW Reserved for Potential Expressway Classification
- Major Arterial
- Minor Arterial
- Collector

SHEET TITLE:

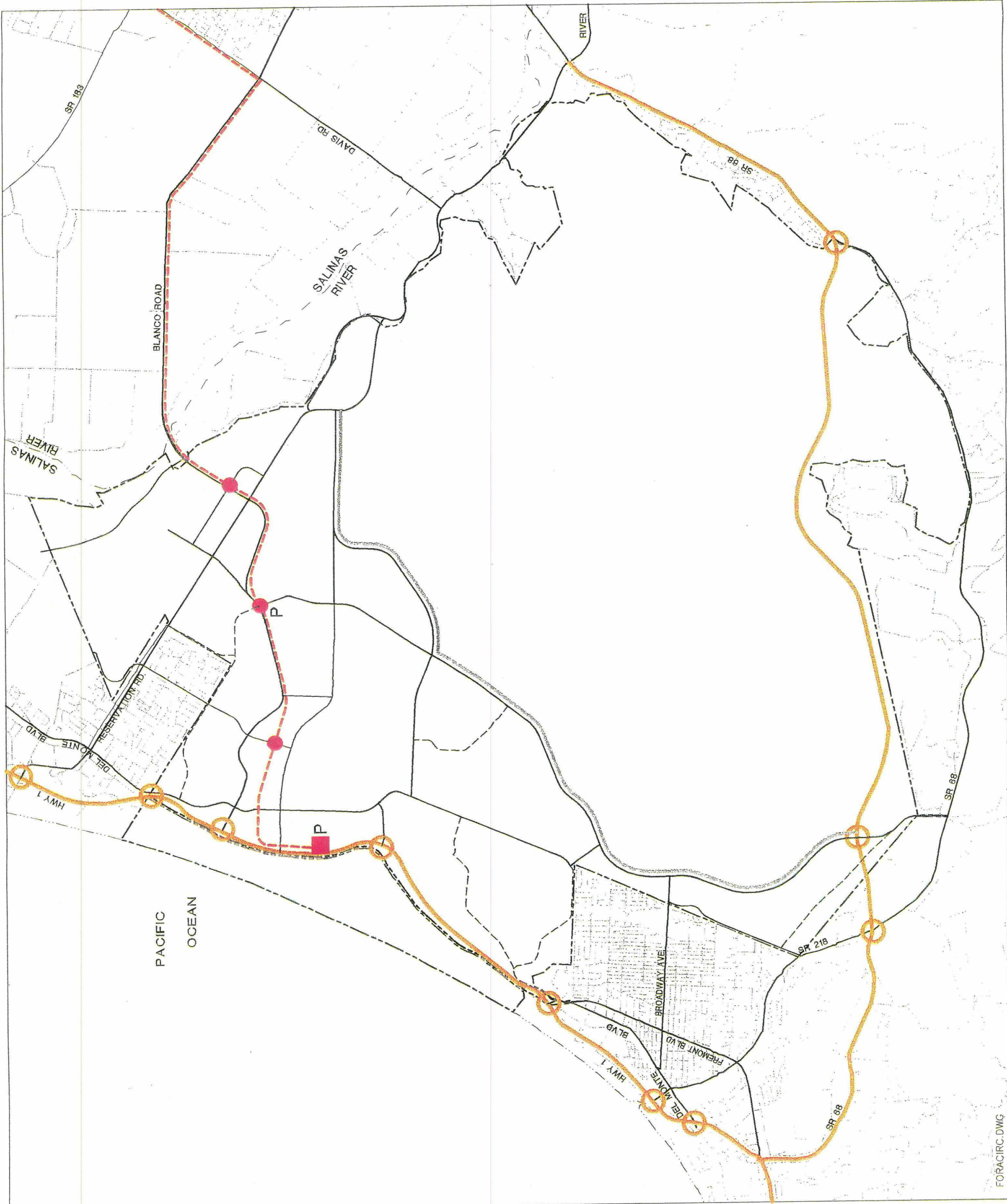
DRAFT
ROADWAY CLASSIFICATION
AND MULTIMODAL CORRIDOR



SOURCE:
Jones & Stokes, 1995
Reimer Associates,
(Re-Projected), 1995
Monterey County, 1995
EDAW, Inc., 1996

FIGURE:

3.5-2



FORACIRC.DWG

access route for these areas, and de-emphasize it as an alternative to State Highway 1.

Eastside Road

A new multilane facility is proposed along the eastern portion of the primary redevelopment area in the former Fort Ord. In its ultimate form, this facility will provide a connection between the proposed State Highway 68 freeway and Imjin Road. For the year 2015, this facility will extend as far south as Gigling Road, with access to State Highway 68 via State Highway 218 and the existing North-South Road. Improvements to each of these segments are proposed to support this circulation pattern. A connection to the North-South Road/Coe Avenue intersection will be built along with this facility. Eastside Road will serve as a primary southwest-northeast corridor. In this manner, it will serve to reduce demand along State Highway 1, 12th Street and the Del Monte/2nd/North-South corridor.

Fort Ord Expressway

The Reuse Plan does not include the Fort Ord Expressway. Portions of this expressway are covered by the proposed Eastside Road, but the currently proposed land use and transportation plans are intended to eliminate the need for this high-cost facility.

Abrams Drive

From the west, Abrams Drive will be extended from Del Monte Boulevard to Crescent. From the east, Abrams Drive will be extended along the existing Fort Ord-Marina boundary to California Avenue. This facility will serve primarily as a collector for the residential areas on either side.

City of Marina Access

Under the Reuse Plan, access to the former Fort Ord from other areas of Marina will be provided via regional facilities to existing gates off of State Highway 1 and Reservation Road. The Reuse Plan includes additional access via Del Monte Boulevard and Abrams Drive, and the extensions of Salinas Avenue and California Avenue.

City of Seaside Access

From Seaside and the Peninsula, access is provided off of State Highway 1, with primary local access via Broadway Avenue. Secondary access will be provided via Coe Avenue, but use of this route is to be limited due to constraints at the Fremont Boulevard/Coe Avenue interchange. In recognition of this, the Reuse Plan does not include the upgrading and widening of Coe between Fremont and North-South Road contained in the FORIS plan.

Right-of-Way Reservation

The Reuse Plan includes the preservation of right-of-way for possible facilities beyond the year 2015. These include the extension of Eastside Road from Broadway to State Highway 68, a State Highway 68 freeway, and a roadway connecting State Highway 1 to Blanco Road north of the Marina Airport. Another feature is the reservation of right-of-way along Blanco Road, Imjin Road, 8th Street and 1st Avenue for a high-capacity transit corridor, referred to as the Multimodal Corridor.

3.5.5 Demand Management

The proposed roadway network addresses many of the key issues raised and much of the increased transportation demand that will result from the reuse of the former Fort Ord. To supplement the roadway improvements, there are a number of strategies that can be pursued to reduce the demand for vehicle trips. Taking steps to reduce the number of vehicle trips can also lead to reduced infrastructure costs. Land use and transportation strategies are incorporated into the Reuse Plan to reduce vehicle demand and encourage walking and bicycle use.

Jobs/Housing Balance

Providing a jobs/housing balance is intended to encourage employers to locate in areas where there are significantly more residents than jobs and to add housing development near employment centers. Efforts to create a jobs/housing balance should ensure that the jobs provided are compatible with the skill-levels and income expectations of nearby residents. Developing jobs and housing in proximity to each other provides an opportunity to reduce the travel demands on key regional facilities by reducing the length of the trip and/or shifting a vehicle trip to an alternative mode. The Reuse Plan seeks to achieve a better job/housing balance within the former Fort Ord. The desired result of this balance is the reduced demand on those regional roadways connecting employees living off-base with employment centers on-base.

Mixed-Use Development/Increased Densities

The Reuse Plan includes the designation of mixed-use, high-density areas adjacent to the CSUMB campus. In a mixed-use development, a variety of compatible land uses are located in proximity to one another. If a mixed-use development includes commercial uses that serve offices and/or residences, employees and residents can patronize the commercial uses without making a vehicle trip. Another development may include a variety of commercial land uses, maybe including restaurants and entertainment facilities, that make it possible for those that do drive to make a single vehicle trip to the mixed-use development rather than mul-

multiple vehicle trips. Regardless of how persons arrive at such a center, they will be able to make many trips by walking once they arrive at such a mixed-use center; such trip linkage would not be possible in a single-purpose area. Increasing the density of a mixed-use development results in a decrease in the distances between uses, further encouraging walking and reducing vehicle travel. In single-use developments, higher densities can mean greater opportunities for carpooling and transit service.

Design of the Street Networks

Effective street design can also promote reductions in vehicle trips. In particular, grid networks can reduce vehicle miles traveled (VMT) by reducing the distance that needs to be traveled between two points (as compared to networks where cul-de-sacs predominate). A grid network also provides more direct routes for pedestrians and bicyclists. In all cases, the proposed road designs/rights-of-way should accommodate sidewalks, bike paths, and transit features, such as pullouts. Traffic calming measures should also be considered to slow vehicle speeds to levels that are compatible with pedestrian and bicycle use. Some examples of traffic calming measures are street narrowing, vehicle diverters, speed humps, and other pavement treatments. As the Fort Ord transportation plan is defined in greater detail, these principles will be applied where appropriate.

Pedestrian Facilities

By providing pedestrian facilities and routes, walking can be encouraged as an alternative to vehicle use. Even if transit stops are placed near residential areas, or if a mixture of uses are located in proximity to one another, vehicle trips will not be reduced if safe places to walk are not provided. Pedestrian treatments include wide sidewalks, pedestrian-only facilities, crosswalks, direct and continuous routes, and pedestrian phasing at traffic lights. Creating an interesting pedestrian environment with landscaping and minimal building setbacks in commercial areas also helps to encourage pedestrian activity. Streets with fast vehicular traffic are not usually perceived as a pleasant pedestrian environment. This can be offset with traffic calming measures or by providing a barrier between pedestrians and vehicles (e.g., parked cars and trees). Design standards for roadways within the former Fort Ord include rights-of-way for pedestrian facilities.

Bicycle Programs

Bicycle programs are implemented to accommodate and encourage the use of bicycles as an alternative to motorized transportation, primarily for trips that are shorter in length. To be a feasible alternative to driving, bicycling must be convenient and safe. Implementation of a bicycle program typically involves providing facilities for cyclists, including

bikeways, bike lockers and storage areas, and shower facilities at the workplace.

Bikeways are generally categorized into three classes, which are described below.

- Class I facilities are paved pathways set apart from vehicle traffic by space or by a physical barrier.
- Class II facilities are bike lanes striped at or near the shoulder of a roadway for exclusive use by bicyclists.
- Usually referred to as bike routes, Class III facilities are streets that are connected to other Class I and II facilities. As Class III facilities have no special lane markings, bicycle traffic shares the roadway with motor vehicles.

As with pedestrian facilities, Fort Ord roadway design standards include rights-of-way for bicycle facilities. Where appropriate, separate bikeways will be identified for inclusion in the Circulation Element of the Reuse Plan.

Transit-Oriented Design

Transit-Oriented Design (TOD) is a deliberate alteration of post-World War II suburban patterns. It assumes a sizeable parcel of developing/redeveloping land (at least one-third of a mile in radius) centered on a current or planned major transit station. Development in a TOD would include a range of housing densities and mix of land uses. Pedestrian facilities are provided to the transit station and between the land uses to make it convenient for residents and employees to walk and bicycle. Vehicle travel is reduced within the TOD as a result of the clustering of land uses. Regionally, transit use would be increased as a result of more residences and employment sites being located near a transit station. TOD principles are incorporated into the Reuse Plan where deemed appropriate and reasonable.

Transit Service and Facilities

Expanding transit service involves making transit more accessible to more people. Providing more people with easy access to transit may increase transit market share, which is the proportion of transit trips in comparison to trips via other available modes. Expanding transit service involves making service improvements, operational changes, and/or changes in fare policy. Service improvements include altering and/or expanding transit routes, schedules, and equipment. The aggregate impact of an effective fixed-route transit system complemented by lower-capacity transit vehi-

cles can be a logical and reasonable alternative to automobile use in areas where there is considerable housing and employment. Short and long-range improvements could be implemented to enhance operational efficiency and improve transit service, making transit a more viable alternative to single occupant automobile travel. These programs are described below.

- **Short-range improvements** including service improvements, operational changes and changes to fare policy and alternative fuel programs, are typically implemented within a five-year time frame. Short term improvements are most effective when both service-related changes and technologically-related changes are made.
- **Long-range improvements** require long lead times for planning, development, design and implementation. These improvements, which include satellite transit service centers, exclusive busways, electrified busways, alternative fuel programs, and commuter light rail, are generally capital intensive and costly to implement.

As future transportation planning is accomplished, transit service and infrastructure improvements will be defined to include general bus transit operating characteristics and siting recommendations for intermodal and park-and-ride facilities. A Multimodal Corridor for high-capacity transit, which would be a long-range improvement, has been identified in conjunction with the reuse planning of the former Fort Ord.

Park-and-Ride Lots

Park-and-ride lots are parking lots located near heavily traveled automobile and transit corridors. Park-and-ride lots enable commuters that do not have convenient access to alternative transportation modes to access transit or carpools/vanpools for a portion of their commute. Typically, commuters drive from home to the park-and-ride lot, where they park their cars and either use transit or join a carpool or vanpool for the remaining portion of their commute. Park-and-ride lots are most attractive to commuters with long trips because the time required to switch modes at the park-and-ride lot is small in comparison to the total trip length. They are also more likely to be used by commuters who experience high parking charges or a shortage of parking spaces at their place of work. While park-and-ride lots target commute trips, they are an attractive alternative for midday and nighttime trips as well. Similarly, shoppers and recreational users find that park-and-ride lots serve as convenient meeting places.

Park-and-ride lots do not necessarily eliminate commute vehicle trips because the commuter still makes a trip to the park-and-ride lot. By enabling commuters to switch to an alternative transportation mode for part of their commute, however, park-and-ride lots reduce demands on parking, peak period automobile congestion, vehicle-miles traveled, and tailpipe emissions along major corridors and in central employment districts. If bicycle, transit, or walk access is encouraged to park-and-ride lots, vehicle trips may be eliminated. The Circulation Element of the Reuse Plan will address the issue of identifying park-and-ride lot locations, and will assess the potential impact on travel demand.

Rideshare Program

Rideshare programs facilitate employee ridesharing, which involves matching commuters with similar origins, destinations and daily work schedules in carpools and vanpools so that they do not drive single occupancy vehicles (SOVs) during peak periods. In addition to reducing SOV commute trips, ridesharing typically reduces the number of trips made from work to other destinations during the lunch hour or after work. Effective implementation of rideshare programs typically involves:

- rideshare coordinators who group commuters into carpools and vanpools;
- public awareness/relations programs to educate the public on the need to reduce trips;
- employer programs to provide incentives for employees that rideshare and disincentives for employees who drive alone; and
- parking management to provide incentives (such as preferential parking or reduced fees) for people who rideshare and disincentives for SOVs.

Guidelines for effective rideshare programs in the former Fort Ord area are included in the Circulation Element of the Reuse Plan. These guidelines will include those developed by AMBAG that are applicable to the former Fort Ord.

Parking Management

Managing the supply and price of parking can have an impact on the attractiveness of driving to a destination. If alternative modes (e.g., transit) are provided at a reasonable cost and level of service, then a shift to alternative modes can be encouraged.

Reducing the amount of parking supplied would make it less attractive to drive to a destination. Smaller parking areas may also make it easier to create a pedestrian-friendly environment, because parking lots are not designed for pedestrians. Also, buildings may be located closer together and closer to sidewalks if less parking area is needed.

Charging for parking can be both a revenue generator and an incentive to traveling by an alternative travel mode. Areas where there is a charge for parking need to examine the parking supply nearby. A potential result of parking pricing is the shifting of vehicles to nearby areas with free parking, rather than a shift to alternative modes. Nearby residential areas can be heavily impacted by charging for parking in a commercial area.

Preferential parking can be provided for carpool and vanpool vehicles. The preference could be a reduction in the cost to park, reserved spaces near the entrance to a building, or other incentives (e.g., gifts, bonuses). The visibility of preferential parking for carpools and vanpools also serves as a marketing tool for ridesharing.

Employer-Based Transportation Demand Management (TDM) Programs

TDM strategies offer the potential to improve peak hour congestion and traffic flow without requiring physical improvements to the roadway system. The measures included in an employer-based TDM program may provide incentives for the use of alternative travel modes and disincentives to driving alone. Examples of such measures are listed below.

- Compressed Work Week
- Staggered/Flexible Work Hours
- Telecommuting
- On-Site Ridesharing
- Public Transit Subsidy
- Guaranteed Ride Home
- Bicycle Facilities
- Parking Pricing

Where appropriate, TDM program guidelines are provided in the Circulation Element of the Reuse Plan, and expected impacts will be incorporated into the travel forecast analysis.

Telecommunications

Telecommunications enable people to eliminate a work trip by using technology (e.g., PCs, telephones, FAX machines) to work at home for some portion of the work week. Telecommuting, described within the employer-based TDM section above, is one form of telecommunications. Other forms include teleconferencing, teleshopping, telebanking, and

tele-education. New development could include telephone and computer infrastructure to support the use of telecommunications. With the recent increase in interest in and use of the Internet, many more people and services will be going "on-line."

3.6 CONSERVATION, OPEN SPACE, AND RECREATION CONCEPT

3.6.1 Landscape Character of Fort Ord

The varied landscape of the former Fort Ord reflects its position at the intersection of the broad Salinas River Valley, the coastal strand, and the foothills of the Los Padres Mountains. The overlaying pattern of human development has further divided this terrain into distinctive zones, with two interventions in particular having an impact on the character of the landscape: State Highway 1 and the main cantonment area. In general, the former Fort Ord can be perceived as having five distinct landscape zones formed by the interaction between natural and human forces. These zones include:

- the coastal strand;
- the backdune landscape dominated by State Highway 1;
- the urbanized main cantonment area;
- the escarpment above the Salinas River; and
- and the rolling interior hills.

The coastal strand zone is isolated from the rest of the base visually by a series of high sand dunes, and physically by the presence of State Highway 1. These dunes have been disturbed in varying degrees by human activity, and in many places little native vegetation remains as a result. A broad sandy beach on the ocean side of the dunes represents a valuable recreational asset, as has been recognized with the creation of a new state beach.

State Highway 1 parallels the coastal strand in the area immediately east of the main coastal dunes. This area is generally lower than the rest of the former Fort Ord which lies to the east, and as a result is fairly visually contained. The motorist traveling along State Highway 1 within the confines of the base has only limited views of existing military development. This sense of containment is aided by the existing landscaping of Monterey cypresses and other trees along the highway.

With some exceptions, such as the East Garrison, firing ranges, and other functional improvements, most of the existing development at the former Fort Ord is located in or adjacent the former Main Garrison area. This heavily urbanized area stretches from the city boundaries of Marina in the north to the boundaries of Seaside in the south. The landscape is dominated by former military buildings, most of them one-to-three story WWII-era painted wooden structures, and a dense pattern of existing roads. Topography is fairly level, particularly along State Highway 1, but rises up to the east and begins to break into the pattern of low rolling hills which characterizes the rest of the base. Where the native vegetation is

still undisturbed, the landscape is dominated by thick stands of coastal oak woodland.

The northern boundary of the former Fort Ord roughly corresponds to the south edge of the Salinas River Valley. This edge is marked by a sharp escarpment which rises abruptly from the valley floor, in some places as high as several hundred feet. Dramatic vistas across the rich agricultural fields of the valley are found in many places.

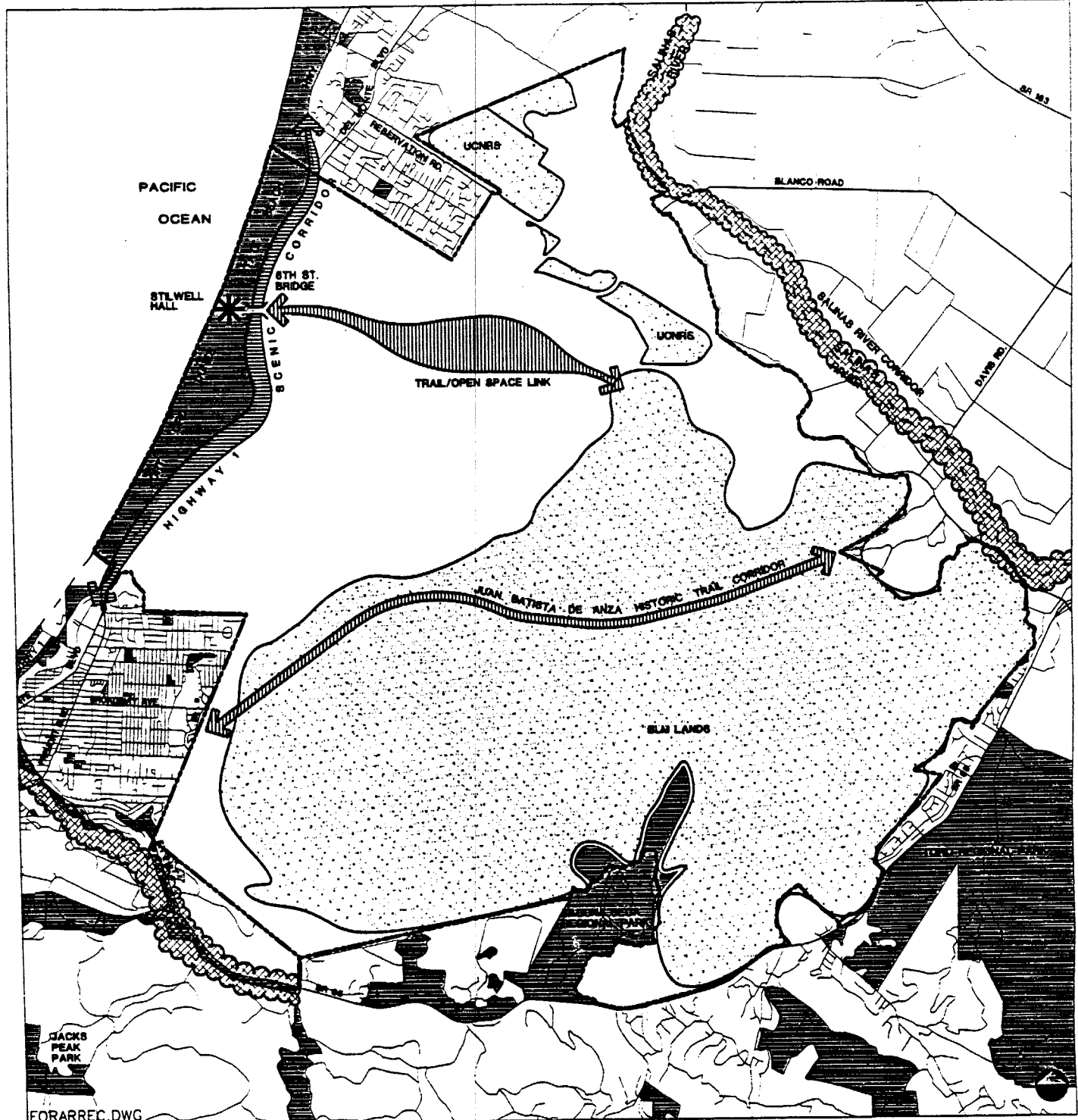
Roughly two-thirds of the base consists of the undeveloped lands south and west of the Main Garrison area. The dominant vegetation coverage in this area is of coastal scrub, with some areas of oak woodlands, and annual grasses where the soil has been disturbed. Most of the is underlain with rolling sandy hills whose form is clearly revealed by the low vegetation coverage. No clear drainage patterns are seen, as these deep sands absorb most rainwater. Consequently there are many small valleys which are visually isolated.

3.6.2 Open Space

Many of the land uses proposed for the future development of the former Fort Ord fall into the category of open space. Among these are lands set aside for habitat protection, park lands dedicated to public recreation, commercial recreation lands such as golf courses, institutional settings such as the CSUMB campus, and some isolated peripheral areas which form image gateways along major roadways. Some areas perform multiple functions. For example, public recreation lands may function as valuable habitat reserves or corridors. Collectively, these land uses form the open space network of the former Fort Ord. This network functions as a setting for the trail system which forms a valuable recreation and alternative transportation purpose. It also functions as a system of corridors for movement of wildlife and plant species between the larger reserve lands, and as a matrix into which are embedded the various commercial and residential neighborhoods of the former Fort Ord.

Opportunities were recognized early in the reuse planning process for the implementation of four main ideas which would form the framework of the recreation and conservation strategy. As shown in Figure 3.6-1, the Regional Open Space System diagram, each of these ideas embraced a major discreet piece of property within the confines of the former base. The basic intent of these four ideas is as follows:





- Designate a major new state park to take advantage of the extensive beaches of the former Fort Ord, creating a new visitor draw to under



FORARREC.DWG

SOURCE: Jones & Stokes, 1995; Reimer Associates, (Re-projected), 1995; Monterey Co., 1995; EDAW, 1996.

LEGEND:

- | | | | |
|---|---------------------------------|---|---|
|  | Riparian/
Estuarine Corridor |  | Trail/Open Space Link |
|  | Parks/Open Space |  | Major Projected Habitat:
BLM- Bureau of Land Management
UCNRs- University of California
Natural Reserve System |

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FIGURE 3.6-1

REGIONAL OPEN SPACE SYSTEM

Attachment D, p. 537 of 1882

pin the region's tourist economy. This is being implemented as Fort Ord Dunes State Beach.

- Use the new CSUMB campus, currently in development, as a bridge between the BLM lands and the new state park, creating both a pleasant visual corridor and an actual physical connection through the appropriate siting of trails.
- Develop a scenic corridor along the existing State Highway 1 to reinforce its image as the gateway to the Peninsula as well as to the former Fort Ord itself.

In order to take advantage of these existing land-based opportunities, and to form a meaningful greater whole throughout the former Fort Ord with regards to conservation and recreation, four major concepts, or themes, were developed to guide conservation and recreation planning. These themes are seen as ways to ground planning in a conceptual framework based on sound ecological ideas combined with a vision of economic redevelopment. The essence of these themes can be summarized as follows:

- Connect the individual open space parcels into an integrated system for movement and use of both native plant and animal species and people.
- Integrate the former Fort Ord with the regional open space system, creating a network of recreation and habitat resources which is unique considering the adjacent agricultural and urban amenities, and which will attract economic growth through a variety of recreation experiences.
- Achieve a balance between recreation and conservation with appropriate land use designations to support both functions. Plan with multiple goals in mind, so that lands identified primarily as recreation resources will also be managed for value as habitat, and habitat lands can also serve as a recreation resource. For example, habitat can promote a recreation value, such as serving as a trail conduit, or for nature viewing.
- Achieve a permanent conservation of all habitat types. A multiplicity of habitat types have been identified at the former Fort Ord, each with its own complement of special status species. True conservation means regarding each as having some value in its own right, not just those identified as having the highest habitat values. This may best be achieved by distributing open space areas throughout the former Fort Ord.

The most resonant recreation/conservation theme of the reuse planning effort is that of connection: ensuring that open space forms a truly interrelated and continuous system at the former Fort Ord. Several major connections in particular have been emphasized which form the main framework of the Fort Ord open space system. These connections are illustrated in Figure 3.6-1.

Perhaps the most important open space connection is that which joins the large interior tracts of land managed by the BLM with the newly formed Fort Ord Dunes State Beach through the CSUMB campus and along the Intergarrison Road/8th Street corridor. This connection responds largely to human purposes and needs. It forms a spine along which the new communities can grow, creates a setting for the new CSUMB campus, and becomes a buffer between the cities of Seaside and Marina. Several important trails are set in this connection, including a hiker/biker trail between the State Beach and the planned Marina community park located astride Intergarrison Road, and an equestrian trail sited to connect the planned equestrian center on the former landfill site to the BLM lands by way of the Marina community park. Coordination of the reuse planning with the planning of the CSUMB campus is critical to the success of this corridor.

The second major open space corridor identified by the Reuse Plan connects the BLM lands to the Salinas River through the areas set aside for habitat management. Management of this habitat is the responsibility of a number of different agencies, including the City of Marina, the County of Monterey, and the University of California. This corridor is important from the natural systems perspective as it allows for movements of plants and animal species between the Salinas Valley through the various oak woodland communities into the coastal scrub interior beyond. While it places greater emphasis on the needs of the biotic than the human community, valuable opportunities for recreation can be capitalized on as well. These habitat lands also provide an attractive setting for commercial and residential land development.

These open space connections are an integral part of the overall strategy for the reuse of the former Fort Ord, and an important part of the marketing plan for this redevelopment. The perception of an overall high quality of life at the former Fort Ord, in both the work and living environment, will be a key to attracting new residents, businesses, and students. The presence of a beautiful setting and easy access to plentiful recreation are essential to the development of this perception.

3.6.3 Habitat Management Plan

The wide range of climatic, topographic, and soil conditions at the former Fort Ord contribute to the variety and uniqueness of the biological communities present. The base holds a large percentage of some vegetation habitat types with very restricted ranges, such as central coast maritime chaparral and coastal coast live oak woodlands, within its boundaries. In all, eight broad categories of biological communities have been identified at the former Fort Ord, including beaches, bluffs and coastal strand; disturbed dune; coastal scrub; maritime chaparral; coast live oak woodland and savanna; native grassland; annual grassland; and wetlands. These diverse habitat conditions support a broad array of plant and animal species, many adapted to specific habitat conditions found on the central coast. Many of these plants and animals have, or are proposed for, special status under state and/or federal law.

Due to the quantity and diversity of unique habitat and special-status species at the former Fort Ord, an installation-wide multispecies HMP was developed which establishes guidelines for the conservation and management of wildlife and plant species and habitats that depend on the former Fort Ord land for survival. The plan was developed with input from federal, state, local, and private agencies and organizations to assist in the orderly disposal and reuse of the former Fort Ord. As part of the HMP process, a number of HMP species were identified, as were certain critical habitat types. A conceptual conservation area and corridor system was developed to define the minimum area necessary to preserve HMP species populations and habitats according to known ecological principals and the known biological resource definitions at the former Fort Ord.

A general goal of the HMP is to promote preservation, enhancement and restoration of habitat and populations of HMP species while allowing implementation of a community-based reuse plan that promotes economic recovery of the former Fort Ord. While all lands to be transferred by the U.S. Army are addressed in the HMP, management guidelines and specifications for reuse vary widely from parcel to parcel based on future reuse plans for that parcel. Figure 3.6-2, the Habitat Management Framework Plan, illustrates the different levels of development constraints for the HMP on an area-by-area basis. All recipients of the former Fort Ord lands will be required to abide by the resource conservation and habitat management guidelines and procedures specified in the HMP.

3.6.4 Major Open Space Areas At the Former Fort Ord

A number of factors ensure that large areas of undeveloped open space will remain at the former Fort Ord in the foreseeable future. These in-

clude the considerable amount of existing undeveloped open space, the high quality of recreational opportunities at the former Fort Ord, and the constraints imposed by the need to protect a large number of sensitive species. Figure 3.6-3, the Open Space and Recreation Framework Plan, shows the relationship of these various areas of open space to each other and to the former Fort Ord as a whole. A description of the major open space areas follows, along with a description of the planning principles identified for each to guide planning in accordance with the four themes identified earlier.

Bureau of Land Management

The BLM will manage its lands for multiple uses; principally, to protect habitat values, to provide public recreation opportunities, and to take responsibility for public safety. Eventually over 16,000 acres of the former Fort Ord base will be managed by the BLM. However, over half of that amount of land will remain under U.S. Army's control for the next seven to ten years, due to concerns related to ongoing cleanup of former firing range areas. The BLM anticipates designating an extensive system of equestrian, pedestrian, and mountain bike trails within the lands it manages at the former Fort Ord, although motorized travel will be severely restricted. The Reuse Plan provides multiple access points to the BLM lands, as well as hiker/biker/equestrian trail connections. This area has the potential to become a major ecotourism destination.

Fort Ord Dunes State Beach

The stated goal of the California DPR is to manage the former Fort Ord coastal dunes and beaches for the benefit of the public by restoring habitat, recreating the natural landscape, providing public access, and developing appropriate day use and overnight facilities. Approximately 1,000 acres of land will be affected. Based on natural characteristics of the landscape, it is intended that the northern portion of the park be managed as a relatively pristine limited day-use area, due to more severe terrain and intact native habitat, while the southern portion, with gentler terrain and more disturbed habitat, will be a more intensely used day and overnight use area. Overnight stay will be restricted to camping areas nested against the landward side of the dunes, and at Stilwell Hall or other lodge-type facility. Planned access points for vehicles and bicycles include a low speed road between Marina and Seaside paralleling State Highway 1, the existing 8th Street Overpass, and through a State Highway 1 underpass just north of the Main Gate. A network of hiking trails will be implemented, and a regional visitor center is also proposed, as shown in Figure 3.6-3. The Reuse Plan accommodates the proposed siting for the Visitor Center, provides for the potential future expansion of overnight stay at Stilwell Hall or other lodge and the future development of a desalinization

plant on state park land at such a time as sufficient demand is present, and coordinates access with the state park plan.

CSUMB campus

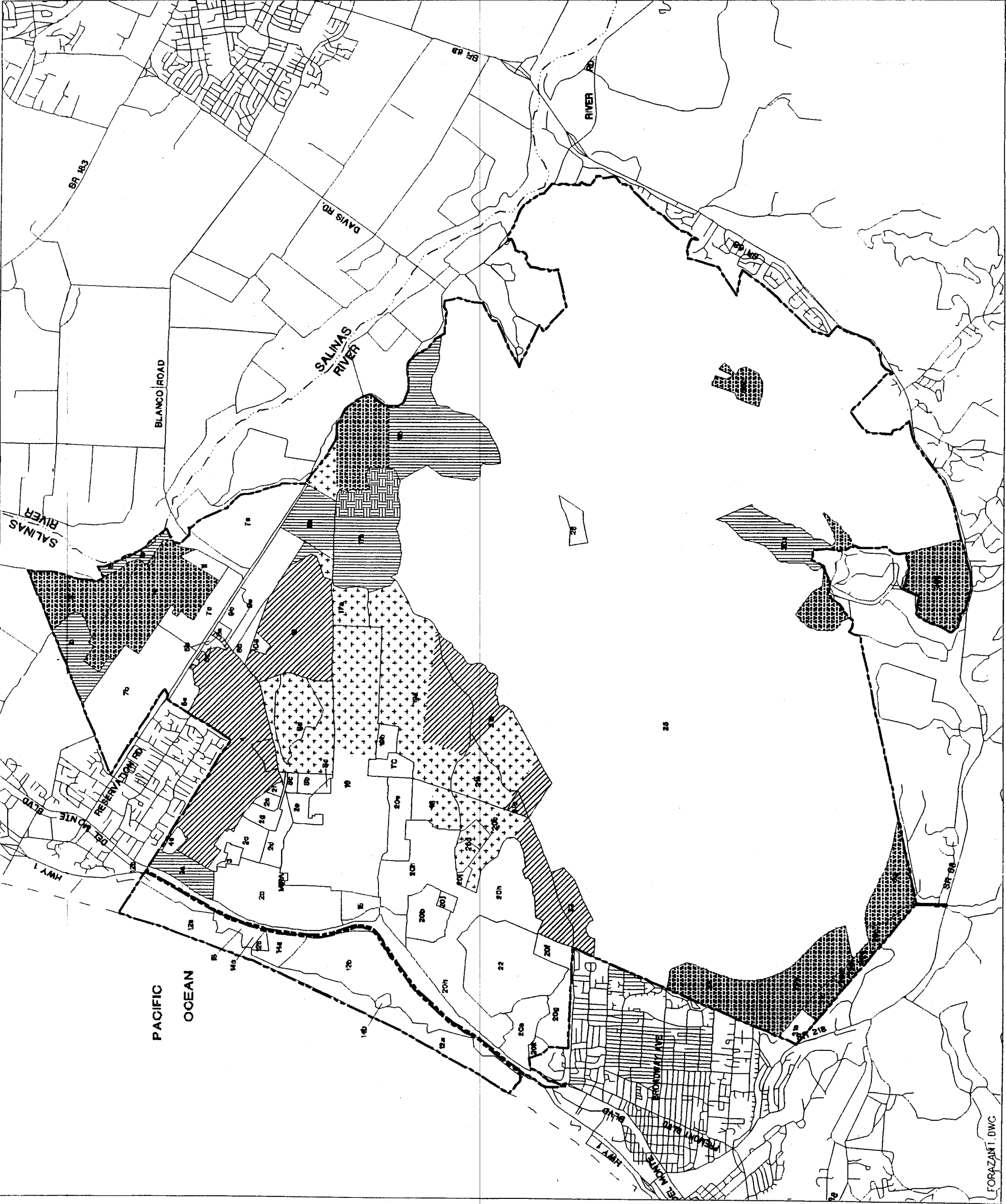
The CSUMB campus will contain over 1,350 acres when completely assembled as planned, including the existing housing area north of Intergarrison Road. The Reuse Plan views the CSUMB campus as a significant asset to the development of the new communities of the former Fort Ord. Recreation/conservation planning emphasizes the campus as an opportunity to provide multiple connections between disparate areas within the former Fort Ord, from both a natural systems and recreation standpoint. Although the western portion of the new CSUMB campus is almost entirely urbanized as the result of development of the Main Garrison, the eastern portion of the campus south of Intergarrison Road is largely unimproved, and contains significant stands of valuable oak woodland habitat. The HMP identifies the establishment and maintenance of an oak habitat corridor through this area to connect preserved oak woodlands to the north and south as a desirable goal. Another desirable goal of the HMP is development of hiker/biker trails either adjacent to or within the north side of the campus. Development of this trail system shall be coordinated with the CSUMB Master Plan.

Laguna Seca Regional Park

Approximately 600 acres of land adjacent to Laguna Seca Regional Park on the southern boundary of the former Fort Ord will be deeded to the Monterey County Parks Department, in part to augment overflow parking capacity. No other improvements are planned. The Reuse Plan emphasizes the principles of minimal development and ecological restoration of these lands.

Other Public Open Space / Recreation-Oriented Lands

Community-oriented recreation lands have been designated under the principle of providing recreation land in accordance with local community standards. Community parks or gateway image lands are shown in Figure 3.6-3 while smaller neighborhood parks are designated by symbols. For Marina, Figure 3.6-3 shows the existing park within the housing area north of Imjin Road, a community park in the Marina Village area, which includes an equestrian center in the near term, and image gateway open space along the Del Monte Road extension north of the 12th Street entrance. A total of seventy five acres within Seaside is designated as community park, including 25 acres intended as a major trailhead access point into the BLM lands at the south end of Seaside, and a 50-acre community park just south of Gigling Road adjacent to the county boundary. Also shown is some gateway image green space on either side of the Main Gate. Public open space areas designated by the Plan within Monterey



FORT ORD REUSE PLAN

Fort Ord Reuse Authority (FORA)

Land Planning

EDAW, Inc.
EMC Planning Group, Inc.
Sedway Kotin Mouchy Group
Transportation Engineering J-K and Associates
Civil Engineering Reimer Associates
Fiscal Analysis Angus McDonald & Associates
Habitat Planning Zander Associates
Public Communications The Ingram Group
Community Development Resource Corps International

LEGEND:

- HMP Reserves and/or Corridors
- HMP Conservation and/or Management Requirements
- Polygons with Opportunities for Oak Woodland Reserve Areas
- Polygons with Opportunities for Natural Open Space "Pockets"
- Existing Campground and Potential Future Expansion Area

SHEET TITLE:

DRAFT
HABITAT MANAGEMENT
FRAMEWORK



3.6-2

County include a community park for Marina along Intergarrison Road, including an equestrian center, a community park for Monterey with the State Highway 68 Bypass easement, and a recreation area on the former landfill site. This latter area is to be managed by the University of California, in part as a practical laboratory for environmental engineering. The Reuse Plan calls for a landfill cap design capable of supporting public commercial recreation uses in support of the economic revitalization of the base. These commercial recreation uses include a golf course, a regional amphitheater, and a regional equestrian center connected by trails to the BLM lands. Additional County land designated for recreation includes the York School area in the southwest corner of the former Fort Ord, which will become a cross-country running course.

Other Public Open Space / Habitat Management Lands

Approximately 1,500 acres of land within the City of Marina and Monterey County have been dedicated by the HMP as preservation of habitat. The Reuse Plan has adopted the principle that planning for these lands should be guided by the need to support the HMP. The bulk of these lands are found north of the BLM lands, west of the East Garrison, and east of the CSUMB campus, where they create an important habitat corridor bridging the area from the BLM lands to the Salinas River Valley. This includes almost 600 acres in the Airport Habitat Management District, approximately 75% of the area at the former landfill, over 650 acres in the Reservation Road Habitat Management District, of which 125 acres are intended to be developed as a youth camp, and all but 200 acres of the East Garrison. A variety of agencies will manage these lands, including the City of Marina, the University of California, and Monterey County. Additional habitat management lands include part of the former landfill site and the expansion of the existing Frog Pond Natural Area in the southwestern corner of the former Fort Ord. For a more complete description of these lands, refer to Section 4.4, the Conservation Element.

Commercial Recreation

Commercial recreation lands have been designated under the principle that tourism is one of the underlying strengths of the regional economy, and redevelopment at the former Fort Ord should support this segment of the economy. The existing Fort Ord golf courses adjacent the City of Seaside, containing approximately 350 acres, will remain in that use. Private ownership will be sought to operate this facility. An additional 150 acres in Monterey County adjacent the City of Del Rey are designated as commercial recreation and identified as a golf course opportunity site. A land use designation of 'visitor serving' has been assigned to land adjacent to both of these areas with the intent that overnight resort facilities would be developed there. Four additional golf course opportunity sites have been identified within the former Fort Ord boundaries, two within the

City of Marina (one as an interim use), and two within the County. Improvement of these sites as golf courses is dependent on finding a willing developer. All golf course opportunity sites are shown in Figure 3.6-3.

Description of the Proposed Trail Network

The following principles were identified to guide the planning of the Fort Ord trails network:

- The trail system should be adequate to provide connections to non-motorized transportation alternatives to all neighborhoods in the former Fort Ord.
- The trail system should reinforce the redevelopment planning strategy of using recreation and open space assets to make the former Fort Ord attractive to potential users by interconnecting and increasing access to those assets.
- Adequate ROW should be reserved along planned transportation corridors to accommodate planned trails in addition to the entire planned road cross section.

The proposed trail network is shown in Figure 3.6-3, Recreation and Open Space Framework Plan.

Hiker/Biker Trails: Hiker/biker trails are divided into two categories of major and minor trails. These categories are analogous to the Arterial vs. Collector classification of roads. In general, major trails are seen as having a more regional function, connecting foot and non-motorized traffic to destinations outside of the former Fort Ord, or completing critical higher volume linkages with the former Fort Ord. In most cases these are located within the rights-of-way planned for major transportation arterials. Minor trails perform a less critical role, distributing and collecting traffic to and from neighborhoods along lower volume routes. Projected use volumes were not modeled for the planned network. More intensive research is needed prior to jurisdictions adopting an actual plan.

Major Trails: A minimum trail pavement width of 12 feet should be adopted as a trail standard for major trails. Trail surface should consist of asphalt or concrete, although a wood plank surface is permitted on causeways or boardwalks. Three major hiker/biker trails have been designated, as shown in heavy brown lines in Figure 3.6-3, with their description as follows:

FORT ORD
REUSE PLAN

Fort Ord Reuse Authority (FORA)

Land Planning	EDAW, Inc.
Market Analysis	EMC Planning Group, Inc.
Transportation Engineering	Sedway Kotin Mouchly Group
Civil Engineering	JHK and Associates
Fiscal Analysis	Reimer Associates
Habitat Planning	Angus McDonald & Associates
Public Communications	Zander Associates
Community Development	The Ingram Group
	Resource Corps International

LEGEND.

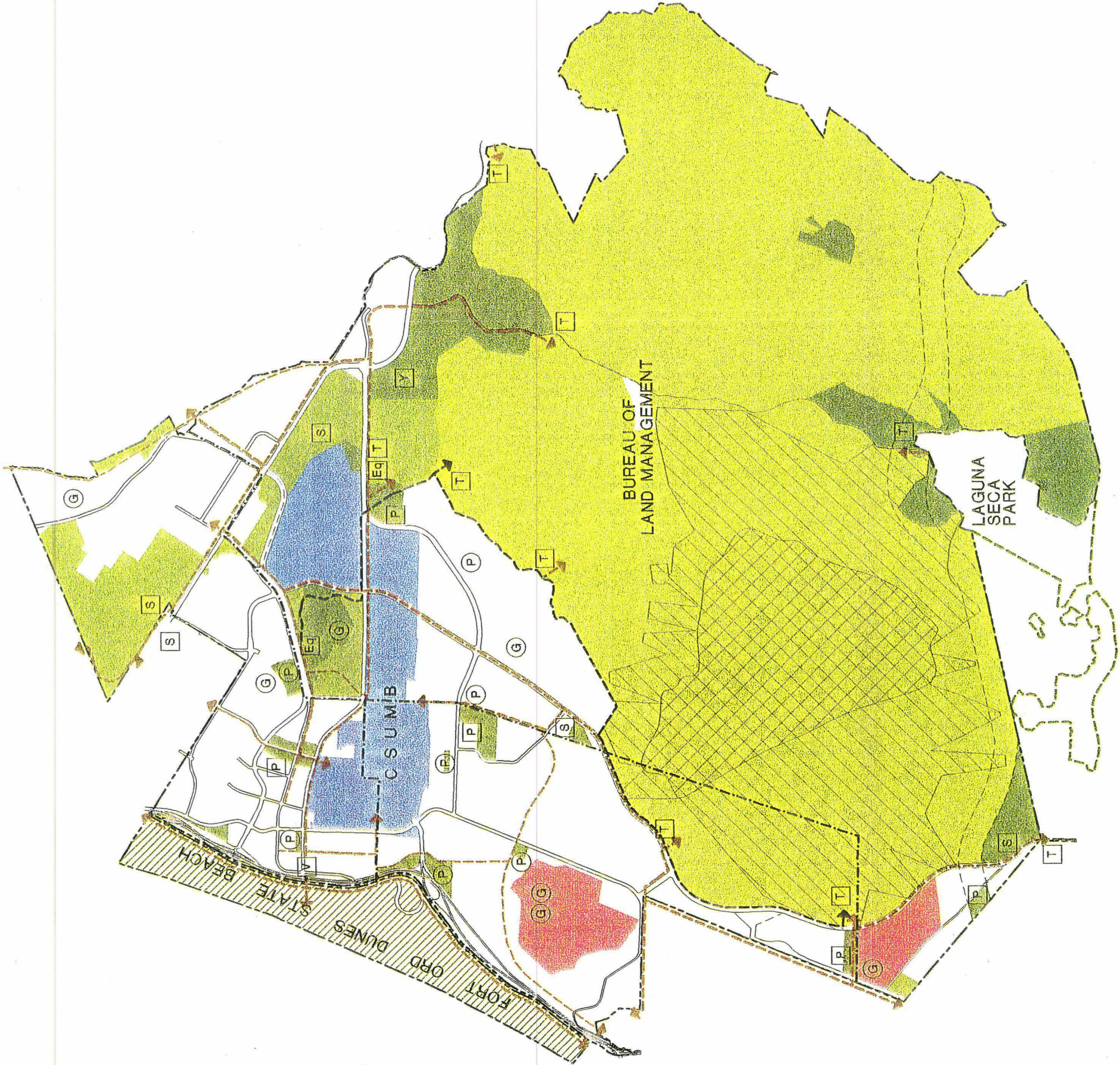
	Bureau or Land Management Lands
	Limited Access
	Restricted Access
	California State Parks
	CSUMB Campus
	Other Public Open Space - Recreation-Oriented
	Other Public Open Space - Habitat Management

	Commercial Recreation
	Jurisdiction Boundaries
	Regional Hiker/Biker Trail
	Local Hiker/Biker Trail
	Equestrian Trail
	Neighborhood Park
	Community Park
	Golf Course Opportunity Site
	Equestrian Center Opportunity Site
	Visitor/Cultural Center
	Trailhead
	Environmental Education
	Youth Camp

SHEET TITLE.

DRAFT
OPEN SPACE & RECREATION
FRAMEWORK

	SOURCE: Jones & Stokes, 1995 Reimer Associates (Re-Projected), 1995 Monterey County, 1995 EDAW, Inc., 1996	FIGURE: 3.6-3
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- **The Intergarrison Trail:** Connects Fort Ord Dunes State Beach to the CSUMB campus, the former landfill area, the BLM lands through Marina's community park, and the East Garrison by means of the 8th Street Bridge, 8th Street, and Intergarrison Road. The right-of-way reserved for Intergarrison Road is sufficient to accommodate the hiker/biker trail on the south side of the road, in addition to the road travelway. This trail could also be located within the CSUMB campus, if this location were agreeable to CSUMB. The advantages of this siting is a greater separation from cars, potentially greater use to CSUMB, more space within the Intergarrison right-of-way for the equestrian trail planned for the north side of the road, and a unique identity for the trail. Siting would need to be coordinated with the CSUMB Master Plan.
- **Fort Ord Dunes State Beach Trail:** This trail would consist of lane striping within the travelway of the proposed Beach Range Road connecting the cities of Marina and Seaside through the back dune area. This will be a low speed, restricted access road, so physical separation between bike lanes and vehicles is not needed. For the same reason, trail width can be less than the specified 12 feet.
- **The Salinas Valley /Seaside Trail:** This trail is intended to serve as a major north/south hiker/biker trail through the former Fort Ord. It is located predominantly within planned transportation rights-of-way, although an option exists along the Seaside/former Fort Ord boundary to locate the bike trail within an existing power transmission line corridor. The proposed route of this trail, from north to south, follows Blanco Road into the former Fort Ord, turns along Reservation Road, crosses Reservation Road onto Imjin Road, then follows the proposed transportation corridor along the landfill site, across the CSUMB campus, and then along the extension of Eucalyptus Road. A user then has the option of following Coe Road into Seaside, or turning south toward Del Rey Oaks. The trail could be located along the North/South Road extension, or within the power line corridor mentioned above. This segment of the trail would have an important spur leading to the community park trailhead into the BLM lands beyond. Another spur continues west along the multi-modal transportation corridor parallel to Imjin Road into the Marina Village area. It turns south through the planned community park at California Street, and links to the Intergarrison Trail. A local level trail does not turn south on California but continues through the Village to Crescent Street.

Minor Trails: A minimum trail pavement width of ten feet should be adopted as a trail standard for minor trails. Four major trails have been

designated, as shown in thin brown lines in Figure 3.6-3, with their description as follows:

- The Monterey Road Trail: A minor hiker/biker trail should follow Monterey Road from the vicinity of Fremont Boulevard through the planned residential district, then cross North-South Road into the POM Annex. From there it follows oak woodlands through a ravine near Marshall Elementary up to the extension of Eucalyptus Road. A side spur connects the trail to Eucalyptus Road, while the main trail turns north along the Seaside/County line, through the Seaside community park, and connects with the CSUMB campus across Gigling Road.
- The Main Garrison Trail: A second minor trail connects the proposed visitors center and the Intergarrison Trail at 8th Street through the Town Center Planning Area to the Monterey Road Trail. One spur gives access to the State Beach through the underpass just north of the Main Gate. A second spur gives access into the west side of the CSUMB campus. The north end of the trail is located within a linear neighborhood park/greenway, in the Mixed Use District.
- The Crescent Avenue Trail: This trail connects Marina to the Intergarrison Trail and the CSUMB campus along Crescent Avenue and the Marina Village Community Park. A spur follows the multi-modal transit corridor eastward to connect to the Seaside/Salinas Valley Trail.
- The Reservation Road Trail: This trail connects the East Garrison to the City of Marina. It is located entirely within the right-of-way of Reservation Road.

Equestrian Trails: Several centers of equestrian activity are planned for the former Fort Ord. Fort Ord was one of the last active calvary posts in the U.S. Army, and is well suited to equestrian uses. The BLM intends to actively promote equestrian activities on BLM-managed lands in the center of the former Fort Ord, with a number of trails designated for equestrian use. Several community parks on the periphery of the BLM lands will be planned to act as trailheads for this trail system. A temporary equestrian center will be established in the Marina Village District in the short term, with the planned relocation of this equestrian center as a permanent use in the former landfill area.

A primary concern of trail planning at the former Fort Ord is to connect these various equestrian-related activities, building a synergy which will

increase their attractiveness and usefulness. Two equestrian trails are designated outside of the BLM lands. These trails appear as a dashed black line in Figure 3.6-3.

The Intergarrison Equestrian Trail: This trail will connect the regional equestrian center planned for the former landfill area with the BLM trail system, with a trailhead staging area and related parking planned for the Marina community park adjacent to Intergarrison Road. The equestrian trail will be located within the Intergarrison Road right-of-way on the north side of the road, with a crossing east of the intersection with Gigling Road. An opportunity exists for this trail to connect all the way to the temporary equestrian center in the Marina Village community park along the planned multi-modal corridor as an interim use.

The Eucalyptus Road Trail: This trail parallels the northern boundary of the BLM lands. It is located within the future Eucalyptus Road Residential Community, where it forms a dual function as both a recreation trail and a firebreak between the residential area and the native coastal shrub areas. The trail will be a dirt trail at least twenty feet wide. South of the Eucalyptus Road district, the trail will be located within the planned Fort Ord Expressway easement all the way to the Seaside community park, where it will terminate at another major regional trailhead. Preliminary planning by the BLM indicates a potential to connect to the BLM trails at several other nodes along this trail between the two planned regional trailheads.

3.7 PLANNING AREAS AND DISTRICTS

Planning Areas and Districts within each of the former Fort Ord jurisdictions are designated to reinforce the community design vision for the former Fort Ord. They are based on the surrounding development context and the Development Framework, Circulation Framework, and Conservation, Open Space and Recreation Framework. They build on the major assets within the former Fort Ord including: CSUMB, UCMBEST, the Marina Municipal Airport, the East Garrison and the existing housing resources and recreational and open space features. The Planning Areas and Districts provide a flexible tool for planning and implementing coordinated development to take advantage of these assets for achieving the desirable community vision. The Planning Areas and Districts are identified in the "Area and District Matrix", illustrated as Table 3.7-1.

Land Reserves and Projected Land Uses

Districts within the Planning Areas contain one or more land use types. The Reuse Plan projects the balance of uses within each district based on existing site characteristics, public benefit conveyances, appropriate development prototypes based on market support, and role of the land area in achieving the community vision. Based on this balance of land use types, the Reuse Plan reserves land for: 1) community ROW's; 2) parks and open space; 3) habitat management; 4) public facilities; 5) schools; and 6) golf courses. The Net Area represents the land available for development.

The Reuse Plan projects a distribution of acreage and land use intensity for the Net Area. For each of the jurisdictions, the intensity is measured in: 1) number of dwelling units; 2) number of hotel rooms; or 3) square footage of industrial, office, or retail space.

General Development Character and Design Objectives

Development Character and Design Objectives are included in the Reuse Plan for each district to convey the significant community design interrelationships appropriate to realize the community vision and support the development framework for the Reuse Plan.

These general objectives will be refined and elaborated in the regional urban design guidelines to be prepared and adopted by FORA or in design standards and guidelines prepared and implemented by the local land use agencies for specific locations.

Table 3.3-1
Planning Area and District Matrix

City of Marina

1. EXISTING CITY OF MARINA NEIGHBORHOODS PLANNING AREA

Planned Residential District
Civic/Mixed Use District

2. TOWN CENTER PLANNING AREA

Mixed Use Corporate Center
Del Monte Mixed Use District
Marina Village District
University Office Park/R&D District

3. AIRPORT PLANNING AREA

Marina Municipal Airport District
Light Industrial/Technology Center
MBEST Cooperative Planning District
North Airport Lt. Ind'l/Technology District
Habitat Management District

4. UNIVERSITY PLANNING AREA

CSUMB District (Marina)(3)

City of Seaside

1. UNIVERSITY PLANNING AREA

Gateway Regional Entertainment District
University Village (1)
POM Annex Retail & Services
Community Park
CSUMB District (Seaside)(2)

2. SEASIDE RESIDENTIAL PLANNING AREA

New Golf Course Community District
Visitor Serving Hotels, Conf. Center, Golf Courses
Reconfigured POM Annex Community
Planned Residential Extension Districts
Community Park

Monterey County

1. FORT ORD DUNES STATE PARK PLANNING AREA

2. RESERVATION ROAD PLANNING AREA

MBEST Cooperative Planning District
Univ. California Habitat Reserve
East Garrison District
Youth Camp District
County Habitat Management District

3. EUCALYPTUS ROAD PLANNING AREA

University Corporate Center
Residential/Recreational District

4. SOUTH GATE PLANNING AREA

Visitor Serving Hotel & Golf Course District
Office Park R&D District
Augmentation of Regional Park

5. YORK ROAD PLANNING AREA

Office Park/R&D District
Community Park on ROW

6. BLM HABITAT MANAGEMENT/REGIONAL RECREATION PLANNING AREA

BLM Lands
POST District
Augmentation of York School
Augmentation of Laguna Seca Regional Park

7. UNIVERSITY PLANNING AREA

CSUMB (County)
County Recreation/Habitat
County Recreation

3.7.1 California State University Monterey Bay (CSUMB) Planning Areas



CSUMB

The campus of CSUMB totals 1,287 total acres, with approximately 224 acres located in Marina, 322 acres in Seaside, and 741 acres in Monterey County. The core campus occupies many of the former Fort Ord buildings located in the City of Marina. CSUMB is currently developing a Master Plan for its development. It is now an operating University, with its second class of approximately 820 students in Spring 1996. Hereafter, enrollment is expected to increase by 500 to 1,000 students per year to an expected 25,000 FTE students. The University is currently in Phase I renovation of 24 buildings; Phase II is expected to start in the Summer of 1996 with an additional 15 buildings.

CSUMB Residential Development

CSUMB is pursuing a program aimed at housing 80% of the total student population of 25,000 FTE, as well as substantial portions of the faculty and staff. Assuming four students per unit (in a typical two bedroom unit configuration), this 80% of the student population will require an estimated 5,100 "dwelling-unit equivalents".

Existing Residential Projects: CSUMB presently has title to 1,253 residential units (primarily attached town homes) in the area between Inter-Garrison Road and Imjin. Approximately 175 acres have been identified for potential infill development within the district. The Ultimate Development Plan assumes 20% of this land will be reserved for recreation and open space use, while the remaining 140 acres is infilled with compatible residential development at 5-10 Du/Ac. In all likelihood, CSUMB will pursue a more diverse development program for the area. Many of the existing units in this area are currently occupied by CSUMB faculty, staff, and students. The campus does not envision housing lower-division undergraduates in this area, but it is suitable for upper-division undergraduate and graduate student housing.

Core Campus Student Housing: CSUMB is presently retro-fitting undergraduate dormitories into the existing building stock within the campus core. The Ultimate Development Plan anticipates a total of 5,100 dwelling unit equivalents within the core campus in order to accommodate the 80% targeted student housing need.

Infill Housing in the Campus Reserve: In order to anticipate a development potential for CSUMB reserve lands, the FORA Ultimate Development Plan assumes a program for infill housing at the eastern end of the CSUMB campus reserve area. The area is presently undeveloped and outside FORA's core infrastructure area. Nonetheless, it has been identified

as a desirable location for faculty housing. The Ultimate Development Plan assumes that 20% of the approximately 150 acres will be reserved as open space to protect the existing oak woodland community. The remaining 120 acres are assumed to be developed at 5-10 Du/Ac.

General Development Character and Design Objectives - The integration of the campus into the adjacent districts is key to achieving the vision embodied in the community design concepts. This integration relies on eliminating unnecessary impediments to access and circulation and promoting a mix of uses along the boundary that enhances economic vitality and the mixed-use nature of the villages in Marina and Seaside.

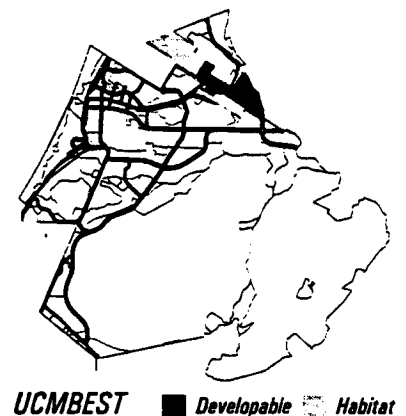
To achieve the community design vision, CSUMB is encouraged to:

1. *Pursue the early redevelopment of the boundary lands, to the degree possible, to support the revitalization of the villages to the north and south.*
2. *Locate student residential development to support and take advantage of the mix of retail, business, and student services that will be available in the villages to the north and south.*
3. *Locate recreational and cultural facilities so that they are convenient to the adjacent villages and accessible from the future transit opportunities in the TAMC planned Multi-Modal corridor.*
4. *Provide for north-south vehicular circulation through campus, open to the public, to link adjacent districts and reduce unnecessary travel and vehicular trips.*

3.7.2 University of California / UCMBEST Center Cooperative Planning Districts

The UCMBEST Districts are located in the City of Marina and in Monterey County. The UCMBEST Center is currently utilizing 950 acres of 1,087 acres which the U.S. Army will transfer to UC as an Economic Development Conveyance. Prior planning studies for UCMBEST resulted in a development range of between 5.0 and 7.4 million sq. ft. The current planning for FORA utilizes the lower end of this range (5.0 million sq. ft.) to represent the ultimate development capacity for UCMBEST.

Even at 5.0 million sq. ft., UCMBEST represents about 40% of the combined total for light industrial/business park and office/R&D capacity for the Ultimate Development at FORA:



Using the lower end of the planning range, UCMBEST would still be able to accommodate 50 to 60 years of development (projecting an absorption similar to the first 20 years) and more in line with the ultimate land capacity for the base as a whole.

Current University of California Planning

The University of California is currently reviewing its plans and has initiated a "marketing niche" study and related planning that is directly tied to the Business and Operations Plan that is a key implementation tool for the Reuse Plan. The University's current planning should sharpen the definition of the ultimate role of the property. The current mix of uses and intensity is consistent with the March 1995 Master Plan Study.

Office/Research & Development Land Use: The UCMBEST Cooperative Planning District represents a significant location for this use. The Marina portion is presently served with infrastructure and accessible via Reservation Road and Blanco Road. A total of 123 acres is available within the City of Marina, accommodating approximately 1.38 million sq. ft. of Office / R&D. The portions of UCMBEST in the County are comprised of two major areas projected to accommodate a total of 3.67 million sq. ft.. The larger site is approximately 267 acres and is situated in a triangular shape east of Blanco Road and north of Reservation Road. The smaller site is approximately 30 acres and is located south of Reservation Road.

Visitor-Serving Land Uses: A 150-room business hotel within the UCMBEST will cater to the UCMBEST visitors and anchor a small convenience retail and service center.

Residential Land Uses: A limited amount of residential land use is anticipated to retain for the University the opportunity to serve the needs of visiting scholars and graduate students.

General Development Character and Design Objectives - The community design vision establishes the UCMBEST Center as a significant focus of development on the TAMC Multi-Modal Corridor. To succeed in this role and contribute significantly to the economic reuse of the former Fort Ord lands, UCMBEST will need to establish itself as a premier science and technology park within a national and global market place.

To achieve the community design vision, UCMBEST is encouraged to:

1. *Establish a design character that is attractive as a major employment center with appropriate services, conveniences and environmental amenities.*

2. *Establish a development pattern that is pedestrian-oriented and takes advantage of the long-term transit opportunities inherent in the Multi-Modal Corridor.*

3.8 CITY OF MARINA PLANNING AREAS AND DISTRICTS

The City of Marina contains four Planning Areas: 1) CSUMB Planning Area; 2) the Airport; 3) the Existing Marina Neighborhoods; and 4) the Town Center. (See Figure 3-8-1, which illustrates the Planning Areas for Marina and the subdivision into the various Districts.) The land reserves and project development capacity for each District is summarized in Table 3.8-1, City of Marina Land Development Intensity Summary.

3.8.1 CSUMB (Marina) Planning Area

The amount of CSUMB land in Marina totals approximately 224 acres and is expected to accommodate academic, administrative, student housing, and other support facilities. For planning purposes, the Reuse Plan assumes that one half of the projected total of 5,100 student units planned for the campus are located within the City of Marina. The balance is assumed to be located in the Seaside portion of the CSUMB campus.

Access to the Marina portion of the campus will be from the upgraded 2nd Ave/Del Monte extension arterial on the west and from the extension of Intergarrison Road on the north.



CSUMB Planning Area
Marina Portion

General Development Character and Design Objectives - To achieve the community design vision in the City of Marina, CSUMB is encouraged to:

1. *Create a development pattern at the Marina Village and Town Center boundaries that reinforces the adjacent urban edge. Avoid a development pattern that separates the campus from the surrounding community with large parking areas.*
2. *Take advantage of the planned recreational link along Intergarrison Road to integrate the campus community into the open space and recreational assets of the former Fort Ord with appropriate pedestrian, bicycle and equestrian improvements.*

3.8.2 Existing City of Marina Neighborhoods Area

The Existing Marina Neighborhood Area contains two districts: 1) Planned Residential District; and 2) Civic / Mixed Use District.

Planned Residential District

This district encompasses the existing housing stock in the Abrams, Preston, and Patton housing projects that stretches from the Del Monte extension to Reservation Road. Many of the individual housing units in

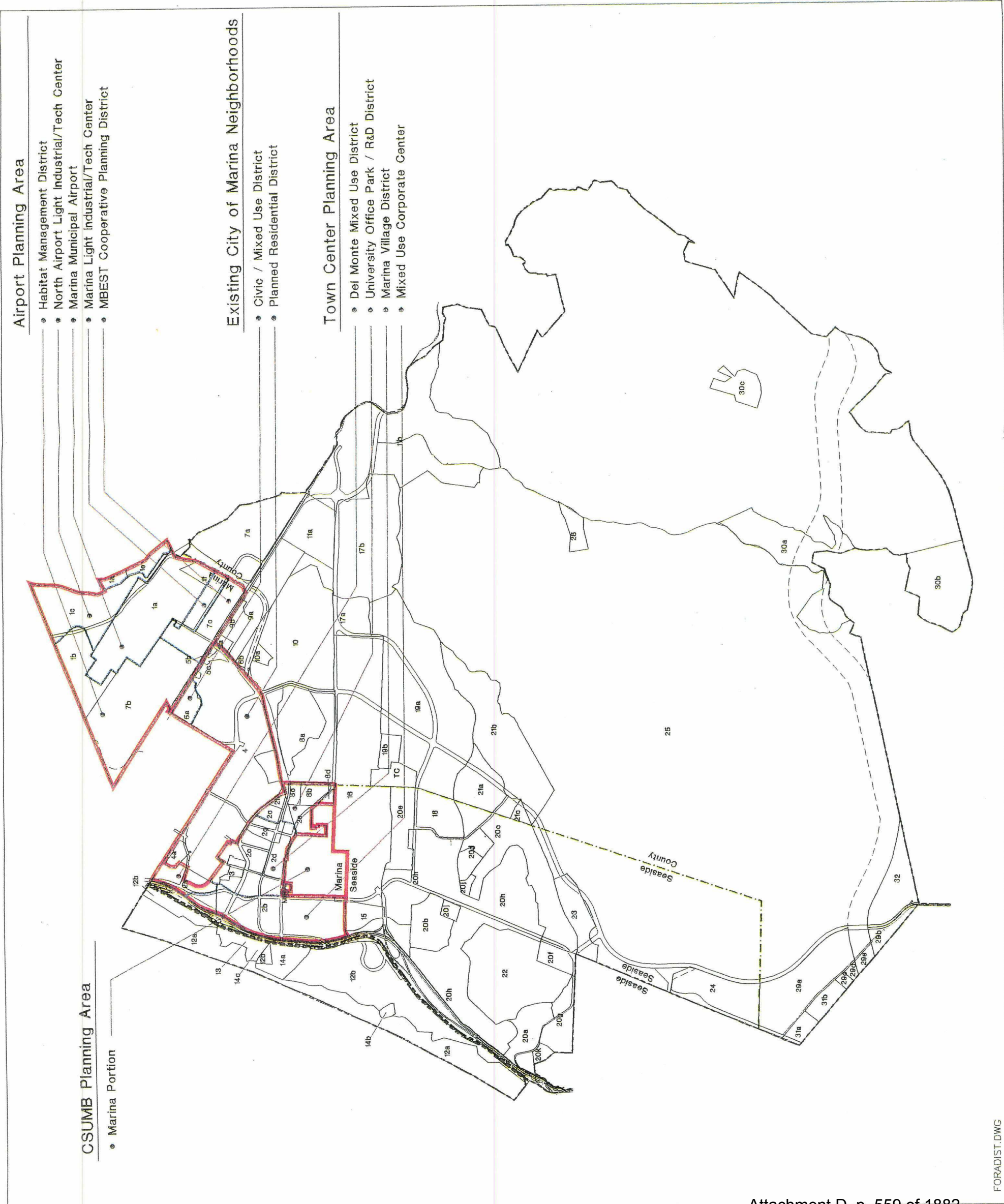
Table 3.8-1
City of Marina
Land Development Intensity Summary Table

The "Land Use Capacity" is a projected development yield based on anticipated market absorption, land characteristics, and community vision. The capacities indicated are intended to provide a general guide to assist in land resource management and infrastructure commitments and financing. The precise mix of uses is expected to vary in response to market conditions and FORA actions. The aggregate totals provide a "not-to-exceed envelope" of development within the former Fort Ord.

PLANNING AREAS AND DISTRICTS	PLANNED LAND USE & INTENSITY			LAND AREA AND RESERVES					PROJECTED DEVELOPMENT CAPACITY		
	Area Acres	Development Intensity	Land Use	ROW Acres	Pub. & G.S. Reserves	Ind. Mfg. Reserves	Pub. Fac./LI MIL. Reserves	Grade Corporation (2)	Net Acres	Projected Yield	Net Intensity
1. EXISTING CITY OF MARINA NEIGHBORHOODS											
Planned Residential District	711	5 - 10 units/acre .35 FAR	SFD med	65	27	20			534	2,710 DU's 10,890 SF	5.1 units/acre .35 FAR
Civic/Mixed Use District	40	up to .35 FAR and 20 DU's/Acre	MX	5			9		26	150 DU's 10,890 SF	6 units/acre .35 FAR
2. TOWN CENTER PLANNING AREA											
Mixed Use Corporate Center	307	up to .35 FAR and 20 DU's/Acre	MX	61	30		84		132	582 DU's 818,405 SF	15 units/acre .35 FAR
Del Monte Mixed Use District	64	up to .35 FAR and 20 DU's/Acre	MX	30		5			28	424,710 SF 304,920 SF	.25 FAR .25 FAR
Marina Village District	252	up to .35 FAR and 20 DU's/Acre	MX	39	40		66	18	89	710 DU's 30,492 SF	8.9 units/acre .35 FAR
University Office Park/R&D Distr	115	.25 FAR	MX	21			23	6	65	76,230 SF 563,231 SF	.25 FAR .20 FAR
3. AIRPORT PLANNING AREA											
Marina Municipal Airport District	324	.20 FAR	Pub. Fac./Land	8			256		60	340,000 SF	.13 FAR
Light Industrial/Technology Centre	60	.20 FAR	BP/LI	12					48	421,399 SF	.2 FAR
MBEST Cooperative Planning District	535	up to .35 FAR and 20 DU's/Acre	MX	3		409			123	10,890 SF 1,379,702 SF	.25 FAR .28 FAR
North Airport Lt. Ind'l/Technology District	234	.20 FAR	BP/LI	11					222	150 Rooms 1,368,677 SF	N/A .15 FAR
Habitat Management District	173	N/A	Habitat Mgt.	3		170			0	200 Rooms	N/A
UNIVERSITY PLANNING AREA											
CSUMB District (Marina)(3)	224	N/A	School/Univ.						0	12,000 FTE's	N/A
TOTALS	3019			257	97	604	418	313	0	4,132 DU's 5,760,436 SF 350 Rooms 12,000 FTE student pop	

NOTES

- (1) Includes reserves for internal road layout and to accommodate Public Benefit Conveyances
- (2) Golf Course opportunity sites have been identified in Polygon 4 and polygon 1c. Development of golf courses in these sites would result in a corresponding reduction in yield from other land uses.
- (3) Includes 50% of projected 25,000 Full-time Student Equivalents, based on coordination with traffic modeling



FORT ORD REUSE PLAN

Fort Ord Reuse Authority (FORA)

Land Planning

Market Analysis

Transportation Engineering

Civil Engineering

Fiscal Analysis

Habitat Planning

Public Communications

Community Development

EDAW, Inc.

EMC Planning Group, Inc.

Sedway Kotin Mouchly Group

JHK and Associates

Reimer Associates

Angus McDonald & Associates

Zander Associates

The Ingram Group

Resource Corps International

SHEET TITLE:

DRAFT

MARINA PLANNING AREAS

SOURCE: Jones & Stokes, 1995

Reimer Associates, 1995 (Re-Projected)

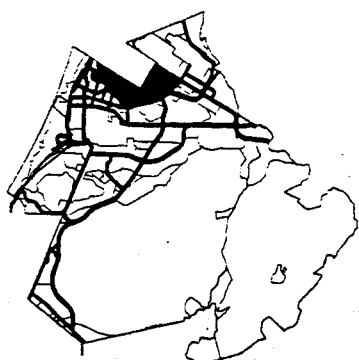
Monterey County, 1995

EDAW, Inc., 1996

FIGURE: **3.8-1**

0 750 1500 3000 4500

NORTH



Existing City of Marina
Neighborhoods

this area are subject to McKinney Act claims. Much of the housing stock is suitable for renovation, pending timely conveyance from the U.S. Army. In addition, a number of "Infill Opportunities" have been identified where sites can be developed which are easily served with the existing infrastructure. This infill development will enrich the mix of housing types with both small lot single family units and new attached town homes within the Planned Residential District.

Projected Land Uses:

Residential Land Use. 533 acres for up to 2,710 units (1,522 dwelling units existing).

Retail and Services Land Use. Convenience/Specialty Land Use will utilize one acre accommodating 10,890 sq. ft. for convenience and specialty retail uses.

Open Space Land Use. 20 acres of Habitat Conservation: including UCMBEST's habitat corridor (polygon 5c) and lands located at Reservation Road and Imjin to augment the UCMBEST habitat corridor (polygon 5b); and 27 acres for neighborhood park on lands that were previously part of the U.S. Army's landfill operations.

Public Facilities and Schools Land Use. 65 acres total with 25 acres for the existing Patton Elementary School and 40 acres for a future high school.

General Development Character and Design Objectives - To achieve the community design vision, the City of Marina is encouraged to:

1. *Establish a district comprised of a series of small-scaled neighborhoods by rehabilitating existing housing where economically justifiable and infilling with complementary new neighborhoods.*
2. *Promote a mix of new housing types to breakdown the homogenous character of the existing U.S. Army housing types.*
3. *Utilize the existing Abrams Road to provide access to this district and provide connection with the Civic/Mixed Use District and with the existing residential neighborhoods outside the former Fort Ord boundaries.*
4. *Provide a new circulation link to connect with the California Street in the existing neighborhoods outside the former Fort Ord boundaries and use this link to better integrate these neighborhoods with the services and amenities planned for the Marina Village District.*
5. *Provide a new circulation link to this district from the extension of Del Monte Boulevard to increase the legibility of the circulation network and minimize unnecessarily long trips.*

6. *Retain the existing network of open space corridors and bike trails within the redeveloped areas to link all of the neighborhoods to the regional trail network.*

Civic/Mixed Use District

This District is located adjacent to Reservation Road. The area is presently served by existing infrastructure but is vacant. It is highly visible and within a central location for the City of Marina. It is ideal as a potential location for public facilities in a mixed-use context.

Projected Land Uses:

Residential Land Use. 25 acres are projected for 150 dwelling units.

Public Facilities Land Use. Nine acres are reserved for future civic facilities such as a city hall and administrative complex. The entire district is also an opportunity site for a future high school.

Retail and Services Land Use. One acre for up to 10,890 sq. ft. of convenience retail.

General Development Character and Design Objectives - To achieve the community design vision, the City of Marina is encouraged to:

1. *Promote the integration of this district into the adjacent Marina neighborhoods beyond the former Fort Ord boundary by providing a new collector that connects to Reservation Road.*
2. *Utilize the topographic break between this district and the adjacent planned residential district to create a special focus for a planned, mixed-use development that combines civic residential and convenience retail uses.*
3. *Determine the location of the future high school site before allowing development to proceed in this district.*

3.8.3 Town Center Planning Area

This is an area that is designated as a "Planned Development Mixed Use District." The Town Center Planning Area contains four districts: 1) Mixed Use Corporate Center; 2) Del Monte Mixed Use District; 3) Marina Village; and 4) University Office Park/R&D.

The Planning Area includes the key frontage along State Highway 1 and the extension of Del Monte Boulevard, the Marina Village focused around



Town Center Planning Area

the planned Multi-Modal corridor, as well as the University Office Park/R&D District adjacent to CSUMB at the Imjin/12th Street corridor.

Mixed Use Corporate Center District

This Mixed Use Corporate Center, which extends along the State Highway 1 frontage from the Seaside boundary north past 12th Street, has potential access from both the former Fort Ord interchanges. With excellent visibility and accessibility, this District is expected to be highly desirable as a development location and will help to establish the image and character for reuse of the base. Nearly half of the non-UCMBEST office/R&D market (to 2015) is projected to be captured here.

This district is also an excellent location for retail uses. There is an opportunity to focus regional retail uses at the southern end, in connection with the regional retail uses planned for Seaside. The 12th Street Gate provides a second location for a regional center. Capitalizing on the mixed-use character and convenient access, this district is an excellent location for a significant neighborhood center. The center could provide the focus for a pedestrian-oriented district providing streetscape vitality and a "neighborhood image" for the surrounding development.

On the 8th Street corridor connecting to the bridge over State Highway 1, there is an opportunity to create a Visitor/Cultural Center as a gateway to the Fort Ord Dunes State Park. The center could incorporate the major recreational facilities that are subject to a Public Benefit Conveyance to the City. The cultural aspects of this center could feature a complex of existing former Fort Ord buildings to recall the historic role of the former military base. The renovated buildings could be used by local non-profits and public service agencies.

In addition, approximately 30 acres have been reserved near the 12th Street interchange to enhance the State Highway 1 Scenic Corridor and provide a gateway to the Town Center.

Projected Land Uses:

Office / R&D Land Use. Approximately 54 acres are projected to yield 818,405 sq. ft. of office and research and development land use.

Residential Land Use. Approximately 40 acres are projected for 582 units of mixed-use housing at an average density of 15 Du/Ac together with neighborhood parks to enhance this "in-town" neighborhood.

Retail and Service Land Use. Approximately 30 acres are projected for Regional Retail uses to accommodate approximately 326,000 sq. ft. About 8 acres are projected for approximately 98,010 sq. ft. of neighborhood retail.

Public Facilities Land Use. Approximately 84 acres are projected for recreational use for cultural/civic activities including a Visitor/Cultural Center and a transit Inter-modal Center, various public benefit conveyances, and a public roadway system to organize and subdivide the district.

Open Space. 30 acres are projected for visual corridor open space and recreational opportunities.

General Development Character and Design Objectives - To achieve the community design vision, the City of Marina is encouraged to:

1. *Promote a pattern of development that subdivides the large land resource into blocks to allow for convenient and publicly accessible circulation in a manner that creates a Town Center with a mix of uses and lively streetscape.*
2. *Take advantage of the State Highway 1 visibility and accessibility to establish a high quality office/R&D center to anchor the Town Center.*
3. *Integrate into the commercial development viable residential neighborhoods with open space amenities and convenient personal services and retail uses.*
4. *Protect the visual qualities of the State Highway 1 Scenic corridor:*
 - a) *Maintain a minimum 100-foot development setback from the Highway ROW that permits the establishment of a continuous landscape character. Provide for a master landscape plan to reinforce the continuity of the regional landscape using such materials as Monterey Cypress and Monterey Pines along the scenic Highway corridor setback.*
 - b) *Designate a scenic corridor design overlay area between State Highway 1 and Del Monte Boulevard/North-South Road.*
 - c) *Establish a maximum building height related to an identified mature landscape height to accommodate higher intensity land uses appropriate to this Town Center location without detracting from the regional landscape character of the State Highway 1 Scenic Corridor.*
 - d) *Provide design guidelines to address architectural qualities, building massing and orientation, parking, fencing, lighting, and signage.*
5. *Take advantage of the transit accessibility represented in the Multi-Modal Corridor by incorporating a well-designed pedestrian circulation system throughout the Town Center that links residents and employees to the station locations.*

6. *Coordinate development within this district with the preparation of a specific plan or other planned development mechanism to achieve the potential integrated design that can be realized in this key mixed-use district.*
7. *Enhance the regional identity of this district with a mix of public and quasi public uses to create a regional cultural attraction:*
 - a) *Assure that the Eighth Street Bridge serves as a major gateway to the Fort Ord Dunes State Park from the former Fort Ord.*
 - b) *Consider incorporating into this district a Visitor/Cultural Center that creates a regional identity for the Town Center and retaining an enclave of typical military wood structures to promote the Fort's history and contribution to the Monterey Peninsula.*

Del Monte Mixed Use District

The Del Monte mixed-use district is located on the extension of Del Monte Boulevard north of the 12th Street Gate and shares a boundary with the existing City of Marina Neighborhoods Planning area, including Patton Elementary School. This district is an extension of the existing commercial uses within the City of Marina and will provide the transition to the new Town Center for Marina. It is visible from the State Highway 1 Scenic Corridor.

Many uses are appropriate to this location and would be permitted in the mixed-use designation, including: residential, office, and retail.

Projected Land Uses:

Retail and Service Land Use. The Ultimate Development Plan allocates 28 acres for Neighborhood Retail uses to accommodate approximately 305,000 sq. ft. within Marina.

Open Space Land Use. Up to five acres are designated for Habitat Management.

General Development Character and Design Objectives - To achieve the community design vision, the City of Marina is encouraged to:

1. *Incorporate into this district an open space feature west of Del Monte Boulevard that serves as a "community separator" and gateway to the new Town Center and distinguishes this district from the "strip retail" character of development along the existing length of Del Monte Boulevard.*
2. *Provide an appropriate transition to the adjacent elementary school to minimize noise and safety conflicts.*

3. *Take advantage of the opportunity to redevelop the adjacent housing at Patton Park to provide appropriate connections, transitions and potential incorporation of these lands into a single project.*

Marina Village District

This district is at the heart of the Town Center Planning Area. It is anticipated that a variety of land uses will be developed to provide a pedestrian-oriented mixed-use "urban village" with office uses, housing, community parks, neighborhood shopping, and public education facilities.

Projected Land Uses:

Office Park / R&D Land Use. About two acres are projected accommodating 30,000 sq. ft. supporting office and research and development uses.

Residential Land Use. About 80 acres are projected for 710 units of mixed-use housing types ranging from small-lot single family dwellings to higher density attached and multi-family units.

Retail and Services Land Use. About seven acres are projected for a neighborhood center which would provide the focus for the village mixed-use development.

Open Space Land Use. A 40-acre community park is reserved at the former Fort Ord equestrian center.

Public Facilities and Schools Land Use. 66 acres are reserved for public facilities including a reserve for an internal roadway system to serve the Village. Major institutional uses include an 18-acre site for the For Ord Campus of the Monterey Peninsula College, and the Monterey Institute for Research and Astronomy (MIRA). A number of other Public Benefit Conveyance requests are located within this District and will contribute to the fine grain and diverse character of the Urban Village.

General Development Character and Design Objectives - To achieve the community design vision, the City of Marina is encouraged to:

1. *Promote a pattern of development that subdivides the large land resource into blocks to allow for convenient and publicly accessible circulation in a manner that creates an Urban Village character with a mix of uses and lively streetscape.*
2. *Create a central focus for the Village where retail and service uses are concentrated in a fine grain typical of historic "main-streets."*
3. *Take advantage of the transit accessibility represented in the Multi-Modal Corridor by integrating transit into the Village setting. Incorporate a potential transit station into the long-range planning for this District.*

4. *Provide well-designed, pedestrian-oriented streetscapes that accommodate automobile, bicycles, and truck deliveries.*
5. *Prepare a master landscape plan for the district that integrates street trees, pedestrian-scaled lighting, graphics, and furnishings.*
6. *Incorporate the historic Parade Ground and center of the MPC campus into the district's open space system to reinforce the civic qualities of this major public benefit.*
7. *Utilize the existing equestrian center site as a major community open space for the district to provide recreational amenities for the residents and establish a gateway to CSUMB.*
8. *Coordinate development within this district with the preparation of a specific plan or other planned development mechanism to achieve the potential integrated design that can be realized in this key mixed-use district. Provide design guidelines to address architectural qualities, building massing and orientation, parking, fencing, lighting, and signage.*

University Office Park / R&D District

The University Office Park/R&D District is located between the former equestrian center and land fill sites. This district is on the boundary of CSUMB and easily accessible from the Imjin corridor and Intergarrison Road. The district also includes two public benefit conveyance requests south of the Intergarrison/8th Street corridor and imbedded in the CSUMB campus lands.

This district is situated to take advantage of the market support and identity created by the CSUMB campus and the retail and services provided in the adjacent Marina Village.

Projected Land Uses:

Office Park / R&D Land Use. 65 acres are projected in the City of Marina and will accommodate approximately 563,000 sq. ft. of Office/R&D land use.

Public Facilities and Schools Land Use. Six acres are reserved for Golden Gate University and 23 acres for Marina City Corporation Yard south of the Intergarrison/8th Street corridor.

General Development Character and Design Objectives - To achieve the community design vision, the City of Marina is encouraged to:

1. *Extend the street pattern to connect this district with the adjacent Marina Village and provide a block pattern with a compatible scale and grain.*

2. *Orient development at the boundary with the former land fill to incorporate the views and open space amenities to the adjacent protected habitat and define the gateway to CSUMB.*
3. *Orient development and provide pedestrian-oriented improvements to take advantage of the transit potential in the Multi-Modal corridor.*
4. *Integrate any corporation yard activities that are included in a PBC north of the Intergarrison/8th Street corridor into the coordinated development of this District. Consider adjusting the boundaries of the PBC to facilitate a well-designed facility that promotes the value of the adjacent lands.*
5. *Coordinate development within this district with the preparation of a specific plan or other planned development mechanism to achieve the potential integrated design that can be realized in this key mixed-use district. Provide design guidelines to address architectural qualities, building massing and orientation, parking, fencing, lighting, and signage.*

3.8.4 Marina Airport Planning Area

The Marina Airport Planning Area contains five districts: 1) Municipal Airport District; 2) Light Industrial/Technology Center; 3) North Airport Light Industrial Tech Center; 4) UCMBEST Cooperative Planning District; and 5) Habitat Management District.

Marina Municipal Airport District

The airport district has several existing structures which the City is leasing within the airport itself. This area and the adjacent Light Industrial/Technology Center are both served with existing infrastructure providing limited capacity for early reuse. The Airport District can be accessed from Reservation Road via Imjin Road.

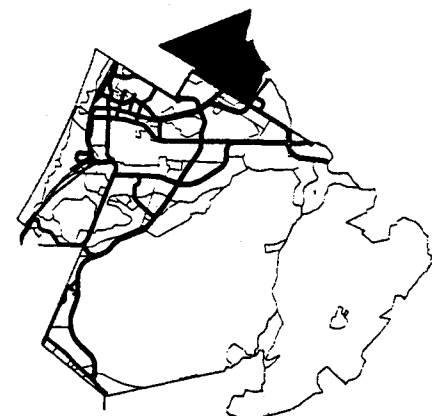
Projected Land Uses:

Business Park/Light Industrial Land Use. Approximately 60 acres are projected for this type of use, accommodating 340,000 sq. ft.

Public Facilities Land Use. Approximately 256 acres are reserved for aviation-related activities.

General Development Character and Design Objectives - To achieve the community design vision, the City of Marina is encouraged to:

1. *Retain the industrial character of the existing hangers and warehouses with rehabilitation, reuse and infill development.*



Airport Planning Area

2. *Identify the Imjin/Reservation intersection as the main gateway to the facility.*
3. *Provide for a direct connection to Blanco Road for this facility to reduce traffic impacts on Reservation Road.*

Light Industrial/Technology Center District

This district lies between the Airport and the UCMBEST Center. Because of the existing airport and planned airport operations and the proximity to the Salinas Valley agricultural activities via Blanco Road, these locations are well poised to capture the light industrial/business park market.

Projected Land Uses:

Business Park/Light Industrial Land Use. Approximately 48 acres are projected for this use accommodating 421,000 sq. ft. of this use.

General Development Character and Design Objectives - To achieve the community design vision, the City of Marina is encouraged to:

1. *Coordinate development to promote the design qualities, pedestrian vitality, and visual appearance at the interface with the adjacent UCMBEST Center.*
2. *Visually screen large outdoor working or storage areas from public roadways or adjacent development districts.*
3. *Incorporate noise mitigation measures to manage industrial activities to minimize potential adverse effects on sensitive research and development uses in the adjacent UCMBEST District.*
4. *Provide for a direct connection to Blanco Road for this district to reduce traffic impacts on Reservation Road.*

North Airport Light Industrial Tech Center District

This Center represents a more long term opportunity because it is not within the existing infrastructure core area and industrial development would require both a connection to Blanco Road and a second outlet across Armstrong Ranch to the north. (Note: this site has been identified as an "opportunity site" for visitor serving uses.)

Projected Land Uses:

Business Park/Light Industrial Land Use. 113 acres are projected accommodating approximately 1.4 million sq. ft. of potential light industrial and business park land use.

Visitor-Serving Land Use. 200-room hotel with a golf course on a total of 222 acres is projected.

General Development Character and Design Objectives - To achieve the community design vision, the City of Marina is encouraged to:

1. *Orient development to take advantage of the scenic qualities of this location with views to the Pacific and the Salinas Valley.*
2. *Establish a maximum building height related to an identified mature landscape height to retain the visual line of the bluffs as viewed from the State Highway 1 Scenic Corridor and the Salinas Valley.*
3. *Maintain a minimum setback from the top of the bluff above the valley to retain the native vegetation and provide for a continuous bluff top trail.*
4. *Provide development standards that protect the interface with the adjacent protected habitat.*
5. *Coordinate development with planning for Armstrong Ranch to provide for a continuous circulation route north to Del Monte Boulevard.*

Habitat Management District

The habitat management district is comprised of all of the City's lands in the planning area that are included in the HMP for habitat protection. These areas include riparian habitat adjacent to the Salinas River and the coastal chaparral community conveyed as part of the Marina Municipal Airport lands. For coordination purposes, the District also includes the adjacent habitat conveyed to the University of California as part of the UCMBEST Center. (See Habitat Management Plan discussion in Section 4.4.3 of the Conservation Element.)

Projected Land Uses:

Habitat Management Land Use. 170 acres in habitat conservation conveyed to the City of Marina and 409 acres conveyed to the University of California. (See Habitat Management Plan discussion in Section 4.4.3 of the Conservation Element.)

University of California / UCMBEST Center Cooperative Planning District

The UCMBEST Cooperative Planning District is portion of the University's lands in the City of Marina northwest of Blanco and Reservation Road. The property includes a portion designated for development as well as a significant habitat reserve.

Projected Land Uses:

Office Park / R&D Land Use. 113 acres are projected for this use and will accommodate approximately 1.38 million sq. ft. of Office / R&D land use.

Retail and Service Land Use. 10,890 sq. ft. are projected.

Visitor Serving Land Use. A 150-room hotel is projected.

Habitat Management Land Use. As noted above, UCMBEST is comprised of an additional 409 acres reserved for habitat and managed by the UC NRS. (See Conservation Element in Section 4.4.3.)

General Development Character and Design Objectives - To achieve the community design vision in the City of Marina, UCMBEST is encouraged to:

1. *Coordinate development to promote the design qualities, pedestrian vitality, and visual appearance at the interface with the adjacent Light Industrial/Technology Center District.*
2. *Enhance the visual identity and imagery for UCMBEST as viewed from the major circulation corridors, including Reservation Road and Blanco Road.*
3. *Establish a maximum building height related to an identified mature landscape height to retain a compatible relationship with the regional landscape character.*
4. *Provide primary access from Reservation Road to promote the role of this arterial as a distribution link in the network.*
5. *Provide for a direct connection to Blanco Road for this district to reduce traffic impacts on Reservation Road.*
6. *Provide development standards for the interface with the NRS lands to protect the habitat resources.*

3.9 CITY OF SEASIDE PLANNING AREAS AND DISTRICTS

The City of Seaside contains three Planning Areas: 1) CSUMB Planning Area; 2) University Planning Area; and 3) Seaside Residential Planning Area. (See Figure 3.9-1 which illustrates the Planning Areas for Seaside and the subdivision into the various Districts.) The land reserves and project development capacity for each District are summarized in Table 3.9-1, City of Seaside Land Development Intensity Summary.

3.9.1 CSUMB Planning Area

The amount of CSUMB land in Seaside is approximately 322 acres and is expected to accommodate academic, administrative, student housing, and other support facilities. For planning purposes, the Reuse Plan assumes that one half of the projected total of 5,100 student units planned for the campus are located within the City of Seaside. The balance is assumed to be located in the Marina portion of the CSUMB campus.

Access to the Seaside portion of the campus will be from the upgraded 2nd Ave/Del Monte Extension arterial on the west and from Gigling Road on the south.

General Development Character and Design Objectives - To achieve the community design vision in the City of Seaside, CSUMB is encouraged to:

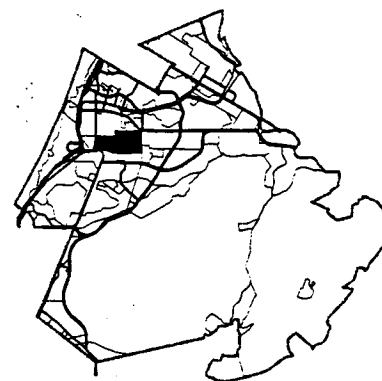
1. *Coordinate with Seaside to create a well-designed gateway at Light Fighter Drive.*

3.9.2 University Planning Area

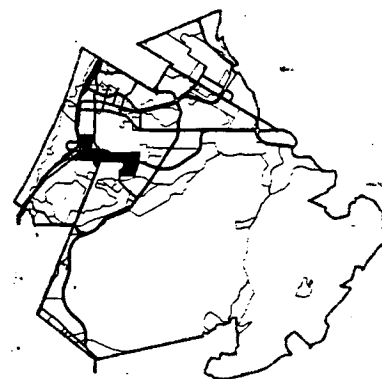
The University Planning area is on the southern perimeter of the CSUMB campus and has been defined to coordinate all of the surrounding land planning and development issues that will involve coordination with the Campus. This Planning Area includes four districts: 1) Gateway Regional Entertainment Center; 3) POM Annex Retail and Services; 4) University Village with DFAS; and 5) Community Park.

Gateway Regional Entertainment District

This important gateway straddles both sides of the Main Gate interchange at State Highway 1 and is one of the primary entrances to CSUMB and all of the former Fort Ord. The district is identified as a location for an entertainment-oriented regional retail center. A portion of this district is included in the lands to be incorporated into the Fort Ord Dunes State Park. This portion of the Park will serve as a vehicular entrance and



CSUMB Planning Area
Seaside Portion



University Planning Area

FORT ORD REUSE PLAN

Fort Ord Reuse Authority (FORA)

Land Planning	EDAW, Inc.
Market Analysis	EMC Planning Group, Inc.
Transportation Engineering	Sedway Kotin Mouchly Group
Civil Engineering	JHK and Associates
Fiscal Analysis	Reimer Associates
Habitat Planning	Angus McDonald & Associates
Public Communications	Zander Associates
Community Development	The Ingram Group
	Resource Corps International

SHEET TITLE:

DRAFT
SEASIDE PLANNING AREAS

0 750 1500 3000 4500
NORTH

SOURCE:
Jones & Stokes, 1995
Reimer Associates,
(Re-Projected), 1995
Monterey County, 1995
EDAW, Inc., 1995

FIGURE:
3.9-1

University Planning Area

- Gateway Regional Entertainment District
- POM Annex Retail and Services
- University Village, with DFAS
- Community Park

Seaside Residential Planning Area

- New Golf Course Community
- Visitor Serving Hotels and Golf Course
- Reconfigured POM Annex Community
- Planned Residential Extension Districts
- Community Park

CSUMB Planning Area

- Seaside Portion



Table 3.9-1

City of Seaside

Land Development Intensity Summary Table

The "Land Use Capacity" is a projected development yield based on anticipated market absorption, land characteristics, and community vision. The capacities indicated are intended to provide a general guide to assist in land resource management and infrastructure commitments and financing. The precise mix of uses is expected to vary in response to market conditions and FORA actions. The aggregate totals provide a "not-to-exceed envelope" of development within the former Fort Ord.

PLANNING AREAS AND DISTRICTS	PLANNED LAND USE & INTENSITY			LAND AREA AND RESERVES							PROJECTED DEVELOPMENT CAPACITY			
	Gross (acres)	Development Intensity	Land Use	ROW (acres)	Part & O.S. Reserve	Hab. Mgt. Reserve	Pub. Fac./ Mil. Enclave	Schools	Golf Courses	Net (acres)	Acreage by land use +	Projected Yield	Units	Net Intensity
UNIVERSITY PLANNING AREA														
Gateway Regional Entertainment University Village (1)	90	.25 FAR	Reg'l Retail	4	42					44	44 acres regional retail	476,764 SF		.25 FAR
	146	up to .35 FAR and 20 DU's/Acre	MX	0	5		49	10		82	50 acres housing 32 acres retail	540 DU's 346,847 SF		10.8 units/acre .25 FAR
POM Annex Retail & Services	67	N/A	Mil. Enclave	0			67			0	67 acres POM Annex PX	0	0	N/A
Community Park	50	N/A	OS/Rec.	0	50					0	50 acres community park	0	0	N/A
CSUMB District (Seaside)(2)	332	N/A	School/Univ.	0				332		0	332 acres - CSUMB	12,000 FTE's		N/A
SEASIDE RESIDENTIAL PLANNING AREA														
New Golf Course Community District	659	5 - 10 units/acre 10 - 20 units/acre 25 FAR	SFD-med MFD	18	10			78		557	531 acres housing 24 acres housing	3,068 DU's 291 DU's		5.6 units/acre 8.6 units/acre
											2 acres convenience retail	21,780 SF		.25 FAR
Visitor Serving Hotels, Conf. Center, Golf	375		Visitor Serving	0					350	25	25 acres visitor serving	800 Rooms		
Reconfigured POM Annex Community	789	N/A	Mil. Enclave	83			648	89		0	648 acres military housing	1,590 DU's		2.5 units/acre
Planned Residential Extension Districts	288	5 - 10 units/acre 25 FAR	SFD-med	60	7					221	195 acres housing	1,214 DU's		6.2 units/acre
											26 acres neighborhood retail	283,685 SF		.25 FAR
Community Park	25	N/A	OS/Rec.	0	25					0		0		N/A
TOTALS				163	139	0	762	487	350	929	6,703 DU's			

queuing location for managing RV arrivals. Additionally, approximately 28 acres have been set aside near the Main Gate interchange to enhance the visual gateway to this district along the State Highway 1 Scenic Corridor.

Projected Land Uses:

Retail and Services Land Use. The property has a projected development capacity of approximately 477,000 sq. ft., on approximately 44 acres for regional retail activities.

Open Space Land Use. A total of 42 acres are reserved for open space and recreational uses.

Development and Character Guidelines - To achieve the community design vision, the City of Seaside is encouraged to:

1. *Take advantage of the Highway visibility and accessibility to establish an entertainment-oriented regional retail center.*
2. *Coordinate development of the regional retail center with the adjacent development in Marina. Provide for continuous vehicular and pedestrian connections to the Intermodal Center.*
3. *Coordinate with the State Park Master Planning to assure that traffic controls are implemented to manage the RV arrivals.*
4. *Coordinate development within this district with the preparation of a Gateway Corridor Specific Plan that provides for an integrated gateway design concept to the former Fort Ord and CSUMB.*
5. *Protect the visual qualities of the State Highway 1 Scenic corridor:*
 - a) *Maintain a minimum 100-foot development setback from the Highway ROW that permits the establishment of a continuous landscape character. Provide for a master landscape plan to reinforce the continuity of the regional landscape using such materials as Monterey Cypress and Monterey Pines along the scenic Highway corridor setback.*
 - b) *Designate a scenic corridor design overlay area between State Highway 1 and Del Monte Boulevard/North South Road.*
 - c) *Establish a maximum building height related to an identified mature landscape height to accommodate higher intensity land uses appropriate to this Town Center location without detracting from the regional landscape character of the State Highway 1 Scenic Corridor.*
 - d) *Provide design guidelines to address architectural qualities, building massing and orientation, parking, fencing, lighting, and signage.*

University Village District

The Seaside University Village is poised to become an important community focus in the 2015 horizon. In the near term, this district will benefit from: 1) the areawide roadway improvements in the Gigling corridor anticipated in this period; 2) the surrounding activity generated by CSUMB; and 3) the adjacent reconfigured POM Annex. It is anticipated that the Seaside University Village could provide an important gateway function for CSUMB as well as significant concentration of neighborhood retail, business and personal services. This is one of the best and most central locations for a neighborhood retail center at *the former Fort Ord*. Additionally, convenience retail centers can be phased to enliven this mixed-use district.

Projected Land Uses:

Residential Land Use. A housing program of 540 units at densities ranging from small lot single family at 5-10 Du/Ac to attached town homes at 10 Du/Ac and multi-family attached housing at 20 Du/Ac will provide an appropriate mix to complement the non-residential uses.

Retail and Service Land Use. A total of 32 acres are projected for neighborhood and convenience retail and service land uses accommodating approximately 347,000 sq. ft. of development.

Public Facilities Land Use. Approximately 19 acres are reserved to accommodate the 750 employees at the DFAS, located in the former Fort Ord Military Hospital. Approximately ten acres are reserved to accommodate requested public benefit conveyances for educational facilities; approximately ten acres are reserved for use by the U.S. Army. An additional 20 acres are projected for internal roads.

Open Space Land Use. A five-acre neighborhood park is reserved to serve the residents of the Village.

General Development Character and Design Objectives - To achieve the community design vision, the City of Seaside is encouraged to:

1. *Promote a pattern of development that subdivides the large land resource into blocks to allow for convenience and publicly accessible circulation in a manner that creates an Urban Village Character with a mix of uses and a lively streetscape.*
2. *Create a central focus for the Village where retail and service uses are concentrated in a fine grain typical of historic "main-streets."*
3. *Provide well-designed, pedestrian-oriented streetscapes that accommodate automobiles, bicycles, and truck deliveries.*

4. *Prepare a master landscape plan for the district that integrates street trees, pedestrian-scaled lighting, graphics, and furnishings.*
5. *Coordinate development within this district with the preparation of a specific plan or other planned development mechanism to achieve the potential integrated design that can be realized in this key mixed-use district. Work with various public benefit requests in this district to eliminate impediments to coordinated reuse. Coordinate development within this district with the preparation of a specific plan or other planned development mechanism to achieve the potential integrated design that can be realized in this key mixed-use district. Provide design guidelines to address architectural qualities, building massing and orientation, parking, fencing, lighting, and signage.*

POM Annex Retail and Services District

The POM Annex area currently accommodates the Post Exchange (PX) and other services for the military families and residents.

Projected Land Uses:

Retail and Services Land Use. 67 acres are retained the POM Annex area.

General Development Character and Design Objectives - To achieve the community design vision, the City of Seaside is encouraged to:

1. *Identify ways by which the operations at the PX can contribute to the visual attractiveness of the Gateway and Village Districts.*
2. *Work with the U.S. Army to participate in a coordinated management program for retail development and activities at the PX district to integrate them in joint marketing and signing compatible with the Gateway and Village Districts.*

Community Park District

This District is designated as a community park that encompasses an undeveloped area adjacent to the DFAS. The topography is gently rolling and significant portions of the designated park are covered in oak woodland. The park is accessible from Gigling Road and is located in the center of the University Planning Area, providing a large park area for CSUMB, University Village residents and the POM Annex residents.

Projected Land Uses:

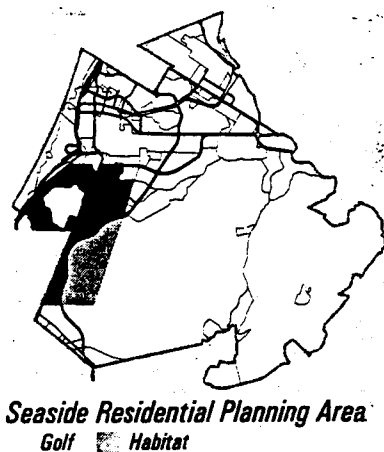
Open Space Land Use. A 50-acre community park is projected.

General Development Character and Design Objectives -

See Section 4.3, Recreation and Open Space Element.

3.9.3 Residential Planning Area

The Seaside Residential Planning Area contains five planning districts: 1) New Golf Course Community; 2) Visitor-Serving Hotel and Golf Course; 3) Reconfigured POM Annex Community; 4) Planned Residential Extension; and 5) Community Park.

**New Golf Course Community District**

Development of the New Golf Course Community District is contingent on the reconfiguration of the existing POM Annex so that the U.S. Army residential enclave is located totally to the east of North-South Road. The new Golf Course Community District will surround the two existing golf courses. The District encompasses the existing 291-unit Sun Bay apartment complex on Coe Road and envisions the replacement of the remaining housing units in order to provide a new golf-oriented community with a range of housing types. The district is designated as SFD Medium Density Residential.

Construction could commence in the early years on the southern portion of this area and extend into the existing POM Annex when the lands are available. It is anticipated that the lands would be sufficient to meet targeted housing needs throughout the 2015 horizon and be completed by the end of this planning period.

Projected Land Uses:

Residential Land Use. The residential land use is projected to total approximately 3,000 units on 531 acres at an average density of 5.6 Du/Ac. In addition, the 291 existing units at Sun Bay are located on approximately 24 acres at an average density of 8.6 Du/Ac. The District is designated medium density and high density residential.

Retail and Services Land Use. Two 1-acre opportunity sites are projected to provide up to a total of approximately 22,000 sq. ft. of convenience retail and services.

Public Facilities and Schools Land Use. A total of 76 acres are reserved for the three existing schools in this district.

Open Space Uses. Ten acres are reserved for neighborhood parks. (See Section 4.3 Recreation and Open Space element.)

General Development Character and Design Objectives - To achieve the community design vision, the City of Seaside is encouraged to:

1. *Integrate the new residential development around the golf course in a way that optimizes the golf course frontage and views to this significant open space amenity. Consider rerouting the courses into the adjacent residential lands and find opportunities to integrate new residential development within the existing golf course area to improve the integration of the amenity into the new community.*
2. *Provide a development setback and landscaped buffer along the Highway scenic corridor frontage to minimize noise intrusion into the residential neighborhoods and enhance the State Highway 1 Scenic Corridor. Provide for a master landscape plan to reinforce the continuity of the regional landscape using such materials as Monterey cypress and Monterey pines along the scenic highway corridor setback.*
3. *Maintain the continuity of a roadway collector through the district to distribute trips north and south. (See Circulation Framework.)*
4. *Provide retail and business services at strategic gateways to the new community.*

Visitor-Serving Hotels and Golf Course District

This District includes a total of 800 new hotel rooms built in phases to enhance two existing champion level golf courses (36-holes total). The golf courses make this District the strongest market for a resort hotel at the former Fort Ord in the initial years and this is likely to be the first hotel opportunity realized.

Projected Land Uses:

Visitor-Serving Land Use. A total of 375 acres are in this district and the plan projects 350 acres for the golf course and 25 acres for hotel sites.

General Development Character and Design Objectives - To achieve the community design vision, the City of Seaside is encouraged to:

1. *Site the 800 hotel rooms in several buildings to reduce the scale of the project and its visual intrusion into the State Highway 1 Scenic Corridor.*
2. *Establish a maximum building height related to the mature landscape height of the trees in the golf course areas.*
3. *Establish bulk and massing criteria to integrate the structures into the existing topography and landscaped setting so as to minimize grading and tree removal.*

Reconfigured POM Annex District

The Reconfigured POM Annex district includes approximately 1000 existing units on 344 acres in the POM Annex and an additional 302 acres of surrounding, vacant land that is intended to be developed for housing to replace the POM Annex housing west of North-South Road.

Projected Land Uses:

Residential Land Use. 646 acres are included in the district.

Public Facilities and Schools Land Use. A total of 69 acres are reserved for the elementary school and administrative uses for the MPUSD and the adjacent Bachelor Officer Quarters. In addition, lands are reserved within the new POM Annex to accommodate required basewide infrastructure. (See the Public Facilities Plan in Appendix B in the Business and Operations Plan.)

Planned Residential Extension Districts

Three different locations provide an opportunity to directly extend the existing residential fabric of Seaside east onto the former Fort Ord properties. These three locations will be ultimately bounded on the east with a major arterial that will provide access to the future SR 68 alignment planned along the southern perimeter of the former Fort Ord. A significant neighborhood retail center is located in this District serving the existing Seaside community and all of the planned residential neighborhoods on the south side of the former Fort Ord. Additionally, there is a large community park planned to serve this new community.

Projected Land Uses:

Residential Land Use. There are 195 acres designated for residential land use providing up to a projected 1,214 new dwelling units. The locations are all designated as SFD Medium Density Residential.

Retail and Service Land Use. There are 26 acres projected to be in neighborhood retail land use providing up to 283,000 sq. ft.

Open Space Land Use. Seven acres are reserved for a neighborhood park. (See Section 4.3, Recreation and Open Space Element.)

Development and Character Guidelines - To achieve the community design vision, the City of Seaside is encouraged to:

1. *Integrate each of these residential neighborhoods into the existing fabric of the City by providing continuity in residential streets, pedestrian paths and bicycle routes.*
2. *Incorporate the overhead electric power lines ROW into a neighborhood serving open space resource.*

3. *Consider providing centralized equestrian facilities as amenities for the new neighborhoods to take advantage of the trails within the adjacent BLM lands.*
4. *Coordinate the future design of the boundary arterial to provide for convenient trail crossings. (See Section 4.3, Recreation and Open Space Element.)*

Community Park District

The Community Park District is located at the City boundary and will serve the Planned Residential Extension Districts. The park is located to also provide convenient access to the BLM recreation lands for the existing neighborhoods in Seaside. The park will serve as a regional trail head and accommodate equestrian trails and facilities.

Projected Land Uses:

Open Space Land Use. A 25-acre community park is projected to serve existing and new Seaside community residents.

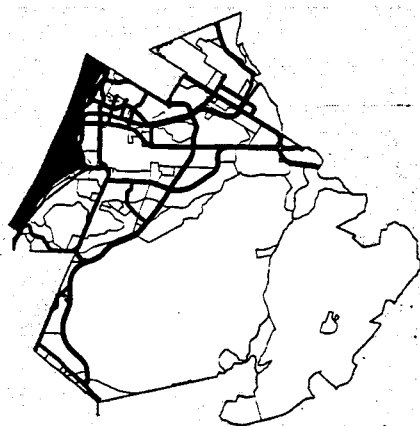
General Development Character and Design Objectives - To achieve the community design vision, the City of Seaside is encouraged to:

See Section 4.3, Recreation and Open Space Element

3.10 COUNTY OF MONTEREY PLANNING AREAS AND DISTRICTS

The Monterey County Planning Area contains seven areas: 1) Fort Ord Dunes State Park; 2) Reservation Road Planning Area; 3) Eucalyptus Road Planning Area; 4) South Gate Planning Area; 5) York Road Planning Area; and 6) BLM Habitat Management/Regional Recreation Area and a recreation and habitat protection area. See Figure 3.10-1 which illustrates the Planning Areas for the County and the subdivision into the various Districts. The land reserves and project development capacity for each District is summarized in Table 3.10-1, Monterey County Land Development Intensity Summary.

3.10.1 Fort Ord Dunes State Park Planning Area



Fort Ord Dunes State Park

The California DPR is preparing a Master Plan, as required by state law, for the coastal lands west of State Highway 1. The State is a responsible agency for habitat management and restoration of sensitive coastal environments under the HMP. The DPR is also planning for visitor-serving uses in the coastal area including hiking, camping, day use activities, and resort accommodations. The State Park will also include base-wide infrastructure facilities.

Projected Land Uses:

Open Space Land Use. 919 acres are reserved for park and open space which will be managed for habitat restoration and limited visitor-serving activities.

Visitor-Serving Land Use. 59 acres are reserved for use as a limited service resort facility accommodating 40 rooms.

Public Facilities Land Use. 23 acres are reserved for use to accommodate a future desalination plant.

General Development Character and Design Objectives - To achieve the community design vision, the California DPR is encouraged to:

1. *Enhance the visual character of the State Highway 1 Scenic Corridor with detailed siting, grading and design plans and landscaping programs that minimize the visual intrusion of buildings and large paved areas for overnight RV vehicles and campground parking.*
2. *Work with the City of Marina to incorporate a visitor center and gateway function into the 8th street Visitor/Cultural Center within Marina's Town Center Planning Area. Establish the 8th Street bridge as a major access point to the state park.*

Table 3.10-1
Monterey County
Land Development Intensity Summary Table

The "Land Use Capacity" is a projected development yield based on anticipated market absorption, land characteristics, and community vision. The capacities indicated are intended to provide a general guide to assist in land resource management and infrastructure commitments and financing. The precise mix of uses is expected to vary in response to market conditions and FORA actions. The aggregate totals provide a "not-to-exceed envelope" of development within the former Fort Ord.

PLANNING AREAS AND DISTRICTS	PLANNED LAND USE & INTENSITY			LAND AREA AND RESERVES (in acres)					PROJECTED DEVELOPMENT CAPACITY		
	Gross (acres)	Development Intensity	Land Use	ROW	Part & O.S. Reserve	Hab. Mgt. Reserve	Pub. Fac./ MIL. Enclave	Schools Courses	Golf Courses	Net Area	Net Intensity
FORT ORD DUNES STATE PARK	1014	N/A	OS/Rec.	13	919		23			59	N/A
RESERVATION ROAD PLANNING AREA											
MBEST Cooperative Planning District	319	0.35 FAR	MX	12			10			297	0.35 FAR
Univ. California Habitat Reserve	186	0.30 FAR	Habitat Mgt.	19		167				0	0.27 FAR
East Garrison District	751	N/A	MX	25		551		75		100	N/A
		.20 FAR								609,840 SF	20 FAR
		.25 FAR								217,800 SF	25 FAR
		.25 FAR								54,461 SF	25 FAR
Youth Camp District	125	N/A	Public Fac./ Instit'l	26		374	125			0	N/A
County Habitat Management District	400	N/A	Habitat Mgt.							0	N/A
EUCALYPTUS ROAD PLANNING AREA											
University Corporate Center	353	0.25 FAR	Office/R&D	60			84			209	.15 FAR
Residential/Recreational District	946	0.25 FAR	SFD-low	23	200			9	179	536	.25 FAR
		1-5 DU's/acre								3,184 DU's	4.4 DU's/acre
SOUTH GATE PLANNING AREA											
Visitor Serving Hotel & Golf Course District	195	.25 FAR	Visitor Serving	26					149	20	.14 FAR
Office Park R&D District	50	.25 FAR	Office/R&D	3						48	N/A
Augmentation of Regional Park	29	N/A	OS/Rec.	7	22					0	.20 FAR
YORK ROAD PLANNING AREA											
Office Park/R&D District	189	.25 FAR	O/R&D	9			33			147	.06 FAR
Community Park on ROW	25	N/A	OS/Rec.		25					0	N/A
BLM HABITAT MANAGEMENT/REGIONAL RECREATION AREA											
BLM Lands	15119	N/A	Habitat Mgt.	61		15,058				0	N/A
POST District	39	N/A	Public Fac./ Instit'l				39			0	N/A
Augmentation of York School	67	N/A	OS/Rec.		67					0	N/A
Augmentation of Laguna Seca Regional Park	592	N/A	OS/Rec.		592					0	N/A
UNIVERSITY PLANNING AREA											
CSUMB (County)	806	5-10 DU's/acre	Public Fac./ Instit'l	53	36	32		190		496	6.2 units/acre
County Recreation/Habitat	340	0.25 FAR	Habitat Mgt.	56	141	142				1	0.25 FAR
County Recreation	88	N/A	OS/Rec.	17	70					1	0.25 FAR
TOTALS	21,635			409	2,072	16,324	314	274	328	1,914	
										6,277 DU's	
										6,776,952 SF	
										640 Rooms	

Fort Ord Dunes State Park

FORT ORD REUSE PLAN

Fort Ord Reuse Authority (FORA)

Land Planning	EDAW, Inc.
Market Analysis	EMC Planning Group, Inc.
Transportation Engineering	Sedway Kotin Mouchly Group
Civil Engineering	JHK and Associates
Fiscal Analysis	Reimer Associates
Habitat Planning	Angus McDonald & Associates
Public Communications	Zander Associates
Community Development	The Ingram Group
	Resource Corps International

CSUMB/Recreational Planning Area

- County Portion of CSUMB
- Recreation/Habitat Protection

Reservation Road Planning Area

- MBEST Cooperative Planning District
- Habitat Management District
- Youth Camp District
- East Garrison District

Eucalyptus Road Planning Area

- University Corporate Center
- Residential / Recreation District

South Gate Planning Area

- Augmentation of Regional Park
- Visitor Serving Hotel and Golf Course
- Office Park / R&D District

BLM Habitat Management/ Recreation Areas

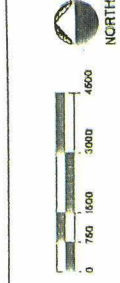
- Post District
- BLM Lands
- Augmentation of Laguna Seca Regional Park
- Augmentation of York School

York Road Planning Area

- Office Park / R&D District
- Community Park
- Monterey City Corporation Yard

SHEET TITLE:

DRAFT COUNTY PLANNING AREAS



SOURCE:
Jones & Stokes, 1995
Reimer Associates, 1995
(Re-Projected), 1995
Monterey County, 1995
EDAW, Inc., 1995

FIGURE:

3.10-1

3. *Manage the traffic impacts of the potential queuing of RV vehicles arriving at the Main Gate Intersection.*

3.10.2. CSUMB/Recreational Planning Area



CSUMB/Recreational Planning Area

The CSUMB/Recreational Planning Area is located in a central position that will dramatically affect the potential surrounding development. It consists of three major resources: 1) the lands conveyed or subject to future public benefit conveyance to CSUMB; 2) the former land fill site that is expected to be conveyed to the University of California for the purposes of habitat protection and management of the land fill clean up activities initiated by the U.S. Army; and 3) the planned Marina community park that is composed of two areas north and south of Intergarrison Road and is subject to a public benefit conveyance request.

CSUMB Planning District

The County portion of the CSUMB lands totals approximately 806 acres and is comprised of the existing residential area and a reserve area for future development needs of the campus. The existing housing area is designated Medium Density residential and is identified as an opportunity site for residential infill. The development reserve for the campus extends from the Seaside City limits to the extension of Gigling Road at the east. A portion of these lands is also identified as a residential infill opportunity.

Projected Land Uses:

Schools/University Land Use. All 806 acres of the County portion of CSUMB lands are reserved for academic, administrative, and support uses including residential uses. A 13-acre site (Polygon 10a) has been conveyed to the MPUSD for a future elementary school.

Residential Land Use. Two portions of the CSUMB lands are designated for specific residential land uses at a development intensity of 5 to 10 Du/Ac:

- The eastern end of the main campus (Polygon 16) is 140 acres and designated as a Residential Infill Opportunity that will provide approximately 1,120 units reserving 20% of the gross area for open space.
- The area north of Intergarrison (Polygon 10) is 425 acres and is currently developed with 1,253 units. This area is designated as a Residential Infill Opportunity that will provide approximately 720 units, reserving 20% of the gross area for open space.
- The projected total residential development is approximately 3,100 units.

Open Space Land Use. 36 acres are reserved for park and recreational uses and 32 acres are reserved for habitat management.

General Development Character and Design Objectives - To achieve the community design vision, CSUMB is encouraged to:

1. *Integrate the Intergarrison Road corridor into the campus as a major recreational trail.*
2. *Treat the Intergarrison/Gigling intersection as a major gateway to the campus*

Monterey County Recreational/Habitat District

This District is comprised of two areas. The larger, approximately 340 acres, is the former land fill site. The smaller, approximately 88 acres, stretches both north and south of Intergarrison road. Both of these areas are reserved for a combination of habitat protection and recreational uses.

Projected Land Uses for the Former Land Fill:

Open Space/Recreation Land Use. 141 acres are reserved for park and open space at the former landfill site. This represents the area included in the planned land fill cap. Region-serving recreation facilities, such as an amphitheater, are appropriate at this location.

Habitat Protection. 142 acres are reserved for habitat management, including non-invasive and controlled passive uses such as hiking and equestrian trails.

Opportunity Sites. The land fill cap provides an opportunity to locate a range of commercial recreational uses, including a golf course, a region-serving equestrian center and a convenience retail center for up to 10,980 sq. ft.

Projected Land Uses for the City of Marina Community Park:

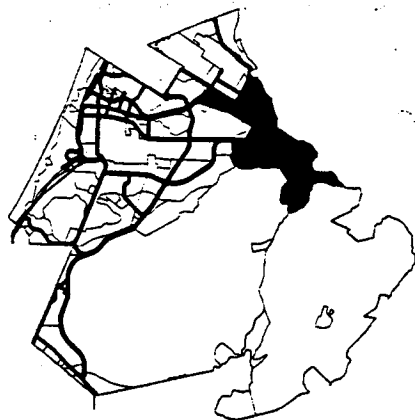
Open Space/Recreation Land Use. A total of 70 acres are reserved for active recreational use on portions both north and south of Intergarrison Road. The facilities will be incorporated into the existing oak woodland and chaparral landscape.

Habitat Protection. A total of 18 acres are reserved for protected habitat management.

Opportunity Sites. The portion south of Intergarrison Road is designated as an opportunity site for an equestrian center and a convenience retail center for up to 10,980 sq. ft..

General Development Character and Design Objectives -
See Section 3.4, Recreation and Open Space Element.

3.10.3 Reservation Road Planning Area



Reservation Road Planning Area

This area extends along Reservation Road and includes five districts: 1) UCMBEST Cooperative Planning District; 2) UC Habitat Management District; 3) East Garrison District; 4) Youth Camp District; and 5) County Habitat Management District.

UCMBEST Cooperative Planning District

The County portion of the UCMBEST Planning District includes two major sites. The larger site is approximately 267 acres and is located at the bluff top above the Salinas Valley. The second site is located south of Reservation Road and includes a development area of approximately 30 acres and a habitat management area of 167 acres.

Projected Land Uses:

Office/R&D Land Use. Two separate parcels are projected for use as office park and research and development activities: 267 acres supporting approximately 3.2 million sq. ft.; and 30 acres supporting approximately 460,000 sq. ft..

General Development Character and Design Objectives - To achieve the community design vision in the County, UCMBEST is encouraged to:

1. *Enhance the visual identity and imagery for UCMBEST as viewed from the major circulation corridors, including Reservation Road and Blanco Road.*
2. *Establish a maximum building height related to an identified mature landscape height to retain the visual line of the bluffs as viewed from the Scenic State Highway 1 Corridor.*
3. *Maintain a minimum setback from the top of the bluff above the valley to retain the native vegetation and provide for a continuous bluff top trail.*
4. *Provide primary access from Reservation Road to promote the role of this arterial as a distribution link in the network.*
5. *Provide for a direct connection to Blanco Road for this district to reduce traffic impacts on Reservation Road.*

5. *Provide development standards for the interface with the NRS lands to protect the habitat resources.*

University of California Habitat Reserve District

The UCNRS will manage the Habitat for educational purposes in the District. (See Section 4.4 Conservation Element.)

Projected Land Uses:

Habitat Management Land Use. 167 acres are projected for habitat management.

East Garrison District

The East Garrison District area is designated as a "Planned Development Mixed Use District." The District is a total of approximately 751 acres. The HMP, however, limits development at the East Garrison to 200 acres. The remaining lands will be reserved in habitat management.

The Reuse Plan provides for a range of uses to accommodate competing visions for the development of this District.

Projected Land Use as a Mixed Use Urban Village and Employment Center

A development concept under evaluation by the County envisions a mixed-use development that utilizes the historic East Garrison as a focal point for an Urban Village. The program elements include:

East Garrison Village

1. An *Arts District* with live/work studios, gardens and galleries incorporated into the historic structures.
2. A new *Residential neighborhood* with convenience retail and services built within the historic district to augment the live/work resources.
3. A *Monterey County Agricultural Showcase* located adjacent to the historic parade grounds and overlooking the Salinas Valley. The Showcase could feature a culinary academy, specialized restaurants, micro-brewery, specialty food and wine facilities, etc.
4. *Shared Open Space Features* within the Village include the "Village Green" and common meeting room in the historic chapel, agricultural demonstration gardens, common exhibition space for the arts community, and neighborhood recreation facilities.

Employment Center

1. *Office/R&D Land Use.* Approximately 32 acres would be located at a site adjacent to the UCMBEST Center.

2. *Business Park/Light Industrial Land Use.* Approximately 37 acres would be located in the disturbed lands west of the historic parade ground.

Conservation Area

1. *Visitor-Serving Land Use.* 150-room "spa" hotel on ten acres and a winery annex located on 33 acres at the former Ammunition Supply Post (ASP).
2. *Habitat Management Land Use.* The approximately 550 acres not incorporated into the development plan would be protected habitat as provided for the HMP.

Projected Land Use as the POST Facility

Monterey Peninsula College District has submitted a public benefit conveyance request for reuse of the East Garrison as a Police Officer Safety Training Center (POST). This request has been approved by the Department of Education. If granted, it would allow MPC to continue the POST-related training activities which it has been conducting at East Garrison for California State Parks personnel and others for some years.

There is a conflict between this PBC and a portion of the Youth Camp PBC in the adjacent Polygon 17b.

The POST Center would utilize the existing facilities on the approximately 200 acres of lands that have been previously developed. The activities and programs envisioned make use of the substantial investment in training facilities.

Historic Parade Ground District

1. *Model Township.* Scenario training would be provided for: crime scene investigation; response to crimes in progress; high risk traffic stops; accident investigation/reconstruction; and city street defensive driving.
2. *Parade Ground Activities.* Activities would accommodate: State Parks Encampments, physical training, and a grenade (gas) practice area.
3. *Existing Facilities.* The chapel would be used as a lecture facility; the former jails would be used in the corrections curriculum; and the existing chemical (gas) training building, K-9 building, battle simulation center, range office, and rappelling tower could support training activities.

Outside the Historic Parade Ground District

- *Emergency Vehicle Operations.* An operations course would be conducted on the large, open paved portions west of the historic district.
- *Leadership Reaction Course and skills/team building course.* Activities conducted at existing facilities south of West Gate Road.
- *Practice Ranges.* The sheriff's pistol range and the small arms firing range would be retained and used in the training programs.

Reuse Plan Program Assumptions

The Reuse Plan incorporates a program that combines elements of both programs. This permits a realistic staging of development that can be used in the 2015 scenario on which the Business and Operations Plan is based.

The ultimate development program incorporated into the analyses assumes that the POST Center is operating but on a reduced footprint limited to the activities within the parade ground historic district. The eliminated program elements include the firing ranges and the emergency vehicle operations.

A complementary employment center program is incorporated into the lands outside the parade ground historic district.

Reuse Plan Projected Land Uses:

Business Park/Light Industrial Land Use. 70 acres are projected for Business Park and Light Industry accommodating approximately 610,000 sq. ft. on the disturbed lands west of the parade ground.

Office/R&D Land Use. 25 acres are projected to accommodate up to 217,000 sq. ft. of office land use adjacent to the UCMBEST Center.

Retail and Services Land Use. A five-acre site is projected for a specialty retail center accommodating up to a total of approximately 54,000 sq. ft..

Open Space Land Use. Approximately 551 acres have been reserved for habitat management.

Public Facilities Land Use. Approximately 75 acres are reserved for the POST Center, under the direction of the Monterey Peninsula Community College District.

General Development Character and Design Objectives

Objectives will be defined when the development program for this district is determined.

County Habitat Management District

The County portion for habitat management in this area is under provisions of the HMP. (See Section 4.4, Conservation Element.)

Projected Land Uses:

Open Space Land Use. Approximately 374 acres are reserved for habitat management in various locations in this District.

General Development Character and Design Objectives - To achieve the community design vision, the County is encouraged to:

See Section 4.3, Recreation and Open Space Element and Section 4.4.3, Conservation Element.

Youth Camp District

The Youth Camp District located along the southern side of Intergarrison Road between the East Garrison and a major open space bridge between the BLM lands and the UCMBEST NRS lands. A public benefit conveyance request has been made for the District by the County to establish a youth camp. Operation of the camp may be contracted to an outside agency or managed by a county social service agency.

Projected Land Uses:

Public Facilities Land Use. Approximately 125 acres are projected for use in as a public recreational facility for youth.

General Development Character and Design Objectives - To achieve the community design vision, the County is encouraged to:

See Section 4.3, Recreation and Open Space Element and Section 4.4.3, Conservation Element.

3.10.4 Eucalyptus Road Planning Area

The Eucalyptus Road Planning Area is predominately undeveloped and served by substandard roadways. The west end area includes facilities retained in the Military Enclave and a Public Benefit Conveyance request by the Monterey Salinas Transit District. It includes two Districts: 1) the University Corporate Center District; and 2) the Residential / Recreational Center District.

University Corporate Center District

This area includes the University Corporate Center located along the extension of Gigling Road. This area is located outside of the core infrastructure area. However, it is directly adjacent to the planned Salinas Transit Center and U.S. Army Motor Pool and located along the Gigling Road extension that is expected to be provided in the earlier stages of development. Because of the regional roadway improvements, this location



Eucalyptus Road Planning Area

will be on the corridor that connects the Main Gate interchange and the Davis Street connection to Salinas.

Projected Land Uses:

Business Park/Light Industrial Land Use. The University Corporate Center will occupy approximately 209 acres and accommodate approximately 1.37 million sq. ft. of Business Park/Light Industrial Land Use.

Public Facilities Land Use. Approximately 84 acres are reserved for the Monterey/Salinas Transit Center and for use by the U. S. Army for various uses, including the U.S. Army motor pool.

General Development Character and Design Objectives - To achieve the community design vision, the County is encouraged to:

1. *Establish site planning, bulk, and massing criteria to integrate development into the existing topography and natural habitat so as to minimize grading and oak tree removal (see Section 4.4.3 Conservation Element.)*
2. *Coordinate development within this district with the preparation of a specific plan or other planned development mechanism to achieve the potential integrated design that can integrate the commercial development with the adjacent CSUMB campus, Monterey/Salinas Transit Center and U.S. Army motor pool.*

Residential/Recreation Center District

This District is designated to include a significant new residential area at the perimeter of the BLM lands and to link the POM Annex residential district in Seaside with the CSUMB housing areas north of Intergarrison Road. This district is designated as SFD Low Density Residential in order to provide the flexibility to retain portions of the significant oak wood- and community. A focal point of this community could be a golf course and visitor-serving hotel.

Projected Land Uses:

Residential Land Use. This area will accommodate various density of residential land use in a total area of approximately 520 acres and accommodating approximately 3,184 dwelling units.

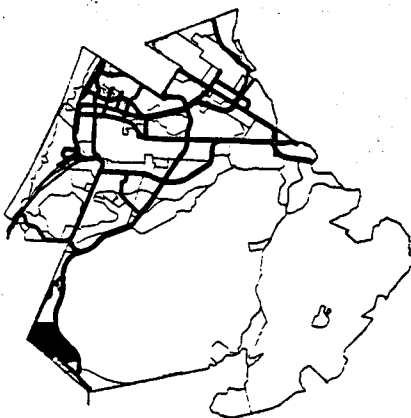
Retail and Services Land Use. A one-acre site is projected for convenience retail and services accommodating approximately 11,000 sq. ft..

Visitor-Serving Land Use. A 300-room hotel is projected with an 18-hole golf course on a total of approximately 194 acres.

General Development Character and Design Objectives - To achieve the community design vision, the County is encouraged to:

1. *Establish site planning criteria to integrate development into the existing topography and natural habitat so as to minimize grading and oak tree removal (see Section 4.4.3 Conservation Element.)*
2. *Coordinate development within this district with the preparation of a specific plan or other planned development mechanism to achieve the potential integrated design that can integrate the residential development with the potential golf course and hotel operations.*
3. *Coordinate the design and character of a perimeter regional trail to provide an effective boundary between the residential development and adjacent BLM protected habitat (see Section 4.3 Recreation and Open Space Element, Section 4.4.3 Conservation Element, and Section 4.6.2 Safety Element.)*
- 4) *Consider providing centralized equestrian facilities as amenities for the new neighborhoods to take advantage of the trails within the adjacent BLM lands.*

3.10.5 South Gate Planning Area



South Gate Planning Area

This District includes an Office Park/R&D District surrounding the planned visitor-serving hotel and golf course development. The combination of uses anticipates strong synergy between them. The area is located outside of the core infrastructure area.

The South Gate Planning Area contains three districts: 1) Visitor-Serving Hotel and Golf Course, 2) Office Park and R&D, and 3) Augmentation of the Frog Pond area at the Monterey Peninsula Regional Park District.

Visitor Serving Hotel and Golf Course District

This District includes a 300-room hotel and golf course. This hotel will provide a focal point for an adjacent office/R&D park.

Projected Land Uses:

Visitor-Serving/Commercial Recreation Land Use. Approximately 164 acres are projected for the 300-room hotel and golf course.

Retail and Services. Five acres are projected for convenience retail shopping with up to 30,000 sq. ft. of space.

General Development Character and Design Objectives - To achieve the community design vision, the County is encouraged to:

1. *Establish site planning, bulk, and massing criteria to integrate development into the existing topography and natural habitat so as to minimize grading and habitat impacts.*
2. *Establish a maximum building height related to an identified mature landscape height to retain a compatible relationship with the regional landscape character.*
3. *Coordinate development within this district with the preparation of a specific plan or other planned development mechanism to achieve the potential integrated design that can integrate the commercial development with the golf course and hotel operations.*
4. *Utilize the irrigated golf course landscape to provide an effective boundary between the commercial development and adjacent BLM protected habitat (See Section 4.4.3, Conservation Element and Section 4.6.2, Safety Element.)*

Office Park / R&D District

An office park and research and development district is compatible with the type of existing development along State Highway 68, providing a garden-type office complex.

Projected Land Uses:

Office / R&D Land Use. 48 acres are projected for this use and will accommodate 415,000 sq. ft. of office park and R&D land uses.

General Development Character and Design Objectives - To achieve the community design vision, the County is encouraged to:

1. *Establish site planning, bulk, and massing criteria to integrate development into the existing topography and natural habitat so as to minimize grading and habitat impacts.*
2. *Establish a maximum building height related to an identified mature landscape height to retain a compatible relationship with the regional landscape character.*
3. *Establish a development setback buffer at the former Fort Ord boundary to minimize impacts on the adjacent lands.*
4. *Coordinate development within this district with the preparation of a specific plan or other planned development mechanism to achieve the*

potential integrated design that can integrate the commercial development with the adjacent golf course and hotel operations.

Augmentation of Regional Park District

The area includes the "Frog Pond" which is in open space protection under the Monterey Peninsula Regional Park District.

Projected Land Uses:

Open Space Land Use. 22 acres are projected for this park use and habitat protection.

General Development Character and Design Objectives - To achieve the community design vision, the County is encouraged to:

See Section 4.4.3, Conservation Element.

3.10.6 York Road Planning Area

This is an area that includes an Office Park/R&D District that is an extension of the existing Ryan Ranch development. The area will benefit from the development of a hotel and golf course nearby but is located outside of the core infrastructure area. It is not expected to be developed before the Ryan Ranch is closer to "build-out."

Office Park / R&D District

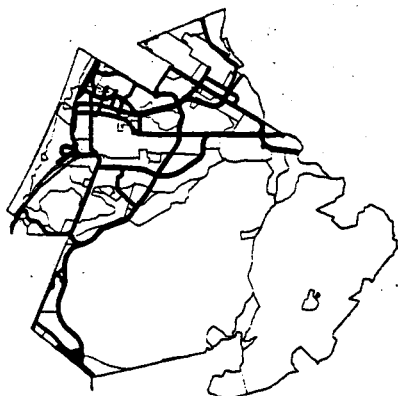
This District is a further extension of the Ryan Ranch development, continuing its garden office park style.

Projected Land Uses:

Office Park / R&D Land Use. This land use area is approximately 147 acres and will accommodate up to 413,000 sq. ft. of office and/or research and development uses.

General Development Character and Design Objectives - To achieve the community design vision, the local governing jurisdiction is encouraged to:

1. *Establish site planning, bulk, and massing criteria to integrate development into the existing topography and natural habitat so as to minimize grading and habitat impacts.*
2. *Establish a maximum building height related to an identified mature landscape height to retain a compatible relationship with the regional landscape character.*



York Road Planning Area

3. *Coordinate development within this district with the preparation of a specific plan or other planned development mechanism to achieve the potential integrated design that can integrate the commercial development with the adjacent commercial development outside the former Fort Ord boundaries.*

Community Park District

The site is reserved as a potentially temporary park and open space set-aside area and may eventually be used for construction of the State Highway 68 By-Pass corridor.

Projected Land Uses:

Open Space Land Use. A 25-acre park along the State Highway 68 corridor will be set aside for community use. The State Highway 68 By-Pass may later replace this park, with the park to be relocated at another site.

Monterey City Corporation Yard District

The City of Monterey will utilize this undeveloped site for future corporation yard activities near State Highway 68 as part of its Public Benefit Conveyance Request.

Projected Land Uses:

Public Facilities Land Use. This 33-acre site is projected for public facilities use as a future corporation yard.

General Development Character and Design Objectives - To achieve the community design vision, the County is encouraged to:

1. *Establish site planning, bulk, and massing criteria to integrate development into the existing topography and natural habitat so as to minimize grading and habitat impacts.*
2. *Establish a maximum building height related to an identified mature landscape height to retain a compatible relationship with the regional landscape character.*

Bureau of Land Management/Recreation Area

This is the largest land mass of the former Fort Ord Military base which is being set aside under one land use for habitat conservation and protection. The area will support a variety of passive recreational activities in addition to its primary mission of protection and restoration of sensitive plant and animal species.



*BLM Habitat Management/
Recreation Areas*

Projected Land Uses:

Open Space/Habitat Management Land Use. 15,058 acres of the former Fort Ord are being set-aside for habitat conservation and protection and passive recreational activities.

General Development Character and Design Objectives - To achieve the community design vision, the County is encouraged to:

See Section 4.3, Recreation and Open Space Element and Section 4.4.3, Conservation Element.

POST District

The POST District for police officer training under the Monterey Peninsula Community College direction.

Projected Land Uses:

Public Facilities Land Use. Approximately 39 acres are projected for POST and associated college activities.

General Development Character and Design Objectives - To achieve the community design vision, the County is encouraged to:

See Section 4.4.3, Conservation Element

Augmentation of Laguna Seca Regional Park District

Approximately 591 acres are set aside for augmentation to the Laguna Seca Regional Park. The uses will vary to support public enjoyment of activities at Laguna Seca, including hiking, ecology, parking, and passive and active recreational uses to meet the mission and role of the existing regional park.

Projected Land Uses:

Open Space Land Use. Approximately 591 acres are projected for this use.

See Section 4.3, Recreation and Open Space Element and Section 4.4.3, Conservation Element.

General Development Character and Design Objectives - To achieve the community design vision, the County is encouraged to:

See Section 4.3, Recreation and Open Space Element and Section 4.4.3, Conservation Element.

Augmentation of York School District

This area will be added to the York School acreage for additional low-intensity educational activities to support educational and recreational activities associated with the school's athletic program.

Projected Land Uses:

Public Facilities Land Use. This land use is projected to be approximately 66 acres for primarily cross county sports activities at York School.

General Development Character and Design Objectives - To achieve the community design vision, the County is encouraged to:

See Section 4.3, Recreation and Open Space Element and Section 4.4.3, Conservation Element.

3.11 Implementation

3.11.1 Economic Recovery And Growth Management Approach

The strategies for economic recovery at the former Fort Ord depend upon the following foundation:

- Community Development Themes to identify desirable outcomes;
- The on-going use of Phasing Scenarios as a strategic planning tool to help formulate policy and forecast future conditions and feasibility; and
- The Principles and Approaches to growth management which will form the basis for preparing a Community Improvements Plan and for managing growth.

3.11.2 Community Development Themes

The Reuse Plan articulates four Community Development Themes to facilitate the economic recovery at the former Fort Ord:

Theme 1: Recovery and Long Term Economic and Fiscal Health of the Fort Ord Communities, the Monterey Peninsula, and the Region

- **Job Replacement.** Replace jobs (16,000 to 18,000) and economic activity lost due to the closure of Fort Ord as quickly as possible.
- **Balanced Growth.** Create a setting which is conducive to long-term balanced economic and employment growth and the self-sufficiency of the land use agencies.
- **Rapid Redevelopment.** Minimize deleterious consequences of the closed and deteriorating former Fort Ord property through rapid redevelopment of properties with significant reuse opportunities.
- **Positive Fiscal Impact.** Promote a positive fiscal impact on Fort Ord communities through: 1) creating a development pattern which minimizes infrastructure and service costs; 2) maximizing uses which generate tax revenue that exceeds service costs; and 3) carefully implementing infrastructure and development construction in order to minimize capital and service costs.
- **Managed Water Supply.** Assure a sufficient water supply for the major economic and employment-generating uses, so as to accommodate

16,000 to 18,000 replacement jobs at the former Fort Ord by the time the 6,600 AC feet/yr. of available water is in use.

Managed Residential Development. Monitor residential development so that demand for water does not outstrip the available supply for employment-generating uses in the 2015 period.

Theme 2: Environmental Responsibility

Habitat Management Plan. Assure the integrity of the abundant natural resource values at the former Fort Ord by promoting the implementation of the negotiated HMP.

Allocating the Costs of Habitat Management. Since the natural resource values within the areas to be managed to protect habitat will accrue to all of the lands within FORA, establish a principle of sharing the costs of habitat management equitably among all land use agencies.

Open Space and Recreational Resources. Promote the compatible recreational use of the diverse open space and recreational resources at the former Fort Ord so that they will: a) enhance the quality of life for the future residents, students and work force within FORA boundaries and the residents of the surrounding communities; and b) contribute to the diversity of the tourist economy of the Monterey Peninsula.

Visual Gateway to the Monterey Peninsula. Reinforce the character of the regional landscape at this primary gateway to the Peninsula by protecting the visual corridor along State Highway 1.

Sustainability. Utilize sound environmental planning practices to promote a development pattern that will reflect AMBAG's "Livable Communities Initiative."

Clean-Up of Hazardous Materials. Encourage the Department of Defense to pursue the quick and effective clean-up of the hazardous materials at the former Fort Ord.

Theme 3: Regulatory Framework

Simple But Flexible Growth Management. Avoid unnecessarily costly and burdensome regulation that slows development approval and results in outcomes that are difficult to predict.

- **Equitableness.** Put into place a growth management approach that will survive because it is basically equitable among all the participating jurisdictions.
- **Responsibility.** Ensure that FORA will prepare a Reuse Plan and monitor its implementation as mandated in SB 899.

Theme 4: Regional Accountability

- **Integration of Long Range Plans for the former Fort Ord.** Ensure that FORA's vision for the reuse of the former Fort Ord is explicitly defined and regularly updated in order to facilitate coordinated regional planning.

3.11.3 Phasing Scenarios And Development Strategies

Phasing scenarios have been prepared to facilitate the development of a Business and Operations Plan for managing growth at fort Ord. This Business and Operations Plan is prepared for the period to 2015 and will be regularly updated. (See Appendix B.)

What Does A Phasing Scenario Analyze?

Phasing scenarios pose a set of integrated conditions by which the cumulative characteristics of a particular set of factors can be analyzed. Phasing scenarios are used to reflect:

- **Market Factors:** The amount of development that can be reasonably attracted to Fort Ord to finance the extension of infrastructure and promote economic development within the region;
- **Infrastructure Factors:** The ability to serve lands with existing and new infrastructure and the consequential costs of providing that infrastructure;
- **Circulation Factors:** The roadway improvements required to serve projected development and the consequential costs of improving existing corridors and extending new corridors;
- **Financial Factors:** The ability of the public and private development sector to cover the costs of providing the infrastructure without producing a negative land value; and
- **Fiscal Factors:** The balance between costs of community services and the revenue produced by the projected development. This balance should further the objectives of each land use agency to achieve economic self-sufficiency from the beginning.

The analyses of the phasing scenario provide a detailed look at the relative performance of the program.

What Are The Development Strategies for the Business and Operations Plan?

The Business and Operations Plan has been prepared for a twenty-year planning horizon (to the year 2015) which attempts to optimize financial performance in order to see whether, under optimal conditions, the identified program can be feasibly constructed in the market place. The Business and Operations Plan is built from the following development strategies:

- **Market Strategy.** Accommodate the broadest number of segments of the desirable real estate market during the initial years. This strategy will: 1) allow leverage of the housing market to enhance the attractiveness of the former Fort Ord as a jobs center; 2) use market support to generate investment capital for infrastructure improvements; and 3) if properly managed, put into place the threshold investments that will carry the vision for the former Fort Ord beyond the 2015 horizon.
- **Circulation Strategy.** Build on the existing transportation network to the greatest advantage so that the most expensive improvements can be postponed for the longest time. This strategy will: 1) maximize the available capacity at the existing interchanges located on State Highway 1; 2) utilize the existing roadway alignment and capacity in the Imjin Road Corridor for the longest period possible; 3) implement a new east-west corridor between Reservation Road (extending north-east along the Davis corridor to Salinas) and North-South Road to augment the capacity in the Imjin/Blanco Corridor; 4) connect the existing Marina neighborhoods north of the former Fort Ord with the existing housing resources in the northwest corner of the former Fort Ord; and 5) preserve sufficient ROW's to serve long-range build-out.
- **Infrastructure Strategy.** Maximize the use of existing infrastructure improvements to support development in the initial years while preserving the greatest flexibility to respond to future development opportunities. Establish the principle that every area covers "its own cost of service." This strategy will: 1) identify opportunities that can be developed easily and with modest improvements in the service network; 2) take advantage of the existing network of services that facilitates the long-range development opportunities; 3) identify opportunity areas where infrastructure can be more cost effectively provided with services independent of the main former Fort Ord network or where special financing will cover the cost of the service; and

4) set the stage for development after 2015 with a sufficient reserve to finance major investments in capacity.

- **Community-Building Strategy.** Capitalize on the valuable synergy that can be achieved by developing coherent and balanced communities that take advantage of the major existing assets and public investments. This strategy will: 1) provide a community that supports the emerging CSUMB campus; 2) build on the activity that is emerging at the new Marina Municipal Airport; 3) support the inherent opportunities at the UCMBEST Center to attract new technology-driven and research-based employers; 4) fully integrate the communities within the former Fort Ord with the regional recreation and open space resources managed by the State Parks and BLM; 5) take advantage of the proximity to State Highway 1 to create a gateway to the former Fort Ord; 6) utilize the two existing golf courses in Seaside; 7) integrate the existing housing stock into the surrounding communities; and 8) build on the continuing commitments by the DoD represented by the DFAS, and the POM Annex and other elements of the military enclave.
- **Fiscal Strategy.** Balance the cost of services with the potential revenue stream to the various jurisdictions within the former Fort Ord boundaries to optimize the fiscal health and self-sufficiency of each governmental entity. This strategy should result in a positive cost/revenue balance for each land use agency.

3.11.4 FORA's Growth Management Principles And Approach

Growth Management Principle 1. All of the developable lands within FORA's jurisdiction have the potential to be served with infrastructure.

Growth Management Principle 2. Properties within FORA's jurisdiction will have access to infrastructure on a "first-come, first-served" basis.

The Capital Improvement Plan (CIP) will be the primary tool for growth management at the former Fort Ord by guiding the provisions for infrastructure. This framework outlines the basic ground rules and assumptions for providing infrastructure. Where FORA is specifically identified, FORA, its successor, or another entity with appropriate authority may adopt and implement the policy.

Levels of service and timing standards are an integral part of the Reuse Plan and are included in Table 3.11-1. These standards guided the preparation of the CIP and will guide subsequent updates to the CIP.

Principles To Guide The Provision Of Infrastructure

Two basic principles have been identified for managing the provision of infrastructure within FORA. These principles underlie all management approaches that were considered for implementation of the Reuse Plan.

Alternative Management Approaches Considered

There are several approaches that were considered for preparing the appropriate policy. The approaches include:

Table 3.11-1

Level of Service Standards and Timing Standards

	Level of Service (LOS) Standard	Timing Standard
Transportation	LOS D on the road network within the territory of the former Fort Ord. Maintain LOS D on roadways described in the Monterey County Congestion Management Plan.	Construct improvements described in the former Fort Ord Reuse Plan CIP at a time such that the LOS does not degrade below the bottom end of LOS D.
Water Supply	Provide a safe and secure supply of water with the capacity of 268 gallons per day average.	Water supply should be guaranteed and available before any building permits are issued.
Wastewater	Provide the capacity to collect and treat 175 gallons per day average.	Wastewater treatment capacity should be guaranteed and available before any building permits are issued.
Habitat Management	Improvements required to protect the habitat area and enable the Habitat Management Plan objectives to be implemented.	Protection improvements need to be made quickly after the time of land transfer. All improvements should be made within the first 5 years of development on the former Fort Ord (Phase I - 1996-2000)
Fire Protection	Maintain an average response time of seven (7) minutes in all areas being served by the Salinas Rural Fire District by the first-in engine company.	A new fire station would be located in the territory of the former Fort Ord when the area has reached approximately fifty percent (50%) of its build-out, or the number and type of calls for service dictate a response time less than the seven (7) minute average.

Prior FORIS Policy

This approach evolved over the course of the community and infrastructure planning for the Fort Ord Reuse Infrastructure Study (FORIS) and provided the basis for the January 1995, "Fort Ord Reuse Infrastructure Study." The financial assumptions incorporated into that analysis resulted

in significant costs for area-wide infrastructure that threatened the financial viability of the plan. Several of the policy provisions resulted in engineering inefficiencies or challenged sound "land-based" real estate financing practices. These policies included:

- **Total Costs.** The total infrastructure costs for all of the developable lands within FORA will be carried by an allocation of costs to each of the long-range build-out provisions for the various "polygons."
- **Phasing.** Phasing of development would be assigned on the basis of "priority parcels" which were identified on the basis of water supply issues and political decisions that resulted in significant areas being closed to development during the initial phase (approximately 2010). The land supply served in the initial phase was still well in excess of demonstrated market demand resulting in significant costs to carry premature improvements.
- **Everyone Pays the Same.** The cost of infrastructure would remain the same throughout the life of the plan on the basis of "first in pays the same price as everyone else." This resulted in significantly distorting expected real estate values that would accrue to future development and excessively penalizing the pioneer developments.

Market Approach

This is the outcome when there is minimal internal coordination or managed development among jurisdiction after the CIP is adopted by FORA. The characteristics and potential risks to this approach are:

- **Market Forces.** Priorities are established by market forces in each jurisdiction; the CIP is either followed or amended.
- **Competition Among Jurisdictions.** Each jurisdiction operates independently in an attempt to tie up scarce capacity.
- **Compromised Regional Interests.** Regional interests are compromised as the character and location of development becomes difficult to anticipate and coordinate with other related public commitments.

Urban Limit Lines

This approach utilizes a planning/economic development rationale to negotiate the boundaries within which development can be served. These lines may be drawn after the test case scenario has been analyzed. A potential problem with this approach is that monopoly land prices can result.

Innovative Arrangements To Share Costs And Revenues Among Jurisdictions

This approach uses a cost and revenue sharing arrangement in order to eliminate the fiscalization of land use decisions and growth management strategies. With an equitable sharing formula, jurisdictions will be indifferent to the precise location of development within the former Fort Ord. The advantages to this approach are tantalizing for FORA. (The three cities and one county now involved with Reuse at March AFB in Southern California represent an operating model.) The potential obstacles to overcome include:

- **Management Role.** FORA emerges as a long-term growth management entity to continue to allocate costs and revenues throughout the life of the plan.
- **Political Independence.** Because of the historical independence of each jurisdiction, it is our experience that such an arrangement is difficult and time consuming to achieve.

The Selected System of Urban Limit Lines and Procedures for Exceeding the Limits

Such an arrangement has significant utility for the former Fort Ord and was the selected viable approach. This approach attempts to give the greatest clarity for future infrastructure expansion while preserving the greatest flexibility to respond to opportunities. The elements of this approach include:

- **Areas Currently Served With Infrastructure.** These are areas that can be characterized by the lands currently served or readily served by the infrastructure systems. A definable limit to serve the anticipated program can be made that will accommodate development demands through 2015.
- **Opportunity Locations.** These are areas within the former Fort Ord that can be developed outside the existing (1995) core Fort Ord Network of infrastructure.
- **Flexible (Non-Monolithic) Utility Service Policy.** Areas currently served by existing utilities are allocated costs to upgrade and expand as necessary. Areas not currently served carry the full cost of utility system extension. It is anticipated that, in general, market factors will operate to stage development first on lower "cost to serve" areas, or on those in which a highly marketable product carries higher development costs. Consequently, market-driven and flexible phasing results that will not be limited by jurisdictional boundaries of the land use agencies.

- **Amending Procedures.** The CIP will be regularly amended to reflect FORA's existing investment in infrastructure and plans for extension and upgrading.

3.11.5 Implementation Process and Procedures

This section provides for the process and procedures for Plan Amendments, Consistency Determinations, and Development Entitlements and Appeals, pursuant to California Government Code Section 67675.

Fort Ord Reuse Plan

1. In accordance with Government Code Section 67675.8, any revision or other change to the Reuse Plan which only affects territory lying within the jurisdiction of one member agency may only be adopted by the FORA Board if one of the following conditions is satisfied:
 - 1.1 The revision or other change was initiated by resolution adopted by the legislative body of the affected member agency and approved by at least a majority affirmative vote of the FORA Board;
 - 1.2 The revision or other change was initiated by the FORA Board or any entity other than the affected member agency and approved by at least a two-thirds affirmative vote of the FORA Board.
2. All property transferred from the federal government to any user or purchaser, whether public or private, shall be used only in a manner consistent with the adopted or revised reuse plan, with the following exceptions:
 - 2.1 Property transferred to:
 - California State University; or
 - University of California

and that is used for educationally related or research oriented purposes
 - 2.2 Property transferred to:
 - California State Parks and Recreation Department

Notwithstanding any provision of law allowing any city or county to approve development projects, no local agency shall permit, approve, or otherwise allow any development or other change of use within the area of the base that is not consistent with the Reuse Plan as adopted or revised.

- b. The FORA Board shall be the final judge of consistency with the Reuse Plan and the requirements of Title 7.85 of the Government Code.
- f. No local agency shall permit, approve, or otherwise allow any development or other change of use within the area of the base that is outside the jurisdiction of that local agency.

Procedure for Consistency Determinations

(Government Code Sections 67675.2, 67675.3, 67675.5)

- a. Each member agency shall submit all legislative land use decisions, affecting property within the jurisdiction of FORA, to the FORA Executive Officer for review and processing. For the purpose of this procedure, the following definitions apply:

1.1 "Legislative land use decisions" means general plans, general plan amendments, zoning ordinances, zone district maps or amendments to zone district maps, and zoning changes.

1.2 "Noticed public hearing" means a public hearing noticed in the manner required for general plan amendments or zone district map amendments as specified in the California Government Code.

2. All submissions regarding legislative land use decision shall include:

2.1 A complete copy of the legislative land use decision, including related or applicable text, maps, graphics and studies;

2.2 A resolution or ordinance of the jurisdiction approving the legislative land use decision, adopted at the conclusion of a noticed public hearing certifying that the portion of the legislative land use decision applicable to the territory within the jurisdiction of FORA is intended to be carried out in a manner fully in conformity with the Fort Ord Reuse Authority Act;

2.3 A copy of all staff reports and materials presented or made available to the governing body of the affected jurisdiction, or any advisory agency relating to the legislative land use decision;

- 2.4 A copy of the completed environmental assessment related to the legislative land use decision;
 - 2.5 A statement of findings and evidence supporting the findings that the legislative land use decision is consistent with FORA's adopted plans and policies and is otherwise consistent with the Fort Ord Reuse Authority Act.
 - 2.6 Such other materials as the Executive Officer deems necessary or appropriate and which have been identified within 15 days of the receipt of the items described in subsections 2.1, 2.2, 2.3, 2.4 and 2.5 above.
3. Within 20 days of the receipt of all the items described in Section 1, the FORA Working Group will review the legislative land use decision and make a recommendation regarding consistency to the Administrative Committee.
 4. Within 20 days of the recommendation of the FORA Working Group, the Administrative Committee will review the legislative land use decision and make a recommendation regarding consistency to the FORA Board of Directors.
 5. Within 30 days of the recommendation of the Administrative Committee, the FORA Board will conduct a noticed public hearing and will certify or refuse to certify, in whole or in part, the portion of the legislative land use decision applicable to territory within the jurisdiction of FORA. Certification will involve adoption of a resolution by the FORA Board. The FORA Board may continue the matter once for any reason. In the event the FORA Board fails to conduct a public hearing or take action on the land use decision within the time frames described in this subsection, the land use decision shall be deemed certified as consistent with the Reuse Plan.
 6. Where the legislative land use decision is refused certification, in whole or in part, the FORA Board shall provide a written explanation and may suggest modifications which, if adopted and transmitted to the FORA Board by the affected jurisdiction, will allow the legislative land use decision to be deemed certified upon confirmation of the Executive Officer. If such modifications are adopted as suggested, and the Executive Officer confirms such modifications, the legislative land use decision, as modified, shall be deemed certified. In the event the affected jurisdiction elects to meet the FORA Board's refusal of certification in a manner other than as suggested by the FORA Board, the

affected jurisdiction shall resubmit its legislative land use decision to the Executive Officer and follow all of the procedures contained in this Procedure. If the affected jurisdiction requests that the FORA Board not recommend or suggest modifications, which if made will result in certification, the FORA Board shall refuse certification with the required findings if the FORA Board is unable to certify the legislative land use decision.

7. No legislative land use decision shall be deemed final and complete, nor shall any land use entitlement be issued for property affected by such legislative land use decision unless it has been certified pursuant to this procedure.
8. The FORA Board may only refuse to certify zoning ordinances, zoning district maps, or other implementing actions on the grounds that such actions do not conform with, or are inadequate to carry out, the provisions of the certified general plan applicable to the territory of the former Fort Ord.

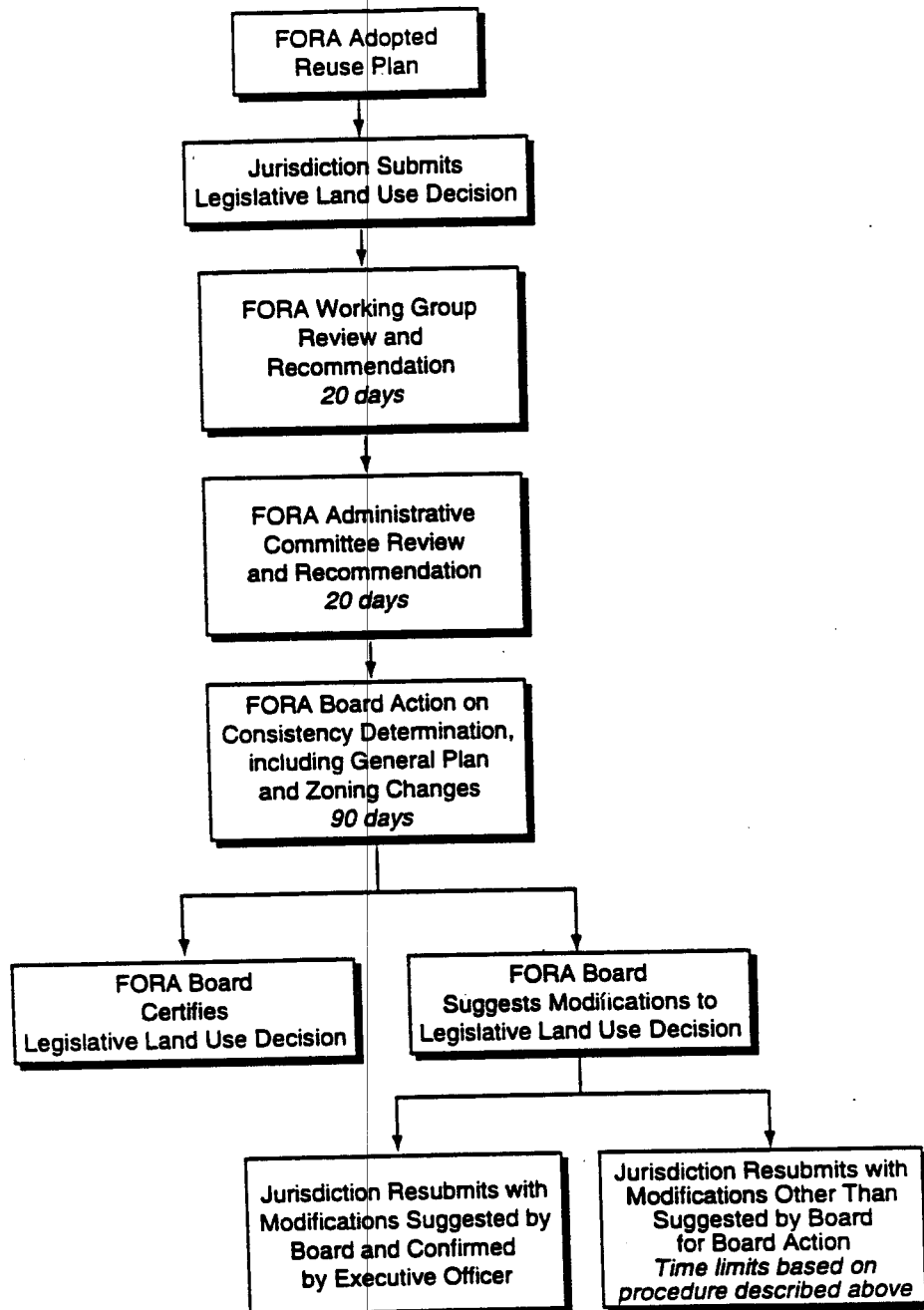
The procedures for consistency determinations are generally illustrated in Figure 3.11-1.

Procedure for Appeals and Review of Development Entitlements
(Government Code Section 67675.8)

1. Pursuant to Government Code Section 67675, with the exception of appeals to the FORA Board, after the portion of a general plan applicable to the former Fort Ord has been certified and all implementing actions within the area affected have become effective, the development review authority shall be exercised by the member agency with jurisdiction lying within the area of the former Fort Ord and to which the general plan applies. Each member agency may issue or deny development entitlements within their respective jurisdictions so long as such decisions are consistent with the adopted and certified general plan and the plans and policies of FORA. All decisions on development entitlements of a member agency may be reviewed by the FORA Board on its own initiative, or may be appealed to the FORA Board, subject to the procedures specified in this Procedure. For the purposes of this procedure, the following definitions shall apply:
 - 1.1 "Development entitlements" includes but is not limited to tentative and final subdivision maps, tentative, preliminary, and final parcel maps or minor subdivision maps, conditional use permits, variances, site plan reviews, and building permits. The term "development entitlements" does not include

Procedure for Consistency Determinations

Pursuant to Section 67675,
Title 7.85 of the California Government Code



**FORA has the ultimate authority until the year 2015
for all legislative land use decisions affecting property at Fort Ord**

“legislative land use decisions” as that term is defined in the Procedure for Consistency Determinations. In addition, the term “development entitlements” does not include:

- 1) Construction of one single family house, or one multiple family house not exceeding four units on a vacant lot within an area appropriately designated in the adopted Re-use Plan.
- 2) Improvements to existing single family residences or to existing multiple family residences not exceeding four units, including remodels or room additions.
- 3) Remodels of the interior of any existing building or structure.
- 4) Repair and maintenance activities that do not result in an addition to, or enlargement or expansion of, any building or structure.
- 5) Installation, testing, and placement in service or the replacement of any necessary utility connection between an existing service facility and development approved pursuant to the Fort Ord Reuse Authority Act.
- 6) Replacement of any building or structure destroyed by a natural disaster.
- 7) Final subdivision or parcel maps issued consistent with a development entitlement previously reviewed and approved by the FORA Board.
- 8) Building Permit issued consistent with a development entitlement previously reviewed and approved by the FORA Board.

1.2 “Noticed public hearing” means a public hearing noticed in the manner required for tentative subdivision maps as specified in the California Government Code.

2. The member agency shall provide notice of approval of all development entitlements, affecting property within the jurisdiction of FORA, to the FORA Executive Officer.
3. Notice of approval of a development entitlement shall include:

- 3.1 A complete copy of the approved development entitlement, including related or applicable text, maps, graphics, and studies.
 - 3.2 A copy of all staff reports and materials presented or made available to any hearing body that reviewed the development entitlement.
 - 3.3 A copy of the completed environmental assessment related to the development entitlement.
- 4. Within 35 days of the receipt of all of the notice materials described in Subsection 3, the FORA Board, on its own initiative, through the adoption of a resolution setting the matter for hearing, may review a development entitlement affecting territory within the jurisdiction of FORA. The FORA Board may continue the matter once for any reason. In the event the FORA Board does not act to set the matter for hearing within the 35 day time period or at the continued meeting, whichever event is last, the decision of the jurisdiction approving the development entitlement shall be deemed final and shall not be subject to review by the FORA Board. In the event the FORA Board sets the matter for hearing, such hearing shall be commenced at the first regular meeting of the FORA Board following the date the FORA Board passed its resolution setting the matter for hearing or at a special hearing date prior to such regular meeting. The FORA Board may continue the matter once. In the event the FORA Board fails to take action on the development entitlement within such time period, the development entitlement shall be deemed approved.
 - 5. Within 10 days of a jurisdiction approving a development entitlement, any person may file an appeal of such approval with the FORA Executive Officer, who shall schedule the hearing on the appeal before the FORA Board within 35 days of the receipt of the appeal.
 - 6. At the time and place noticed by the Executive Officer, the FORA Board will conduct a noticed public hearing on the development entitlement. The FORA Board may continue the matter once for any reason. In the event the FORA Board determines that the development entitlement is not consistent with the adopted plans and policies of FORA, the development entitlement shall be denied. In the event the Board is unable to determine that the development is inconsistent with the plans and policies of FORA, the development entitlement shall be approved. In the event the FORA Board fails to act on the development entitlement within the time periods specified in this subsection, the development entitlement shall be deemed consistent with

the adopted plans and policies of FORA. The decision of the FORA Board shall be final.

The Procedure for Appeals and Review of Development Entitlements are generally illustrated in Figure 3.11-2.

11.6 Implementation Of The HMP

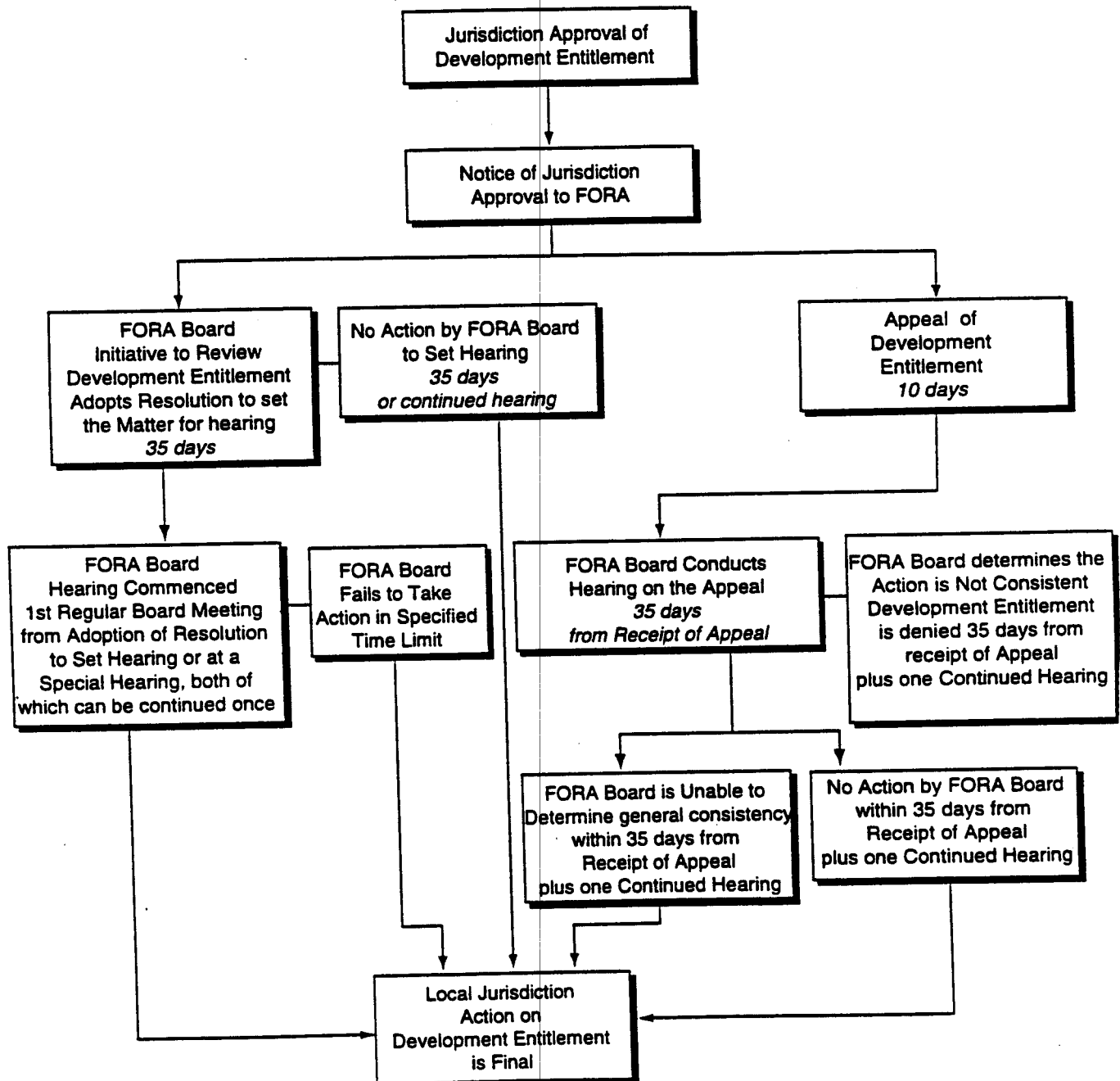
With input from federal, state, local and private agencies and organizations concerned with the natural resources and reuse of the former Fort Ord, the Army developed the Installation-Wide Multispecies Habitat Management Plan for the former Fort Ord, California (HMP) for the disposal and reuse of the base. The HMP describes a cooperative federal, state, and local program of conservation for plant and animal species and habitats of concern known to occur at the former Fort Ord (HMP Resources). The HMP establishes a long-term program for the protection, enhancement and management of all HMP Resources with a goal of no net loss of HMP populations while acknowledging and defining an allowable loss of such resources through the land development process. The HMP establishes the conditions under which the disposal of the former Fort Ord lands to public and private entities for reuse and development may be accomplished in a manner that is compatible with adequate preservation of HMP Resources to assure their Sustainability at the former Fort Ord in perpetuity.

The HMP is intended to establish a regional conservation program for the HMP Resources and to thereby obviate the need for review of individual projects by the USFWS and CDFG and for project-specific mitigation measures to protect the HMP Resources. Consequently, successful implementation of the HMP requires cooperation among all recipients of former Fort Ord lands.

For the HMP to be implemented to allow FORA and its member agencies to meet the requirements of the federal Endangered Species Act (ESA), the California Endangered Species Act (CESA), the California Native Plant Protection Act (CNPPA), the Natural Communities Conservation Planning Act of 1991 (NCCP Act), the National Environmental Policy Act (NEPA), and the California Environmental Quality Act (CEQA) for HMP Resources, an Implementing/Management Agreement has been developed that establishes the conditions under which FORA and its member agencies will receive certain long-term permits and authorizations from the USFWS and the CDFG. The Implementing Management Agreement is an important component of the base reuse plan.

Procedure for Appeals and Review of Development Entitlements for General Consistency

Pursuant to Section 67675,
Title 7.85 of the California Government Code



The Implementing/Management Agreement defines the respective rights and obligations of FORA and its member agencies, California State University and University of California with respect to the implementation of the HMP. Specifically, the Implementing/Management Agreement will ensure implementation of the conservation measures outlined in the HMP, contractually bind FORA and its members to fulfill and faithfully perform the obligations, responsibilities, and tasks assigned to it pursuant to the terms of the HMP and the Implementing/Management Agreement; and provide remedies and recourse should FORA or any member agency fail to perform their obligations, responsibilities, and tasks as set forth in the HMP and the Implementing/Management Agreement.

A draft of the HMP and the Implementing/Management Agreement is included in Appendix A of the Reuse Plan.

DOCUMENT PREPARERS

EDAW, Inc.
753 Davis Street
San Francisco, CA 94111

EMC Planning Group Inc.
P.O. Box 414
Monterey, CA 93940

Angus McDonald & Associates
1950 Addison Street
Berkeley, CA 94704

JHK & Associates
2000 Powell Street Suite 1090
Emeryville, CA 94608

Jones & Stokes
2600 V Street, Suite 100
Sacramento, CA 95818

Reimer Associates
601 Gateway Blvd. #600
So. San Francisco, CA 94080

Sedwin Kotin Mouchly Group
3 Embarcadero Center Suite 1150
San Francisco, CA 94111

Zander Associates
150 Ford Way Suite 101
Novato, CA 94945

LIST OF ACRONYMS

ADA	Americans with Disabilities Act
AFY	Acre Feet per Year
AFB	Airforce Base
AMBAG	Association of Monterey Bay Area Governments
AQMP	Air Quality Management Plan
BLM	Bureau of Land Management
BRAC	Defense Base Closure and Realignment Act of 1990
CBP	Comprehensive Business Plan
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDPR	California Department of Parks and Recreation
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CIP	Capital Improvement Plan
CMP	Congestion Management Plan
CNEL	Community Noise Equivalent Level
CNPPA	California Native Plant Protection Act
CNPS	California Native Plant Society
CO	Carbon Monoxide
CRMP	Coordinated Resource Management and Planning Program
CSU	California State University
CSUMB	California State University Monterey Bay
dB	Decibels
DFAS	Defense Finance and Accounting Service
DLI	Defense Language Institute
DNL	Day-Night Average Sound Level
DOD	Department of Defense
DOL	Directorate of Logistics
DPR	California Department of Parks and Recreation
DTSC	Department of Toxic Substances Control
Du/Ac	Dwelling Units per Acre
EDC	Economic Development Conveyance
EDD	California Employment Development Department
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FFA	Federal Facility Agreement
FHL	Fort Hunter Liggett
FORG	Fort Ord Reuse Group
FORA	Fort Ord Reuse Authority

F O R D O R D REUSE PLAN

FORIS	Fort Ord Reuse Infrastructure Study
FTE	Full-Time Equivalent
GMPAP	Greater Monterey Peninsula Area Plan
HMP	Habitat Management Plan
HMX	Cyclotetramethylene tetranitramine
HTRW	Hazardous and Toxic Radiological Waste
LCP	Local Coastal Program
IDL	Infantry Division (Light)
LAFCO	Local Agency Formation Commission
L _{dn}	Day-Night Average Sound Level
LRA	Local Reuse Authority
MBUAPCD	Monterey Bay Unified Air Pollution Control District
MCEHD	Monterey County Environmental Health Department
MCFH	Million cubic feet per hour
MCWRA	Monterey County Water Resources Agency
MGD	Million Gallons per Day
MFD	Multiple Family Dwelling
MIRA	Monterey Institute for Research and Astronomy
MOA	Memoranda of Agreement
MOUT	Monterey Peninsula College's Military Operations Urban Terrain
MPUSD	Monterey Peninsula Unified School District
MRWPCA	Monterey Regional Water Pollution Control Agency
MW	Megawatts
NCCP	Natural Communities Conservation Planning Act of 1991
NDDB	Natural Diversity Data Base
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO _x	Nitrogen Oxides
NPS	Naval Postgraduate School
NRS	UC Natural Reserve System
NRC	Nuclear Regulatory Commission
NRHP	National Register of Historic Places
NRMA	Natural Resources Managed Area
OE	Stored or Unused Ordnance and Explosives
OEA	Office of Economic Adjustment
PBC	Public Benefit Conveyance
PFIP	Public Facilities Implementation Plan
PG&E	Pacific Gas and Electric Company
POM	Presidio of Monterey
POST	Police Officer Safety Training
PSP	Public Services Plan
PX	Post Exchange
RCRA	Resource Conservation and Recovery Act
RI/RS	Remedial Investigation/Feasibility Study

ROD	Record of Decision
RTP	Regional Transportation Plan
RWQCB	Central Coast Regional Water Quality Control Board
ROD	Record of Decision
SB	Senate Bill
SEIS	Draft Supplemental Environmental Impact Statement
SFD	Single Family Dwelling
SHPO	California State Historic Preservation Officer
SOV	Single Occupancy Vehicle
ST IP	State Transportation Improvement Program
SWPPP	Storm Water Pollution Prevention Plans
SWRCB	California State Water Resources Control Board
TAMC	Transportation Agency for Monterey County
TCE	Trichloroethene
TCM	Transportation Control Measures
TOD	Transit Oriented Design
TPD	Tons Per Day
UCMBEST	University of California Monterey Bay Science, Education, and Technology Center
UCB	Uniform Building Code
UCSC	University of California, Santa Cruz
USBLM	U.S. Bureau of Land Management
USFWS	United States Fish and Wildlife Service
UXO	Unexploded Ordnance
UCNRS	University of California Natural Reserve System
VOC	Volatile Organic Compounds
VMT	Vehicle Miles Traveled

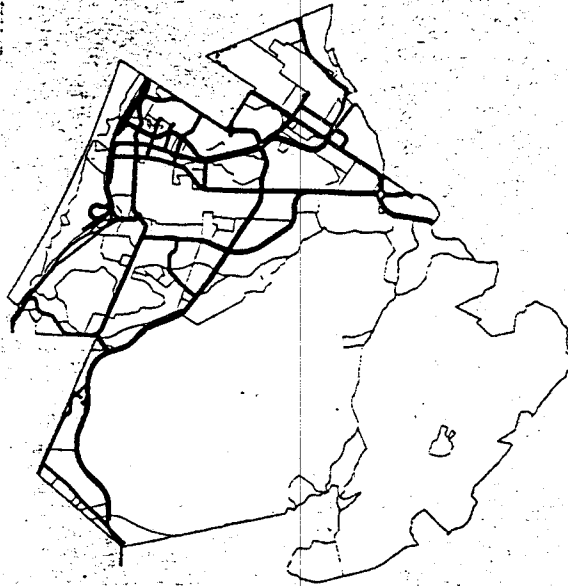
Noise Element Acronyms

decibels (dB) (F-3)
 "A-weighted" decibel scale (dBA) (F-3)
 Equivalent sound levels (L_{eq}) (F-3)
 day-night average sound level (L_{dn}) (F-4)
 community noise equivalent level (CNEL) (F-4)
 percentile-exceeded sound level (L_x) (F-4)
 Federal Highway Administration (FHWA) (F-7)

Public Draft

FORT ORD REUSE PLAN

Fort Ord Reuse Authority



May 1996

Volume 2:

REUSE PLAN ELEMENTS

EDAW, Inc. and EMC Planning Group, Inc.

Public Draft

FORT ORD REUSE PLAN

Prepared For:

Fort Ord Reuse Authority

Prepared By:

EDAW, Inc.

EMC Planning Group, Inc.

In Association with:

Sedway Kotin Mouchly Group

Market Analysis and Financial Plan

JHK and Associates

Transportation Engineering

Reimer Associates

Infrastructure Engineering

Angus McDonald & Associates

Fiscal Analysis and Public Services Plan

Zander Associates

Habitat Planning

Jones & Stokes Associates, Inc.

Environmental Coordination

Resource Corps International

Community Development Planning

The Ingram Group

Public Communications

May 1996

Volume 2:

REUSE PLAN ELEMENTS

TABLE OF CONTENTS
FORT ORD REUSE PLAN
Public Review Draft
May, 1996

Volume I: Summary, Context, and Framework of the Reuse Plan

1.0	Summary Of The Reuse Plan	1-1
1.1	Organization of the Reuse Plan and Business and Operations Plan	1-1
1.2	Major Provisions of the Reuse Plan and Business and Operations Plan	1-5
1.2.1	Volume 1 - Context & Framework of the Reuse Plan	1-5
1.2.2	Volume II - Elements of the Reuse Plan	1-18
2.0	Context For The Reuse Plan	2-1
2.1	Introduction	2-1
2.1.1	Fort Ord Reuse Authority	2-1
2.1.2	History	2-2
2.1.3	Strategic Themes for the Reuse Plan	2-6
2.1.4	Public Outreach Process	2-8
2.2	Socioeconomic Setting	2-10
2.2.1	Existing Regional Demographics	2-10
2.2.2	Existing Employment Trends	2-12
2.2.3	Impacts of Closure: Demographics & Employment	2-14
2.2.4	Demographic Forecasts	2-14
2.2.5	Employment Forecast	2-17
2.3	Market Opportunities	2-19
2.3.1	Light Industrial/Business Park	2-19
2.3.2	Office and Research and Development	2-22
2.3.3	Residential Uses	2-26
2.3.4	Retail	2-31
2.3.5	Lodging Facilities	2-33
2.3.6	Recreation	2-33
2.3.7	Employment	2-34
2.4	Reuse Considerations	2-35
2.4.1	Base Closure & Realignment	2-35
2.4.2	National Reuse Model	2-35
2.4.3	PBC, EDC Process	2-36
2.4.4	NEPA/CEQA Compliance	2-37
2.4.5	Habitat Management Plan	2-38
2.4.6	Environmental Remediation	2-39
3.0	Framework For The Reuse Plan	3-1
3.1	Community Design Vision	3-1
3.1.1	Design Principles	3-3

3.1.2	Design Objectives	3-9
3.2	Existing Setting & Character of Fort Ord	3-21
3.2.1	Regional Character	3-21
3.2.2	Urbanism of Monterey Peninsula	3-13
3.2.3	Existing Development at Fort Ord	3-31
3.2.4	Development Opportunities & Assets	3-35
3.3	Land Use Concept: Ultimate Development Plan and Map	3-41
3.3.1	Development Capacity	3-41
3.3.2	Public Uses at Fort Ord	3-41
3.3.3	Economic Development	3-43
3.3.4	Employment Projections	3-44
3.3.5	Population Projections	3-44
3.3.6	The Ultimate Development Map	3-44
3.3.7	Context for the Proposed Land Use	3-47
3.4	Land Use Designations and Land Resources	3-50
3.4.1	Opportunity Sites/Overlay Designation	3-50
3.4.2	Land Use Designations	3-50
3.5	Circulation Concept	3-59
3.5.1	Regional Network	3-59
3.5.2	Fort Ord Network Issues	3-62
3.5.3	Funding Issues	3-64
3.5.4	Proposed Roadway Network	3-65
3.5.5	Demand Management	3-73
3.6	Conservation, Open Space, and Recreation Concept	3-80
3.6.1	Landscape Character of Fort Ord	3-80
3.6.2	Open Space	3-80
3.6.3	Habitat Management Plan	3-85
3.6.4	Major Open Space Areas at Fort Ord	3-85
3.7	Planning Areas & Districts	3-97
3.7.1	California State University Monterey Bay (CSUMB) Planning Areas	3-99
3.7.2	University of California/UCMBEST Center Cooperative Planning District	3-100
3.8	City of Marina Planning Areas & Districts	3-103
3.8.1	CSUMB (Marina Planning Area)	3-103
3.8.2	Existing City of Marina Neighborhood Area	3-103
3.8.3	Town Center Planning Area	3-108
3.8.4	Marina Airport Planning Area	3-114
3.9	City of Seaside Planning Areas & Districts	3-118
9.1	CSUMB Planning Area	3-118
9.2	University Planning Area	3-118
3.9.3	Residential Planning Area	3-125
3.10	County of Monterey Planning Areas and Districts	3-129
3.10.1	Fort Ord Dunes State Park Planning Area	3-129
3.10.2	CSUMB/Recreational Planning Area	3-133

4.5-3	Forecast Year 2010 and CNEL 65db Noise Contour for Monterey Peninsula Airport	4-233
4.6-1	Seismic Hazards	4-250
4.6-2	Fire, Flood, and Evacuation Routes	4-262
4.6-3	Hazardous and Toxic Waste Sites	4-273
List Of Tables		
2.2-1	Historical and Recent Population: Monterey County, 1980-1995	2-11
2.2-2	Wage and Salary Employment by Industry - Historical and Recent, Monterey County, 1980-1995	2-13
2.2-3	Population Projections: Monterey County 1995-2015	2-15
2.2-4	Estimated and Projected Age Distribution: Monterey County, 1990-2020	2-16
2.2-5	Employment Forecasts: Monterey County, 1990-2015	2-18
2.3-1	Fort Ord Development and Absorption Potential: 1996-2015	2-20
2.3-2	Distribution of Projected Supply and Demand Office and R&D Space: Monterey Peninsula, 1996-2015	2-24
2.3-3	Projected Average Wages by Land Use	2-31
3.3-1	Summary Land Use Capacity: Ultimate Development	3-42
3.4-1	Permitted Range of Uses for Designated Land Uses	3-51
3.4-2	Land Resources	3-54
3.7-1	Planning Area and District Matrix	3-98
3.8-1	City of Marina - Land Development Intensity Summary	3-104
3.9-1	City of Seaside - Land Development Intensity Summary	3-121
3.10-1	Monterey County - Land Development Intensity Summary	3-131
3.11-1	Level of Service Standards and Timing Standards	3-152
4.2-1	LOS Grades by Facility Type	4-87
4.2-2	Regional (Off-Site) Roadway Facilities LOS Summary	4-91
4.2-3	On-Site Facilities LOS Summary	4-100
4.2-4	Roadway Design Standards	4-107
4.3-1	Projected Park Demand	4-125
4.3-2	Facility Demand for Selected Facilities	4-126
4.3-3	Fort Ord- 2015 Park Program for all Jurisdictions	4-127
4.4-1	Resources Considered in the HMP - "HMP Species"	4-173
4.4-2	Resources Not Considered in the HMP - "Non-HMP Species"	4-175
4.4-3	Known or Potential Occurrences of HMP and Non-HMP Resources within each Jurisdiction	4-178
4.5-1	Summary of Traffic Noise Analysis for Existing Conditions (1990-1992)	4-225
4.5-2	Summary of Noise Modeling for the Fort Ord Reuse Plan in 2015	4-229
4.5-3	Land Use Compatibility Criteria for Exterior Community Noise	4-236

3.10.3	Reservation Road Planning Area	3-135
3.10.4	Eucalyptus Road Planning Area	3-139
3.10.5	South Gate Planning Area	3-141
3.10.6	York Road Planning Area	3-143
3.11	Implementation	3-147
3.11.1	Economic Recovery & Growth Management Approach	3-147
3.11.2	Community Development Themes	3-147
3.11.3	Phasing Scenarios & Development Strategies	3-149
3.11.4	FORA's Growth Management Principles & Approach	3-151
3.11.5	Implementation Process & Procedures	3-155
3.11.6	Implementation of the HMP	3-162

Volume 2: Reuse Plan Elements

4.1	Land Use Element	4-1
4.1.1	Introduction	4-1
4.1.1.1	The Fort Ord Planning Area	4-5
4.1.1.2	The Local Setting	4-7
4.1.1.3	Permitted Range of Land Uses for Fort Ord	4-15
4.1.1.4	Permitted Development Capacity	4-16
4.1.2	Residential Land Use	4-25
4.1.2.1	Summary of Existing Land Use Conditions	4-25
4.1.2.2	Residential Land Use Objectives	4-25
4.1.2.3	Residential Land Use Policies and Programs	4-29
4.1.3	Commercial Land Use	4-45
4.1.3.1	Summary of Existing Conditions	4-45
4.1.3.2	Commercial Land Use Objectives	4-45
4.1.3.3	Commercial Land Use Policies and Programs	4-49
4.1.4	Recreation/Open Space Land Use	4-61
4.1.4.1	Summary of Existing Conditions	4-61
4.1.4.2	Recreation/Open Space Land Use Objectives	4-62
4.1.4.3	Recreation/Open Space Land Use Policies and Programs	4-64
4.1.5	Institutional Land Use	4-74
4.1.5.1	Summary of Existing Conditions	4-74
4.1.5.2	Institutional Land Use Objectives	4-74
4.1.5.3	Institutional Land Use Policies and Programs	4-75
4.2	Circulation Element	4-83
4.2.1	Land Use and Transportation	4-83
4.2.2	Streets and Roads	4-84
4.2.2.1	Operating Conditions	4-85
4.2.2.2	Existing Conditions	4-89
4.2.2.3	Future Conditions	4-95
4.2.2.4	Objectives	4-102

4.2.2.5	Policies and Programs	4-104
4.2.3	Transit	4-108
4.2.3.1	Existing Conditions	4-108
4.2.3.2	Objectives	4-109
4.2.3.3	Policies and Programs	4-111
4.2.4	Pedestrian and Bicycles	4-112
4.2.4.1	Existing Conditions	4-112
4.2.4.2	Objectives	4-113
4.2.4.3	Policies and Programs	4-114
4.2.5	Transportation Demand Management	4-116
4.2.5.1	Existing Conditions	4-116
4.2.5.2	Objectives	4-117
4.2.5.3	Policies and Programs	4-117
4.3	Recreation and Open Space Element	4-123
4.3.1	Recreation	4-123
4.3.1.1	Summary of Existing Conditions	4-123
4.3.1.2	Recreation Standards	4-123
4.3.1.3	Objectives	4-127
4.3.1.4	Policies and Programs	4-129
4.4	Conservation Element	4-145
4.4.1	Soils and Geology	4-145
4.4.1.1	Summary of Existing Conditions	4-145
4.4.1.2	Objectives	4-147
4.4.1.3	Policies and Programs	4-149
4.4.2	Hydrology and Water Quality	4-158
4.4.2.1	Summary of Existing Conditions	4-158
4.4.2.2	Objectives	4-160
4.4.2.3	Policies and Programs	4-161
4.4.3	Biological Resources	4-171
4.4.3.1	Summary of Existing Conditions	4-171
4.4.3.2	Objectives	4-172
4.4.3.3	Policies and Programs	4-181
4.4.4	Air Quality	4-207
4.4.4.1	Summary of Existing Conditions	4-207
4.4.4.2	Objectives	4-208
4.4.4.3	Policies and Programs	4-213
4.4.5	Cultural Resources	4-214
4.4.5.1	Summary of Existing Conditions	4-214
4.4.5.2	Objectives	4-217
4.4.5.3	Policies and Programs	4-217
4.5	Noise Element	4-223
4.5.1	Introduction	4-223

4.5.2	Summary of Existing Conditions	4-223
4.5.2.1	City of Marina	4-224
4.5.2.2	City of Seaside	4-224
4.5.2.3	Monterey County	4-226
4.5.3	Summary of Future Conditions	4-228
4.5.3.1	City of Marina	4-228
4.5.3.2	City of Seaside	4-231
4.5.3.3	Monterey County	4-231
4.5.4	Objectives	4-234
4.5.5	Policies and Programs	4-235
 4.6	 Safety Element	 4-249
4.6.1	Seismic and Geologic Hazards	4-249
4.6.1.1	Summary of Existing Conditions	4-249
4.6.1.2	Objectives	4-252
4.6.1.3	Policies and Programs	4-253
4.6.2	Fire, Flood and Emergency Management	4-261
4.6.2.1	Summary of Existing Conditions	4-261
4.6.2.2	Objectives	4-263
4.6.2.3	Policies and Programs	4-264
4.6.3	Hazardous and Toxic Materials Safety	4-271
4.6.3.1	Summary of Existing Conditions	4-271
4.6.3.2	Objectives	4-274
4.6.3.3	Policies and Programs	4-275

Appendix A: 2/21/96 Draft HMP Implementing/Management Agreement

Document Preparers

List of Acronyms

List Of Figures

3.2-1	Regional Vicinity Map	3-22
3.2-2	Topographic Relief	3-23
3.2-3	Regional Land Use Context	3-25
3.2-4	Existing Development	3-33
3.2-5	Fort Ord Assets and Opportunities	3-37
3.3-1	Land Use Concept: Ultimate Development	3-45
3.3-2	Proposed Land Use and Regional Context	3-48
3.5-1	Proposed 2015 Transportation Network	3-67
3.5-2	Roadway Classification and Multimodal Corridor	3-69
3.6-1	Regional Open Space System	3-82
3.6-2	Habitat Management Framework	3-87
3.6-3	Open Space & Recreation Framework	3-91
3.8-1	Marina Planning Areas	3-105
3.9-1	Seaside Planning Areas	3-119
3.3-3	County Planning Areas	3-131
3.11-1	Legislative Land Use Consistency Determination	3-159
3.11-2	Development Entitlements and Appeals	3-163
4.1-1	Existing Development Pattern at Fort Ord	4-3
4.1-2	Planning Areas and Local Jurisdiction	4-6
4.1-3	Generalized Land Use Setting	4-9
4.1-4	Sphere of Influence and Annexation Requests	4-17
4.1-5	City of Marina Land Use Concept	4-19
4.1-6	City of Seaside Land Use Concept	4-21
4.1-7	County of Monterey Land Use Concept	4-23
4.1-8	Reconfigured POM Annex	4-36
4.2-1	Existing Transportation Network	4-90
4.2-2	Proposed 2015 Transportation Network	4-98
4.2-3	Buildout Transportation Network	4-99
4.2-4	Roadway Design Standards	4-106
4.2-5	Transit Activity Centers and Corridors	4-111
4.2-6	Proposed Bicycle Network	4-115
4.2-7	Transportation Rights-of-Way Reservations	4-121
4.3-1	Marina Open Space and Recreation Element	4-131
4.3-2	Seaside Recreation and Open Space Element	4-137
4.3-3	County Recreation and Open Space Element	4-141
4.4-1	Oak Woodlands Areas	4-187
4.4-2	Archaeological Resource Sensitivity	4-216
4.5-1	Noise Contours for Monterey Peninsula Airport	4-227
4.5-2	Forecast Year 2015 Airport Noise Contours	4-232

4.1 LAND USE ELEMENT

4.1.1 Introduction

Goal: Promote the highest and best use of land through orderly, well-planned, and balanced development to ensure educational and economic opportunities as well as environmental protection.

Land use is a major focus of the Fort Ord Reuse Plan. The Land Use Element offers a broad discussion of land use issues, constraints and opportunities. It promotes a balanced and functional mix of land uses consistent with the community values of Fort Ord jurisdictions and the Monterey Peninsula generally, and reflects the opportunities and constraints affecting land use at the former Fort Ord identified in other elements of this plan.

To establish a pattern for land use in the former Fort Ord, the Land Use Element is designed to serve as a guide for future development of the land. The element provides for orderly growth by setting forth general designations for the location, extent, intensity, and distribution of specified land uses. It inventories existing land uses, discusses potential conflicts between land uses and offers recommendations in the form of land use policy statements.

The dramatic setting of the former Fort Ord between the coastline of Monterey Bay and the undeveloped Oak Woodlands to the east gives these 44 square miles of land a special quality of natural abundance and variety.

The military installations which were developed here, mostly since preparations began for World War II in the late 1930s, provided a land use pattern and infrastructure that is not unlike that of many communities: residential areas that include single-family, suburban-style homes and multi-unit apartment buildings; commercial areas for retail or other services, such as gas stations, mini-markets and fast food facilities; elementary and middle schools for children living here, a hospital and other medical facilities; recreational areas including golf courses, tennis courts, playgrounds and a pool; and open space reserved for hunting, fishing and camping, or left undeveloped in its natural state (See Figure 4.1-1).

Other land uses were more uniquely suited to the defense-related purposes of this community: barracks and mess halls for the many troops coming here to train; military support areas, such as motor pools, machine shops, and a small airfield; soldier training areas including track and field and stadium facilities, and firing ranges near the beach and in the inland areas.

The communities growing up around the base in many ways supported the needs and development of the former Fort Ord. Although much of the surrounding land remains to this day in agricultural use, the cities of-

Marina and Seaside, in particular, became closely linked with the military mission of their neighbor, providing housing, commercial services, high school capacity and other facilities for the people living and training at the former Fort Ord. And even though Marina and Seaside had no jurisdictional authority over the federal lands of Fort Ord, their city limits extended into the base: 15%, or 4,122 acres of the former Fort Ord, lies within Seaside city limits, 12%, or 3,361 acres, within Marina city limits. The remaining acreage, 73% or 20,537 acres, is located in unincorporated Monterey County.

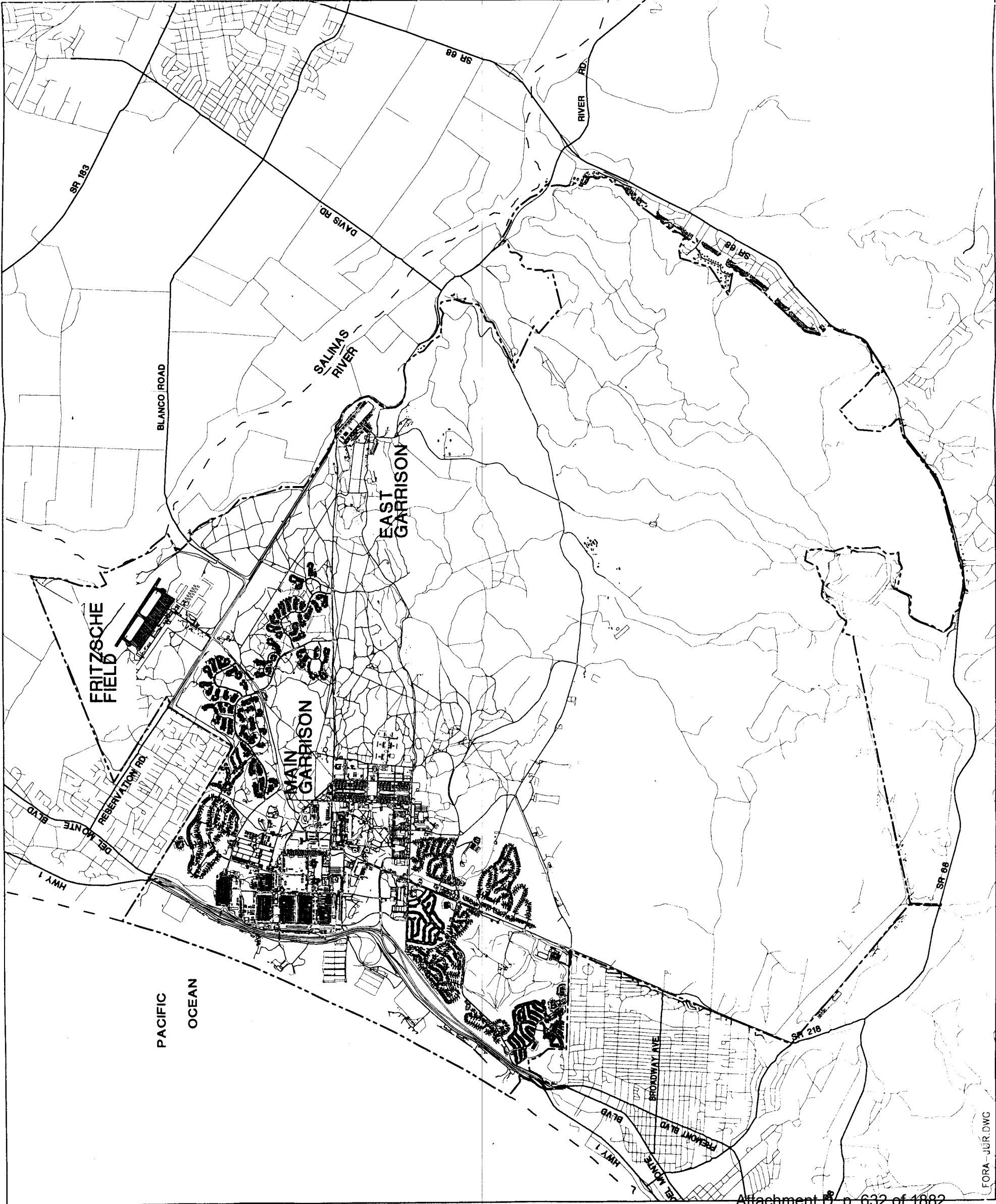
Much as the growth and economic development of these cities and their neighbors on the Monterey Bay Peninsula were tied to the operations taking place at Fort Ord, the 1991 decision of the Department of Defense to place Fort Ord on its official closure list, as part of an overall budget reduction program, was reflected in a sudden downturn of economic activity and decrease in service levels to the military personnel which began to leave the base. Although Fort Ord was initially downsized, rather than completely closed, the large population loss has considerably affected the surrounding communities.

The Fort Ord Base Reuse Plan constitutes the next chapter in the history of this land. This Land Use Element is intended to establish an updated pattern for land use at the former Fort Ord, taking into consideration the needs of the military families who continue to live on the base, as well as the surrounding cities and jurisdictions that are faced with the challenge of creating a new "seamless" community from their existing communities and the Fort Ord lands that were formerly under federal jurisdiction.

Toward this "seamless" community, the Land Use Element sets standards for intensity of development and to promote a balanced and functional mix of land uses consistent with existing community values. The land use planning concepts, overall goal and objectives, and policies and programs to complement these, were generated from specific issues and requirements identified by each jurisdiction, as well as an overall vision for reuse of the base developed on a more regional level.

The global goal guiding all planning and land use decisions for the former base can be summarized by the three "E's": Education, Environment, and Economy. From this major focus, more specific objectives have evolved for the four specific areas of land use: residential, commercial, open space/recreation, and institutional.

The land use concept that provides the foundation for the policy structure for land use at the former Fort Ord is based on a set of basic concepts for creating a cohesive community. They include:



FORA-JWR.DWG

FORT ORD REUSE PLAN

Fort Ord Reuse Authority (FORA)

Land Planning	EDAW, Inc.
Market Analysis	EMC Planning Group, Inc.
Transportation Engineering	Sedway Kotin Mouchly Group
Civil Engineering	JHK and Associates
Fiscal Analysis	Reimer Associates
Habitat Planning	Angus McDonald & Associates
Public Communications	Zander Associates
Community Development	The Ingram Group
	Resource Corps International

LEGEND:

SHEET TITLE:

DRAFT
EXISTING DEVELOPMENT
PATTERN AT FORT ORD



SOURCE:
Jones & Stokes, 1995
Reimer Associates,
(Un-Proposed), 1995
Monterey County, 1995
EDAW, Inc., 1996

FIGURE:

4.1-1

- Identifiable centers to add focus to the larger area;
- Diversity and choice to enhance opportunity and interaction;
- Alternative transportation that stresses access vs. speed and encourages a pedestrian-friendly environment;
- Housing diversity in type, density and location; and
- Natural and preserved areas that link all sectors together in a seamless way.

The goal of this general concept is to quickly integrate the former Fort Ord into the local economy, maintain a housing/retail/jobs balance, and make full use of existing infrastructure and infill opportunities. With the educational facilities as the centerpiece creating energy and identity around them, land use planning at the former Fort Ord will emphasize human scale development, village-type mixed use centers, a circulation system that responds to land use priorities, and connectivity to the natural environment.

4.1.1.1 The Fort Ord Planning Area

This section incorporates by reference information from the Land Use Baseline Study of Fort Ord, California (U.S. Army Corps of Engineers, Sacramento District, 1992b), the Environmental Impact Statement for Fort Ord Disposal and Reuse (U.S. Army Corps of Engineers, Sacramento District, June 1993), and the Supplemental Environmental Impact Statement (U.S. Army Corps of Engineers, Sacramento District, Dec. 1995). These documents are available at the public information repository established at the Seaside Branch Library.

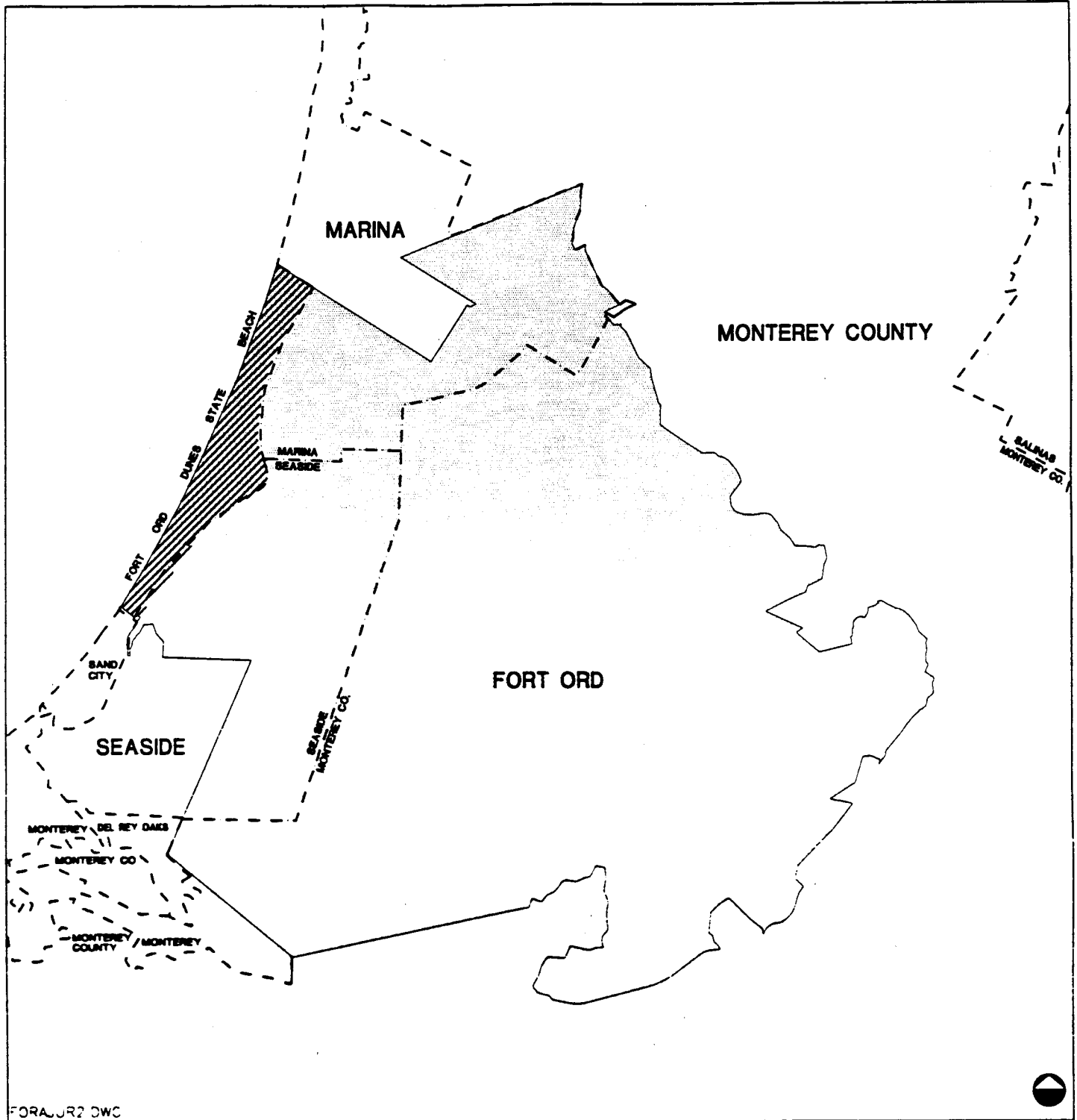
The former Fort Ord is located adjacent to unincorporated county land and the cities of Marina, Seaside, Sand City, Del Rey Oaks, and Monterey. The Fort Ord planning area is illustrated in Figure 4.1-2. Since the former Fort Ord is still largely under federal jurisdiction, neither the surrounding cities nor county have jurisdictional authority over the former Fort Ord until such land conveyances have been made.

The Fort Ord planning area is located within the jurisdictional or political boundaries of the following agencies.

State and Regional Agencies

Association of Monterey Bay Area Governments: a voluntary council of governments.


California Coastal Commission: responsible for administering the state's coastal management program (the portion of the former Fort Ord west of



FORAUR2 DWC

SOURCE: Jones & Stokes, 1995; Reimer Associates, (Re-projected), 1995; Monterey Co., 1995; EDAW, 1996.

LEGEND:

- Jurisdiction Boundary
-  California Coastal Commission Coastal Management Zone

State Highway 1 is in the coastal zone, see Figure 4.1-2, Fort Ord and surrounding local jurisdictions).

California Department of Transportation: responsible for the maintenance and administration of the California highway system.

California State Parks Department: responsible for operating the Fort Ord Dunes State Park.

California State University: responsible for operating a state university at Monterey Bay.

Monterey County Local Agency Formation Commission (LAFCO): responsible for reviewing proposals involving boundary changes, including but not limited to cities, counties, and special districts.

Special Districts: established to implement specific activities within defined boundaries (e.g. Monterey Peninsula Water Management District, Marina Coast Water District, Salinas Rural Fire District, Monterey County Resource Conservation District, Monterey Peninsula Airport District, Seaside County Sanitation District, Monterey Regional Parks District, etc.).

University of California: responsible for creating a research and technology park and managing natural reserve and habitat areas.

4.1.1.2 The Local Setting

This section describes the existing conditions for the former Fort Ord and for the jurisdictions that currently encompass areas of the former Fort Ord: the cities of Marina and Seaside, and the County of Monterey. The generalized land use setting for these surrounding jurisdictions is illustrated in Figure 4.1-3.

General Characteristics: The former Fort Ord is bounded by Marina on the north; unincorporated county land on the east; Del Rey Oaks, Monterey, and unincorporated land on the south; and Sand City, Seaside, and Monterey Bay on the west.

Most of the approximately 28,000-acre Fort Ord area consists of undeveloped training and open space areas, with approximately 82% (23,000 acres) undeveloped and 18% (5,000 acres) developed. The three major developed areas within the former Fort Ord are the former Main Garrison and East

Garrison areas, and Marina Municipal Airport, formerly Fritzsche Army Airfield.

Population: In 1990, the resident population at Fort Ord was approximately 31,000, 8 percent of the total population of Monterey County. At that time, 14,000 soldiers and 17,000 family members resided on Fort Ord.

The on-post resident population was divided between the two municipalities of Marina and Seaside. Through 1990, 17,139 people (56%) were within the Seaside city limits and 13,321 people (44%) were within the Marina city limits (Harding Lawson Associates, 1991, Workplan remedial investigation/feasibility study, Fort Ord, CA).

City of Marina

General Characteristics: The City of Marina is located immediately north of the former Fort Ord and south of the Salinas River (Figure 4.1-3). The city was incorporated in 1975 and consists of approximately 6,400 acres. The area located within the former Fort Ord encompasses approximately 55% of the total number of acres within the city. The Marina planning area, which excludes the former Fort Ord but includes a substantial area north of the city, totals 6,145 acres (City of Marina General Plan, 1982). A large portion of the land is undeveloped, but the predominant land use in the incorporated area is single-family residential.

Marina's Sphere of Influence (SOI) extends north and east of the existing city limits. The northern portion of the SOI lies within the planning area, while the eastern portion includes the former Fort Ord and is outside the planning area. A portion of Marina is located in the coastal zone, primarily the incorporated area west of State Highway 1. The Local Coastal Program (LCP) is the controlling plan in these areas.





Existing Land Use: The City of Marina's predominant land use is residential. Another major land use is the approximately 1,820-acre Armstrong Ranch. Located within the northern portion of the city boundaries, the ranch is currently undeveloped and used for cattle grazing. The 320 acres of Armstrong Ranch which are located in Marina are designated in the General Plan as single-family residential and industrial/residential development/professional office use. The remaining 1,500 acres of the Armstrong Ranch are located within the city's Sphere of Influence (SOI) in unincorporated Monterey County. This adjoining portion is designated in the General Plan as single family residential and parks and open space highway commercial, public grounds and buildings, neighborhood

FORT ORD REUSE PLAN

Fort Ord Reuse Authority (FORA)

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Market Analysis	EMC Planning Group, Inc.
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Civil Engineering	JHK and Associates
Fiscal Analysis	Reimer Associates
Habitat Planning	Angus McDonald Associates
Public Communications	Zander Associates
Community Development	The Ingram Group
	Resource Corps International

LEGEND:

	Residential
	Parks/Openpace/Recreation
	Public/Institutional
	Business Park/Industrial
	Commercial/Retail

SHEET TITLE:

DRAFT
GENERALIZED
LAND USE SETTING



SOURCE:

Jones & Stokes, 1985

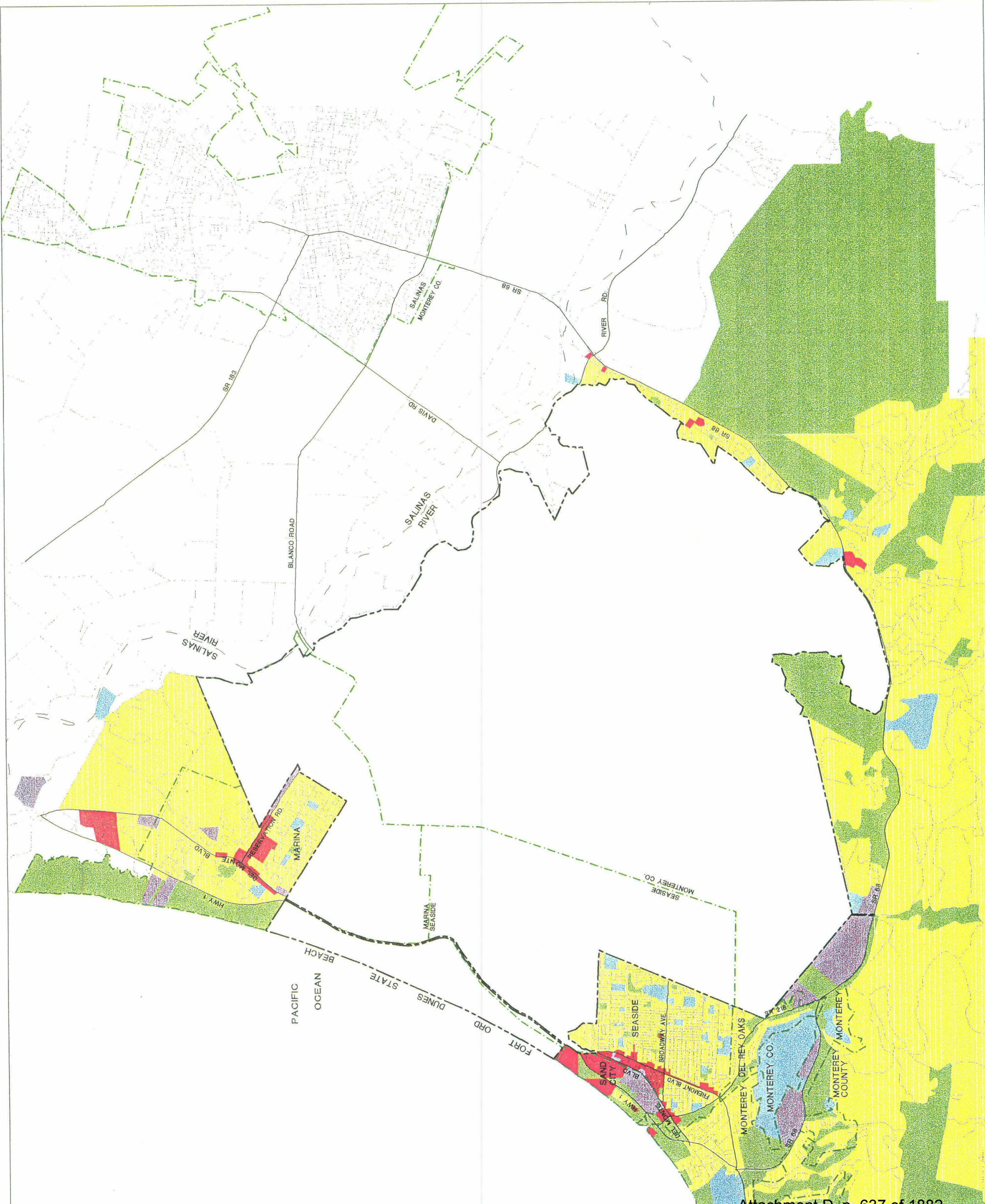
Reimer Associates,
(for Project), 1995

Monterey County, 1995

EDAW, Inc., 1996

FIGURE:

4.1-3



commercial and low-density multiple family land use. The Monterey County General Plan designates the area as permanent grazing.

Located between the Armstrong Ranch and Reservation Road is the 1,395-acre former Fritzsche Army Airfield, now renamed Marina Municipal Airport. The City of Marina received a public benefit conveyance from the U.S. Army of approximately 845.5 acres for public airport use. The remainder of the site is the subject of a public benefit conveyance request by the University of California for the Monterey Business, Education, Science and Technology Center.

South of Reservation Road, land adjacent to the former Fort Ord is developed with single family homes. Commercial land uses are located along Reservation Road and along Del Monte Avenue. Marina State Beach and commercial lodging facilities are located west of State Highway 1.

Population: The City of Marina's total population in 1991 was 30,113, with 44% residing within Fort Ord's boundary (Monterey County Local Agency Formation Commission, 1991).

City of Seaside

General Characteristics: The City of Seaside is located in Monterey County near the south end of Monterey Bay, bordered by the cities of Monterey and Del Rey Oaks to the south, Sand City to the west and the former Fort Ord to the east and north. (Figure 4.1-3) The city was subdivided in 1890 as a resort and incorporated in 1954. The city encompasses a total area of approximately nine square miles. It is divided into two distinct portions: Seaside proper consists of 2.69 miles, while the former Fort Ord, which comprises 70% of land within Seaside's city boundaries, consists of 6.44 square miles. (Seaside General Plan Update Program/Preliminary General Plan, November 1993).

Seaside's sphere of influence (SOI) is currently the same as its city limits. The city has submitted an application to the Local Agency Formation Commission (LAFCO) to expand the SOI eastward to include almost all of the former Fort Ord, and westward to include the unincorporated beachfront and 10,000 feet of Monterey Bay. LAFCO has placed a moratorium on all SOI expansion requests related to the former Fort Ord until a final Fort Ord reuse plan is established. (See also discussion below under Local Agency Formation Commission Requests.)

Existing Land Use: The current area occupied by Seaside proper is essentially built out. Over 800 acres, or almost 50% of its land, are devoted to residential use, predominantly single-family housing.

Seaside proper is characterized by a wide range of uses including residential, commercial, public, vacant land, and limited industrial/wholesale uses. Of these, residential is the largest single land use, making up 48.4% of all land use. The second largest use of land is right-of-way for streets and the Southern Pacific Railroad, with 28.4% of all use.

Seaside contains 500 feet of ocean frontage. The city's beach area adjacent to Monterey Bay (Del Monte Beach) is approved for visitor serving commercial use, parking and beach access in the Local Coastal Plan (LCP). The State Department of Parks and Recreation has purchased and improved the area adjacent to the water for inclusion in the State Parks System. Other areas covered by the LCP include Roberts Lake and Laguna Grande, both located in the southern part of the city adjacent to Canyon Del Rey and Del Monte Boulevards.

The Central Business District and retail/commercial areas are located in the western part of the city between and adjacent to Del Monte and Fremont boulevards, as well as on the section of Broadway closest to the commercial center along Del Monte Boulevard.

The existing areas adjacent to the former Fort Ord are primarily developed with single-family homes (up to 9.9 units per acre). A retail shopping center is located at the Fremont Boulevard/Military Avenue intersection near State Highway 1. The Mission Memorial Park cemetery, which also includes the Monterey Peninsula Mortuary, is located along North-South Road. A few neighborhood parks are also located in the residential areas adjacent to the former Fort Ord.

The amount of vacant land currently available in the city is approximately 53 acres, or 3 percent of the total land within Seaside proper. Of the total, 24.67 acres (46%) are located in residential zones; 23.12 acres (44%) are in commercial zones; and 5.14 acres (ten percent) are in special treatment, or multi-zone areas. As Seaside proper is essentially built out, any new residential growth here will come on the few remaining vacant lots, through redevelopment, or through expansion into former Fort Ord lands.

The Fort Ord land area located within the Seaside city limits includes existing low-density residential areas, four existing schools, office space, two golf courses, and natural open space areas. Development in the Fort Ord

land area following conveyance of the land presents a major opportunity for Seaside to expand residential, commercial and recreational land uses.

Population: The 1991 total population within its 9.13 square miles city limits was 39,750, with Seaside proper consisting of 2.69 square miles and 23,344 residents. The Fort Ord portion, comprising 6.44 square miles, had 17,298 residents at the time the announcement was made that the base would close or be downsized (Monterey County Local Agency Formation Commission, 1991).

County of Monterey

General Characteristics: The County consists of 2,127,400 acres (3,324 square miles), of which 10 percent includes military reservations and 22% is in the Los Padres National Forest and the Ventana Wilderness. Among the prominent geographic features in the county are the Santa Lucia and Gabilan Ranges, the Salinas and Carmel Valleys and 100 miles of California's central coast. (Figure 4.1-3)

The county is divided into eight planning areas. The former Fort Ord is located in the Greater Monterey Peninsula Area Plan (GMPAP), adjacent to the Greater Salinas and Toro planning areas. The GMPAP consists of 140,222 acres and includes seven incorporated cities that constitute 15% of the total acreage. They are Marina, Seaside, Sand City, Del Rey Oaks, Monterey, Pacific Grove, and Carmel. Fort Ord represents 27,954 acres of the total GMPAP area (Monterey County Peninsula Area Plan, 1984).

Existing Land Uses: Public and quasi-public use is the largest category of existing land use in the County's unincorporated area, accounting for a total of 45,458 acres. The largest components of this land use category are military (primarily Fort Ord), natural resource management (U.S. Bureau of Land Management, portions of Los Padres National Forest and the Salinas River Wildlife Area), recreational/cultural (primarily Jacks Peak Park, Laguna Seca Recreation Area, Garland Ranch Regional Park, Point Lobos State Reserve and various public and private golf courses), transportation (primarily the Monterey Peninsula Airport, which has self-government status under state law, and State Highway 1 and U.S. Highway 101, which link the County north and south), education, and emergency services facilities.

Unincorporated Monterey County includes the coastal zone of approximately 1,050 acres adjacent to the former Fort Ord, extending 4 miles along Monterey Bay.

Vacant/unimproved lands in Monterey County total 41,480 acres, much of which is located in the steeper southern portions of the GMPAP. Lands in this use category have traditionally sustained development pressure, primarily for residential purposes. Agricultural, grazing and rangeland uses total 25,603 acres and are primarily grazing land and range land north of the City of Marina, in the hillside areas north and south of Carmel Valley, and to the east of Carmel Valley Village. Some row crops are grown north of the City of Marina near the Salinas River and on the floor of the Carmel Valley at the mouth and in the mid-valley area. Agricultural uses in the flatter areas have come under pressure for development of residential, commercial and industrial uses. Grazing land and range land areas have come under development pressure also, primarily for residential purposes.

Residential development in the county totals approximately 5,029 acres, of which 4,576 acres are developed in single-family residential units and 453 acres in multiple units. Most residential development in the unincorporated area is found in the Del Monte Forest, the Carmel Highlands, the Carmel Valley, the Aquajito area, and to a lesser extent, Hidden Hills, Toro Park and Laguna Seca Ranch.

Commercial land uses in the county total 188 acres and include businesses which serve both residents and the large number of tourists who visit the planning area. Most of the major commercial uses in the unincorporated area are located in Carmel Valley.

Industrial uses total 187 acres and include a variety of facilities such as the Dole processing and packaging plants near the Salinas River on State Highway 1 and near Soledad off State Highway 101, the Monterey Regional Waste Management District landfill and the Monterey Regional Water Pollution Control Agency's sewage treatment facility northeast of Marina, the Carmel Sanitary District sewage treatment facility at the mouth of the Carmel Valley, and mineral extraction (sporadic) facilities in the various areas of the County.

Streets, highways and railroads in the GMPAP cover 1,760 acres. Major water bodies in the planning area total 55 acres and are all constructed water storage facilities. Included in this total is a portion of the San Clemente Reservoir. The other facility is the Forest Lake Reservoir in the Del Monte Forest (currently drained).

Population: As of January 1991, the county population was 362,800. Of this total, 72% of the population was located in the 12 incorporated cities and 28% in unincorporated areas. The enlisted military population repre-

sented seven percent of the total population (California Department of Finance, Demographic Research Unit).

Local Agency Formation Commission Requests

Several cities have submitted requests to expand their Sphere of Influence (SOI) into County lands. LAFCO has a policy of not processing any Fort Ord requests for SOI expansion until a final Fort Ord Reuse Plan is approved and environmental documentation is provided. The SOI expansion requests, shown on Figure 4.1-4 (SOI map) include:

- **City of Marina:** The City Council approved a request on May 26, 1992 to expand the city's SOI at the eastern boundary of the former Fort Ord and in the dune area west of State Highway 1. This action never reached the status of a formal application due to the LAFCO policy of not processing any Fort Ord requests.
- **City of Seaside:** In September 1991, the city submitted two separate requests to amend its SOI, with the goal of defining its Fort Ord SOI for general planning purposes. The proposed Seaside SOI boundaries would extend to the dunes area west of State Highway 1 and 10,000 feet into Monterey Bay, as well as east and south of the city's existing and General Plan SOI. As with all other requests related to the former Fort Ord, the city's request to LAFCO is on hold, pending completion of the Fort Ord Reuse Plan EIR.
- **City of Del Rey Oaks:** The city is currently meeting informally with LAFCO officials, the cities of Monterey and Seaside, and its General Plan consultants regarding SOI extension and annexation of Fort Ord Polygons 29a, 31a and 31b.
- **City of Monterey:** The city passed a resolution in 1983 to expand its SOI to include the Fort Ord planning area between South Boundary Road and Ryan Ranch and is still planning to request SOI expansion and annexation of Fort Ord Polygons 29 b, c, d and e within the next 20 years.

4.1.1.3 Permitted Range of Land Uses for Fort Ord

The permitted range of uses for designated land uses at the former Fort Ord is described by land use type on Table 3.2-2 in the Framework for the Reuse Plan. It offers density standards, description of intent and permitted range of uses for each land use category allowed at the former Fort Ord. As shown in the mix of uses included for each land category, the

reuse plan encourages a creative approach to planning development by each jurisdiction.

The land Use Element addresses its topic in four major sections: Residential land use, Commercial land use, Recreation/ Open Space land Use, and Institutional Land use. For each section, the Element offers a summary of existing conditions, followed by objectives shared by each jurisdiction with lands on the former Fort Ord (Cities of Marina and Seaside, County of Monterey) and separate policies and programs for each jurisdiction.

The Land Use Element incorporates the permitted range of uses for designated uses at the former Fort Ord as described in Table 3.2-2. This information includes density standards, description of intent and permitted range of uses for each land use category described in the element.

The designation of uses for Fort Ord lands, which follows this system of permitted uses and has been described previously in the Land use framework, resulted in the Reuse Plan's Land use Concept for the former Fort Ord. The concept is shown by jurisdiction for the City of Marina, Figure 4.1-5, the City of Seaside, Figure 4.1-6, and the County of Monterey, Figure 4.1-7.

4.1.1.4 Permitted Development Capacity

The land Development Capacity is summarized in Table 3.3-1 in the Framework of the Reuse Plan. This table delineates land use capacity for each jurisdiction (Marina, Seaside, and Monterey County) and provides a summary of the acreage and capacity in: 1) number of dwelling units; 2) number of hotel rooms; or 3) amount of square feet of office, industrial, R&D, and retail uses. The table lists the various land uses, including the CSUMB designation and area-wide rights-of-way, and more specific categories for hotels, golf courses, and the Fort Ord Dunes State Park. The development capacity for Marina, Seaside, and Monterey County are detailed for each planning district in Tables 3.8-1, 3.9-1, and 3.10-1 in the framework for the Reuse Plan.













The "Land Use Capacity" is a projected development yield based on anticipated market absorption, land characteristics, and community vision. The capacities indicated are intended to provide a general guide to assist in land resource management and infrastructure commitments and financing. The precise mix of uses is expected to vary in response to market conditions and FORA actions. The aggregate totals provide a "not-to-exceed envelope" of development within the former Fort Ord.

FORT ORD REUSE PLAN

Fort Ord Reuse Authority (FORA)

Land Planning	EDAW, Inc.
Market Analysis	EMC Planning Group, Inc.
Transportation Engineering	Sedway Kotin Mouchly Group
Civil Engineering	JHK and Associates
Fiscal Analysis	Reimer Associates
Habitat Planning	Angus McDonald & Associates
Public Communications	Zander Associates
Community Development	The Ingram Group
	Resource Corps International

LEGEND

	CITY OF MARINA
	Sphere of Influence-Adopted
	Sphere of Influence-Proposed
	CITY OF SEASIDE
	Sphere of Influence-Proposed
	CITY OF SAND CITY
	Sphere of Influence-Proposed
	CITY OF DEL REY OAKS
	Sphere of Influence and Annexation-Proposed
	CITY OF MONTEREY
	Sphere of Influence-Proposed
	Sphere of Influence and Annexation-Proposed

SHEET TITLE:

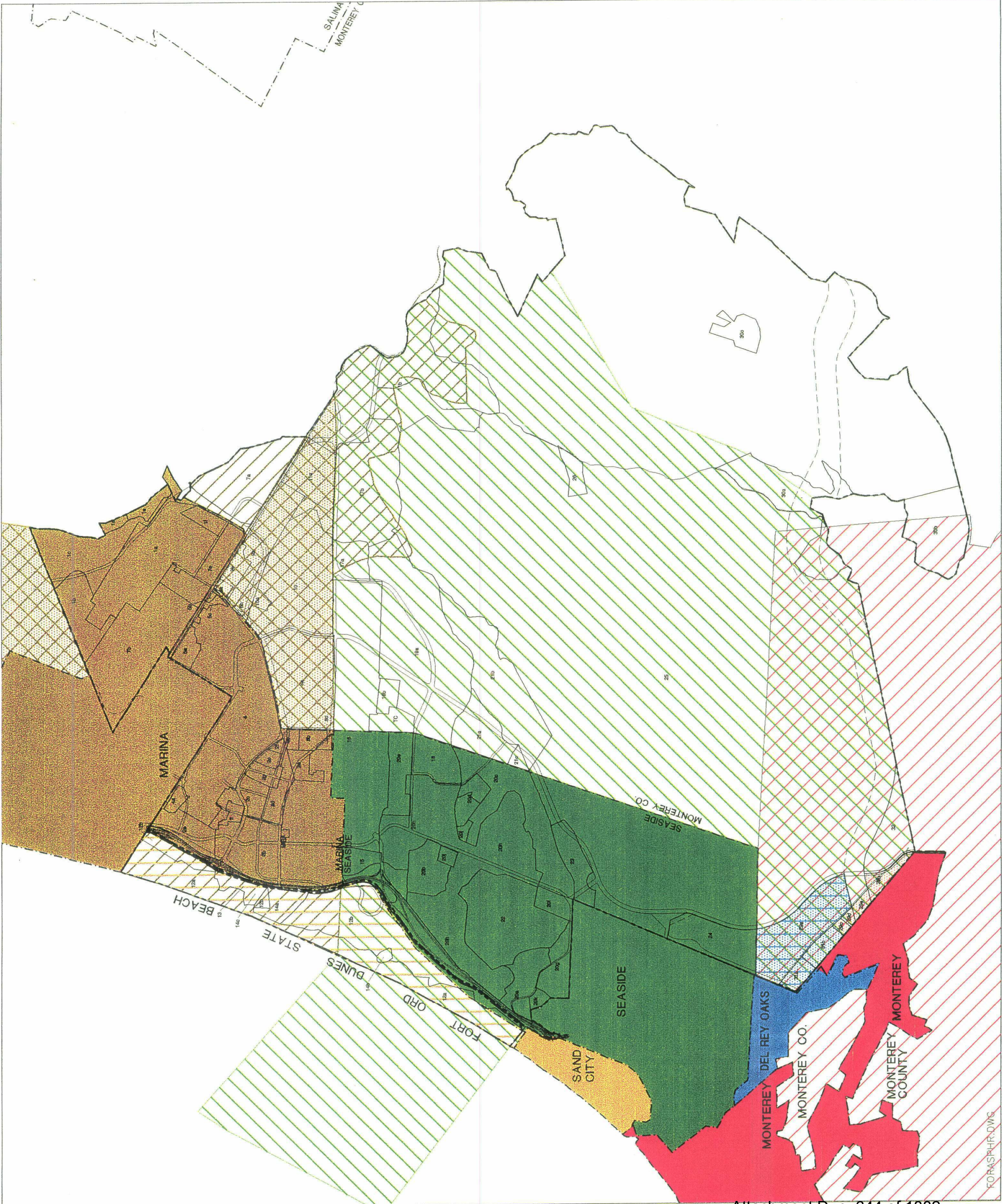
DRAFT
SPHERE OF INFLUENCE AND
ANNEXATION REQUESTS

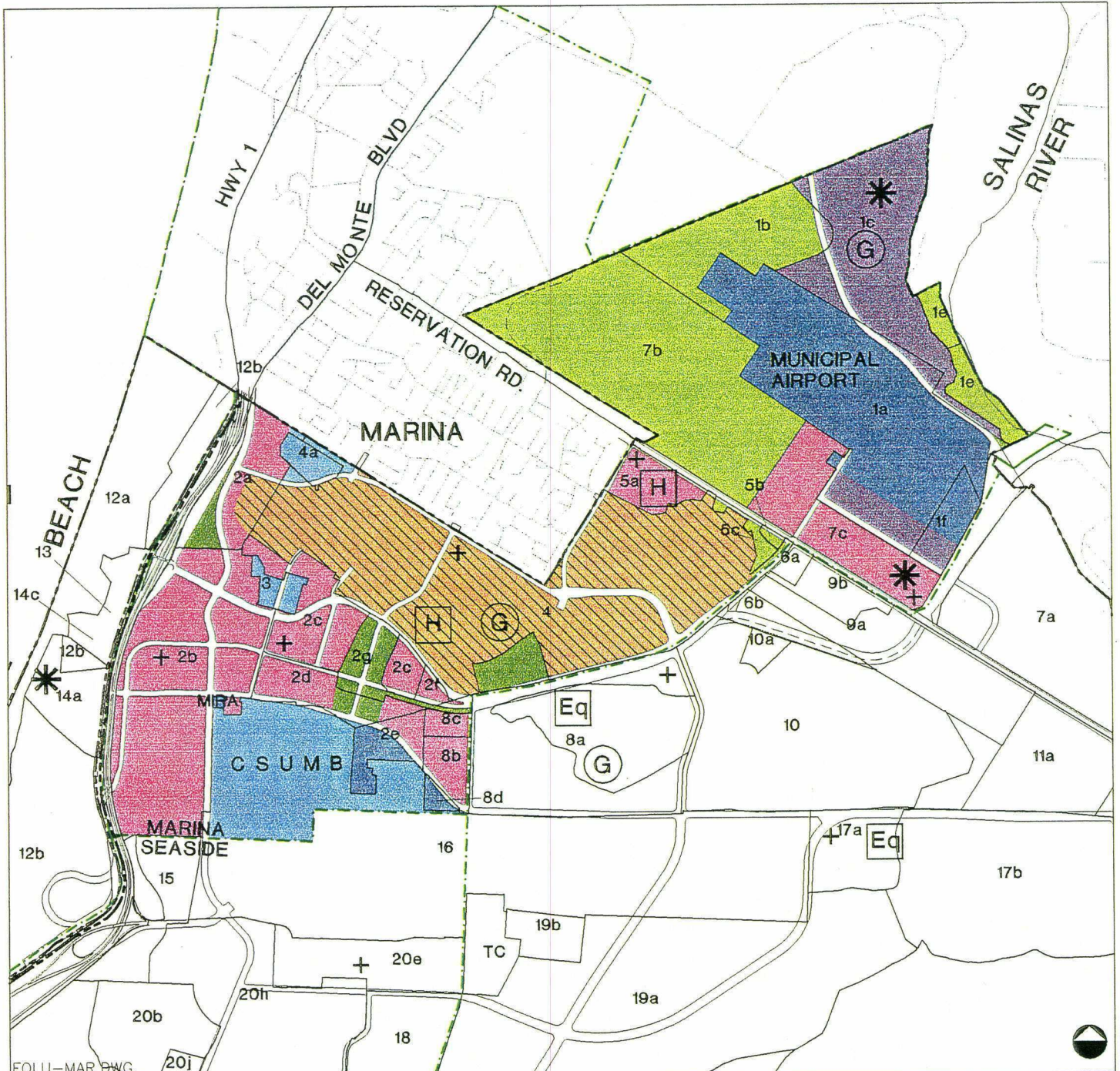


SOURCE: Jones & Stokes, 1995
Reimer Associates, (Re-Projected), 1995
Monterey County, 1995
EDAW, Inc., 1996

FIGURE:

4.1-4





SOURCE: Jones & Stokes, 1995; Reimer Associates, (Re-projected), 1995; Monterey Co., 1995; EDAW, 1996.

LEGEND:

	SFD Medium Density Residential		Habitat Management
	Residential Infill Opportunities		School/University
	Open Space/Recreation		Convenience Retail
	Planned Development Mixed Use District		Golf Course Opportunity Site
	Business Park/Light Industrial Office/R&D		Hotel Opportunity Site
	Public Facility/Institutional		Alternative High School Sites

DRAFT
FIGURE 4.1-5

CITY OF MARINA LAND USE CONCEPT



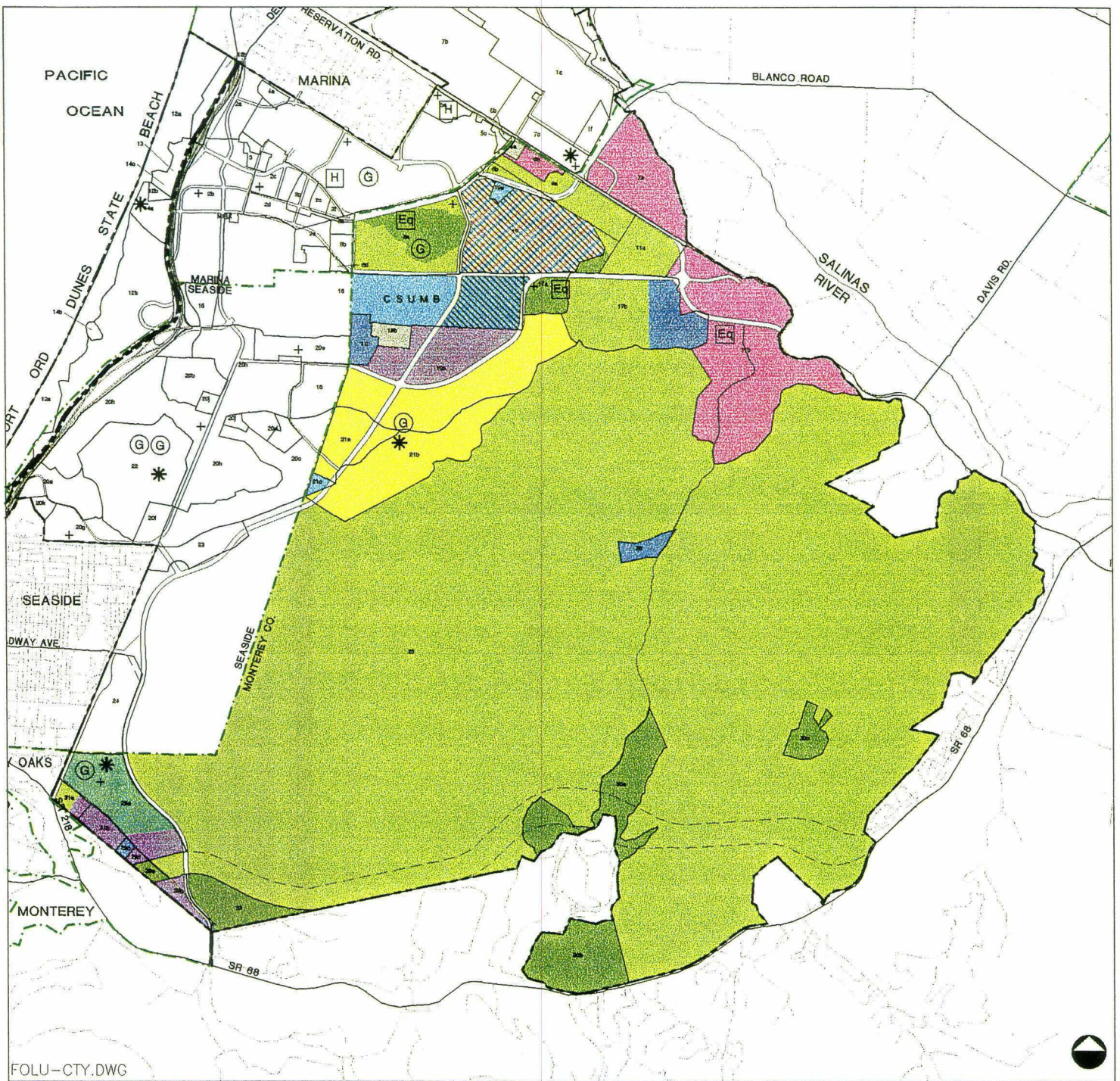
SOURCE: Jones & Stokes, 1995; Reimer Associates, (Re-projected), 1995; Monterey Co., 1995; EDAW, 1996.

LEGEND:

	SFD Low Density Residential		Open Space/Recreation
	SFD Medium Density Residential		Habitat Management
	MFD High Density Residential		School/University
	Planned Development Mixed Use District		Public Facility/Institutional
	Neighborhood Retail		Military Enclave
	Regional Retail		Convenience Retail
	Visitor Serving		Golf Course Opportunity Site
			Hotel Opportunity Site

















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FIGURE 4.1-6

Attachment D, p. 646 of 1882
**CITY OF SEASIDE
LAND USE CONCEPT**



SOURCE: Jones & Stokes, 1995; Reimer Associates, (Re-projected), 1995; Monterey Co., 1995; EDAW, 1996.

LEGEND:

- | | | | |
|---|---|---|---------------------------------------|
|  | SFD Low Density Residential |  | Habitat Management |
|  | SFD Medium Density Residential |  | School/University |
|  | Residential Infill Opportunities |  | University Medium Density Residential |
|  | Planned Development Mixed Use District |  | Public Facility/Institutional |
|  | Business Park/Light Industrial Office/R&D |  | Military Enclave |
|  | Visitor Serving |  | Convenience Retail |
|  | Open Space/Recreation |  | Golf Course Opportunity Site |
| | |  | Hotel Opportunity Site |
| | |  | Equestrian Center Opportunity Site |

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FIGURE 4.1-7

Attachment D, p. 647 of 1882

4.1.2 Residential Land Use

4.1.2.1 Summary of Existing Land Use Conditions

This section provides information about the existing residential land use at the former Fort Ord. It incorporates by reference information from the Land Use Baseline Study of Fort Ord, California (U.S. Army Corps of Engineers, Sacramento District, 1992b).

The existing conditions described in this section refer to the baseline year of 1991.

Fort Ord

Existing residential land uses on the former Fort Ord encompass a total of 1,294 acres. They include family and military housing, such as training and temporary personnel barracks, enlisted housing, and officer housing.

City of Marina

Fort Ord existing residential areas that are within Marina's city limits consist of family housing in the Patton Park and Abrams Park areas located in the Main Garrison south of Reservation Road. In Marina's SOI which extends eastward beyond the city limits, additional family housing is located in the East Garrison. Some troop housing is also located in the city limits.

City of Seaside

Fort Ord existing residential land uses within the Seaside city limits are primarily part of the Main Garrison and are identified as Stilwell Park, Hayes Park, Fitch Park, Marshall Park, Sun Bau Apartments and Brostrom Mobilehome Park.

County of Monterey

Monterey County designates all land within Fort Ord boundaries public/quasi-public. The East Garrison and the Frederick Park area of the Main Garrison are the only unincorporated Monterey County areas that are developed with existing residential land uses.

4.1.2.2 Residential Land Use Objectives

Objective A: Establish a range of permissible housing densities for the Fort Ord area.

The land use designations developed for the Fort Ord Reuse Plan reflect an aggregated average development intensity within which a range of residential prototypes would be appropriate. To provide flexibility and

diversity within planning areas or districts, the land use designation sets the range of permissible housing types and an overall maximum development intensity averaged over entire planning areas or districts in the Fort Ord area. The land use designations specifically limit the character of individual projects by addressing the range of appropriate development prototypes.

Objective B: Ensure compatibility between residential development and surrounding land uses.

The land use design concept for the former Fort Ord stresses cohesiveness of adjacent land uses. Incompatible uses can disrupt the development process of districts and neighborhoods, be visually inharmonious, and create environmental and safety problems.

Objective C: Encourage highest and best use of residential land to enhance and maximize the market value of residential development and realize the economic opportunities associated with redevelopment at the former Fort Ord.

Both the cities of Seaside and Marina have a sufficient supply of low income housing within their existing residential areas. For redevelopment of the the former Fort Ord community within their city limits, the jurisdictions intend to provide moderate and above moderate income housing to achieve a better housing supply balance and to maximize the market value of the housing stock.

The market development strategy which underlies the land use concept of the Base Reuse Plan supports the goal of achieving the maximum market value for residential development. The strategy takes into account the types of development that can reasonably be attracted to the former Fort Ord to finance the extension of infrastructure and promote economic development within the region. By accommodating the broadest number of segments of the desirable real estate market during the initial years of Fort Ord redevelopment, this approach is intended to leverage the housing market—including moderate and above-market units—to achieve the following desirable results:

- Enhance the attractiveness of the former Fort Ord as a jobs center;
- Use market support to generate investment capital for infrastructure improvements; and
- Put into place the threshold investments that will carry the vision for the former Fort Ord beyond the 2015 horizon.

Objective D: Provide public facilities and services that will support revitalization of existing Army housing and new housing construction on the former Fort Ord.

The availability of public facilities and services required to support residential development at the former Fort Ord is discussed in detail in associated documents, including the Public Facilities Implementation Plan and the Public Services Plan of the Fort Ord Reuse Plan.

Objective E: Coordinate the location, intensity and mix of land uses with alternative transportation goals and transportation infrastructure .

The Fort Ord land use design approach is based on a pedestrian-friendly concept that does not rely solely on the automobile for transportation. Alternative transportation, such buses, bicycling and walking are important components of a transportation system that will reduce the number of cars on the road. Sound environmental planning practices, including alternative transportation measures, are an important element to promote a development pattern that reflects AMBAG's "Livable Communities Initiative." For further discussion, please turn to the Circulation Element of this plan.

The jurisdictions developing the former Fort Ord can encourage alternative transportation by directing high-intensity development along transit lines and promoting a concentrated mix of uses that make it easy for people to walk from place to place. Consolidation of living, working, entertainment, and shopping in mixed-use districts will allow people living and working in the Fort Ord area to depend less on their cars. The land use plan provides for Planned Development Mixed Use in each of the three land use jurisdictions. This designation is intended to encourage the development of pedestrian-oriented community centers that support a wide variety of land uses, including commercial, residential, retail, professional services, and cultural and entertainment activities. Generally, this mixed use will be located near future transit facilities or along transit corridors, and near commercial and employment centers. It serves as a transition from existing developed urban centers and lower density residential and institutional districts.

Objective F: Balance economic development needs with the needs of the homeless population in the community.

Base conversion goals offer unique opportunities for affordable housing developers and homeless service providers to obtain surplus property and address the needs of the homeless, in addition to focusing on economic redevelopment. While it cannot be expected that communities resolve

homelessness through base conversion, the resources offered by closing bases such as Fort Ord can be used to meet some local homeless needs in the Monterey Bay area.

Objective G: Improve access for people with disabilities by creating a barrier-free environment.

Many of the inequities for people with disabilities are defined by the built environment. By setting appropriate physical standards for buildings, community facilities and transportation patterns, jurisdictions can remove unnecessary limits that restrict the activities and quality of life of many members of the community, including children, elderly people, and people with disabilities.

Objective H: Provide General Plan consistency between land use and housing elements.

The Fort Ord Reuse Plan contains housing policies applicable to Fort Ord lands in the residential section of its Land Use Element. Adherence to standards related to issues such as density and housing type standards, relationships to transportation and open space, and others will ensure that residential development at the former Fort Ord will contribute to reuse goals and quality of life.

Objective I: Provide for Community Design principles and guidelines to ensure quality of life for Fort Ord residents and surrounding communities.

The reuse of the former Fort Ord offers an opportunity to reinforce the unified vision shared by Monterey Bay jurisdictions and establish a sense of community that will maintain value over time. Establishing high-quality design standards for Fort Ord residential development will help to establish the form and appearance for the area and ensure that the residential features will contribute to community identity, livability, and quality of life for residents of the Fort Ord area and surrounding jurisdictions.

Objective J: Provide for adequate housing for CSUMB.

CSUMB is planning to house 80% of its student population and substantial portions of faculty and staff. These housing needs will be met with existing residential projects, core campus student housing, and infill housing in the campus reserve at the eastern end of the campus area.

4.1.2.3 Residential Land Use Policies and Programs

City of Marina

Objective A: Establish a range of permissible housing densities for the Fort Ord area.

Residential Land Use Policy A-1: The City of Marina shall provide variable housing densities to ensure development of housing accessible to all economic segments of the community. Residential land uses shall be categorized according to the following densities:

<u>Land Use Designation</u>	<u>Actual Density- Units/Gross Acre</u>
SFD Low Density Residential	up to 5 Du/Ac
SFD Medium Density Residential	5 to 10 Du/Ac
MFD High Density Residential	10 to 20 Du/Ac
Residential Infill Opportunities	5 to 10 Du/Ac
Planned Development Mixed Use District	8 to 20 Du/Ac

Development intensities for residential and other land uses in the City of Marina are summarized in Table 3.3-2 in the Framework of the Reuse Plan.

The full range of permitted uses in each Land Use Designation is described in Table 3.4-1 in the Framework of the Reuse Plan.

Program A-1.1: Amend the City's General Plan and Zoning Code to designate former Fort Ord land at the permissible residential densities consistent with the Fort Ord Reuse Plan and appropriate to accommodate the housing types desired for the community.

Objective B: Ensure compatibility between residential development and surrounding land uses.

Residential Land Use Policy B-1: The City of Marina shall encourage land uses that are compatible with the character of the surrounding districts or neighborhoods and discourage new land use activities which are potential nuisances and/or hazards within and in close proximity to residential areas.

Program B-2.1: The City of Marina shall revise zoning ordinance regulations on the types of uses allowed in the city's districts and neighborhoods, where appropriate, to ensure compatibility of uses in the Fort Ord planning area.

Program B-2.2: The City of Marina shall adopt zoning standards for the former Fort Ord lands to achieve compatible land uses, including, but not limited to, buffer zones and vegetative screening.

Objective C: Encourage highest and best use of residential land to enhance and maximize the market value of residential development and realize the economic opportunities associated with redevelopment at the former Fort Ord.

Residential Land Use Policy C-1: The City of Marina shall provide opportunities for developing market-responsive housing in the Fort Ord planning area.

Program C-1.1: The City of Marina shall evaluate the existing residential areas in the Planned Residential District—the Abrams, Preston and Patton housing projects—and determine those areas that are suitable for renovation.

Program C-1.2: The City of Marina shall identify, zone and consider development of "Infill Opportunities" in these residential areas where sites can be developed which are easily served with existing infrastructure. This infill development will enrich the mix of housing types available by providing additional single-family housing on a range of lot sizes, including small lots (4,000 to 5,000 square foot lots).

Program C-1.3: The City of Marina shall prepare one or more specific plans for the Marina Town Center Planning Area in order to provide for appropriate market-responsive housing in the area designated as Planned Development Mixed Use. Housing shall range from single family homes to attached town homes, apartments and condominiums.

Program C-1.4: Development in the UCMBEST Cooperative Planning District shall be consistent with the University of California Master Plan for this area, in particular with regard to providing a mixed-use housing component.

Objective D: Provide public facilities and services that will support revitalization of existing Army housing and new housing construction on the former Fort Ord.

Residential Land Use Policy D-1: The City of Marina shall implement the Public Services and Capital Improvement Program in the Fort Ord Reuse Plan to support residential development.

Program D-1.1: The City of Marina shall cooperate with FORA and provide adequate public facilities and services that will support residential revitalization and new housing construction at the former Fort Ord.

Objective E: Coordinate the location, intensity and mix of land uses with alternative transportation goals and transportation infrastructure.

Residential Land Use Policy E-1: The City of Marina shall make land use decisions that support transportation alternatives to the automobile and encourage mixed-use projects and the highest-density residential projects along major transit lines and around stations.

Program E-1.1: The City of Marina shall prepare one or more specific plans for the Marina Village and Mixed Used Corporate Center districts in the city's Town Center Planning Area which are designated as mixed use areas, in order to support transportation alternatives to the automobile.

Program E-1.2: The City of Marina shall encourage CSUMB in the preparation of its master plan to designate high-density residential development near convenience corridors and public transportation routes.

Program E-1.2: The City of Marina shall prepare one or more master or specific plans for the UCMBEST Cooperative Planning District and incorporate provisions to support transportation alternatives to the automobile.

Residential Land Use Policy E-2: The City of Marina shall encourage neighborhood retail and convenience/specialty retail land use in residential neighborhoods.

Program E-2.1: The City of Marina shall designate convenience/specialty retail land use on its zoning map and provide standards for development within residential neighborhoods.

Residential Land Use Policy E-3: In areas of residential development, the City of Marina shall provide for designation of access routes, street and road rights-of-way, off-street and on-street parking, bike paths and pedestrian walkways.

Program E-3.1: The City of Marina shall delineate adequate circulation rights-of-way to and within each residential area by creating circulation rights-of-way plan lines.

Program E-3.2: The City of Marina shall prepare pedestrian and bikeway plans and link residential areas to commercial development and public transit.

Objective F: Balance economic development needs with the needs of the homeless population in the community.

Residential Land Use Policy F-1: The City of Marina shall strive to meet the needs of the homeless population in its redevelopment of the former Fort Ord, specifically in the city's Patton Park housing area.

Program F-1.1: The City of Marina shall develop guidelines to facilitate and enhance the working relationship between FORA and local homeless representatives.

Program F-1.2: The City of Marina shall conduct outreach to homeless service providers and nonprofit low income housing developers to determine homeless needs in the community.

Program F-1.3: The City of Marina shall support development of a standard format for the contracts between FORA and homeless service providers that must be submitted to the federal Housing and Urban Development Agency with this reuse plan.

Objective G: Improve access for people with disabilities by creating a barrier-free environment.

Residential Land Use Policy G-1: The City of Marina shall support broad design standards and accessible environments in developing the Fort Ord planning area.

Program G-1.1: The City of Marina shall identify focused areas and develop inclusionary zoning to encourage group homes and flexibility in household size and composition.

Program G-1.2: The City of Marina shall review all development plans with the goal of making the community more accessible.

Program G-1.3: The City of Marina shall inventory those existing public facilities on former Fort Ord lands that warrant reduction in barriers and develop a long-term program to implement reduction in barriers.

Objective H: Provide General Plan consistency between land use and housing elements.

Residential Land Use Policy H-1: The City of Marina shall incorporate policies in its Housing Element consistent with Fort Ord policies for residential lands.

Program H-1.1: The City of Marina shall revise its housing element to incorporate and address the policy direction in this plan, including but not limited to issues regarding additional housing stock, opportunities for affordable housing, and provisions for housing displacement.

Objective I: Provide for Community Design principles and guidelines to ensure quality of life for Fort Ord residents and surrounding communities.

Residential Land Use Policy I-1: The City of Marina shall support FORA in the preparation of regional urban design guidelines, including a scenic corridor design overlay area, to govern the visual quality of areas of regional importance.

Program I-1.1: The City of Marina shall prepare design guidelines for implementing development on former Fort Ord lands consistent with the regional urban design guidelines (to be prepared by FORA) and the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework.

Program I-1.2: The City of Marina shall review each development proposal for consistency with the regional urban design guidelines and the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework.

Residential Land Use Policy I-2: The City of Marina shall adhere to the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework.

City of Seaside

Objective A: Establish a range of permissible housing densities for the former Fort Ord area.

Residential Land Use Policy A-1: The City of Seaside shall provide variable housing densities to ensure development of housing accessible to all economic segments of the community. Residential land uses shall be categorized according to the following densities:

<u>Land Use Designation</u>	<u>Actual Density- Units/Gross Acre</u>
SFD Low Density Residential	up to 1 Du/Ac
SFD Medium Density Residential	5 to 10 Du/Ac
MFD High Density Residential	10 to 20 Du/Ac
Residential Infill Opportunities	5 to 10 Du/Ac
Planned Development Mixed Use District	8 to 20 Du/Ac

Development intensities for residential and other land uses in the City of Seaside are summarized on Table 3.3-3 in the Framework of the Reuse Plan.

The full range of permitted uses in each Land Use Designation is described in Table 3.4-1 in the Framework of the Reuse Plan.

Program A-1.1: Amend the City's General Plan and Zoning Code to designate former Fort Ord land at the permissible residential densities consistent with the Fort Ord Reuse Plan and appropriate to accommodate the housing types desired for the community.

Objective B: Ensure compatibility between residential development and surrounding land uses.

Residential Land Use Policy B-1: The City of Seaside shall encourage land uses that are compatible with the character of the surrounding districts or neighborhoods and discourage new land use activities which are potential nuisances and/or hazards within and in close proximity to residential areas.

Program B-2.1: The City of Seaside shall revise zoning ordinance regulations on the types of uses allowed in the city's districts and neighborhoods, where appropriate, to ensure compatibility of uses in the Fort Ord planning area.

Program B-2.2: The City of Seaside shall adopt zoning standards for the former Fort Ord lands to achieve compatible land uses, including, but not limited to, buffer zones and vegetative screening.

Objective C: Encourage highest and best use of residential land to enhance and maximize the market value of residential development and realize the economic opportunities associated with redevelopment at the former Fort Ord.

Residential Land Use Policy C-1: The City of Seaside shall provide opportunities for developing market-responsive housing in the Fort Ord planning area.

Program C-1.1: The City of Seaside shall develop an agreement with the U.S. Army to implement the reconfiguration of the POM Annex community. (See Figure 4.1-8)

Program C-1.2: The City of Seaside shall zone and consider development of a golf course community in the New Golf Course Community District, including the existing 219-unit Sun Bay apartment complex on Coe Road and 3,359 new housing units within the remainder of this District. The City of Seaside shall replace the remaining residential stock in the New Golf Course Community District with a range of market-responsive housing. Development of this area is contingent on the reconfiguration of the existing POM Annex so that the Army residential enclave is located totally to the east of North-South Road.

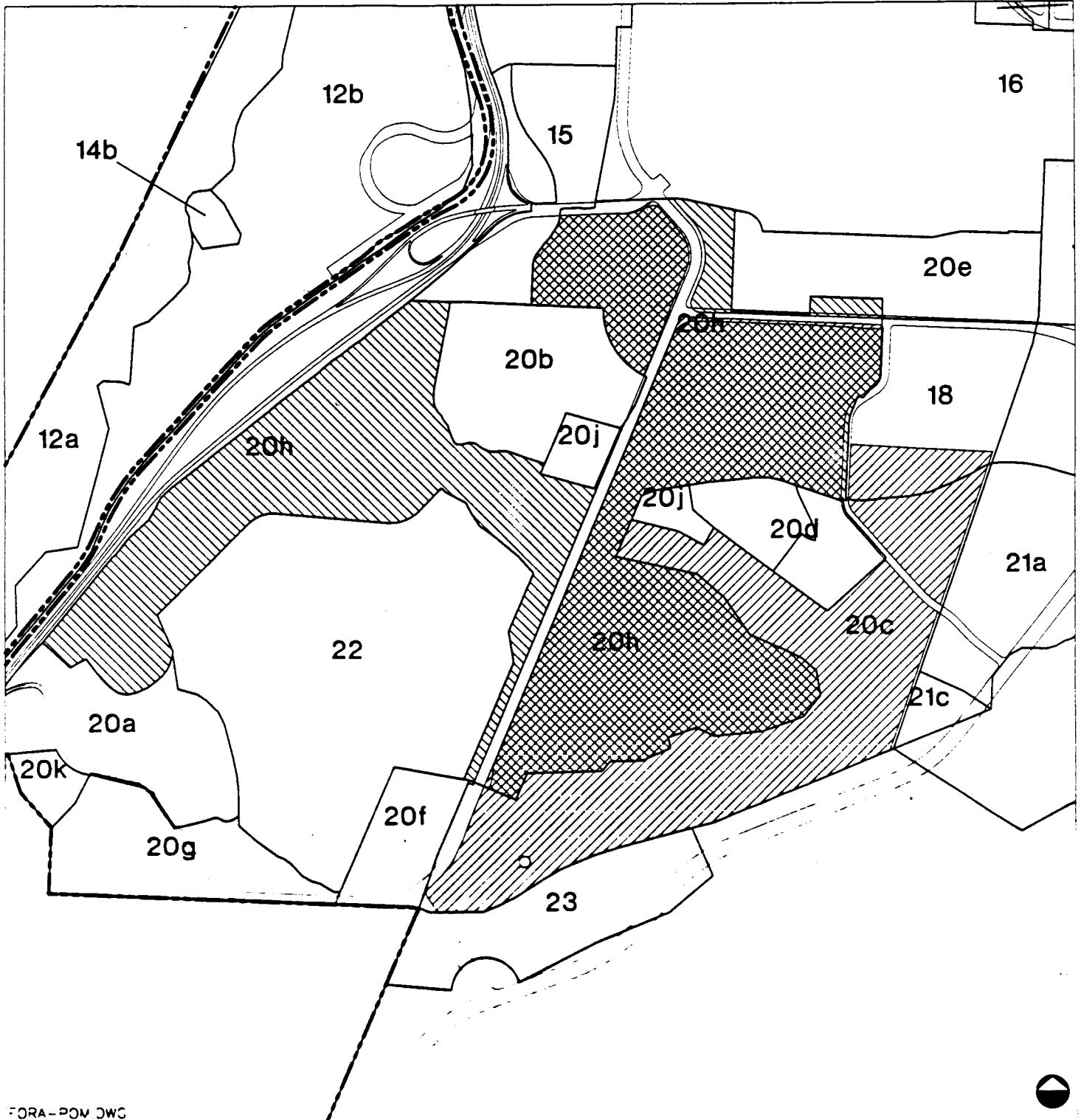
Program C-1.3: The City of Seaside shall assist the U.S. Army to reconfigure the POM Annex. The reconfigured POM Annex should include approximately 805 existing units on 344 acres east of North-South Road and an additional 302 acres of surrounding, vacant land that is intended to be developed for housing to replace the existing POM Annex housing west of North-South Road.

Program C-1.4: The City of Seaside shall prepare a specific plan to provide for market-responsive housing in the University Village District between the CSUMB campus and Gigling Road. This is designated a Planned Development Mixed Use District to encourage a vibrant village with significant retail, personal and business services mixed with housing.

Program C-1.5: The City of Seaside shall amend its zoning ordinance to allow new residential development in the Planned Residential Extension Districts that provides a direct extension of the city's existing residential area west of the former Fort Ord properties.

Objective D: Provide public facilities and services that will support revitalization of existing Army housing and new housing construction on the former Fort Ord.



Residential Land Use Policy D-1: The City of Seaside shall implement the Public Services and Capital Improvement Program in the Fort Ord Reuse Plan to support residential development.



FORA-POM DWG

SOURCE: Jones & Stokes, 1995; Reimer Associates, (Re-projected), 1995; Monterey Co., 1995; EDAW, 1996.

LEGEND:

-  POM Annex - Original Configuration
718 AC
-  POM Annex - Reconfigured
728 AC

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FIGURE 4.1-8

RECONFIGURED POM ANNEX

Attachment D, p. 659 of 1882

Program D-1.1: The City of Seaside shall cooperate with FORA and provide adequate public facilities and services that will support residential revitalization and new housing construction at the former Fort Ord.

Objective E: Coordinate the location, intensity and mix of land uses with alternative transportation goals and transportation infrastructure.

Residential Land Use Policy E-1: The City of Seaside shall make land use decisions that support transportation alternatives to the automobile and encourage mixed-use projects and the highest-density residential projects along major public transportation routes.

Program E-1.1: The City of Seaside shall prepare a specific plan for the University Village mixed-use planning district and incorporate provisions to support transportation alternatives to the automobile.

Program E-1.2: The City of Seaside shall encourage CSUMB in the preparation of its master plan to designate the high-density residential development near convenience corridors and public transportation routes.

Residential Land Use Policy E-2: The City of Seaside shall encourage convenience/specialty retail land use in residential neighborhoods.

Program E-2.1: The City of Seaside shall designate convenience/specialty retail land use on its zoning map and provide standards for development within residential neighborhoods.

Residential Land Use Policy E-3: In areas of residential development, the City of Seaside shall provide for designation of access routes, street and road rights-of-way, off-street and on-street parking, bike paths and pedestrian walkways.

Program E-3.1: The City of Seaside shall delineate adequate circulation rights-of-way to and within each residential area by creating circulation rights-of-way plan lines.

Program E-3.2: The City of Seaside shall prepare pedestrian and bikeway plans and link residential areas to commercial development and public transit.

Objective F: Balance economic development needs with the needs of the homeless population in the community.

Residential Land Use Policy F-1: The City of Seaside shall strive to meet the needs of the homeless population in its redevelopment of the former Fort Ord.

Program F-1.1: The City of Seaside shall develop guidelines to facilitate and enhance the working relationship between FORA and local homeless representatives.

Program F-1.2: The City of Seaside shall conduct outreach to homeless service providers and nonprofit low income housing developers to determine homeless needs in the community.

Program F-1.3: The City of Seaside shall support development of a standard format for the contracts between FORA and homeless service providers that must be submitted to the Federal Housing and Urban Development Agency with this reuse plan.

Objective G: Improve access for people with disabilities by creating a barrier-free environment.

Residential Land Use Policy G-1: The City of Seaside shall support broad design standards and accessible environments in developing the Fort Ord planning area.

Program G-1.1: The City of Seaside shall identify focused areas and develop inclusionary zoning to encourage group homes and flexibility in household size and composition.

Program G-1.2: The City of Seaside shall review all development plans with the goal of making the community more accessible.

Program G-1.3: The City of Seaside shall inventory those existing public facilities on former Fort Ord lands that warrant reduction in barriers and develop a long-term program to implement reduction in barriers.

Objective H: Provide General Plan consistency between land use and housing elements.

Residential Land Use Policy H-1: The City of Seaside shall incorporate policies in its Housing Element consistent with Fort Ord policies for residential lands.

Program H-1.1: The City of Seaside shall revise its housing element to incorporate and address the policy direction in this plan, including but not

limited to issues regarding additional housing stock, opportunities for affordable housing, and provisions for housing displacement.

Objective I: Provide for Community Design principles and guidelines to ensure quality of life for Fort Ord residents and surrounding communities.

Residential Land Use Policy I-1: The City of Seaside shall support FORA in the preparation of regional urban design guidelines, including a scenic corridor design overlay area, to govern the visual quality of areas of regional importance.

Program I-1.1: The City of Seaside shall prepare design guidelines for implementing development on former Fort Ord lands consistent with the regional urban design guidelines (to be prepared by FORA) and the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework.

Program I-1.2: The City of Seaside shall review each development proposal for consistency with the regional urban design guidelines and the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework.

Residential Land Use Policy I-2: The City of Seaside shall adhere to the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework.

County of Monterey

Objective A: Establish a range of permissible housing densities for the Fort Ord area.

Residential Land Use Policy A-1: The County of Monterey shall provide variable housing densities to ensure development of housing accessible to all economic segments of the community. Residential land uses shall be categorized according to the following densities:

<u>Land Use Designation</u>	<u>Actual Density- Units/Gross Acre</u>
SFD Low Density Residential	up to 5 Du/Ac
SFD Medium Density Residential	5 to 10 Du/Ac
MFD High Density Residential	10 to 20 Du/Ac
Residential Infill Opportunities	5 to 10 Du/Ac
Planned Development Mixed Use District	8 to 20 Du/Ac

Development intensities for residential and other land uses in the County of Monterey are summarized on Table 3.3-4 in the Framework of the Re-use Plan.

The full range of permitted uses in each Land Use Designation is described in Table 3.4-1 in the Framework of the Reuse Plan.

Program A-1.1: Amend the County's General Plan, Greater Monterey Peninsula Area Plan and Zoning Code to designate the former Fort Ord land at the permissible residential densities consistent with the Fort Ord Reuse Plan and appropriate to accommodate the housing types desired for the community.

Program A-1.2: Provide for the appropriate infill residential zoning for CSUMB to expand its housing stock.

Objective B: Ensure compatibility between residential development and surrounding land uses.

Residential Land Use Policy B-1: The County of Monterey shall encourage land uses that are compatible with the character of the surrounding districts or neighborhoods and discourage new land use activities which are potential nuisances and/or hazards within and in close proximity to residential areas.

Program B-2.1: The County of Monterey shall revise zoning ordinance regulations on the types of uses allowed in the county's districts and neighborhoods, where appropriate, to ensure compatibility of uses in the Fort Ord planning area.

Program B-2.2: The County of Monterey shall adopt zoning standards for the former Fort Ord lands to achieve compatible land uses, including, but not limited to, buffer zones and vegetative screening.

Objective C: Encourage highest and best use of residential land to enhance and maximize the market value of residential development and realize the economic opportunities associated with redevelopment at the former Fort Ord.

Residential Land Use Policy C-1: The County of Monterey shall provide opportunities for developing market-responsive housing in the Fort Ord planning area.

Program C-1.1: The County of Monterey shall amend the Greater Monterey Peninsula Area Plan, zone and consider development of a significant new residential area in the County Eucalyptus Planning Area at the perimeter of the BLM land. The district is designated as SFD Low Density Residential (1 to 5 Du/Acre), and may be developed with a focal point of a golf course and visitor-serving hotel.

Program C-1.2: The County of Monterey shall amend the Greater Monterey Peninsula Area Plan and zone for the development of new housing and other use in the East Garrison Historic District in the County Reservation Road Planning Area to be designated as a Planned Development Mixed Use District. This district may include a residential component, perhaps in a village setting incorporated into the designated historic district, depending on the ultimate location of the POST facilities within the former Fort Ord.

Objective D: Provide public facilities and services that will support revitalization of existing Army housing and new housing construction on the former Fort Ord.

Residential Land Use Policy D-1: The County of Monterey shall implement the Public Services and Capital Improvement Program in the Fort Ord Reuse Plan to support residential development.

Program D-1.1: The County of Monterey shall cooperate with FORA and provide adequate public facilities and services that will support residential revitalization and new housing construction at the former Fort Ord.

Objective E: Coordinate the location, intensity and mix of land uses with alternative transportation goals and transportation infrastructure.

Residential Land Use Policy E-1: The County of Monterey shall make land use decisions that support transportation alternatives to the automobile and encourage mixed-use projects and the highest-density residential projects along major transit and public transportation routes.

Program E-1.1: The County of Monterey shall prepare one or more specific plans for the UCMBEST Cooperative Planning District.

Program E-1.2: The County of Monterey shall prepare one or more specific plans for the East Garrison District and incorporate provisions to support transportation alternatives to the automobile.

Residential Land Use Policy E-2: The County of Monterey shall encourage convenience/specialty retail land use in residential neighborhoods.

Program E-2.1: The County of Monterey shall designate convenience/specialty retail land use on its zoning map and provide standards for development within residential neighborhoods.

Residential Land Use Policy E-3: In areas of residential development, the County of Monterey shall provide for designation of access routes, street and road rights-of-way, off-street and on-street parking, bike paths and pedestrian walkways.

Program E-3.1: The County of Monterey shall delineate adequate circulation rights-of-way to and within each residential area by creating circulation rights-of-way plan lines.

Program E-3.2: The County of Monterey shall prepare pedestrian and bike-way plans and link residential areas to commercial development and public transit.

Objective F: Balance economic development needs with the needs of the homeless population in the community.

Residential Land Use Policy F-1: The County of Monterey shall strive to meet the needs of the homeless population in its redevelopment of the former Fort Ord.

Program F-1.1: The County of Monterey shall develop guidelines to facilitate and enhance the working relationship between FORA and local homeless representatives.

Program F-1.2: The County of Monterey shall conduct outreach to homeless service providers and nonprofit low income housing developers to determine homeless needs in the community.

Program F-1.3: The County of Monterey shall support development of a standard format for the contracts between FORA and homeless service providers that must be submitted to the Federal Housing and Urban Development Agency with this reuse plan.

Objective G: Improve access for people with disabilities by creating a barrier-free environment.

Residential Land Use Policy G-1: The County of Monterey shall support broad design standards and accessible environments in developing the Fort Ord planning area.

Program G-1.1: The County of Monterey shall identify focused areas and develop inclusionary zoning to encourage group homes and flexibility in household size and composition.

Program G-1.2: The County of Monterey shall review all development plans with the goal of making the community more accessible.

Program G-1.3: The County of Monterey shall inventory those existing public facilities on former Fort Ord lands that warrant reduction in barriers and develop a long-term program to implement reduction in barriers.

Objective H: Provide General Plan consistency between land use and housing elements.

Residential Land Use Policy H-1: The County of Monterey shall incorporate policies in its Housing Framework consistent with Fort Ord policies for residential lands.

Program H-1.1: The County of Monterey shall revise its housing element to incorporate and address the policy direction in this plan, including but not limited to issues regarding additional housing stock, opportunities for affordable housing, and provisions for housing displacement.

Objective I: Provide for Community Design principles and guidelines to ensure quality of life for Fort Ord residents and surrounding communities.

Residential Land Use Policy I-1: The County of Monterey shall adhere to the Community Design principles of the Fort Ord Reuse Plan Design Framework.

Program I-1.1: The County of Monterey shall prepare design guidelines for implementing development on former Fort Ord lands consistent with the Community Design Element of the Reuse Plan.

Program I-1.2: The County of Monterey shall review each development proposal for consistency with the Community Design principles and the County's design guidelines.

Objective J: Provide for adequate housing for CSUMB.

Residential Land Use Policy J-1: The County shall coordinate with CSUMB to provide for maintenance of existing housing and infill of new housing.

Program J-1.1: The County shall amend the Monterey Peninsula Area Plan and provide zoning for appropriate housing consistent with CSUMB master plan.

4.1.3 Commercial Land Use

4.1.3.1 Summary of Existing Conditions

This section incorporates by reference information from the Land Use Baseline Study of Fort Ord, California (U.S. Army Corps of Engineers, Sacramento District, 1992b), the Environmental Impact Statement for Fort Ord Disposal and Reuse (U.S. Army Corps of Engineers, Sacramento District, June 1993), and the Supplemental Environmental Impact Statement (U.S. Army Corps of Engineers, Sacramento District, Dec. 1995). These documents are available at the public information repository established at the Seaside Branch Library.

The existing conditions described in this section refer to the baseline year of 1991.

Fort Ord: Existing Local Services/Commercial Areas land use category encompasses a total area of 34 acres. It provides retail or other commercial services, such as gas stations, mini-markets, and fast food facilities.

City of Marina: There are no existing commercial land uses located within the Marina city limits of the former Fort Ord.

City of Seaside: Existing Local Services/Commercial land uses associated with the POM Annex residential use are located within the Seaside city limits of the former Fort Ord.

County of Monterey: The County designates all land within Fort Ord boundaries public/quasi-public. There are no existing commercial land uses located within the Monterey County limits of the former Fort Ord.

4.1.3.2 Commercial Land Use Objectives

Objective A: Designate sufficient area for a variety of commercial centers to meet the retail and business needs of the Fort Ord community.

The Land Use Concept for the Fort Ord Reuse Plan provides for 14 million square feet of ultimate commercial development. Of this total, the Business Park/Light Industrial/Office/Research and Development use receives about 12 million square feet, while 2 million is allocated to the Retail use category. Almost 5 million square feet are scheduled to be allocated by the year 2015, approximately 3.9 million square feet for Business Park/Light Industrial/Office/R&D, and 1.1 million for Retail.

The following typical development intensities have been allocated to commercial uses at the former Fort Ord:

Light Industrial/Business Park: permitted floor area ratio (FAR) of .20, some areas slightly lower (.13 to .15 FAR) to account for special site conditions. The Land Use Concept accommodates numerous locations at the former Fort Ord that would be attractive to this market. They include:

- **Marina Town Center Planning Area:** along State Highway 1 and adjacent to CSUMB;
- **Marina Airport Planning Area:** UCMBEST Center and Marina Airport Business Park;
- **County South Gate Planning Area:** Adjacent to planned hotel and golf course development;
- **County York Road Planning Area:** Extension of existing Ryan Ranch development; and
- **County Reservation Road Planning Area:** UCMBEST and East Garrison.

Office/R&D: Permitted FAR of .25, some specific market segments or strategic locations higher (to .35 FAR) because they may be able to attract more intensive development. Numerous locations at the former Fort Ord would be attractive to the office/R&D market. The Reuse Plan's Land Use Concept accommodates them as follows:

- **Marina Town Center Planning Area:** Frontage along State Highway 1, University Office Park and mixed use village adjacent to CSUMB;
- **Marina Airport Planning Area:** UCMBEST Cooperative Planning District;
- **County South Gate Planning Area:** Adjacent to hotel and golf course development;
- **County York Road Planning Area:** Extension of existing Ryan Ranch development; and
- **County Reservation Road Planning Area:** UC MBEST Center and East Garrison.

Retail and Service Centers: Permitted FAR of .25. The regional and neighborhood retail uses at the former Fort Ord are primarily located in the planning areas surrounding the western end of the CSUMB campus:

- **Marina Town Center Planning Area:** mixed use corporate center and Village;
- **Seaside University Planning Area:** Gateway Regional Entertainment District and University Village; and
- **Seaside Residential Planning Area:** Planned Residential Extension Districts.

Convenience retail and specialty sites—a total of 10—will be encouraged in a more dispersed pattern to support the residential development pattern on former Fort Ord lands and to reduce vehicle trips.

Objective B: Establish visitor-serving hotel and golf course designations within suitable former Fort Ord land.

Hotels and golf courses are located in the Reuse Plan by specific “hotel and golf course opportunity sites”. Appropriate size and character of each facility will be based on the setting. Building height limits are proposed as part of the design guidelines for the plan. Since there are sufficient land resources to accommodate the distribution of hotel rooms in the Ultimate Plan, hotel buildings at the former Fort Ord should stay within a low-rise configuration. It is anticipated that most new hotel sites should be associated with a golf course to enhance the operating performance of this commercial land use.

The total Fort Ord Visitor Serving program provides 139 acres for hotel sites to accommodate 1,790 rooms, and 678 acres of golf opportunity sites.

Objective C: Ensure that various types of commercial land use categories are balanced, and that business and industry enhance employment opportunities in and self-sufficiency of Fort Ord communities.

Planning for reuse of the former military base allows local jurisdictions to create a community that is largely self-contained, a place where residents can live, work, do business, shop, and enjoy recreational facilities. The commercial activities should be allocated across the Fort Ord area to bring about and maintain this balance.

The economic objectives for Fort Ord base reuse address the need for balanced growth and call for creating a setting which is conducive to long-term balanced economic and employment growth and the self-sufficiency of local communities (FORA Reuse Plan Alternatives Analysis).

Objective D: Encourage commercial development in close proximity to major residential areas and transportation routes.

Allowing for mixed-use development at the former Fort Ord by combining compatible land uses, such as shops, offices and housing, to locate closer together, will help decrease travel distances, increase transit ridership, walking and biking, and ultimately reduce the vehicle emissions associated with various types of land uses.

The commercial land use strategy for Fort Ord base reuse locates commercial activity near residential areas. It encourages convenience retail and services in a dispersed pattern to support the residential development pattern. The Convenience and Specialty Retail designation allows the distribution of commercial uses, establishing small scale centers that can meet the needs of residential districts. Uses allowed within this category, in addition to convenience and specialty retail, include restaurants and personal services, promoting additional linkage between residential and commercial development. This strategy will help reduce local vehicular trips and trip lengths, which in turn will lead to fewer air quality impacts from Fort Ord development.

A mix of commercial and residential uses is further encouraged by designating mixed-use districts that will allow people to both live and work in the Fort Ord area and therefore to depend less on their cars. The land use concept provides for Planned Development Mixed Use in each of the three land use jurisdictions. This designation is intended to encourage the development of pedestrian-oriented community centers that support a wide variety of commercial, residential, retail, professional services, and cultural and entertainment activities. Generally, this mixed use will be located near future transit facilities or along transit corridors, and near commercial and employment centers.

Objective E: Provide for adequate access to commercial developments.

The proposed base reuse circulation system is designed to accommodate and enhance commercial growth and expansion at the former Fort Ord. For the regional and neighborhood retail uses, primarily located around the western end of the CSUMB campus, approximately 20% of the land area is reserved for "local-serving" roads. The regional retail centers designated in the cities of Seaside and Marina are located along State Highway 1 frontage at the Main Gate and 12th Street interchanges to provide areawide access and visibility. Convenience retail and services will be placed in a dispersed pattern throughout the residential development areas on the former Fort Ord and will be accessible via local roads, bike paths and pedestrian trails.

Retail and services are generally served with surface parking in a combination of off-street and on-street locations.

(For further discussion of the proposed Fort Ord transportation system, please refer to the Plan's Section 4.2, Circulation Element.)

Objective F: Ensure appropriate design standards for commercial development at Fort Ord.

Establishing high-quality design standards for Fort Ord commercial development will help to establish the form and appearance for the area and ensure that the commercial features will contribute to community identity, livability, and quality of life for residents of the Fort Ord area and surrounding jurisdictions.

(For further discussion of this topic, please refer to Section 3.1 Community Design Vision.)

4.1.3.3 Commercial Land Use Policies and Programs

City of Marina

Objective A: Designate sufficient area for a variety of commercial centers to meet the retail and business needs of the Fort Ord community.

Commercial Land Use Policy A-1: The City of Marina shall allocate land in commercial and office categories adequate to provide goods and services for the needs of its citizens, other Fort Ord jurisdictions and their trade areas. Commercial land uses shall be designated as follows:

- **Business Park/Light Industrial**

Marina Municipal Airport District (Polygons 1a, 1f):
60 acres, 0.13 FAR, 340,000 square feet

Light Industrial/Technology Center (Polygons 1a, 1f):
48.37 acres, .20 FAR, 421,399 square feet

North Airport Lt. Ind./Technology District (Polygon 1c)
207 acres, .20 FAR, 1,807,304 square feet

- **Office/R&D**

Mixed Use Corporate Center (Polygons 2a, 2b)
53.68 acres, .35 FAR, 818,405 square feet

Marina Village District (Polygons 2b/c/d/g, 3)
2 acres, .35 FAR, 30,492 square feet

University Office Park/R&D District
64.65 acres, .20 FAR, 563,231 square feet

- **Regional Retail**

Mixed Use Corporate Center (Polygons 2a, 2b)
30 acres, .25 FAR, 326,700 square feet

- **Neighborhood Retail**

Planned Residential District (Polygons 2a, 4, 4a, 5b/c)
17.25 acres, .25 FAR, 187,853 square feet

Mixed Use Corporate Center (Polygons 2a, 2b)
9 acres, .35 FAR, 98,010 square feet

- **Convenience/Specialty Retail**

Planned Residential District (Polygons 2a, 4, 4a, 5b/c)
1 acre, .25 FAR, 10,890 square feet

Civic/Mixed Use District (Polygon 5a)
1 acre, .25 FAR, 10,890 square feet

MBEST Cooperative Planning District (Polygon 7c)
1 acre, .25 FAR, 10,890 square feet

Marina Village District (Polygons 2b/c/d/g, 3)
7 acres, .25 FAR, 76,230 square feet

Program A-1.1: Amend the City's General Plan and Zoning Code to designate former Fort Ord land at the permissible commercial densities consistent with the Fort Ord Reuse Plan and appropriate to accommodate the commercial activities desired for the community.

Objective B: Establish visitor-serving hotel and golf course designations within suitable former Fort Ord land.

Commercial Land Use Policy B-1: The City of Marina shall allocate land in the visitor serving category to promote development of hotel and resort uses, along with associated commercial recreation uses such as golf courses. Visitor-serving uses shall be designated as follows:

- MBEST Cooperative Planning District (Polygon 7c): Hotel Opportunity Site, 10 acres, 150 rooms.
- North Airport Visitor-Serving District (Polygon 1c): Hotel Opportunity Site, 15 acres, 200 rooms; Golf Course Opportunity Site, 184.67 acres.

Program B-1.1: Amend the City's General Plan and Zoning Code to designate visitor-serving uses at the allowable densities consistent with the Fort Ord Reuse Plan and appropriate to accommodate the commercial activities desired for the community.

Commercial Land Use Policy B-2: The City of Marina shall not include nor allow card rooms or casinos for gambling as acceptable land uses on the former Fort Ord.

Program B-2.1: The City of Marina shall amend the City's General Plan and Zoning Code to prohibit card rooms or casinos as or conditionally permitted land uses on the former Fort Ord.

Commercial Land Use Policy B-3: The City of Marina will follow hotel building height limits which are proposed as part of the Community Design standards of the Fort Ord Reuse Plan.

Program B-3.1: The City of Marina shall review each hotel proposal for consistency with the Community Design standards of the Fort Ord Reuse Plan and the City's design guidelines for Fort Ord lands .

Objective C: Ensure that various types of commercial land use categories are balanced, and that business and industry enhance employment opportunities in and self-sufficiency of Fort Ord communities.

Commercial Land Use Policy C-1: The City of Marina shall encourage a strong and stable source of city revenues by providing a balance of commercial land use types on its former Fort Ord land, while preserving the area's community character.

Program C-1.1: The City of Marina shall amend its zoning map to provide for commercial land use types and densities consistent with the Land Use Concept in the Fort Ord Reuse Plan in order to encourage employment opportunities and self-sufficiency.

Objective D: Encourage commercial development in close proximity to major residential areas and transportation routes.

Commercial Land Use Policy D-1: The City of Marina shall allow a mix of residential and commercial uses to decrease travel distances, encourage walking and biking and help increase transit ridership.

Program D-1.1: The City of Marina shall allow for all types and a balance of commercial designations in the following Planned Development Mixed Use Districts:

- UCMBEST Cooperative Planning District
- Del Monte Mixed Use District

- Mixed Use Corporate Center District
- Marina Village District

Program D-1.2: The City of Marina shall designate convenience/specialty retail land use on its zoning map and provide standards for development within residential neighborhoods.

Objective E: Provide for adequate access to commercial developments.

Commercial Land Use Policy E-1: The City of Marina shall coordinate the location and intensity of commercial areas at the former Fort Ord with transportation resources and in a manner which offers convenient access.

Program E-1.1: The City of Marina shall coordinate with FORA and the Transportation Agency of Monterey County to address existing regional transportation needs and to implement the long-range circulation strategy for the former Fort Ord as specified in the Reuse Plan.

Commercial Land Use Policy E-2: In areas of commercial development, the City of Marina shall provide for designation of access routes, street and road rights-of-way, off-street and on-street parking, bike paths and pedestrian walkways.

Program E-2.1: The City of Marina shall delineate adequate circulation rights-of-way to and within each commercial area by creating circulation right-of-way plan lines.

Program E-2.2: The City of Marina shall prepare pedestrian and bikeway plans and link commercial development to residential areas and public transit.

Program E-2.3: The City of Marina shall preserve sufficient land at the former Fort Ord for right-of-ways to serve long-range commercial build-out.

Objective F: Provide for Community Design principles and guidelines for commercial development at the former Fort Ord.

Commercial Land Use Policy F-1: The City of Marina shall support FORA in the preparation of regional urban design guidelines, including a scenic corridor design overlay area, to govern the visual quality of areas of regional importance.

Commercial Land Use Policy F-2: The City of Marina shall adhere to the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework for commercial development at the former Fort Ord.

Program F-1.1: The City of Marina shall prepare design guidelines for implementing commercial development on former Fort Ord lands consistent with the regional urban design guidelines (to be prepared by FORA) and the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework.

Program F-1.2: The City of Marina shall review each commercial development proposal for consistency with the regional urban design guidelines and the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework.

City of Seaside

Objective A: Designate sufficient area for a variety of commercial centers to meet the retail and business needs of the Fort Ord community.

Commercial Land Use Policy A-1: The City of Seaside shall allocate land in commercial and office categories adequate to provide goods and services for the needs of its citizens, other Fort Ord jurisdictions and their trade areas. Commercial land use shall be designated as follows:

- **Regional Retail**
Gateway Regional Entertainment District (Polygon 15)
43.78 acres, .25 FAR, 476,764 square feet
- **Neighborhood Retail**
University Village District (Polygons 18, 20e, 20h)
27.85 acres, .25 FAR, 303,287 square feet

Planned Residential Extension District (Polygon 23)
26.05 acres, .25 FAR, 283,685 square feet
- **Convenience/Specialty Retail**
University Village District (Polygons 18, 20e, 20h)
4 acres, .25 FAR, 43,560 square feet

Program A-1.1: Amend the City's General Plan and Zoning Code to designate former Fort Ord land at the permissible commercial densities consistent with the Fort Ord Reuse Plan and appropriate to accommodate the commercial activities desired for the community.

Objective B: Establish visitor-serving hotel and golf course designations within suitable former Fort Ord land.

Commercial Land Use Policy B-1: The City of Seaside shall allocate land in the visitor serving category to promote development of hotel and resort uses, along with associated commercial recreation uses such as golf courses. Visitor-serving uses shall be designated as follows:

- Visitor-Serving Hotels and Golf Courses (Polygon 22): Hotel Opportunity Site, approximately 25 acres, 800 rooms; 36-Hole Golf Course Site, 350.14 acres.

Program B-1.1: Amend the City's General Plan and Zoning Code to designate visitor-serving uses at the allowable densities consistent with the Fort Ord Reuse Plan and appropriate to accommodate the commercial activities desired for the community.

Commercial Land Use Policy B-2: The City of Seaside shall not include nor allow card rooms or casinos for gambling as acceptable land uses on the former Fort Ord.

Program B-2.1: The City of Seaside shall amend the City's General Plan and Zoning Code to prohibit card rooms or casinos as permitted or conditionally permitted land uses on the former Fort Ord.

Commercial Land Use Policy B-3: The City of Seaside will follow hotel building height limits which are proposed as part of the Community Design standards of the Fort Ord Reuse Plan.

Program B-3.1: The City of Seaside shall review each hotel proposal for consistency with the Community Design standards of the Fort Ord Reuse Plan and the City's design guidelines for former Fort Ord lands.

Objective C: Ensure that various types of commercial land use categories are balanced, and that business and industry enhance employment opportunities in and self-sufficiency of Fort Ord communities.

Commercial Land Use Policy C-1: The City of Seaside shall encourage a strong and stable source of city revenues by providing a balance of commercial land use types on its former Fort Ord land, while preserving the area's community character.

Program C-1.1: The City of Seaside shall amend its zoning map to provide for commercial land use types and densities consistent with the Land Use

Concept in the Fort Ord Reuse Plan in order to encourage employment opportunities and self-sufficiency.

Objective D: Encourage commercial development in close proximity to major residential areas and transportation routes.

Commercial Land Use Policy D-1: The City of Seaside shall allow a mix of residential and commercial uses to decrease travel distances, encourage walking and biking and help increase transit ridership.

Program D-1.1: The City of Seaside shall allow for a balance of neighborhood and convenience commercial designations in the University Village Planned Development Mixed Use District to serve the CSUMB population and Community Park in Polygon 18.

Program D-1.2: The City of Seaside shall designate convenience/specialty retail land use on its zoning map and provide standards for development within residential neighborhoods.

Objective E: Provide for adequate access to commercial developments.

Commercial Land Use Policy E-1: The City of Seaside shall coordinate the location and intensity of commercial areas at the former Fort Ord with transportation resources and in a manner which offers convenient access.

Program E-1.1: The City of Seaside shall coordinate with FORA and the Transportation Agency of Monterey County to address existing regional transportation needs and to implement the long-range circulation strategy for the former Fort Ord as specified in the Reuse Plan.

Commercial Land Use Policy E-2: In areas of commercial development, the City of Seaside shall provide for designation of access routes, street and road rights-of-way, off-street and on-street parking, bike paths and pedestrian walkways.

Program E-2.1: The City of Seaside shall delineate adequate circulation rights-of-way to and within each commercial area by creating circulation rights-of-way plan lines.

Program E-2.2: The City of Seaside shall prepare pedestrian and bikeway plans and link commercial development to residential areas and public transit.

Program E-2.3: The City of Seaside shall preserve sufficient land at the former Fort Ord for right-of-ways to serve long-range commercial build-out.

Objective F: Provide for Community Design principles and guidelines for commercial development at the former Fort Ord.

Commercial Land Use Policy F-1: The City of Seaside shall support FORA in the preparation of regional urban design guidelines, including a scenic corridor design overlay area, to govern the visual quality of areas of regional importance.

Commercial Land Use Policy F-2: The City of Seaside shall adhere to the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework for commercial development at the former Fort Ord.

Program F-1.1: The City of Seaside shall prepare design guidelines for implementing commercial development on former Fort Ord lands consistent with the regional urban design guidelines (to be prepared by FORA) and the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework.

Program F-1.2: The City of Seaside shall review each commercial development proposal for consistency with the regional urban design guidelines and the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework.

County of Monterey

Objective A: Designate sufficient area for a variety of commercial centers to meet the retail and business needs of the Fort Ord community.

Commercial Land Use Policy A-1: The County of Monterey shall allocate land in commercial and office categories adequate to provide goods and services for the needs of its citizens, other Fort Ord jurisdictions and their trade areas. Commercial land use shall be designated as follows:

- **Business Park/Light Industrial**
East Garrison District (Polygon 11b):
70 acres, 0.2 FAR, 609,840 square feet
- **Office/R&D**
MBEST Cooperative Planning District (Polygons 6a, 9b)
30.15 acres, .35 FAR, 459,667 square feet
267.47 acres, .27 FAR, 3,192,372 square feet

East Garrison District (Polygon 11b)
25 acres, .20 FAR, 217,800 square feet

- **Convenience/Specialty Retail**

East Garrison District (Polygon 11b)
5 acres, 54,461 square feet

Residential/Recreational District (Polygon 19a, 19b)
1 acre, 10,890 square feet

County Recreation/Habitat District (Polygon 8a)
1 acre, 10,890 square feet

County Recreation District (Polygon 17a)
1 acre, 10,890 square feet

Program A-1.1: Amend the County's General Plan and Zoning Code to designate former Fort Ord land at the permissible commercial densities consistent with the Fort Ord Reuse Plan and appropriate to accommodate the commercial activities desired for the community.

Objective B: Establish visitor-serving hotel and golf course designations within suitable former Fort Ord land.

Commercial Land Use Policy B-1: The County of Monterey shall allocate land in the visitor serving category to promote development of hotel and resort uses, along with associated commercial recreation uses such as golf courses. Visitor-serving uses shall be designated as follows:

- Residential/Recreational District (Polygons 19a, 21a/b/c): Hotel Opportunity Site, 15 acres, 300 rooms; 18-Hole Golf Course Opportunity Site, 179 acres.
- Visitor-Serving Hotel/Golf Course District (Polygon 29a): Hotel Opportunity Site, 15 acres, 300 rooms; 18-Hole Golf Course Opportunity Site, 149.05 acres.

Program B-1.1: Amend the County's General Plan and Zoning Code to designate visitor-serving uses at the allowable densities consistent with the Fort Ord Reuse Plan and appropriate to accommodate the commercial activities desired for the community.

Commercial Land Use Policy B-2: The County of Monterey shall not include nor allow card rooms or casinos for gambling as acceptable land uses on the former Fort Ord.

Program B-2.1: The County of Monterey shall amend its General Plan and Zoning Code to prohibit card rooms or casinos as permitted or conditionally permitted land uses on the former Fort Ord.

Commercial Land Use Policy B-3: The County of Monterey will follow hotel building height limits which are proposed as part of the Community Design standards of the Fort Ord Reuse Plan.

Program B-3.1: The County of Monterey shall review each hotel proposal for consistency with the Community Design standards of the Fort Ord Reuse Plan and the County's design guidelines for former Fort Ord lands.

Objective C: Ensure that various types of commercial land use categories are balanced, and that business and industry enhance employment opportunities in and self-sufficiency of Fort Ord communities.

Commercial Land Use Policy C-1: The County of Monterey shall encourage a strong and stable source of county revenues by providing a balance of commercial land use types on its former Fort Ord land, while preserving the area's community character.

Program C-1.1: The County of Monterey shall amend its zoning map to provide for commercial land use types and densities consistent with the Land Use Concept in the Fort Ord Reuse Plan in order to encourage employment opportunities and self-sufficiency.

Objective D: Encourage commercial development in close proximity to major residential areas and transportation routes.

Commercial Land Use Policy D-1: The County of Monterey shall allow a mix of residential and commercial uses to decrease travel distances, encourage walking and biking and help increase transit ridership.

Program D-1.1: The County of Monterey shall allow for convenience commercial designations in the following Planned Development Mixed Use Districts:

- UCMBEST Cooperative Planning District
- East Garrison District

Program D-1.2: The City of Marina shall designate convenience/specialty retail land use on its zoning map and provide standards for development within residential neighborhoods.

Objective E: Provide for adequate access to commercial developments.

Commercial Land Use Policy E-1: The County of Monterey shall coordinate the location and intensity of commercial areas at the former Fort Ord with transportation resources and in a manner which offers convenient access.

Program E-1.1: The County of Monterey shall coordinate with FORA and the Transportation Agency of Monterey County to address existing regional transportation needs and to implement the long-range circulation strategy for the former Fort Ord as specified in the Reuse Plan.

Commercial Land Use Policy E-2: In areas of commercial development, the County of Monterey shall provide for designation of access routes, street and road rights-of-way, off-street and on-street parking, bike paths and pedestrian walkways.

Program E-2.1: The County of Monterey shall delineate adequate circulation rights-of-way to and within each commercial area by creating circulation rights-of-way plan lines.

Program E-2.2: The County of Monterey shall prepare pedestrian and bike-way plans and link residential areas to commercial development to residential areas and public transit.

Program E-2.3: The County of Monterey shall preserve sufficient land at the former Fort Ord for right-of-ways to serve long-range commercial build-out.

Objective F: Provide for Community Design principles and guidelines for commercial development at the former Fort Ord.

Commercial Land Use Policy F-1: The County of Monterey shall support FORA in the preparation of regional urban design guidelines, including a scenic corridor design overlay area, to govern the visual quality of areas of regional importance.

Commercial Land Use Policy F-2: The County of Monterey shall adhere to the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework for commercial development at the former Fort Ord.

Program F-1.1: The County of Monterey shall prepare design guidelines for implementing commercial development on former Fort Ord lands consistent with the regional urban design guidelines (to be prepared by FORA) and the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework.

Program F-1.2: The County of Monterey shall review each commercial development proposal for consistency with the regional urban design guidelines and the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework.

4.1.4 Recreation/Open Space Land Use

4.1.4.1 Summary of Existing Conditions

Fort Ord

Existing recreational uses of open space at the former Fort Ord include two golf courses and a club house, baseball diamonds, tennis courts, and playgrounds. Training areas are also part of this designation and include a central track and field, a stadium, and a recreation complex. The combined land use category of Open Space/Training areas in the developed area of the former Fort Ord covers a total of 837 acres. In the undeveloped areas, this land use constitutes the large inland area of 22,576 acres left primarily in its natural state without the development of facilities. Uses here include the training/fire range for advanced military training operations, recreational areas (i.e. hunting, fishing and camping), and land leased to local farmers for livestock grazing.

Over 16,000 acres in the interior of the former Fort Ord are dedicated as a Natural Resource Management Area to be held and managed for that purpose by the Bureau of Land Management. BLM is obligated to specific management activities through the adopted Habitat Management Plan (HMP) and is taking a leading role in the Coordinated Resource Management and Planning Program (CRMP).

City of Marina

The Fort Ord area within the Marina city limits includes several Open Space/Training areas, including the Equestrian Center, recreational facilities, and open space areas around the Marina Municipal Airport. The city's SOI includes the East Garrison and encompasses some training areas there.

City of Seaside

Open Space/Training areas within the Seaside city limits include the Black Horse and Bayonet championship golf courses.

County of Monterey

Unincorporated Monterey County includes the coastal zone of approximately 1,050 acres, extending 4 miles along Monterey Bay. The beach front property was used primarily for military training operations and open space. The county area also includes the large inland undeveloped area, which was used for the inland training/fire range for advanced military training operations, recreational areas (i.e. hunting, fishing and camping), and land leased to local farmers for livestock grazing.

4.1.4.2 Recreation/Open Space Land Use Objectives

Objective A: Encourage land uses that respect, preserve and enhance the natural resources of Fort Ord.

The former Fort Ord is located in a diverse and scenic natural environment. From coastal strand and dune areas to maritime chaparral and oak woodlands, the area offers a broad range of natural features. Land use and design policies can encourage development that enhances the beauty of the natural environment by carefully distributing building intensity and land uses. Fort Ord jurisdictions can preserve the environment by encouraging project design that is responsive to natural features, such as plant and animal habitats.

For further discussion of issues related to Fort Ord's natural environment, please turn to the elements addressing Recreation and Open Space, and Conservation.

Objective B: Use open space as a land use link and buffer.

Although open space exists in contiguous areas at the former Fort Ord, it will also serve an important purpose between various other existing and planned land uses. In this context, open space creates a vital connectivity with the natural resources and open space areas elsewhere and enhances the unique character of the Fort Ord community. Preservation of these "ribbons" of open space areas will be an important consideration in land use planning for the base.

Objective C: Reserve sufficient lands for regional, community and neighborhood parks and recreation facilities in the Fort Ord area and adjacent communities.

The abundance of open space resources at the former Fort Ord allows the jurisdictions involved in reuse planning to provide for ample parks and recreation uses as development strategies are considered for the area. The Fort Ord land use strategy promotes the compatible recreational use of diverse open space and recreational resources here to enhance the quality of life for residents, students and the work force within FORA boundaries and in the surrounding communities. These special resources will also contribute to the diversity of the tourist economy of the Monterey Peninsula.

The Open Space/Recreation designation on the Reuse land use plan has been applied to all planned parkland which will be publicly owned, including Fort Ord Dunes State Beach. In certain cases it has been applied to

encourage the development of commercial recreation opportunities such as equestrian centers or golf courses. Allowed uses within the designation include convenience retail, commercial recreation such as equestrian centers/trails and golf courses, public amphitheaters, and habitat management.

The Open Space program for the Reuse Plan designates 1,952 acres for park use.

Objective D: Retain open space to enhance the appearance of special areas that serve as primary gateways to the Fort Ord area.

Gateways are points of entry into and embarkation from a community. When entering a community, gateways signify a sense of arrival and help to establish a sense of place. The former Fort Ord Army Base had well-defined gateways at major roadways to secure the base. Because there has been continued usage and significance of these existing gateways, maintaining their continuity to signify entry into the Fort Ord community is a logical progression in the conversion of the base.

The most significant gateway into the former Fort Ord is the main gate area, at State Highway 1 and Lightfighter Drive. Secondary entries include the 12th Street entry area at State Highway 1, and several other entries at Del Monte Ave., North-South Road, and Reservation Road.

Objective E: Coordinate open space and recreation land use in Monterey County with other affected agencies at the former Fort Ord, such as the Bureau of Land Management, the California Department of State Parks and Recreation, and the University of California.

The County of Monterey lands at the former Fort Ord contain several large open space areas that need special management and coordination with other agencies.

Objective F: Preserve and protect the Habitat Management Area set aside at the former Fort Ord.

For a detailed discussion of the Habitat Management Area and Plan, as well as related goals, objectives, policies and programs, please turn to Section 4.4 of this Reuse Plan.

4.1.4.3 Recreation/Open Space Land Use Policies and Programs

City of Marina

Objective A: Encourage land uses that respect, preserve and enhance natural resources and open space at the former Fort Ord.

Recreation/Open Space Land Use Policy A-1: The City of Marina shall encourage the conservation and preservation of irreplaceable natural resources and open space at former Fort Ord.

Program A-1.1: The City of Marina shall identify natural resources and open space, and incorporate it into its General Plan and zoning designations.

Recreation/Open Space Land Use Policy A-2: The City of Marina shall encourage the provision of public open space lands as part of all types of development including residential, commercial and institutional.

Program A-2.1: As part of review of development projects, the City of Marina shall evaluate and provide for the need for public open space.

Objective B: Use open space as a land use link and buffer.

Recreation/Open Space Land Use Policy B-1: The City of Marina shall link open space areas to each other.

Program B-1.2: The City of Marina shall create an open space plan for the former Fort Ord showing the linkage of all open space areas within the City of Marina and linking to open space and habitat areas outside Marina.

Recreation/Open Space Land Use Policy B-2: The City of Marina shall use open space as a buffer between various types of land use.

Program B-2.1: The City of Marina shall review each development project at the former Fort Ord with regard to the need for open space and buffers between land uses.

Program B-2.2: The City of Marina shall encourage clustering of all types of land uses, where appropriate, to allow for a portion of each project site to be dedicated as permanent open space.

Program B-2.3: The City of Marina shall designate open space areas, wherever possible, on the perimeter of all development undertaken at the former Fort Ord.

Program B-2.4: In the Planned Development/Mixed Use District in the Existing City Marina Neighborhoods Planning Area, intended for public facilities such as the future Marina Civic Center and related facilities, the City shall install an open space barrier along the border of adjacent Polygon 5b to prevent potential degradation of this undeveloped habitat. Both polygons provide corridor linkage from the maritime chaparral around the airfield to the habitats in the interior.

Objective C: Reserve sufficient lands for community and neighborhood parks and recreation facilities in the Fort Ord area and adjacent communities.

Recreation/Open Space Land Use Policy C-1: The City of Marina shall designate sufficient area for projected park and recreation facilities at the former Fort Ord.

Program C-1.1: The City of Marina shall amend its General Plan and zoning ordinance to designate appropriate park and recreation facilities at the former Fort Ord to serve the needs of their community area, appropriate and consistent with the recreation standards established for the Fort Ord Reuse Plan.

Program C-1.2: The City of Marina shall use the following Recreation Standards established for Fort Ord reuse and based on existing Marina Community Standards:

- Provide and equip five park acres per one thousand residents.
- 2015 demand for park area: 42 acres.
- Full build-out for park area: 64 acres.

Program C-1.3: The City of Marina shall designate land uses for the following park locations and acreages:

- Neighborhood Park in housing area (Polygon 4): 27 acres.
- Neighborhood Park with community recreation center (Polygon 2B): 10 acres.
- Community Park at existing equestrian center (Polygon 2G): 39.5 acres.
- Community Park with equestrian trailhead (Polygon 17A): 46 acres.

Recreation/Open Space Land Use Policy C-2: The City of Marina shall provide sufficient resources to operate and maintain the park facilities at the former Fort Ord.

Program C-2.1: The City of Marina shall provide in the annual budget for a minimal recreation program at the time that each park is developed. The city should also provide a budget for a complete recreation and park maintenance program when the population to be served by the park reaches one thousand residents.

Program C-2.2: Each park in Marina should be developed and recreation equipment should be in place when approximately 50% of the residential dwelling units that will be served by the park have been constructed and occupied.

Objective D: Retain open space to enhance appearance of special areas that serve as primary gateways to the Fort Ord area.

Recreation/Open Space Land Use Policy D-1: The City of Marina shall protect the visual corridor along State Highway 1 to reinforce the character of the regional landscape at this primary gateway to the former Fort Ord and the Monterey Peninsula.

Program D-1.1: The City of Marina shall designate the State Highway 1 corridor along the former Fort Ord as a special design district in its zoning code.

Program D-1.2: The City of Marina shall develop special design standards for the State Highway 1 Special Design District and establish a hierarchy of gateways as a part of these standards to help define the Fort Ord community and signify a sense of entry and threshold into the community.

Program D-1.3: The City of Marina shall designate the retail and open space areas along the State Highway 1 area and the Mixed Use Corporate Center area (Polygons 2a and 2b) as a Special Design District to convey the commitment to high-quality development to residents and visitors.

Program D-1.4: For this Special Design District, the City of Marina shall provide for such features as setbacks and buffers, height limits, architectural quality, landscaping and pedestrian access, as well compatibility with surrounding areas as a part of the design standards.

Program D-1.5: The City of Marina shall work with and support the State Department of Parks and Recreation to develop a State Park entry and information center at the 8th Street Bridge.

City of Seaside

Objective A: Encourage land uses that respect, preserve and enhance natural resources and open space at the former Fort Ord.

Recreation/Open Space Land Use Policy A-1: The City of Seaside shall encourage the conservation and preservation of irreplaceable natural resources and open space at former Fort Ord.

Program A-1.1: The City of Seaside shall identify natural resources and open space, and incorporate it into its General Plan and zoning designations.

Recreation/Open Space Land Use Policy A-2: The City of Seaside shall encourage the provision of public open space lands as part of all types of development including residential, commercial and institutional.

Program A-2.1: As part of review of development projects, the City of Seaside shall evaluate and provide for the need for public open space.

Objective B: Use open space as a land use link and buffer.

Recreation/Open Space Land Use Policy B-1: The City of Seaside shall link open space areas to each other.

Program B-1.2: The City of Seaside shall create an open space plan for the former Fort Ord showing the linkage of all open space areas within the City of Seaside as well as linking to open space and habitat areas outside Seaside.

Recreation/Open Space Land Use Policy B-2: The City of Seaside shall use open space as a buffer between various types of land use.

Program B-2.1: The City of Seaside shall review each development project at the former Fort Ord with regard to the need for open space buffers between land uses.

Program B-2.2: The City of Seaside shall encourage clustering of all types of land uses, where appropriate, to allow for a portion of each project site to be dedicated as permanent open space.

Program B-2.3: The City of Seaside shall designate open space areas, wherever possible, on the perimeter of all development undertaken at the former Fort Ord.

Program B-2.4: The City of Seaside shall designate a fire-resistant buffer between BLM lands and residential land use.

Objective C: Reserve sufficient lands for community and neighborhood parks and recreation facilities in the Fort Ord area and adjacent communities.

Recreation/Open Space Land Use Policy C-1: The City of Seaside shall designate sufficient area for projected park and recreation facilities at the former Fort Ord.

Program C-1.1: The City of Seaside shall amend its General Plan and zoning ordinance to designate appropriate park and recreation facilities at the former Fort Ord to serve the needs of their community area, appropriate and consistent with the recreation standards established for the Fort Ord Reuse Plan.

Program C-1.2: The City of Seaside shall use the following recreation standards established for Fort Ord reuse and based on existing Seaside Community Standards:

- Provide and equip neighborhood parks at the rate of two park acres per 1,000 people and community parks at the rate of one acre per 1,000 people.
- 2015 demand for park area: 24 acres of neighborhood parks, 12 acres of community parks.
- Full build-out demand for park area: 31 acres of neighborhood parks, 16 acres of community parks.

Program C-1.3: The City of Seaside shall designate land uses for the following park locations and acreages:

- Community Park in housing area (Polygon 18): 50 acres.
- Neighborhood Park near new golf course community (Polygon 15): 10 acres.
- Neighborhood Park serving University Village Area (Polygon 20e): 5 acres.
- Neighborhood Park with Recreation Center (Polygon 20h): 10 acres.
- Community Park with equestrian/trailhead access to BLM: (Polygon 24): 25 acres.

Recreation/Open Space Land Use Policy C-2: The City of Seaside shall provide sufficient resources to operate and maintain the park facilities at the former Fort Ord.

Program C-2.1: The City of Seaside shall provide in the annual budget for a minimal recreation program at the time that each park is developed. The city should also provide a budget for a complete recreation and park maintenance program when the population to be served by the park reaches one thousand residents.

Program C-2.2: Each park in Seaside should be developed and recreation equipment should be in place when approximately 50% of the residential dwelling units that will be served by the park have been constructed and occupied.

Recreation/Open Space Land Use Policy C-3: The City of Seaside shall coordinate land use designations for parks and recreation with adjacent uses and jurisdictions.

Program C-3.1: The City of Seaside shall include protection criteria in its plan for the community park in the Seaside Residential Planning Area (Polygon 24) for the neighboring habitat protection area in Polygon 25. Creation of this park will also require consideration of existing high-power electric lines and alignment of the proposed Highway 68 connector to North-South Road.

Program C-3.2: The 50-acre community park in the University Planning Area (Polygon 18) should be sited, planned and managed in coordination with neighboring jurisdictions (CSUMB and County of Monterey).

Program C-3.3: The City of Seaside shall attempt to work out a cooperative park and recreation facilities agreement with MPUSD and CSUMB.

Objective D: Retain open space to enhance the appearance of special areas that serve as primary gateways to the Fort Ord area.

Recreation/Open Space Land Use Policy D-1: The City of Seaside shall protect the visual corridor along State Highway 1 to reinforce the character of the regional landscape at this primary gateway to the former Fort Ord and the Monterey Peninsula.

Program D-1.1: The City of Seaside shall designate the State Highway 1 corridor along the former Fort Ord as a special scenic corridor overlay design district in its zoning code.

Program D-1.2: The City of Seaside shall develop special design standards for the State Highway 1 Special Design District and establish a hierarchy of

gateways as a part of those standards to help define the Fort Ord community and signify a sense of entry and threshold into the community.

Program D-1.3: The City of Seaside shall designate the retail and open space areas along the Main Gate area (Polygon 15), the South Village mixed-use area (Polygon 20e), and a strip 500 feet wide (from the Caltrans Row) along State Highway 1 (Polygons 20a and 20h) as Special Design Districts to convey the commitment to high-quality development to residents and visitors.

Program D-1.4: For this Special Design District, the City of Seaside shall provide for such features as setbacks, architectural quality, landscaping and pedestrian access, buffers and height limits, as well compatibility with surrounding areas as a part of the design standards.

Program D-1.5 : The City of Seaside shall develop a coordinated building and landscape design plan in conjunction with FORA and CSUMB representatives to create a "grand entry" at the main gate entrance area and shall work with the State Department of Parks and Recreation to create a secondary entry. The landscape plan shall enhance and reinforce the regional character of the main entrance area.

County of Monterey

Objective A: Encourage land uses that respect, preserve and enhance natural resources and open space at the former Fort Ord.

Recreation/Open Space Land Use Policy A-1: The County of Monterey shall encourage the conservation and preservation of irreplaceable natural resources and open space at former Fort Ord.

Program A-1.1: The County of Monterey shall identify natural resources and open space, and incorporate them into its Greater Monterey Peninsula Area Plan and zoning designations.

Recreation/Open Space Land Use Policy A-2: The County of Monterey shall encourage the provision of public open space lands as part of all types of development including residential, commercial and institutional.

Program A-2.1: As part of review of development projects, the County of Monterey shall evaluate and provide for the need for public open space.

Objective B: Use open space as a land use link and buffer.

Recreation/Open Space Land Use Policy B-1: The County of Monterey shall link open space areas to each other.

Program B-1.2: The County of Monterey shall create an open space plan for former Fort Ord showing the linkage of all open space areas with the County of Monterey as well as linking to open space and habitat areas outside the County.

Recreation/Open Space Land Use Policy B-2: The County of Monterey shall use open space as a buffer between various types of land use.

Program B-2.1: The County of Monterey shall review each development project at the former Fort Ord with regard to the need for open space buffers between land uses.

Program B-2.2: The County of Monterey shall encourage clustering of all types of land uses, where appropriate, to allow for a portion of each project site to be dedicated as permanent open space.

Program B-2.3: The County of Monterey shall designate open space areas, wherever possible, on the perimeter of all development undertaken at the former Fort Ord.

Program B-2.4: The County of Monterey shall designate a fire-resistant buffer between BLM lands and residential land use.

Objective C: Reserve sufficient lands for community and neighborhood parks and recreation facilities in the Fort Ord area and adjacent communities.

Recreation/Open Space Land Use Policy C-1: The County of Monterey shall designate sufficient area for projected park and recreation facilities at the former Fort Ord.

Program C-1.1: The County of Monterey shall amend its Greater Monterey Peninsula Area Plan and zoning ordinance to designate appropriate park and recreation facilities at the former Fort Ord to serve the needs of their community area, appropriate and consistent with the recreation standards established for the Fort Ord Reuse Plan and the County Subdivision Ordinance which identifies a standard of 3 acres per 1,000 people.

Program C-1.2: The County of Monterey shall designate land uses for the following park locations and acreages:

- Neighborhood Park in Eucalyptus Road Residential Planning Area (Polygon 19a): 10 acres.
- A minimum of 200 acres in permanent open space within the Eucalyptus Road residential planning area.

Program C-1.3: This parkland shall be created in such a way as to maximize protection of existing oak woodland in support of the Habitat Management Plan.

Program C-1.4: The County of Monterey shall amend its Greater Monterey Peninsula Area Plan map to include this land as Park and Open Space.

Recreation/Open Space Land Use Policy C-2: The County of Monterey shall provide sufficient resources to operate and maintain the park facilities at the former Fort Ord.

Program C-2.1: The County of Monterey shall provide in the annual budget for a minimal recreation program at the time that each park is developed. The county should also provide a budget for a complete recreation and park maintenance program when the population to be served by the park reaches one thousand residents.

Program C-2.2: Each park in the County of Monterey should be developed and recreation equipment should be in place when approximately 50% of the residential dwelling units that will be served by the park have been constructed and occupied.

(There is no Objective D discussion for Monterey County.)

Objective E: Coordinate open space and recreation land use with other affected agencies at the former Fort Ord, such as the California Department of State Parks and Recreation and the Bureau of Land Management.

Recreation/Open Space Land Use Policy E-1: The County of Monterey shall limit recreation in environmentally sensitive areas, such as dunes and areas with rare, endangered, or threatened plant or animal communities to passive, low-intensity recreation dependent on the resource and compatible with its long term protection.

Program E-1.1: The County of Monterey shall assist the CDPR to develop and implement a Master Plan for ensuring the management of the Fort Ord coastal dunes and beaches for the benefit of the public by restoring habitat, recreating the natural landscape, providing public access, and de-

veloping appropriate day use and overnight lodging facilities (limited to a capacity of 40 rooms).

Program E-1.2: The County of Monterey shall assist CDPR to carry out a dune restoration program for the Fort Ord Dunes State Park.

Program E-1.3: The County of Monterey shall coordinate with the State Department of Parks and Recreation to resolve the issue of a frontage roadway to connect the cities of Marina and Sand City.

Program E-1.4: The County of Monterey shall work with and support the Army to investigate clean-up of the Recreation/HMP District in the CSUMB/Recreation Planning Area (Polygon 8a). This area is proposed to be used for remediation and reuse research, habitat management, open space/recreation (including an equestrian center, a golf course opportunity site, and an amphitheater), and a convenience center. This proposed use is subject to capping of the landfill and remediation of groundwater beneath it. A minimum of 120 acres will require mitigation by the Army. The polygon is considered for an annexation request by the City of Marina. Drainage, slumping, toxic fumes or gases associated with old landfill need to be considered.

Program E-1.5: The proposed community park facility in the Recreation/HMP District in the CSUMB/Recreation Planning Area (Polygon 17a) will use about 30 acres of land currently dominated by oak woodland for an equestrian center and other recreational facilities. The park will serve as a gateway to trails in the Bureau of Land Management (BLM) area. The County of Monterey shall coordinate polygon and property boundary adjustments as needed to meet jurisdictional requirements of the County, the City of Marina and CSUMB.

Program E-1.6: The Youth Camp District in the Reservation Road Planning Area (Polygon 17b) is intended for rehabilitation of the existing travel camp. The County of Monterey shall assure that this planned use is compatible with adjacent land uses which may include a public safety agency training facility with shooting ranges in the East Garrison.

4.1.5 Institutional Land Use

4.1.5.1 Summary of Existing Conditions

Fort Ord

This land use category includes military support/industrial areas such as motor pools, machine shops, the former Fritzsche Airfield, and a vehicle parts yard; three elementary and one middle school; and the former Hayes Army Hospital, medical and dental facilities, and a helipad.

City of Marina

Institutional land uses within the Marina city limits include the former Fritzsche Airfield (now Marina Municipal Airport), Patton Elementary School, and troop support, administrative, storage, service and maintenance facilities.

City of Seaside

The Seaside city limits encompass three elementary and one middle school, the former Hayes Army Hospital, and troop support, administrative, and storage facilities.

County of Monterey

Monterey County designates all land within Fort Ord boundaries public/quasi-public. The East Garrison area in the unincorporated area of Monterey County was largely designated as a military support/industrial land use.

4.1.5.2 Institutional Land Use Objectives

Objective A: Encourage proper planning of public lands so that uses on these lands are compatible with existing and planned uses on adjacent privately-owned lands.

The land use design concept for the former Fort Ord stresses cohesiveness of institutional lands with adjacent uses. Incompatible uses can disrupt the development process of public facilities and cause the creation of barriers, while coordination with planning of neighboring areas will enhance the quality of life and encourage interaction among all planning areas.

Objective B: Consider special needs of schools in developing land and infrastructure.

The broad range of educational activities that already exist at or are planned for the former Fort Ord provide the nucleus for redevelopment of the former base. In addition to the universities which represent two

major activity nodes at the former Fort Ord, the area will be home to a number of other educational uses, including five existing elementary and middle schools and several planned locations for community college extension programs and private higher education institutions. Consideration of the special school-related planning and safety needs will contribute toward the goal of educational excellence at the former Fort Ord.

Objective C: Encourage highest and best use of institutional lands associated with military enclave redevelopment at the former Fort Ord.

Achieving maximum market value for development of the former Fort Ord lands is a key goal of reuse planning efforts. Enhancing the existing use of POM Annex lands in the Seaside area of the former Fort Ord will contribute to this goal.

Objective D: Provide for Community Design principles and guidelines for institutional development at the former Fort Ord.

Establishing high-quality design standards when developing the public lands at the former Fort Ord will contribute to their integration into the communities which surround them. It will also ensure that the specific features associated with institutions, such as gateways and transition areas, will enhance community identity and support the unified vision for the former Fort Ord shared by public institutions and Monterey Bay jurisdictions.

4.1.5.3 Institutional Land Use Policies and Programs

City of Marina

Objective A: Encourage proper planning on and adjacent to public lands so that uses on these lands are compatible.

Institutional Land Use Policy A-1: The City of Marina shall review and coordinate with the universities, colleges and other school districts or entities, the planning of both public lands designated for university-related uses and adjacent lands.

Program A-1.1: The City of Marina shall be included in the master planning efforts undertaken by the University of California and California State University, and jointly with those agencies ensure compatible land uses between university lands and non-university lands.

Program A-1.2: The City of Marina shall designate the land surrounding the UC MBEST Center and CSUMB planning areas for compatible use, such

as Planned Development Mixed Use Districts, to encourage use of this land for a university and research oriented environment and to prevent the creation of pronounced boundaries between the campus and surrounding communities.

Program A-1.3: The City of Marina shall review and, if necessary, revise its zoning ordinance regulations on the types of uses allowed in areas adjacent to the UCMBEST Cooperative Planning District and the CSUMB Planning Area District, so as to ensure compatibility of uses; the City will adopt zoning standards to ensure a suitable transition of land use types, density, design, circulation and roadways to the areas designated for university-related uses.

Program A-1.4: The City of Marina shall minimize the impacts of or eliminate land uses which may be incompatible with public lands, such as a public maintenance yard and a transfer station, and an existing equestrian center located in the Marina Village District north of the CSUMB campus.

Institutional Land Use Policy A-2: The City of Marina shall encourage CSUMB to pursue the early redevelopment of the boundary lands, to the degree possible, to support the revitalization of the Marina Village District.

Institutional Land Use Policy A-3: The City of Marina shall carefully review and coordinate with UC the planning of the lands designated for airport-related uses surrounding the Marina Municipal Airport.

Program A-3.1: The City of Marina shall designate the land surrounding the Marina Municipal Airport for compatible uses, such as Business Park/Light Industrial/Office/R&D, Visitor Serving, or Habitat Management, and coordinate land use designations and decisions with UC.

Program A-3.2: The City of Marina shall review and modify, as necessary, its zoning ordinance regulations on the types of uses allowed in areas adjacent to the Marina Municipal Airport District and adopt zoning standards to provide a suitable transition of land use types, density, design, circulation and roadways.

Objective B: Consider special needs of schools in developing land and infrastructure.

Institutional Land Use Policy B-1: The City of Marina shall provide a compatible and safe environment for schools serving former Fort Ord areas when planning land use and infrastructure improvements.

Program B-1.1: The City of Marina shall review all planning and design for land use and infrastructure improvements in the vicinity of public schools or college facilities, especially with respect to land use compatibility (expected impacts of residential and other development), school safety and ensure appropriate compatibility, including all applicable safety standards for development near schools as a condition of project approval.

Program B-1.2: The City of Marina shall inform the Monterey Peninsula Unified School District and Monterey Peninsula College of all proposed land use and infrastructure improvements which may impact school and college sites.

Program B-1.3: The City of Marina shall designate the location of a new high school in accordance with state and local safety and siting standards.

(There is no Objective C discussion for the City of Marina.)

Objective D: Provide for Community Design principles and guidelines for institutional development at the former Fort Ord.

Institutional Land Use Policy D-1: The City of Marina shall support FORA in the preparation of regional urban design guidelines, including a scenic corridor design overlay area, to govern the visual quality of areas of regional importance.

Institutional Land Use Policy D-2: The City of Marina shall adhere to the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework for institutional development at the former Fort Ord.

Program D-2.1: The City of Marina shall prepare design guidelines for implementing institutional development on former Fort Ord lands consistent with the regional urban design guidelines (to be prepared by FORA) and the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework.

Program D-2.2: The City of Marina shall review each institutional development proposal for consistency with the regional urban design guidelines and the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework.

City of Seaside

Objective A: Encourage proper planning on and adjacent to public lands so that uses on these lands are compatible.

Institutional Land Use Policy A-1: The City of Seaside shall review and coordinate with the universities, colleges and other school districts or entities the planning of both public lands designated for university-related uses and adjacent lands.

Program A-1.1: The City of Seaside shall request to be included in the master planning efforts undertaken by the California State University and shall take an active role to ensure compatible land uses into transition between university lands and non-university lands.

Program A-1.2: The City of Seaside shall designate the land surrounding the CSUMB Planning Area for compatible use, such as Planned Development Mixed Use Districts, to encourage use of this land for a university and research oriented environment and to prevent the creation of pronounced boundaries between the campus and surrounding communities.

Program A-1.3: The City of Seaside shall review its zoning ordinance regulations on the types of uses allowed in areas adjacent to the CSUMB Planning Area District to promote compatibility of uses and adopt zoning standards to provide a suitable transition of land use types, density, design, circulation and roadways to the areas designated for university-related uses.

Program A-1.4: The City of Seaside shall minimize the impacts of land uses which may be incompatible with public lands, such as a regional retail and entertainment use in the Gateway Regional Entertainment District located at the western entrance of the CSUMB campus. The City shall coordinate the planning of this site with CSUMB and the City of Marina.

Objective B: Consider special needs of schools in developing land and infrastructure.

Institutional Land Use Policy B-1: The City of Seaside shall provide a compatible and safe environment for schools serving Fort Ord areas when planning land use and infrastructure improvements.

Program B-1.1: The City of Seaside shall review all planning and design for Fort Ord land use and infrastructure improvements in the vicinity of schools ensure appropriate compatibility including all safety standards for development near schools, as a condition of project approval.

Program B-1.2: The City of Seaside shall inform the Monterey Peninsula Unified School District of all proposed land use and infrastructure improvements which may impact school and college sites.

Objective C: Encourage highest and best use of institutional lands associated with military enclave redevelopment at the former Fort Ord.

Institutional Land Use Policy C-1: The City of Seaside shall encourage opportunities for developing market-responsive housing in the POM Annex Military Enclave District at the former Fort Ord.

Program C-1.1: The City of Seaside shall develop an agreement with the U.S. Army to implement the reconfiguration of institutional land use related to the POM Annex community.

Objective D: Provide for Community Design principles and guidelines for institutional development at the former Fort Ord.

Institutional Land Use Policy D-1: The City of Seaside shall support FORA in the preparation of regional urban design guidelines, including a scenic corridor design overlay area, to govern the visual quality of areas of regional importance.

Institutional Land Use Policy D-2: The City of Seaside shall adhere to the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework for institutional development at the former Fort Ord..

Program D-2.1: The City of Seaside shall prepare design guidelines for implementing institutional development on former Fort Ord lands consistent with the regional urban design guidelines (to be prepared by FORA) and the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework.

Program D-2.2: The City of Seaside shall review each institutional development proposal for consistency with the regional urban design guidelines and the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework.

County of Monterey

Objective A: Encourage proper planning on and adjacent to public lands so that uses on these lands are compatible.

Institutional Land Use Policy A-1: The County of Monterey shall review and coordinate with the universities, colleges and other school districts or entities in the planning of both public lands designated for university-related uses and adjacent lands.

Program A-1.1: The County of Monterey shall be included in the master planning efforts undertaken by the University of California and California State University and jointly with those agencies ensure compatible land uses in the transition between university and non-university lands.

Program A-1.2: The County of Monterey shall review, and if necessary, revise its zoning ordinance regulations on the types of uses allowed in areas adjacent to the UCMBEST Cooperative Planning District and the CSUMB Planning Area District, so as to ensure compatibility of uses; the County will adopt zoning standards to ensure a suitable transition of land use types, density, design, circulation and roadways to the areas designated for university-related uses.

Program A-1.3: The County of Monterey shall designate the land surrounding the UCMBEST Center and CSUMB planning areas for compatible use, such as Business Park/Light Industrial/Office/R&D and Planned Development Mixed Use, to encourage use of this land for a university and research oriented environment and to prevent the creation of pronounced boundaries between the campus and surrounding communities.

Program A-1.4: The County of Monterey shall minimize the impacts of proposed land uses which may be incompatible with public lands, such as major roadways near residential or university areas, location of the York School expansion area adjacent to the Habitat Management Area, and siting of the Monterey Peninsula College's Military Operations Urban Terrain (MOUT) law enforcement training program in the BLM Management/Recreation Planning Area.

Objective B: Consider special needs of schools in developing land and infrastructure.

Institutional Land Use Policy B-1: The County of Monterey shall provide a safe environment for schools serving Fort Ord areas when planning land use and infrastructure improvements.

Program B-1.1: The County of Monterey shall review all planning and design for Fort Ord land use and infrastructure improvements in the vicinity of schools and ensure appropriate compatibility, including all ap-

plicable safety standards for development near schools, as a condition of project approval.

(There is no Objective C discussion for the County of Monterey)

Objective D: Provide for Community Design principles and guidelines for institutional development at the former Fort Ord.

Institutional Land Use Policy D-1: The County of Monterey shall support FORA in the preparation of regional urban design guidelines, including a scenic corridor design overlay area, to govern the visual quality of areas of regional importance.

Institutional Land Use Policy D-2: The County of Monterey shall adhere to the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework for institutional development at the former Fort Ord..

Program D-2.1: The County of Monterey shall prepare design guidelines for implementing institutional development on former Fort Ord lands consistent with the regional urban design guidelines (to be prepared by FORA) and the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework.

Program D-2.2: The County of Monterey shall review each institutional development proposal for consistency with the regional urban design guidelines and the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework.

4.2 CIRCULATION ELEMENT

4.2.1 Introduction

Goal: Create and maintain a balanced transportation system, including pedestrian ways, bike-ways, transit, and streets, to provide for the safe and efficient movement of people and goods to and throughout the former Fort Ord.

The Circulation Element of the General Plan defines the long-term vision for a comprehensive circulation network for the movement of people, goods, and vehicles within and through the former Fort Ord. It focuses on the system of freeways, arterials, bus and rail transit, and bicycle and pedestrian routes to determine the most effective design possible while enhancing the community and protecting the environment. The Circulation Element also recognizes the close relationship between the transportation system and land use plan.

In the regional context, State Highway 1 connects the Monterey Peninsula and coastal portions of the county to the south with Santa Cruz County and, indirectly, Santa Clara County to the north. State Highway 1 extends across the base in a north-south alignment approximately one-quarter mile inland from the ocean. Locally, State Highway 1 provides connections between Marina on the north and Seaside/Sand City to the south. The primary entrances to the former Fort Ord are accessed from State Highway 1 at the Main Gate and the 12th Street Gate. The Southern Pacific Del Monte Branch line parallels the highway.

There are two east-west corridors that proximate the former Fort Ord. State Highway 68 runs along the south and east sides of the base connecting Salinas with the Monterey Peninsula. Reservation Road extends through the base on the north between Marina and East Garrison. Blanco and Davis Roads intersect Reservation Road, providing connections to Salinas. Entrances to the former Fort Ord are provided off of Reservation Road, as well as Fremont, Broadway, and State Highway 218.

At its peak, Fort Ord was home to 17,700 military personnel and employed 2,700 civilians from the neighboring communities. Access to the base was provided through gates at 12th, Lightfighter, Fremont/Coe, Broadway, Reservation/Imjin, and Reservation/Inter-garrison. Internally, the existing road system was developed by the Army as the base expanded over the past fifty years. The layout is a collage of roadways and parking facilities scattered about to serve the Army's unique needs. The Army, unlike the civilian sector, was not constricted by property lines, easements, or aesthetic standards. In addition, land use patterns by the Army did not produce the same types of traffic patterns as those that might be found in a civilian urban population. This has resulted in a roadway system that is, in many instances, not compatible with the proposed civilian land uses.

The proposed land use plan includes approximately 45,000 jobs and over 22,000 housing units at buildout. In addition, the California State University Monterey Bay (CSUMB) campus is to be located on the former Fort Ord. CSUMB is expected to have 25,000 full-time equivalent students, with on-campus housing for 80% of these students. The redevelopment of the former Fort Ord will increase the demand for transportation infrastructure and services both within the base area and the region. The transportation plan for Fort Ord reuse includes strategies and improvements for the system within the base, as well as for those regionally significant facilities that provide access to the former Fort Ord.

The transportation system described in this Circulation Element consists of several elements: linkages to land use plans, streets, and roads, public transit, pedestrian, bicycle, and demand management. This system is intended to serve the long-range, buildout needs of the former Fort Ord. Policies and programs related to these elements apply to all of the former Fort Ord consistently; therefore, separate discussions are not provided for Marina, Seaside, and Monterey County.

4.2.2 Streets and Roads

Streets and roads form the basic element of the transportation system. This element consists not only of streets within the former Fort Ord, but also key regional roads that provide access to and from the former Fort Ord. This regional network includes state highways and major arterial roads that serve intra- and inter-regional travel needs of the former Fort Ord and Monterey County. This network includes State Highway 1 which extends across the base in a north-south alignment approximately one-quarter mile inland from the ocean. The primary entrances to the former Fort Ord are accessed from State Highway 1. Key east-west facilities include State Highway 68 and Reservation Road. State Highway 68 runs along the south and east sides of the base connecting Salinas with the Monterey Peninsula. Reservation Road extends through the base on the north between Marina and East Garrison. Blanco and Davis Roads intersect Reservation Road, providing connections to Salinas. Entrances to the former Fort Ord are provided off of Reservation Road, as well as Fremont, Broadway, and State Highway 218.

In developing a roadway element for the revised reuse plan, the key goals were to reduce the infrastructure needs, both internally to the former Fort Ord and regionally, and to reduce traffic volumes on key roadways as an effort to eliminate or reduce deficient service levels and other traffic-related impacts. A particular area of concern that was addressed was that of traffic volumes along the 12th/Imjin and Blanco corridor. The principal method used to achieve these goals was to enhance the distribution of

trips among the travel routes available. The key elements of this method included: enhancing regional access alternatives, providing additional local access routes, and enhancing the internal circulation system to reduce through trips on facilities in the higher density or otherwise sensitive areas.

4.2.2.1 Operating Conditions

In developing the streets and roads element of the transportation system it is important to understand the conditions under which this network operates both currently and in the future. In doing so, it is necessary to be familiar with the concepts of Level-of-Service (LOS) and Street Functional Classification. Unless otherwise stated, the number of lanes referenced for a roadway represents the number of lanes in both directions. Therefore, a road with two lanes in each direction is referred to as a four-lane road.

LOS Methodology

For this study, the performance of the roadway network is described using a LOS methodology. LOS refers to a hierarchy of performance measures describing different levels of operational conditions within a traffic stream and the perception of these conditions by motorists and/or passengers. LOS is represented by a continuum of six grades of progressively more congested traffic flow, LOS A through LOS F, where LOS A represents free and unobstructed traffic flow, and LOS F represents "stop and go" traffic.

A number of methodologies exist for determining roadway LOS. Since the methodology used in this study must be applied to both existing and forecasted future year conditions, a key determinant in selecting the appropriate methodology was the nature of forecast outputs available from the regional travel demand forecasting model. Also, the model used in this study produces only daily forecasts of traffic volumes, so a methodology based on daily volumes was required. To convert daily traffic volume to an LOS grade, the methodology described in the Florida Department of Transportation's (FDOT) *Level of Service Standards and Guidelines Manual* (April 1992) was used. The FDOT methodology results in a range of daily volumes that correspond to each LOS grade. This methodology is the same as the one used by the Monterey County Congestion Management Agency (CMA) to prepare their Congestion Management Program (CMP).

The FDOT manual includes three sets of LOS tables representing different area types: urbanized, transitioning, and rural. These tables reflect differences in the assumed capacities and free flow speeds that are primarily a function of differences in driver behavior between these area types.

The "transitioning" area type tables were selected for this analysis because the Fort Ord region is a mix of low density urban and rural areas. The "urbanized" tables were also considered, but were not selected because they are intended to be used for major metropolitan areas.

The ranges of daily volumes corresponding to each LOS grade for the facility types examined in this study are identified in Table 4.2-1. As indicated in the table, the range of daily volumes corresponding to a particular LOS grade varies depending on the type of the facility. Facility type refers to a categorical classification of roadways based on speed, capacity, and signal spacing (e.g. freeways, arterials, and local roads). The roadway categories used in this study are listed below.

- **Freeways:** These are high-speed facilities designed to carry large volumes of traffic. Freeways are limited-access roadways, so traffic can only enter and exit at specific locations.
- **Arterials:** This classification refers to a range of roadways that include urban streets and rural highways. Arterials have signalized intersections and are generally designed to serve through traffic. They are categorized in four groups according to the number of signalized intersections per mile. Group A arterials are generally rural roads, while Group D arterials are found in densely-developed urbanized areas.
- **Local Roads:** These facilities are designed for lower volumes of traffic. Intersections are controlled by stop signs or signals.

It should be noted that volume ranges for LOS A or B are not defined for some facility types. Another important consideration is that LOS F does not necessarily indicate that congested traffic conditions exist throughout the day. When using LOS grades based on daily volumes (as in Table 4.2-1), an LOS grade of F indicates that traffic volumes during certain periods are greater than the roadway was designed to handle, and that there may be congestion during these periods.

One common way to establish where roadway system deficiencies exist is to observe where the calculated LOS falls below the acceptable level of performance. The Transportation Agency of Monterey County (TAMC) has established acceptable service levels as LOS D or better.

Table 4.2-1
LOS Grades by Facility Type

Facility Type	Design Attributes*	Traffic Volume Threshold by LOS**				
		A	B	C	D	E
Freeway	4 - Divided	20,100	32,500	47,900	60,400	68,100
	6 - Divided	30,400	48,500	72,200	91,100	107,300
Uninterrupted Highway/Arterial	2 - Undivided	8,400	13,000	17,000	23,300	31,000
	4 - Divided	20,600	34,500	47,800	57,000	66,300
Arterial - Class Ia (less than 2.5 signalized intersections per mile)	2 - Undivided	***	11,500	14,000	15,300	15,900
	4 - Divided	***	25,500	30,600	32,800	33,500
	6 - Divided	***	39,600	46,400	49,700	50,300
Arterial - Class Ib (2.50 to 4.50 signalized intersections per mile)	2 - Undivided	***	***	8,000	13,200	14,600
	4 - Divided	***	***	17,600	28,600	31,300
	6 - Divided	***	***	26,900	43,600	47,300
Arterial - Class II (more than 4.50 signalized intersections per mile)	4 - Divided	***	***	***	24,600	30,900
	6 - Divided	***	***	***	37,800	47,000
Other Local Road	2 - Undivided	***	***	4,700	9,200	10,600
	4 - Divided	***	***	10,300	20,500	22,800

ADJUSTMENTS

(alter corresponding two-way volume by indicated percent)
DIVIDED/UNDIVIDED

Lanes	Median	Left Turn Bays	Adjustment Factors
2	Divided	Yes	+ 5%
2	Undivided	No	- 20%
4+	Undivided	Yes	- 5%
4+	Undivided	No	- 25%

* Assume Left Turn Bays in all cases (except for freeways where not applicable)

** volume cannot exceed threshold to classify roadway at the LOS grade

*** cannot be achieved

Source: Florida Department of Transportation, 1995

It must be recognized that traffic volumes will vary within a given roadway segment due to vehicles entering or exiting at minor intersections or driveways. Thus, for this analysis, the median traffic volume within a given segment was used to determine LOS. This approach is consistent with that used by the Monterey County CMA.

Street Functional Classification

As part of a previous study, the Fort Ord Reuse Infrastructure Study (FORIS), a street functional classification system for the former Fort Ord was developed, which further differentiates the roadway categories by function and area type. The proposed roadway system for the Fort Ord Reuse Area can be broken into five classifications: Urban Arterial, Urban Collector, Urban Local, Rural Arterial, and Rural Local. These classifications have been adopted from the AASHTO (American Association of State Highway Transportation Officials) Functional Classification System.

Urban Arterial Street System: The urban arterial system serves the major centers of activity in urbanized areas, the highest traffic volume corridors, and the longest trips, and carries a high proportion of the total urban area travel. The arterial system carries most intra-urban and inter-city bus routes. Arterial service to abutting land is subordinate to travel service for major traffic movements. Arterials are also a key part of the bikeway system and, as such, Class I bikeways (as defined in the *Caltrans Highway Design Manual*), which are facilities separated from the roadway, are generally provided in the former Fort Ord to encourage and allow safe bicycle travel along these streets.

Urban Collector Streets: The collector street system provides both land access service and traffic circulation within residential neighborhoods and commercial industrial areas. It differs from the arterial system in that facilities on the collector system may penetrate residential neighborhoods, distributing trips from the arterials through the area to their ultimate designations. Conversely, the collector street also collects traffic from local streets in residential neighborhoods and channels it into the arterial system.

Urban Local Streets: The local street system primarily permits direct access to abutting lands and connections to the higher order systems. It offers the lowest level of mobility and usually contains no bus routes. Service to through-traffic movement usually is deliberately discouraged.

Rural Arterials: Rural arterial roads form a network that provides linkage of cities, larger towns, and other traffic generators (such as major resort, commercial, or industrial areas) that are capable of attracting travel over similarly long distances.

Rural Local Roads: The rural local road system primarily provides access to adjacent land and serves travel over relatively short distances.

4.2.2.2 Existing Conditions

Accessibility and mobility of the former Fort Ord relies upon both its internal roadway network and the network of major regional roadways. Figure 4.2-1 illustrates the primary existing roadway facilities within the former Fort Ord, as well as the elements of the regional roadway network considered most relevant to the former Fort Ord. For this study, the regional network is comprised of all major arterials and state facilities included in the CMP network in the vicinity of the Fort Ord area. The major regional roadways that are most significant for the former Fort Ord are summarized below. A more detailed description of these facilities is provided in Transportation Working Paper #1 prepared for the Fort Ord Reuse Authority by JHK and Associates. The existing (1993/94) daily volumes and LOS for the relevant regional road segments are presented in Table 4.2-2 (along with three future scenarios that are described later in this section). The LOS analysis was based on traffic volumes obtained from TAMC.

State Highway 1: State Highway 1 is a major north-south roadway that roughly follows the Pacific Coast from Northern California to Los Angeles and points south. The roadway is aligned immediately to the west of the former Fort Ord, providing access to Watsonville and Santa Cruz (to the north) and Monterey and Carmel (to the south). State Highway 1 is a limited access (freeway) facility from Castroville to just north of Carmel. In the project vicinity, there are freeway interchanges at Reservation Road, Del Monte Boulevard, 1st Ave (12th Street Gate), Light Fighter Drive (Main Gate), and Fremont Boulevard in Seaside.

State Highway 68: Within the study area, State Highway 68 is aligned to the south and east of the former Fort Ord, from State Highway 1 to Salinas. State Highway 68 primarily provides access from Salinas to Monterey and areas south of Seaside. South of the study area, State Highway 68 extends west of State Highway 1 into Pacific Grove, and is known as Holman Highway.

State Highway 156: State Highway 156 links State Highway 1 (north of Marina) with U.S. 101 to the northeast.

State Highway 183: State Highway 183 is aligned roughly east-west to the north of the former Fort Ord.

State Highway 218: State Highway 218 starts at State Highway 1 in Sand City and provides access through Del Rey Oaks to the southeast where it joins State Highway 68. State Highway 218 is an alternative route to the

westernmost segment of Route 68. It also serves areas on the south side of the City of Seaside.

U.S. 101: The U.S. 101 freeway is a major north-south route in California. It is aligned to the east of State Highway 1, through Prunedale and Salinas in the vicinity of the former Fort Ord.

Del Monte Avenue/Boulevard: Del Monte Avenue/Boulevard is a non-continuous roadway, roughly parallel to State Highway 1, extending from Washington Avenue in Monterey to the interchange with State Highway 1 on the north side of Marina.

Fremont Street/Boulevard: Fremont Street/Boulevard is a key four-lane arterial providing an important link through Seaside. It runs north-south, roughly parallel to State Highway 1, and has interchanges with State Highway 1 at either end.

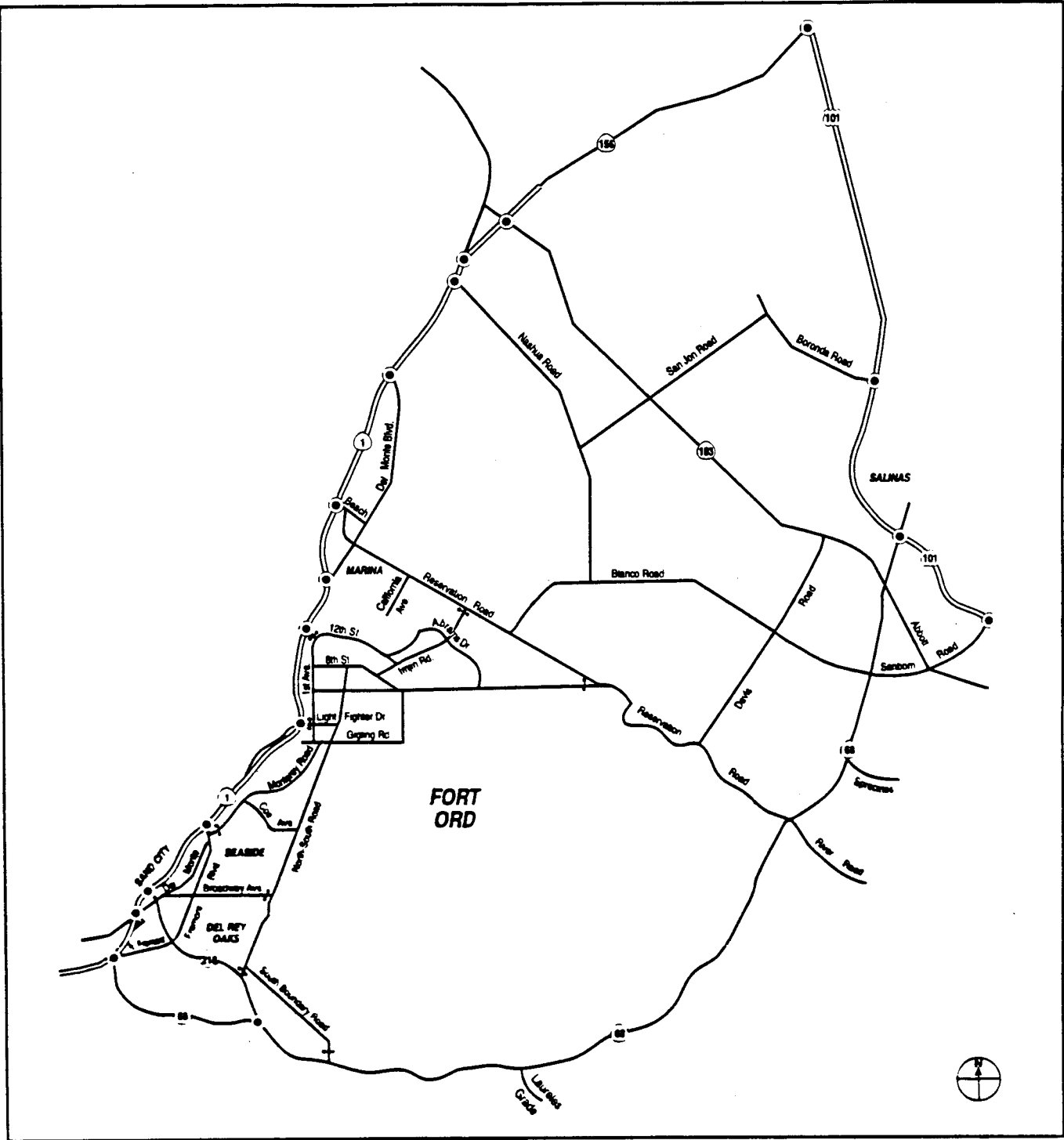
Broadway Avenue: Broadway Avenue is a four-lane arterial that provides an east-west connection between Del Monte Boulevard, Fremont Boulevard, and North-South Road.

Reservation Road: This facility is aligned approximately east-west, from State Highway 1 past the northern boundary of the former Fort Ord to State Highway 68 south of Salinas. It is currently classified as a rural highway east of Imjin Road, and a signalized arterial from Imjin Road west to State Highway 1.

Blanco Road: Blanco Road is an east-west route north of the former Fort Ord that provides a connection between State Highway 101 and Reservation Road. This facility currently provides an important link between the former Fort Ord and Salinas.

Davis Road: Davis Road is an arterial between Salinas and Reservation Road, aligned approximately parallel to State Highway 68.

The roadway network within the former Fort Ord consists of a mix of arterial and local roads. The layout is a collage of roadways and parking facilities scattered about to serve the Army's unique needs. The existing roadway system in the former Fort Ord generally consists of four types of roads: two-lane Rural, Residential, Urban Arterial (both four- and six-lane) and Rural Arterial. The two-lane rural roads primarily serve the artillery ranges and remote areas of the Base, examples are: Parker Flats Road and Barloy Canyon Road. These roads are paved but not engineered to any specific standard. The residential streets serve permanent



LEGEND	
	Freeway
	Interchange
	Fort Ord Access Gate

DRAFT
Figure 4.2-1
Existing Transportation Network

Table 4.2-2
Regional (Off-Site) Roadway Facilities LOS Summary

Roadway	Segment	Daily Volume/LOS			
		Existing (1993/94) Condition	No Build Scenario 2015	Financially Constrained Scenario 2015	Optimistic Financing Scenario 2015
State Highway 1	State Highway 68 to Del Monte Blvd (Seaside)	56,000/D	66,700/E	65,000/E	65,000/E
	Del Monte Blvd (Seaside) to State Highway 218	60,000/D	72,700/F	72,200/F	71,900/D
	State Highway 218 to Fremont Blvd	59,000/D	75,000/F	87,500/F	89,000/D
	Fremont Blvd to Main Gate	75,000/D	92,600/E	101,200/F	99,700/E
	Main Gate to 12th Street	65,000/C	77,900/D	80,200/D	79,700/D
	12th Street to S. Marina (Del Monte Blvd)	71,000/C	84,100/D	75,100/D	75,600/D
	S. Marina (Del Monte Blvd) to Reservation Road	35,500/C	41,500/C	48,400/D	48,900/D
	Reservation Road to N. Marina (Del Monte Blvd)	35,500/C	41,200/C	47,400/C	47,600/C
	N. Marina (Del Monte Blvd) to State Highway	37,500/C	46,700/C	53,800/D	52,800/D
	State Highway 156 to Santa Cruz County line	30,000/E	60,800/F	60,200/F	70,700/F
State Highway 68	State Highway 1 to State Highway 218	22,800/F	27,600/F	36,300/F	38,700/C
	State Highway 218 to San Benancio Road	20,600/F	25,500/F	30,200/F	10,000/B
	State Highway 218 to San Benancio (Freeway)	N/A	N/A	N/A	21,900/B
	San Benancio Road to Reservation Road	25,000/B	30,800/B	36,000/C	34,600/C
	Reservation Road to E. Blanco Road	29,500/B	34,600/C	43,900/C	42,500/C
State Highway 156	Hwy 1 to 0.1 miles East of Castroville Blvd.	22,000/B	31,060/B	35,600/C	30,900/B
	0.1 miles East of Castroville Blvd. to US 101	25,000/E	31,700/F	26,500/E	35,500/C
State Highway 183	US 101 to Davis Road	29,500/E	47,900/F	37,900/F	38,900/F
	Davis Road to Espinosa Road	16,000/C	33,800/F	32,900/F	30,700/B
	Espinosa Road to State Highway 156	22,000/D	56,800/F	53,300/F	50,900/D
State Highway 218	State Highway 1 to Fremont Boulevard	14,000/D	17,200/D	19,700/D	22,600/D
	Fremont Boulevard to North-South Road	10,850/B	12,000/F	10,900/D	12,200/C
	North-South Road to Hwy 68	10,850/D	12,000/D	16,500/B	17,800/B
Del Monte Boulevard	El Estero to Highway 1	34,300/F	38,900/F	50,000/F	49,300/D
	State Highway 1 to Broadway Ave	27,026/D	26,900/D	29,500/D	29,400/D
	Broadway Ave to Fremont Blvd	9,757/C	10,500/C	9,400/C	10,000/C
	State Highway 1 (S. Marina) to Reservation Road	28,836/D	37,800/E	29,700/D	29,600/D
	Reservation Road to State Highway 1 (N. Marina)	4,825/A	9,400/B	10,800/B	9,800/B
Fremont Blvd	State Highway 1/State Highway 68 to Broadway	25,166/D	29,200/E	27,200/D	27,500/D
	Broadway Ave to State Highway 1	16,363/C	16,800/C	31,300/F	28,200/D
Broadway Avenue	Del Monte Blvd to Noche Buena Street	13,895/C	14,200/C	16,800/C	16,800/C
	Noche Buena Street to North-South Road	8,742/C	9,000/C	15,100/C	15,000/C
Reservation Road	Hwy 1 to Del Monte Boulevard	10,205/B	13,800/C	14,800/D	14,800/D
	Del Monte Boulevard to Crescent Ave	26,046/E	33,300/F	31,600/D	30,000/D
	Crescent Ave to Imjin Road	22,874/B	25,600/D	32,300/D	32,300/D
	Imjin Road to Blanco Road	N/A	27,100/C	47,500/D	29,700/C
	Blanco Road to Inter-garrison Road	3,700/A	4,300/A	22,700/B	15,600/B
	Intergarrison Road to Davis Road	4,700/A	4,300/A	24,200/E	15,600/C
	Davis Road to State Highway 68	6,200/A	10,200/B	9,600/B	11,600/B
	Reservation Road to Davis Road	20,252/E	25,700/F	19,800/E	36,300/C
Blanco Rd	Davis Road to State Highway 68	18,836/B	23,500/B	18,400/B	23,100/B
	State Highway 68 to US 101	26,600/C	35,100/F	31,100/C	30,700/D
Blanco Rd/ Sanborn Rd	Reservation Road to Blanco Road	7,500/A	10,900/B	23,800/E	14,800/B
Davis Road	Blanco Road to Rossi Street (Hwy 183)	24,000/E	29,300/E	29,000/E	24,100/E
	Rossi Street (Hwy 183) to US 101	34,829/F	38,300/F	35,900/F	36,300/F

housing areas as well as several mobile home park facilities such as Marshall Park Family Housing and Patton Park Family Housing.

Four and 6-lane urban arterials consist of streets such as Gigling Road, Lightfighter Drive (main entrance road) and the portion of North-South Road between Lightfighter Drive and Ardennes Circle. These streets have curbs and in some cases sidewalks and a median. Rural arterials such as Inter-garrison Road, Reservation Road, and the remaining portion of North-South Road have no curbs, sidewalks, or medians.

Existing roadways within the former Fort Ord provide the foundation for planning the future network within the reuse area. The key existing roadways within the former Fort Ord include 2nd Avenue, Light Fighter Drive, Gigling Road, Imjin Road, Inter-garrison Road, Coe Avenue, North-South Road, and Eucalyptus Road. These facilities are described below.

2nd Avenue: This roadway is a north-south facility aligned east of State Highway 1. It connects Light Fighter Drive east of the Main Gate to 11th Street.

12th Street: 12th is an east-west collector road running between Imjin Road and Highway 1. Access to State Highway 1 is provided at the 12th Street interchange.

8th Street/8th Street Cut-off: This arterial runs from the railroad tracks just east of Highway 1 eastward toward Imjin Road. Near this location, the roadway turns to a southwest direction and intersects Inter-garrison Road.

Light Fighter Drive: Light Fighter Drive is a short east-west arterial that provides access to State Highway 1 via Fort Ord's Main Gate. It also connects to 2nd Avenue and North-South Road.

Gigling Road: This roadway is a east-west facility in the central part of the former Fort Ord, aligned south of Light Fighter Drive. It connects with several north-south streets, including North-South Road, which provides access to Light Fighter Drive and the Main Gate.

Imjin Road: Imjin Road is an arterial roadway running south from Reservation Road through the former Fort Ord where it ends at 8th Street. The northern portion of Imjin is four lanes, narrowing to two lanes in the southern portion.

Inter-garrison Road: Inter-garrison Road is an east-west two-lane arterial that provides a connection from Reservation Road to the north-central area of the former Fort Ord, where it becomes 3rd Street. Inter-garrison could become a major east-west facility for the former Fort Ord, and could be used to relieve congestion from the Blanco/Imjin corridor.

Coe Avenue: Coe Avenue, a two-lane arterial, currently provides access to Fort Ord areas south of the golf courses from North-South Road. It starts at North-South Road and ends immediately west of State Highway 1. Currently, there is no direct connection between Coe Avenue and the freeway, but State Highway 1 can be accessed from Coe Avenue via Monterey Avenue.

North-South Road: This facility is the major north-south roadway through the southern part of the former Fort Ord. It begins north of State Highway 218 and follows the western edge of the former Fort Ord at the Seaside city limits. There is a gate at Broadway, which would provide access to Seaside if it were opened. Farther north, North-South Road intersects Coe Avenue, and continues to an intersection with Light Fighter Drive, which provides access to the Main Gate. North-South Road ends at 3rd Street, where it becomes 4th Avenue in central Fort Ord. It is currently a two- to four-lane facility. The roadway has the potential to operate as parallel facility to State Highway 1 providing a link from the Marina area to areas south of Seaside.

Eucalyptus Road: This facility begins at the intersection of Coe Avenue and North-South Road just north of Seaside. It is aligned to the northeast, and the pavement ends at Barclay Canyon Road. While Eucalyptus Road does not currently provide any connections, future improvements in the eastern part of the former Fort Ord may make this an important element in the roadway system.

Currently, the majority of these facilities are relatively low-volume roadways, but will become more important as the base is redeveloped. No current LOS analysis was performed because traffic volumes on internal Fort Ord roadways have been negligible since the base closure.

Access into the former Fort Ord is limited to a number of entry gate locations. Since the closure of the base, many of the gates have remained closed, further limiting access into the Fort Ord area. As the transition to civilian use has begun, some of the gates have been reopened. The gates that are relevant to the Fort Ord Base Reuse Plan are illustrated in Figure 4.2-1 and described below.

- The Main Gate at Light Fighter Drive, east of the State Highway 1 freeway interchange and west of 1st Avenue.
- The 12th Street Gate, across 1st Avenue near 12th Street immediately east of the State Highway 1 freeway interchange.
- The Imjin Gate, at Imjin Road, immediately south of Reservation Road, east of Marina.
- The East Garrison Gate, at Inter-garrison Road, immediately southwest of Reservation Road. (This gate is currently closed to the general public.)
- The Barloy Canyon Road Gate, Barley Canyon Road, immediately north of State Highway 68. (This gate is currently closed to the general public.)
- The North-South Road Gate, at North-South Road, immediately north of State Highway 218. (This gate is currently closed to the general public.)
- The Broadway Gate, at Broadway Avenue, immediately west of North-South Road at the border of Seaside and the former Fort Ord.
- The Ord Gate, at Ord Avenue in the southwest corner of the former Fort Ord south of Coe Avenue and immediately east of State Highway 1.

4.2.2.3 Future Conditions

The reuse of the former Fort Ord along with growth throughout the remainder of the region will place increased demands on the roadway system. Enhancements to the roadway network are needed to respond to this increased demand. Within the former Fort Ord this means developing a roadway network to meet the needs of development that, for the most part, does not yet exist. In some instances, particularly in the near term, existing facilities may be used with only minor improvements. In the longer term, upgraded roadways along existing alignments may be necessary. The opportunity also exists for "wiping the slate clean" and developing a new roadway network designed specifically for the Reuse Plan. It is proposed that a combination of these approaches be used for the internal Fort Ord roadway network. For the regional network, there is much less flexibility. For the most part, the layout of the network may be viewed as fixed. Improvements to existing roadway will be needed,

with only limited opportunity for the construction of new facilities. In both instances, there are numerous physical, environmental and financial constraints.

To assist in identifying the roadway needs for buildout of the former Fort Ord, conditions for the Year 2015 were modeled using the Monterey County Transportation Analysis Model (MCTAM). The Year 2015 analysis was used as a guide for developing this plan because regional land use and network forecasts needed to operate the model were not available for "buildout" conditions. Thus, the assessment of buildout roadway needs for the former Fort Ord is based upon a qualitative extrapolation of the Year 2015 results.

Numerous 2015 alternatives were modeled reflecting differing roadway network and land use assumptions. The three scenarios developed are described below.

- "No Build" - the redevelopment of the former Fort Ord was limited to continued POM Annex use. The network included existing roads plus committed off-base projects. This scenario was used to identify the location and magnitude of regional deficiencies that would occur even without the reuse of the former Fort Ord.
- "Build/Financially Constrained" - the proposed Year 2015 redevelopment of the former Fort Ord was modeled along with an internal roadway system designed to meet its needs. Off-site improvements were limited to those currently committed or those on facilities directly adjacent to the base and deemed most critical to the redevelopment of the former Fort Ord.
- "Build/Optimistic Financing" - in this scenario, a number of improvements to the regional system are added to the "Build/Financially Constrained" scenario to achieve LOS goals. A number of alternatives were modeled to identify the preferred roadway network.

Forecasted volumes and service levels for key off-site roadway segments under each of these scenarios were presented with the existing conditions in Table 4.2-2. Year 2015 volumes and service levels for on-site facilities under both "build" scenarios are presented in Table 4.2-3. Volume and LOS results, as well as segment classification and number of lanes for the individual scenarios are provided in Appendix B of the Draft EIR, Traffic: Background Information. A summary of the specific regional and on-site improvements contained in each scenario is provided in Table 4.2-4.

The proposed 2015 roadway network for the Fort Ord area, including the number of lanes on key facilities, is illustrated in Figure 4.2-2. The proposed 2015 network represents a system of roadways, both outside and within the former Fort Ord, that serves the 2015 development in the area. From a regional perspective, the proposed network includes a number of major improvement projects with varying levels of relationship to the reuse of the former Fort Ord. In some instances, these improvements address existing system deficiencies. Others are proposed with the intent of improving access to the former Fort Ord, recognizing the environmental and financial constraints. Key improvements include the widening of State Highway 1 north of Castroville, State Highway 156, State Highway 183, State Highway 218, Blanco Road, Reservation Road, and Del Monte Boulevard, and the construction of the State Highway 68 Bypass Freeway and the Prunedale Bypass.

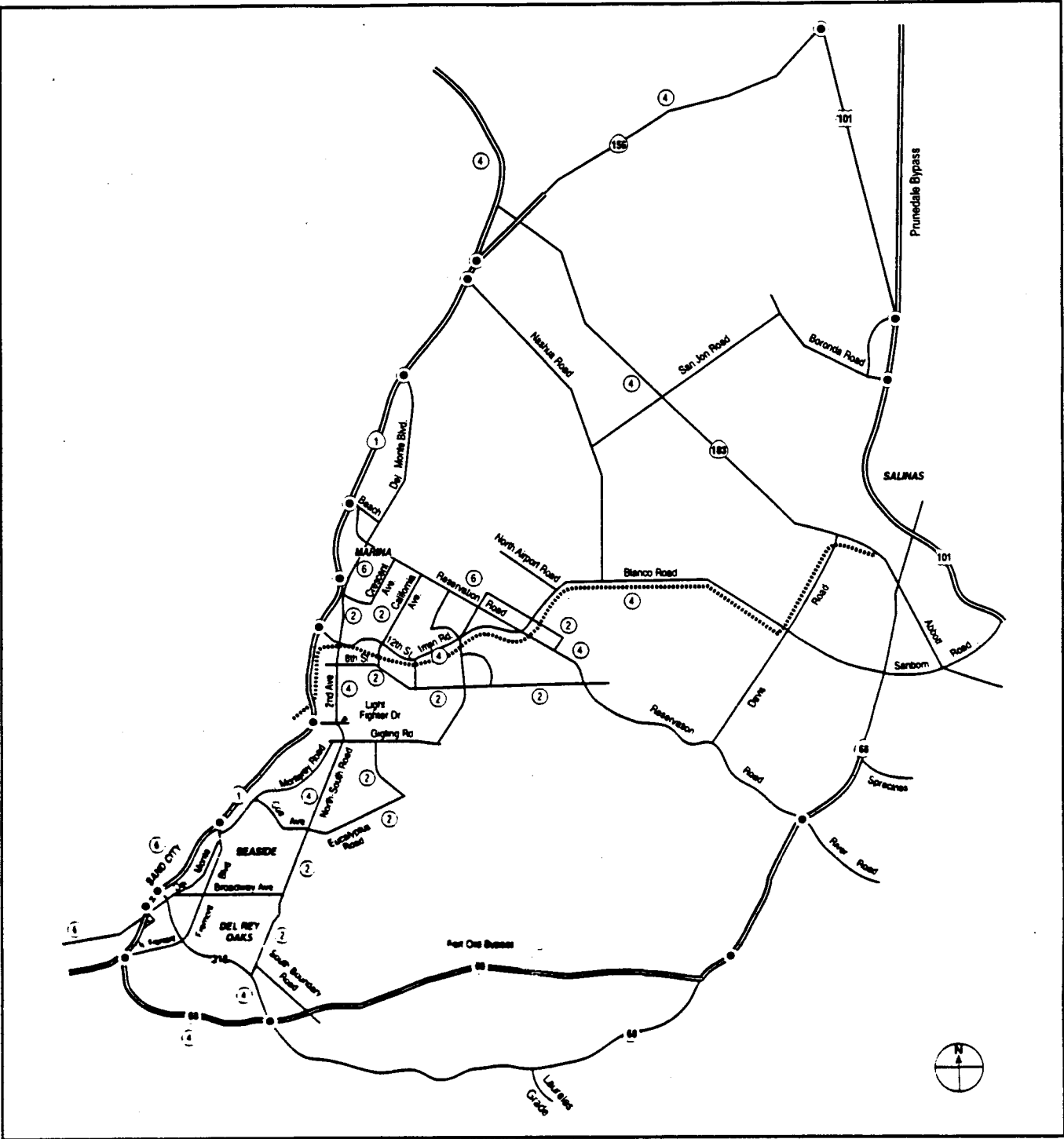
The roadway element includes the designation of the arterial roadways that will provide circulation within the reuse area. In general, this system of major roads provides access to the regional network via the existing entrance locations at 12th Street, Main Gate (Light Fighter), Imjin Road, Inter-garrison Road, Broadway Avenue and North-South Road at State Highway 218 as well as a new access point via 2nd Ave. Within the base, these roads connect the entrance points and provide for internal circulation. The proposed internal roadway network for buildout of the former Fort Ord is illustrated in Figure 4.2-3. The arterial component of the roadway element within the former Fort Ord consists of the facilities described below.

12th Street/Imjin Road: This remains a key corridor between State Highway 1 and Reservation Road in the former Fort Ord. For the 2015 proposed network this facility will be four lanes from State Highway 1 to Reservation Road.

In addition, a new two-lane roadway is proposed connecting the Reservation/Blanco intersection to Imjin near the intersection with Eastside. This roadway, termed the Blanco/Imjin Connector, would provide direct access onto the former Fort Ord from Blanco.

For the buildout network, it is expected that this facility will be six lanes from State Highway 1 to Eastside Road and will include an upgraded interchange at State Highway 1. The connector would be widened to four lanes at buildout.

Gigling Road/Inter-garrison Connector: Gigling Road would serve as the major roadway serving the area immediately south of the CSUMB campus. In



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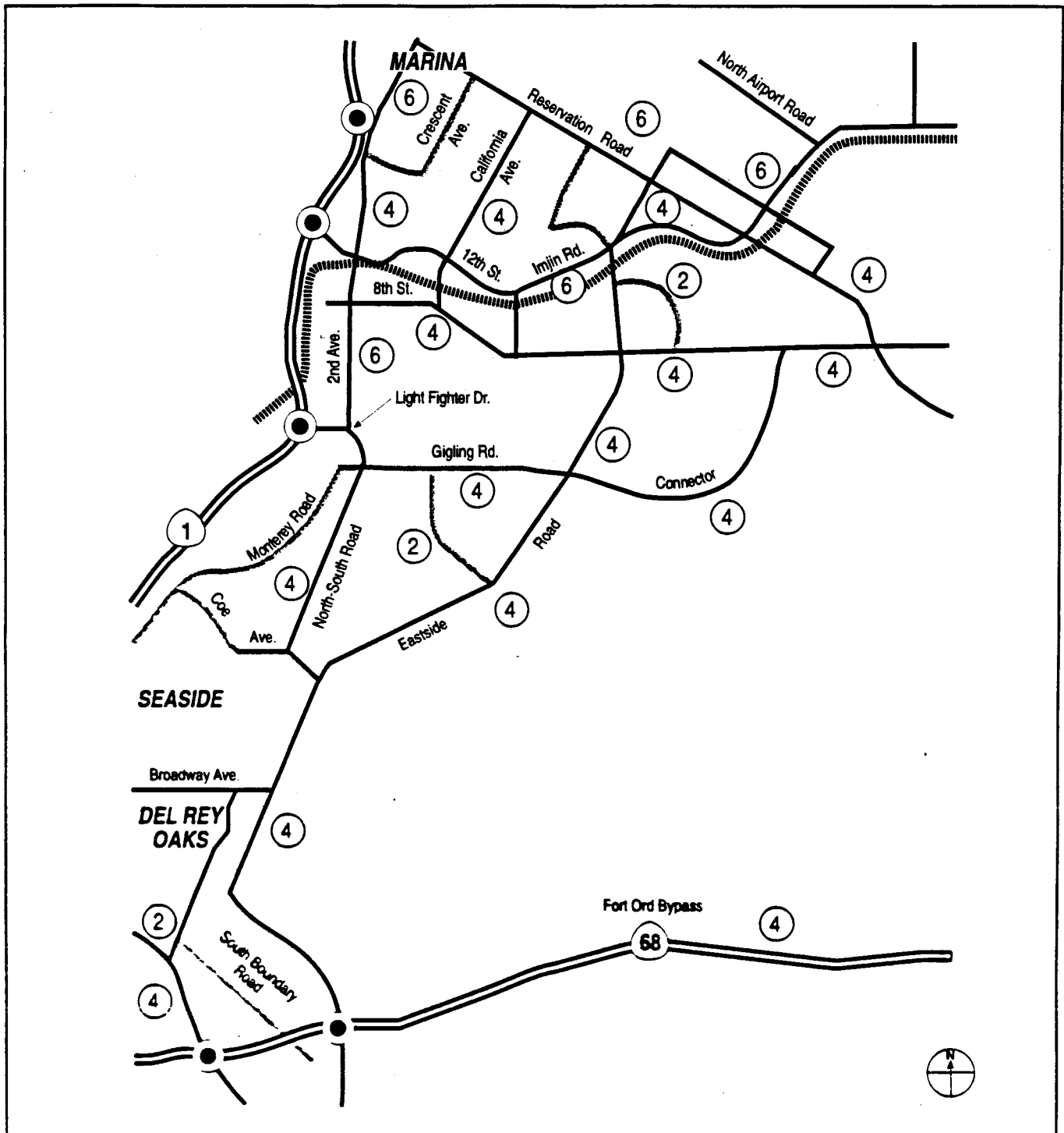
Freeway

Multimodal Corridor ROW

Interchange

Number of Lanes

DRAFT
Figure 4.2-2
**Proposed 2015
Transportation Network**



DRAFT
Figure 4.2-3
Buildout Transportation Network
Attachment D, p. 721 of 1882

the 2015 proposed network, this facility would exist as a four lane arterial from North-South Road to Eastside Road. In the buildout network, it is

**Table 4.2-3
On-Site Facilities LOS Summary**

Roadway	Segment	Daily Volume/LOS		
		Scenario 1A "No Build"	Scenario 2A "Financially Constrained"	Scenario 3F "Preferred"
12th/Imjin	State Highway 1 to California Avenue		20,800/D	19,900/D
	California Avenue to Eastside Road	N/A	12,800/B*	12,500/B*
	Eastside Road to Reservation Road		19,400/B*	7,400/B*
Blanco/Imjin Connector	Eastside to Reservation	N/A	N/A	10,000/B
8th Street	State Highway 1 Overpass to 2nd Avenue	N/A	300/C*	300/C*
	2nd Avenue to Inter-garrison		2,800/C*	2,500/C*
Inter-garrison Road	8th Street to Gigling Connector	N/A	3,500/B*	3,000/B*
	Gigling Connector to Reservation Road		13,100/C	7,400/A
Lightfighter	State Highway 1 to North-South Road	N/A	24,400/D	23,500/D
Gigling	North-South Road to Eastside	N/A	16,900/B*	15,200/B*
Coe Avenue	Ord Avenue to North-South Road	N/A	600/C*	600/C*
2nd Avenue	Del Monte Blvd to 12th Street	N/A	3,900/C*	3,900/C*
	12th Street to Lightfighter		12,100/D*	11,800/D*
	Lightfighter to Gigling	N/A	19,700/D	18,400/D
North-South Road	Gigling to Coe/Eucalyptus		16,900/B	16,200/B*
	Coe to Broadway		15,500/E	14,900/D
	Broadway to State Highway 218		5,500/A	5,400/A
California Avenue	Reservation Road to 12th Street	N/A	9,600/D	13,200/D
	12th Street to 8th Street		1,700/D	2,100/D
Eastside Road	Imjin to Gigling	N/A	9,900/B	12,100/C

anticipated that a four-lane connector to Inter-garrison will be built.

Inter-garrison Road/8th Street: This facility is intended to be more attractive to drivers for accessing the southern portion of the reuse area from the east, thus reducing the demand on Blanco Road and the 12th Street/Imjin Road corridor. West of the connection to Eastside Road, however, Inter-garrison Road would be de-emphasized as major vehicular route with greater emphasis placed on pedestrian and bicycle traffic. This entire facility is two lanes in the 2015 proposed network, and four lanes in the ultimate buildout network. Between the CSUMB campus and the designated mixed-use area, 8th Street would possess design features (i.e., intersection and signal spacing) that reflect an urban, circulatory character. These urban design features will apply to this facility west of the Inter-garrison Connector in the ultimate building network.

2nd Ave./North-South Road: This corridor would serve as the north-south spine through the reuse area. It will provide a connection from Del Monte Boulevard in Marina to State Highway 218 in Del Rey Oaks. The 2nd Avenue portion of this corridor would serve the key commercial and mixed-use development areas within the former Fort Ord. This facility would be designed to emphasize its role in serving as the primary circulation and access route for these areas, and de-emphasize it as an alternative to State

State Highway 1: For the 2015 proposed network, this facility will be two lanes on the 2nd Ave segment from Del Monte to 12th street and on the North-South Road segments from Coe/Eucalyptus to State Highway 218. The remaining segments of 2nd Ave and North-South Road will be four lanes. For buildout network, the portion of 2nd north of 12th would be widened to four lanes, while the segment south of 12th to Gigling would be six lanes.

Eastside Road: For 2015 a new two lane facility is proposed between Imjin and Gigling along the eastern portion of the primary redevelopment area in the former Fort Ord. Access to State Highway 68 would via State Highway 218 and the existing North-South Road. Improvements to each of these segments are proposed to support this circulation pattern. In its ultimate form, this facility would provide a four lane connection between the proposed State Highway 68 freeway, around the east side of the CSUMB campus, to Imjin Road. A connection to the North-South Road/Coe Avenue intersection would be built along with this facility. Eastside Road would serve as a primary southwest-northeast corridor. In this manner, it would serve to reduce demand along State Highway 1, 12th Street and the Del Monte/2nd/North-South corridor.

California Ave.: In the 2015 proposed network, California Ave would be extended south from Marina as far as 8th Street as a two lane arterial. For buildout, this facility will be upgraded to a four lane arterial to serve as a key access and circulatory route in the Marina Village area.

City of Marina Access: Under the proposed reuse plan, access to the former Fort Ord from other areas of Marina would be provided via regional facilities to existing gates off State Highway 1 and Reservation Road. The proposed plan includes additional access via Del Monte Boulevard and Abrams Drive, and the extensions of Salinas Avenue and California Avenue.

City of Seaside Access: From Seaside and the Monterey Peninsula, access is provided off State Highway 1, with primary local access via Broadway Avenue. Secondary access would be provided via Coe Avenue, but use of this route is to be limited due to constraints at the Fremont Boulevard/Coe Avenue interchange. In recognition of this, the proposed plan does not include the upgrading and widening of Coe between Fremont and North-South Road contained in the FORIS plan.

4.2.2.4 Objectives

Objective A: An efficient regional network of roadways that provides access to the former Fort Ord.

To a large extent, the attractiveness of the former Fort Ord for redevelopment within the national marketplace will depend on the ability of the regional transportation system to provide for efficient intra- and inter-regional travel. Critical facilities include those most proximate to the former Fort Ord (State Highway 1, Reservation Road, Del Monte Boulevard, Fremont Boulevard), those that connect to Salinas (State Highway 68, Blanco Road, Davis Road), and those to the north that provide connections to Santa Cruz and the Bay Area (State Highway 1, State Highway 156, U.S. 101). As identified previously, a number of these facilities are currently operating at or near deficient levels of service. Regional growth and the redevelopment of the former Fort Ord will result in the worsening of these conditions. Thus, efforts and improvements that address the efficient operation of these facilities are required.

Adding system capacity through roadway improvements represents the most direct means of mitigating the impacts of increased demand. The operating analysis presented above identified those roadway facilities forecast to operate at deficient service levels in 2015 (see Table 4.2-3). This analysis also resulted in the identification of roadway improvements needed to achieve or maintain acceptable service levels. A listing of these improvements was provided with varying levels of relationship to the reuse of the former Fort Ord. In some instances, these improvements address existing system deficiencies or future deficiencies to which the former Fort Ord has an insignificant contribution. With respect to the former Fort Ord (State Highway 1, Reservation Road, Del Monte Boulevard, Fremont Boulevard), those that connect to Salinas (State Highway 68, Blanco Road, Davis Road), and those to the north that provide connections to Santa Cruz and the Bay Area (State Highway 1, State Highway 156, U.S. 101).

A key step in the transportation analysis process was the identification of the former Fort Ord contribution to the volume increases on the regional roadways examined in this study. This analysis, termed a "nexus" test, was used to determine the former Fort Ord's share for each of the proposed improvements. This information was in turn used to develop a funding mechanism by which Fort Ord development would pay for its share of the impact on the regional transportation system. Because funding for the non-Fort Ord share may not always be available, the option exists for the use of Fort Ord-generated funding to cover the entire cost of selected improvements to facilitate their implementation. In this situation, the total Fort Ord contribution to all improvements would remain the same as that determined by the nexus test.

Objective B: Provide direct and efficient linkages from former Fort Ord lands to the regional transportation system.

The former Fort Ord will generate and attract a large number of intra- and inter-regional trips. This requires that high quality connections between the regional network and the internal network be provided. Provision of multiple connections will provide the opportunity for trips to more directly go between their origin and destination. As a result, this will reduce vehicle miles of travel (VMT) and emissions and avoid overloading a small number of facilities. It is important that these connections be between arterial and higher class roadways to avoid excessive volumes on local streets. Furthermore, this interface must take into consideration the movement of goods along designated truck routes.

Connections identified within the proposed plan include those at 12th Street/State Highway 1, Lightfighter/State Highway 1, Coe/Fremont, North-South/Broadway, North-South/State Highway 218, Eastside/State Highway 68, Inter-garrison/Reservation, Imjin/Reservation, California, and 2nd Avenue/Del Monte.

Objective C: Provide a safe and efficient street system at the former Fort Ord.

In addition to an efficient regional network, it is important that the internal roadway network operate in a safe and efficient manner. Although a road system exists, it was designed for military uses. The reuse of most areas provides the opportunity to redesign the roadway network to meet these new needs. The roadway system must provide access to areas identified for redevelopment and do so as directly and efficiently as possible. Part of the efficiency is recognizing that different roads will serve different functional purposes. Another element is maintaining acceptable service levels to provide mobility. An efficient system operates with little or no

congestion, thus limiting negative impacts such as delay, vehicle emissions, and intrusion into residential areas.

Objective D: Provide an adequate supply of on-street parking

An adequate supply of parking provides important economic services to developments. Additionally, sufficient parking helps maintain efficient traffic circulation by minimizing the traffic created by drivers circulating in search of parking spaces. On-street parking provided as part of the streets and roads system is an important component of the parking supply at the former Fort Ord.

4.2.2.5 Streets and Roads Policies and Programs

Objective A: An efficient regional network of roadways that provides access to the former Fort Ord.

Streets and Roads Policy A-1: FORA and each jurisdiction with lands at former Fort Ord shall coordinate with and assist TAMC in providing funding for an efficient regional transportation network to access former Fort Ord.

Program A-1.1: FORA and each jurisdiction with lands at former Fort Ord shall provide a funding mechanism to pay for former Fort Ord's share of impact on the regional transportation system.

Program A-1.2: FORA and each jurisdiction with lands at former Fort Ord shall identify specific transportation issues that affect former Fort Ord and support and participate in regional and state planning efforts and funding programs to provide an efficient regional transportation effort to access former Fort Ord.

Objective B: Provide direct and efficient linkages from former Fort Ord lands to the regional transportation system.

Streets and Roads Policy B-1: FORA and each jurisdiction with lands at former Fort Ord shall design all major arterials within former Fort Ord to have direct connections to the regional network (or to another major arterial that has a direct connection to the regional network) consistent with the Reuse Plan circulation framework.

Program B-1.1: Each jurisdiction shall coordinate with FORA to design and provide an efficient system of arterials consistent with Figures 4.2-2 (in the

2015 scenario) and Figure 4.2-3 (in the buildout scenario) in order to connect to the regional transportation network.

Program B-1.2: Each jurisdiction shall identify and coordinate with FORA to designate local truck routes to have direct access to regional and national truck routes and to provide adequate movement of goods into and out of former Fort Ord.

Objective C: Provide a safe and efficient street system at the former Fort Ord.

Streets and Roads Policy C-1: Each jurisdiction shall identify the functional purpose of all roadways and design the street system in conformance with Reuse Plan design standards.

Program C-1.1: Each jurisdiction shall assign classifications (arterial, collector, local) for each street and design and construct roadways in conformance with the standards provided by the Reuse Plan (Table 4.2-4 and Figure 4.2-4).

Program C-1.2: Each jurisdiction shall preserve sufficient right-of-way for anticipated future travel demands based on buildout of the FORA Reuse Plan.

Program C-1.3: Each jurisdiction shall assign an appropriate threshold performance standard for its roadway system in order to measure the impacts of future growth on the system.

Program C-1.4: Each jurisdiction shall design and construct the roadway network consistent with the phasing program identified in the Fort Ord Business and Operations Plan (Appendix B of the Reuse Plan).

Program C-1.5: Each jurisdiction shall designate arterials and roadways in commercially zoned areas as truck routes.

Streets and Roads Policy C-2: Each jurisdiction shall provide improvements to the roadway network to address high accident locations.

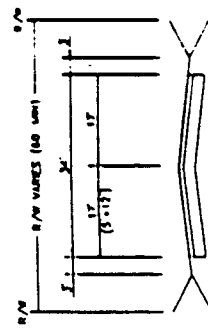
Program C-2.1: Each jurisdiction shall collect accident data, identify and assess potential remedies at high accident locations and implement improvements to lower the identified high accident rates.

Objective D: Provide an adequate supply of on-street parking

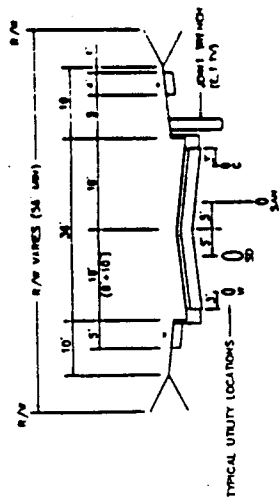
MINIMUM REQUIREMENTS
TO BE DETERMINED
BASED ON ADJACENT
LAND USE

MORE

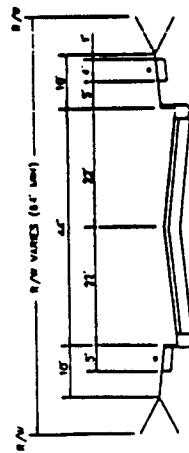
ADDITIONAL PLANTINGS
SHALL BE PROVIDED AS
REQUIRED FOR
DOUBLE LEFT TURN LANES
SEPARATED FROM MAIN LANE
AND 10' WIDE R.S. DITCHES



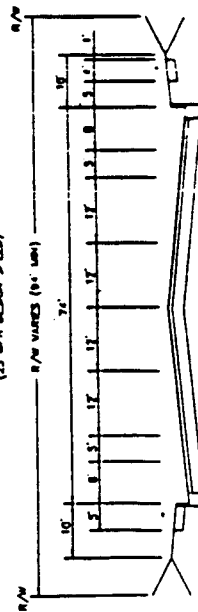
LOCAL RURAL ROAD
(40 MPH DESIGN SPEED)



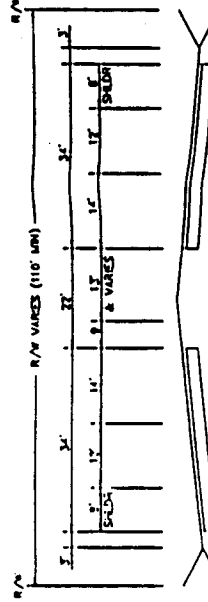
LOCAL URBAN STREET
(25 MPH DESIGN SPEED)



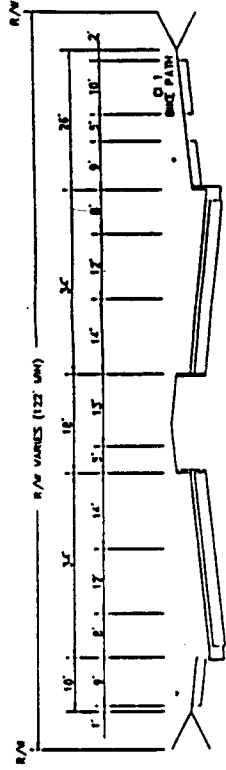
2-LANE URBAN COLLECTOR
(35 MPH DESIGN SPEED)



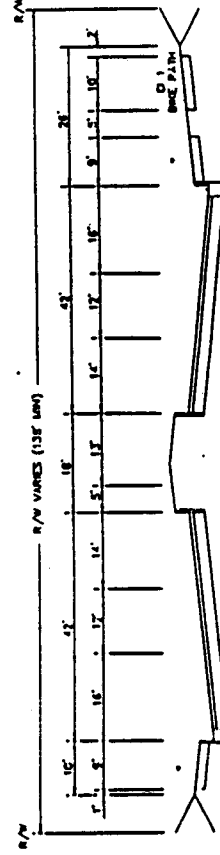
4-LANE URBAN COLLECTOR
(35 MPH DESIGN SPEED)



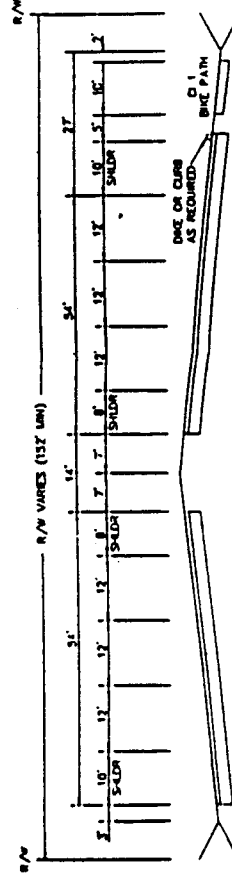
4-LANE RURAL ARTERIAL
(65 MPH DESIGN SPEED)



4-LANE URBAN ARTERIAL
(65 MPH DESIGN SPEED)



6-LANE URBAN ARTERIAL
(50 MPH DESIGN SPEED)



URBAN EXPRESSWAY
(65 MPH DESIGN SPEED)

Source: FORIS - Traffic Safety Standards, (HMH, Inc.)

DRAFT
Figure 4.2.4
Roadway Design Standards

**Table 4.2-4
Roadway Design Standards**

	Rural Arterial	Rural Local	Urban Arterial	Urban Collector	Urban Local
No. of Lanes	4	2	4-6	2-4	2
Design Traffic Volume	1800 VPHPL	<5000 ADT	1200 VPHPL	<10000 ADT	<2000 ADT
Design Speed	65 MPH	55 MPH Pref. 40 min	45-65 MPH	25-35 MPH	25 MPH Min.
Stopping SD	725 ft	325-550 ft	400-725 ft	150-250 ft	150 ft
Passing SD	2000 ft	1500-1950 ft	N/A	N/A	N/A
Alignment					
Minimum Radius	1600ft	300ft	1500ft	600ft	300ft
Grade					
Profile Grade	3-5% max for level & rolling terrain	6-9% for level & rolling terrain	5-8% max	9-11% max 0.40% min	Residential: <15% Comm/Indust: <8%
Cross Slope	2% or standard superelevation per Caltrans HDM	2% or standard superelevation per Caltrans HDM	2% except, standard superelevation for expressway	0.50% min desirable 2%	<5% desirable 2%
RW Width (w/o slopes)	110ft	60ft	122ft - 138ft	64ft - 94ft	56ft
Vertical Clearance	16.5ft 15ft ok if allowed by local ordinance	15ft	16.5ft 15ft ok if allowed by local ordinance	15ft	15ft
Signing and Pavement Delineation	Per Caltrans Traffic Manual	Per Caltrans Traffic Manual	Per Caltrans Traffic Manual	Per Caltrans Traffic Manual	Per Caltrans Traffic Manual

Abbreviations

ADT	Average Daily Traffic
VPHP	Vehicles Per Hour Per Lane
R/W	Right of Way
MPH	Miles per Hour
SD	Sight Distance

Source: Fort Ord Reuse Infrastructure Study - Traffic Safety Standards (HMH, Incorporated)

Streets and Roads Policy D-1: Each jurisdiction shall provide a program of on-street parking.

Program D-1.1: Each jurisdiction shall provide on-street parking, as appropriate, with design and construction of all urban roadways.

Program D-1.2: Each jurisdiction shall provide on-street parking on all urban roadways for persons with disabilities.

Program D-1.3: Each jurisdiction shall evaluate all new development proposals for the need to provide on-street parking as a part of the overall on-street parking program.

4.2.3 Transit

Transit service is essential to the circulation system as an alternative to auto transportation. It is especially important for the elderly, students, the disabled, and others who cannot drive or who do not have access to an automobile. Also, it can be an attractive transportation alternative for those who want to avoid the cost, stress, and delays of driving, and the nuisance of parking. Transit vehicles are generally less polluting on a per passenger basis, and can help to lessen roadway congestion.

Expanding transit service makes transit more accessible to more people. Providing more people with easy access to transit may increase transit market share, and can be accomplished by making service improvements (altering and expanding transit routes, schedules, and equipment), operational changes, or changes in fare policy.

Bus and rail transit are both potentially viable options as transit service is expanded to serve the former Fort Ord. The aggregate impact of an effective fixed-route transit system (i.e., rail) complemented by lower-capacity transit vehicles (i.e., buses) can be a logical and reasonable alternative to automobile use in areas where there is sufficient housing and employment.

4.2.3.1 Existing Conditions

Monterey-Salinas Transit (MST) provides local bus service for the Monterey Peninsula. The service area includes the former Fort Ord as well as Seaside, Monterey, Marina, Carmel, and other Peninsula cities. Service originates from two primary locations: the Monterey Transit Plaza in central Monterey, and the Salinas Transit Center in downtown Salinas. There is connecting service between Monterey and Salinas via the former Fort Ord, as well as a Monterey-Marina line that serves the former Fort Ord. In October 1995, the Monterey-Marina line was modified to include service to CSUMB. This line (#7) operates with service approximately once each hour. Within the former Fort Ord, bus stops are located on North-South Road, Gigling Road, Imjin Road, Abrams Drive, and Preston Drive. Not all bus stops have shelters.

RIDES is a countywide transit program for persons with disabilities and elderly people who cannot ride MST. The service provides wheelchair life-equipped vans Monday through Friday between 10:00 a.m. and 2:00

p.m. A taxi reimbursement programs is available for all other times. Passenger train service is currently only available through Amtrak's Coast Starlight Service in Salinas, with connections to the San Francisco Bay Area and beyond.

4.2.3.2. Objectives

Objective A: Provide convenient and comprehensive bus service.

Transit is most effective when stops are located where many people live (e.g., residential neighborhoods) or wish to travel (e.g., employment centers), and where routes connect these places. For the former Fort Ord, the key activity centers will be the high concentration areas, which will include the mixed use villages, UCMBEST, CSUMB, and the intermodal center. The primary transit corridors will be the Salinas-Fort Ord corridor (on Blanco, Davis, and Reservation Roads) and the Fort Ord-Seaside-Monterey Peninsula corridor (on State Highway 1 and Del Monte Boulevard).

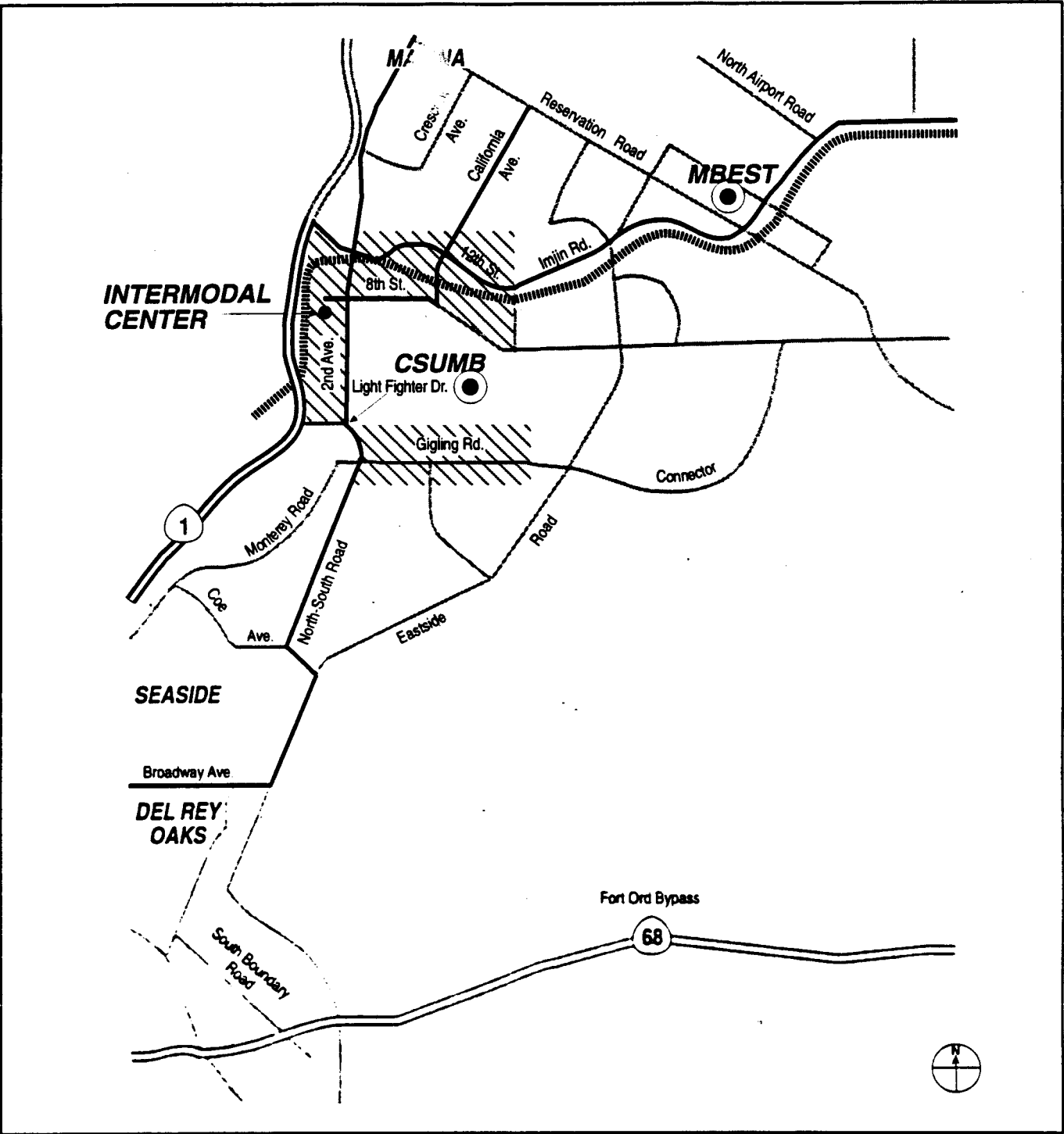
Figure 4.2-5 illustrates the key activity centers and corridors that are prime candidates for high-quality bus service. These centers represent areas of high volume and concentration trip-making. The corridors connect these centers and carry a majority of the trips to and within the former Fort Ord.

Objective B: Promote passenger rail service that addresses transportation needs for the former Fort Ord.

The Intercity Passenger Rail Feasibility Study was completed in 1993. It examined options for connecting the Monterey Peninsula with the San Francisco Bay Area via existing Amtrak and Caltrain services. The study examined weekend and summertime excursion service options as well as daily intercity peak-period commute service options using both direct and transfer service. This planning effort led to discussion of a potential direct rail connection between Salinas and the former Fort Ord, with possible extension to the Monterey Peninsula. This connection would require new track as none currently exists in this corridor, but would serve a primary intra-regional travel pattern. TAMC is currently studying this proposal in more detail. *(supplement discussion with recent TAMC work on this issue)*

Objective C: Promote intermodal connections that address the transportation needs for the former Fort Ord.

A transit or intermodal center located in the former Fort Ord is viewed as a critical facility for the region. An Intermodal Centers Siting Study,



LEGEND	
	Freeway
	Key Transit Corridor
	Multimodal Corridor Right-of-Way
	Activity Center
	High Density / Mixed-Use Areas

DRAFT
Figure 4.2-5
Transit Activity Centers and Corridors

completed in January 1995, recommended developing a facility east of State Highway 1, between the railroad undercrossing and the 12th Street Gate. Based on further evaluation from the land use plan, a more specific site has been recommended at 8th Street. This site would effectively support the mixed-use area as well as recreational travel to Fort Ord Dunes State Park.

4.2.3.3 Transit Policies and Programs

Objective A: Provide convenient and comprehensive bus service.

Transit Policy A-1: Each jurisdiction with lands at former Fort Ord shall coordinate with MST to provide regional bus service and facilities to serve the key activity centers and key corridors within former Fort Ord.

Program A-1.1: Each jurisdiction shall identify key activity centers and key corridors, coordinate with MST to identify bus routes that could serve former Fort Ord, and support MST to provide service responsive to the local needs.

Program A-1.2: Each jurisdiction shall develop a program to identify locations for bus facilities, including shelters and turnouts. These facilities shall be funded and constructed through new development and/or other programs in order to support convenient and comprehensive bus service.

Program A-1.3: Each jurisdiction shall identify the need for transit/paratransit services for the elderly and disabled and coordinate with and support MST to implement the needed transit services.

Objective B: Promote passenger rail service that addresses transportation needs for the former Fort Ord.

Transit Policy B-1: Each jurisdiction shall support TAMC and other agencies to provide passenger rail service that addresses transportation needs for former Fort Ord.

Program B-1.1: Each jurisdiction shall support TAMC and other agencies to assess the need, feasibility, design and preservation of rights-of-way for passenger rail service that addresses transportation needs at former Fort Ord.

Objective C: Promote intermodal connections that address the transportation needs for the former Fort Ord.

Transit Policy C-1: Each jurisdiction shall support the establishment of intermodal centers and connections that address the transportation needs at former Fort Ord.

Program C-1.1: Each jurisdiction shall coordinate with and support TAMC and MST to identify the need, location, and physical design of intermodal centers and regional and local transportation routes to connect with the intermodal centers.

4.2.4 Pedestrian and Bicycles

Non-motorized modes of travel are an important focus for the Fort Ord circulation system. The two most common non-motorized modes of travel are walking (pedestrian) and bicycling. Both pedestrian and bicycle travel are non-polluting, do not contribute to roadway congestion, and are healthy alternatives to vehicular travel. People often find walking and bicycling to be pleasant experiences when they have clearly defined facilities and feel safe using them.

A critical factor in promoting pedestrian activity is to have land uses that permit trips that can be easily and safely walked. Some examples of pedestrian-friendly land uses are a mixture of uses located in proximity to one another, or transit stops placed near residential areas. Creating an interesting pedestrian environment with landscaping and minimal building setbacks in commercial areas also helps to encourage pedestrian activity. However, people will not take pedestrian trips if safe places to walk are not provided. By providing pedestrian facilities and routes, walking can be encouraged as an alternative to vehicle use. Similarly, bicycle transportation can be encouraged with the right mixture of land uses and good bicycle routes. To be a feasible alternative to driving, bicycling must be convenient and safe.

4.2.4.1 Existing Conditions

Sidewalks currently exist on some Fort Ord roadways, but a comprehensive network of pedestrian facilities is not in place. No sidewalks are available on Inter-garrison Road or Imjin Road, and are missing on parts of Lightfighter Road, Gigling Road, and North-South Road. Also, on many Fort Ord roadways, there are no shoulders or parking lanes, so vehicular traffic may pass close to pedestrians even where sidewalks do exist.

Access to Marina and Seaside from the former Fort Ord is limited to a number of entry gates. Since the closure of the base, many of the gates have remained closed, although some of the gates have been reopened as

the transition to civilian use has begun. For pedestrians, however, access is severely limited. Most of the gates are designed for vehicular access from State Highways 1, 218, or 68, which are not good pedestrian facilities. The two best gates for pedestrians are the Imjin Gate (on Imjin Road south of Reservation Road) that provides access to Marina; and the Broadway Gate (on Broadway Avenue west of North-South Road) that provides access to Seaside. Unfortunately, there are no sidewalks in the former Fort Ord on the main roads (Imjin Road and North-South Road) in the vicinity of these gates.

Currently, there are no bicycle facilities within the former Fort Ord. TAMC has developed a General Bikeways Plan (January, 1994), which describes current and proposed bicycle facilities in Monterey County. There are a limited number of bicycle facilities in the vicinity of the former Fort Ord. The most significant is the Caltrans Pacific Coast Bikeway, which roughly follows the coastline. It is aligned along Del Monte Boulevard through Marina, and then it follows State Highway 1 past the former Fort Ord and into Seaside and Sand City. There are, however, no connections to the Pacific Coast Highway from the former Fort Ord, and there are no other bicycle facilities within the former Fort Ord or connecting to Marina or Seaside. Also, at present there are no designated bicycle networks in either Marina or Seaside.

The General Bikeways Plan recommends the development of a regional bicycle map, and the creation of a Fort Ord Bicycle and Pedestrian Plan. The plan also identifies a number of bicycle improvement projects that are recommended by the TAMC Bicycle and Pedestrian Committee. Within the former Fort Ord, the recommendations include bikeways on Eucalyptus Street, North-South Road, South Boundary Road, Inter-garrison Road, and the South 1st Street Bridge.

4.2.4.2 Objectives

Objective A: Provide a pedestrian system that supports the needs of Fort Ord residents, employees, students, and visitors.

Pedestrians, especially seniors and adults with small children, should feel safe and secure from traffic if walking is to be encouraged. Sidewalk widths, signal timing, intersection configuration, and proximity to heavy traffic all need to be considered.

Objective B: Provide a bicycle system that supports the needs of Fort Ord residents, employees, students, and visitors.

The Bicycle Classification System should be used as a guide for developing bicycle lanes in the former Fort Ord. The Caltrans Highway Design Manual designates three types of bikeways. (Bikeway is the general term for any marked bicycle facility.) Each of the three types of bikeways has standards for width, signs, and pavement markings:

- **Class I (Bike Path):** Bicycles travel on a right of way completely separated from any street or highway.
- **Class II (Bike Lane):** Bicycles travel in a one-way striped lane on a street or expressway.
- **Class III (Bike Route):** Bicycles share the road with pedestrians and motor vehicle traffic. Bike routes are marked only with signs.

Figure 4. illustrates the proposed bicycle network for the former Fort Ord, including facilities identified as Recreational Bike Trails. Additional information on these trails is provided in the Recreational Element of this plan.

Where Class I separate bike paths are not provided, Class II bike routes should be striped and marked along urban collectors and local streets where designated on an integrated bikeway master plan. Other two-lane local streets and all rural roadways should include shoulders adequate for bicycle use.

Easily accessible and well-designed bicycle parking can encourage people to ride their bicycles to work, shopping, school, and community facilities. Bicycle racks and lockers protect bicycles from theft and bad weather.

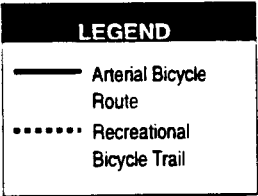
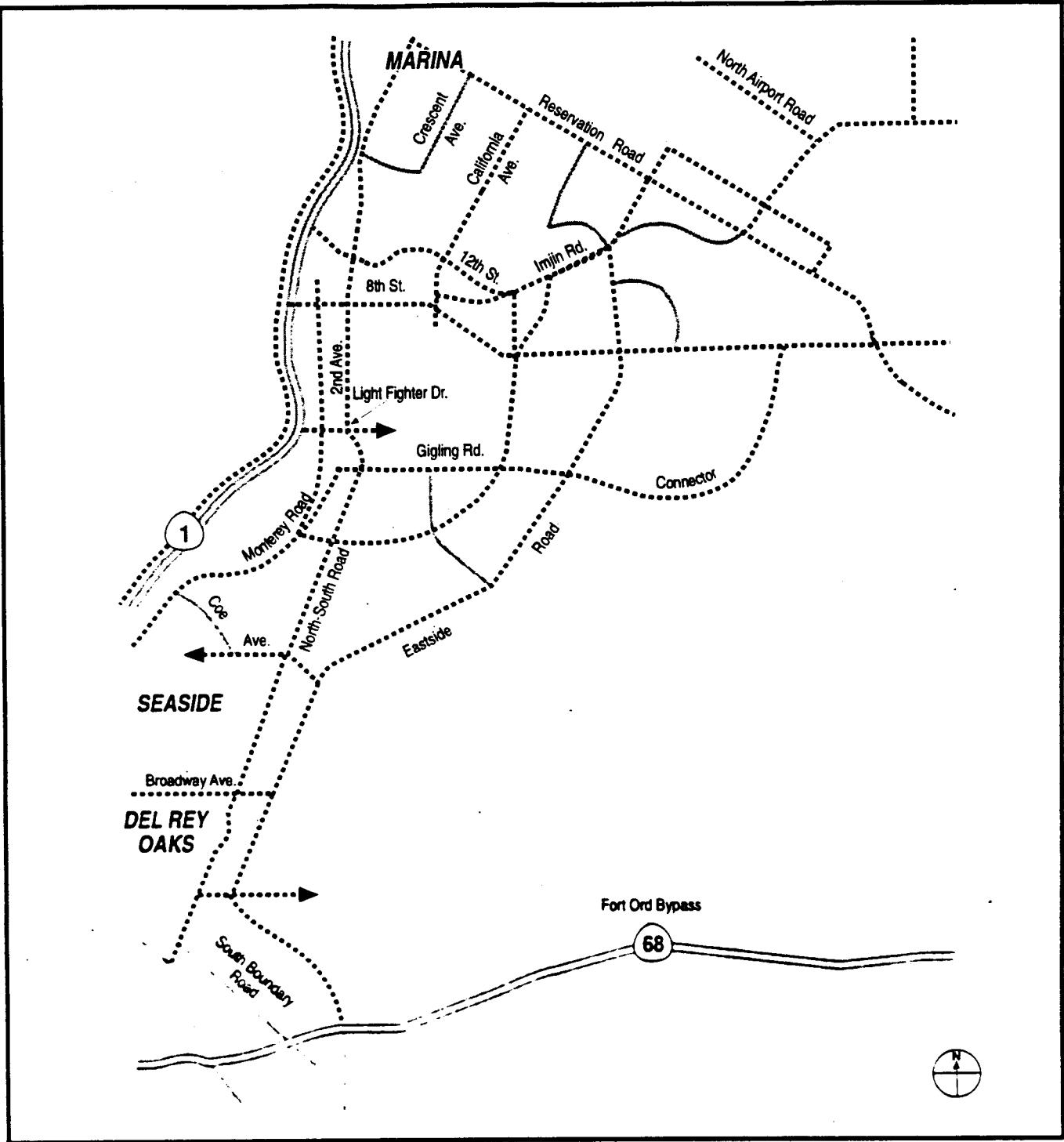
They also clearly define where bicycles should be parked so they won't impede pedestrians or damage trees and other stationary objects put into service as bicycle racks. Established bicycle parking also reinforces the image that bicycles are a socially-approved way to travel.

4.2.4.3 Policies and Programs

Objective A: Provide a pedestrian system that supports the needs of Fort Ord residents, employees, students, and visitors.

Pedestrian and Bicycles Policy A-1: Each jurisdiction shall provide and maintain an attractive, safe and comprehensive pedestrian system.

Program A-1.1: Each land use jurisdiction shall prepare a Pedestrian System Plan that includes the construction of sidewalks along both sides of urban roadways, sidewalks and pedestrian walkways in all new developments



DRAFT
Figure 4.2-6
Proposed Bicycle Network

and public facilities, crosswalks at all signalized intersections and other major intersections, where warranted, and school safety features. This plan shall be coordinated with adjacent land use jurisdictions, FORA, and appropriate school entities.

Objective B: Provide a bicycle system that supports the needs of Fort Ord residents, employees, students, and visitors.

Pedestrian and Bicycles Policy B-1: Each jurisdiction shall provide and maintain an attractive, safe and comprehensive bicycle system.

Program B-1.1: Each jurisdiction shall prepare a Bicycle System Plan that includes an overall bicycle network consistent with the Reuse Plan (Figure 4.2-6) and local bicycle networks with the appropriate class of bikeways for each functional class of roadway. The Bicycle System Plan shall include appropriate design standards to accommodate bicycle travel and secure bicycle parking facilities at public and private activity centers. This plan shall be coordinated with adjacent land use jurisdictions, FORA, and appropriate school entities.

Program B-1.2: Each jurisdiction shall review new development to provide bicycle system facilities consistent with the Reuse Plan and the Bicycle System Plan.

4.2.5 Transportation Demand Management

4.2.5.1 Existing Conditions

There is no existing transportation demand management (TDM) program in place for the former Fort Ord. TDM measures should be pursued in conjunction with the redevelopment of the military base.

It is clear that the redevelopment of the former Fort Ord, plus growth throughout the remainder of Monterey County and the region, will significantly increase the demand placed on the region's transportation infrastructure and services. To some extent, the increases in travel demand will be managed by building or improving transportation facilities, but there also exists a variety of concepts and objectives that can be used to minimize the demand for vehicle trips as an alternative to increasing roadway capacity. TDM attempts to reduce the number of people who drive alone, and to increase the number of people who walk and who use carpools, vanpools, transit, and bicycles. The approach being taken as part of the Fort Ord Reuse Plan seeks to balance these two elements to

achieve a transportation system that is both financially feasible and operationally acceptable.

4.2.5.2 Objectives

Objective A: Deemphasize the need for vehicle travel to and within the former Fort Ord.

TDM measures can be implemented that deemphasize SOV use and encourage walking, bicycling, car/vanpooling, and transit ridership (mode shift); reduce peak period travel (time shift); reduce VMT and/or reduce person trips. Overall, these strategies will result in fewer vehicles on the roadway, especially during the more congested periods of the day. The encouragement of non-vehicle travel is an important component of developing a pedestrian-oriented environment for the former Fort Ord. TDM is not restrict to work-related trips. It is anticipated that there will be a great deal of non-work-related travel, especially with the presence of CSUMB and related student travel, therefore, TDM measures should be examined that address all trips. Many TDM measures are interrelated with the land use planning for the former Fort Ord.

4.2.5.3 Policies and Programs

Objective A: Deemphasize the need for vehicle travel to and within the former Fort Ord.

Transportation Demand Management Policy A-1: TDM programs shall be encouraged.

Program A-1.1: Promote TDM programs at work sites.

Specific measures that can be pursued at the work site include: compressed work weeks, staggered/flexible work hours, telecommuting, on-site ridesharing, public transit subsidies, guaranteed ride home, bicycle facilities, and parking pricing.

Program A-1.2: Promote TDM programs in residential developments, retail centers, and other activity centers.

Program A-1.3: Require new development to incorporate design features that will strengthen TDM programs.

Program A-1.4: Enforce CMP trip reduction programs.

4.2.6 Land Use and Transportation

4.2.6.1 Existing Conditions

Local land use planning is another method of managing regional traffic growth as well as local traffic problems. This General Plan includes land use policies aimed at providing the former Fort Ord with a cohesive community through:

- identifiable centers to add focus to the larger area;
- diversity and choice to enhance opportunity and interaction;
- alternative transportation that stresses access vs. speed and encourages a pedestrian-friendly environment;
- housing diversity in type, density, and location; and
- national and preserved areas that link all sectors together in a seamless way.

The policies listed above can be found in the Land Use Element of this General Plan, along with a specific description of the existing land use conditions.

4.2.6.2 Objectives

Objective A: A transportation system that supports the planned land use development patterns.

The relationship between the transportation system and land use planning is an interactive one. As stated above, one of the policies of the land use element is to support alternative transportation use. The transportation system can support this goal by providing the infrastructure necessary to use alternative transportation modes, and by not oversupplying infrastructure oriented to the use of the automobile, particularly single-occupant vehicles.

4.2.6.3 Policies and Programs

Objective A: A transportation system that supports the planned land use development patterns.

Land Use and Transportation Policy A.1: Each jurisdiction with lands at former Fort Ord shall coordinate land use and transportation planning both internally and with adjacent jurisdictions consistent with the Reuse Plan circulation framework.

Program A.1-1: Each jurisdiction shall support development of a travel demand model covering lands at former Fort Ord to help evaluate the relationship between land use and transportation system.

Program A.1.2: Each jurisdiction with lands at former Fort Ord shall require new developments to conduct a traffic analysis to determine impacts on traffic conditions, require measures such as TDM programs and traffic impact fees to mitigate these impacts.

Land Use and Transportation Policy A.2: The transportation system to serve former Fort Ord lands shall be designed to reflect the needs of surrounding land uses, proposed densities of development, and shall include streets, pedestrian access, bikeways and landscaping as appropriate.

Program A.2-1: Each jurisdiction with lands at former Fort Ord shall develop transportation standards for implementation of the transportation system, including but not limited to, rights-of-way widths, roadway capacity needs, design speeds, safety requirements, etc. Pedestrian and bicycle access shall be considered for all incorporation in all roadway designs.

FORT ORD REUSE PLAN

Fort Ord Reuse Authority (FORA)

Land Planning	EDAW, Inc.
Market Analysis	EMC Planning Group, Inc.
Transportation Engineering	Sedway Kotin Mouchly Group
Civil Engineering	JHK and Associates
Fiscal Analysis	Reimer Associates
Habitat Planning	Angus McDonald & Associates
Public Communications	Zander Associates
Community Development	The Ingram Group
	Resource Corps International

SHEET TITLE:

DRAFT
TRANSPORTATION
RIGHT-OF-WAY
RESERVATIONS



SOURCE:

James & Shivers, 1995

Reimer Associates,
(Re-Projected), 1995

Monterey County, 1995

EDAW, Inc., 1996

FIGURE

4.2-7



4.3 RECREATION AND OPEN SPACE ELEMENT

4.3.1 Recreation

4.3.1.1 Summary of Existing Conditions

Goal: Establish a unified open space system which preserves and enhances the health of the natural environment while contributing to the revitalization of the former Fort Ord by providing a wide range of accessible recreational experiences for residents and visitors alike.

The following is a general description of the recreation resources at the former Fort Ord. Specific documents consulted in order to identify recreation standards for the recreation planning at the former Fort Ord include the General Plan of the City of Seaside and the General Plan of the City of Marina. The Monterey County Department of Recreation was directly contacted.

Existing recreational uses of open space at the former Fort Ord include two golf courses and a club house, baseball diamonds, and tennis courts. Training areas are also part of this designation and include a central track and field, a stadium, and a recreation complex containing indoor basketball courts. There are a number of playgrounds within the existing housing neighborhoods and collocated with the existing schools.

The largest and most important pieces of the FORA reuse planning strategy as it relates to open space and recreation are already in place, or in process. The Bureau of Land Management has taken possession of approximately half (over 8,000 acres) of the Fort Ord interior lands for which it will ultimately have management responsibility. Significant recreation events, particularly mountain bike rallies, are already being scheduled within these lands. A tentative identification of major access points has been made, although ongoing trails and access planning will need to be coordinated with FORA in the future. A preliminary Master Plan has been prepared for the Fort Ord Dunes State Beach by the State Park Department, which identifies early thinking regarding the location of major access points, day and overnight use areas, trail system, and habitat management areas. CSUMB has received a conveyance of a part of the land area which will ultimately be theirs, and preparation of a Campus Master Plan has begun. It is important that FORA be involved in the preparation of this Master Plan to insure incorporation of the major ideas regarding basewide recreation connections and conservation of natural resources.

4.3.1.2 Recreation Standards

Recreation standards for two types of community-oriented recreation facilities were considered in the reuse planning effort: Neighborhood Parks and Community Parks. Each is defined below. Ample quantities of regional parkland are provided in the Reuse Plan, due to the development of

Fort Ord Dunes State Beach and the BLM lands, so standards for regional park demand were not developed.

Neighborhood Parks: Neighborhood parks are generally expected to serve a population of between 500 and 1,500 residents. They may include mini-parks (up to 1/2 acre in size) and larger parks for an entire neighborhood (up to 10 acres in size). They are typically located with easy walking and biking distance of residents (approximately 1/4 to 1/3 mile radius) so that minimal parking facilities are required. They should be located where neighborhood sidewalks and/or trails exist so that they are easily accessible by non-motorized forms of transportation. Neighborhood parks should be easily accessible and visible from the surrounding area. Access for the physically challenged should be provided where feasible to comply with the Americans with Disabilities Act (ADA).

Neighborhood parks are intended to serve youth from pre-school age to high school age, as well as to provide space for more adult-related activities such as pick-up basketball games, dog walking, Frisbee throwing, nature watching, and other casual activities. They should include play structures for small children when located in proximity to residential neighborhoods and ball fields when sufficient land is available. Larger community recreation structures may be present in more densely populated neighborhoods.

In the village neighborhoods, such as Marina Village, University Village, or Town Center, downtown miniparks should be considered as the area develops. These miniparks should be highly visible and easily accessible. They should encourage shoppers to stay longer in the area and provide workers and visitors with a place to relax, converse, eat lunch, etc.

Community Parks: Community parks serve the entire community. They may range in size from 10 to 50 acres, although it is expected that community parks larger than 15 to 20 acres will have substantial acreage dedicated to open space/habitat protection. They may focus on one unique community-wide feature or be designed to host substantial numbers of people and contain many diverse activities. Community parks may include features such as a public meeting space (i.e. gazebo and band shell), camping and recreational vehicle facilities, passive green space, ball fields, restrooms, group shelter(s), volleyball, wading pool, and sports complexes (e.g., swimming pool, ball courts). They may also be an area of natural quality and used for more passive outdoor recreation such as walking, nature observation, photography, relaxing/reading, sunbathing, and picnicking.

Community parks should be designed to serve neighborhoods in a 1 to 3-mile radius. They typically include improvements for on-site parking since visitors may travel by automobile to utilize the parks facilities. Parking

will typically include accommodation for horse and other trailers where the park functions as a trailhead. Access for the physically challenged should be provided where feasible to comply with ADA.

Table 4.3-1 Projected Park Demand					
Jurisdiction	Projected Population (1)	Neighborhood Standards	Projected Park Demand Acre Requirement	Community Standards	Acre Requirement
2015 Scenario					
Marina (2)	8,279	no separate standard		5 acres/1000 pop.	41
Seaside (3)	11,844	2 acres/1,000 pop.	24	1 acre/1,000 pop.	12
Monterey County (4)	1,154	no standard	0	no standard	0
Total	21,277		24		53
Build-out					
Marina (2)	12,837	no separate standard		5 acres/1000 pop.	64
Seaside (3)	15,529	2 acres/1,000 pop.	31	1 acre/1,000 pop.	16
Monterey County (4)	9,425	subdivision standard = 3 acres/1,000 pop.	28	no standard	0
Totals	37,791		59		80

NOTES:

(1) Projected by EDAW based on 11/2/95 FORA planning scenario. Household population planning multipliers are based on existing Census-derived data for Marina, Seaside, and Monterey County. POM Annex military population is not included in calculations.

(2) Source: City of Marina General Plan, Quad Consultants, February, 1993

(3) Source: City of Seaside General Plan Update, D'Amico Associates, November, 1993

(4) Source: Monterey County, personal communication. Only sub-regional recreation standard is a subdivision requirement of .003 acres/person.

Standards

Projections were made of population-based recreation demand at the former Fort Ord within the 20-year development time frame, as well as for the projected full residential build-out of the former Fort Ord. These projections were made separately for each of the three affected jurisdictions. This demand is described in both land-based and facility-based terms. Local community standards were applied in order to identify the amount of park land which needed to be set aside, based on projections of population by jurisdiction, as shown in Table 4.3-1.

National standards were applied in order to identify demand for specialized recreation facilities, as local jurisdictions do not maintain their own facility standards. Table 4.3-2 illustrates how population projections and national population-based standards (National Recreation and Park Association,

1983 Standards) produced specific facility requirements. A suggested distribution of these facilities is proposed in Recreation Standards and Cost projections Technical Memo, EDAW, Inc. December 20, 1995.

TABLE 4.3-2
FACILITY DEMAND FOR SELECTED FACILITIES
(based on National Standards)

Facility	Marina		Seaside		Monterey County	
	2015	Build-out	2015	Build-out	2015	Build-out
Tennis Courts	2	2	2	3	0	2
Soccer Fields	1	1	1	2	0	1
Basketball Courts	2	3	2	3	0	2
Ballfield (unlit)	1	3	2	3	0	2
Ballfield (lit)	1	1	1	1	0	0
Swimming pool	0	0	0	1	0	0

Based on National Recreation and Park Association, 1983 Standards

Following calculation of demand projections, the planning process developed a model park program for the former Fort Ord to portray a possible distribution pattern of community-serving recreation lands. The particular park areas in the former Fort Ord located in the areas of greatest demand due to residential development within the 2015 time frame were identified, and the projected acreage demand was distributed over those parks. This park program is shown in Table 4.3-3. Facility demand as well was programmed throughout the identified parks for costing purposes, which is also detailed in Recreation Standards and Cost projections Technical Memo, EDAW, Inc. December 20, 1995.

This park programming does not represent a commitment by the jurisdictions to a particular physical design program, but is a planning scenario which lays the groundwork for preparation of a Capital Improvements Plan by forming the basis of costing projections. The various jurisdictions making up the former Fort Ord have complete flexibility to substitute alternatives programs to this one to meet future needs as they develop, so long as an effort is made to adhere to the identified community standards. There is a real need for flexibility in the Plan, as these needs will change depending on the directions the ultimate redevelopment takes. For example, if the opportunity golf site identified for Polygon 4 is developed, projected recreation demand will fall, as less population growth will be realized, due to the golf course replacing the projected housing development.

4.3.1.3 Objectives

Objective A: Integrate Fort Ord's open spaces into the larger regional open space system, making them accessible as a regional resource for the entire Monterey Peninsula.

The abundance of diverse open space resources at the former Fort Ord are so great that they will become an attraction drawing users and visitors from throughout the region and the state. It is important that reuse planning provide a strategy to insure adequate access to these resources. The value

TABLE 4.3-3
FORT ORD - 2015 PARK PROGRAM FOR ALL JURISDICTIONS

Name	Type	Total Size (acres)	Area Devel- oped by 2015	Total Dev- oped Area
MARINA				
Park in Polygon 4	Neighborhood Park	27	10	
Park in Polygon 2B	Neighborhood Park	10	10	
Park in Polygon 2G	Community Park	39.5	5	
Park in Polygon 17A	Community Park	46	17	
TOTALS				42 Acres
SEASIDE				
Park in Polygon 18	Community Park	50	12	
Park in Polygon 15	Neighborhood Park	9	9	
Park in Polygon 20e	Neighborhood Park	5	5	
Park in Polygon 20h	Neighborhood Park	10	10	
Park in Polygon 24*	Community Park	25	2	
TOTALS				38 Acres
MONTEREY COUNTY				
Park in Polygon 19A	Neighborhood Park	10	10	10 Acres

of the Fort Ord open space will be enhanced by providing linkages to other significant regional resources, such as Jack's Peak and El Toro Regional Parks. The perception that these resources are all part of a larger interconnected whole will contribute to the image of the Monterey Peninsula as being rich in recreational resources.

Objective B: Protect scenic views, and preserve and enhance visual quality.

An integral part of the reuse planning strategy for the economic redevelopment of the former Fort Ord is to provide a visually attractive environment which will be a draw for businesses and residents alike. Another goal of the reuse planning effort is to integrate the former Fort Ord into the greater Monterey Peninsula, both functionally and visually. Due to its location straddling State Highway 1, the main access route to the

Monterey Peninsula, the former Fort Ord provides a major gateway image to the Peninsula itself. This image should be attractive and in harmony with that of the overall image of the Peninsula itself.

Objective C: Promote the goals of the Habitat Management Plan through the sensitive siting and integration of recreation areas which enhance the natural community.

Although the Habitat Management Plan sets aside considerable amounts of land which functions solely as habitat, the success of the HMP rests at least partially on making sure that these habitat lands are part of a greater continuous network of habitat. Parklands and active recreation areas will form an extremely valuable part of this network. Recreation and habitat preservation can be complementary land use functions, particularly with careful planning. Community development at the former Fort Ord must incorporate an awareness of the HMP, and site recreation areas in such a way as to complement its values. For example, the preservation of oak woodlands as continuous corridors rather than isolated patches will require the preservation of these corridors within residential, commercial, and institutional land uses. One means to accomplish this is through the sensitive siting of parkland.

Objective D: Establish a system of community and neighborhood parks which provide recreation opportunities reflective of local community standards.

As the former Fort Ord is transformed into a place where people live, work, and play, there is a need to provide adequate recreation resources of the appropriate scales and functions to serve the needs of the entire population. The different jurisdictions which make up the community of the former Fort Ord have each established their own park standards in accordance with the needs of their residents. The abundance of open space resources at the former Fort Ord allows each jurisdiction involved in reuse planning to provide for ample parks and recreation uses as development strategies are considered for the area.

Objective E: Create opportunities for economic revitalization of the former Fort Ord through encouragement of commercial recreation opportunities in appropriate settings.

The Monterey Peninsula is a major tourist destination, with visitor serving land uses serving as a major underpinning of the local economy. The availability of recreation is also an important feature in the attraction of new businesses and residents.

Objective F: Create a unified system of hiker/biker and equestrian trails which links all sectors of the former Fort Ord and encourages alternative means of transportation.

The extensive system of reserved open space, including local, state, and federally owned recreation lands, habitat management lands, and institutional settings provides a unique opportunity to create a network of trails which can serve as an alternative means of transportation and as recreation, serving the needs of residents, workers, and visitors alike. The potential of the former Fort Ord's major open space attractions as an ecotourism draw will be reinforced by such a system, and the provision of an attractive alternative transportation network will reduce the impact of development on the transportation system.

Objective G: Use open space to create an attractive setting for the former Fort Ord's new neighborhoods and institutions.

Open space serves functions other than recreation and habitat. It forms the setting for the FORA communities, neighborhoods, and business districts, and as such functions to establish the visual image and character of these communities. This is particularly true of the image as established through the windshield. Open space planning needs to incorporate strategies revolving around creating gateway images, strong streetscapes, and proper treatment of residual space.

Objective H: Promote environmental education.

The unique natural resources of the former Fort Ord provide an excellent outdoor laboratory for the large number of educational institutions establishing a presence here. The well-documented scientific baseline created as a result of the Base Closure process, the on-going needs of habitat management, and the ongoing natural systems restoration efforts on parts of the base all provide opportunities for hands-on environmental education which would be a valuable learning experience.

4.3.1.4 Recreation Policies and Programs

City of Marina

All physical features discussed in the City of Marina Policies and Programs section are shown in Figure 4.3-1, the Marina Recreation and Open Space Element Plan.

Objective A: Integrate the former Fort Ord's open spaces into the larger regional open space system, making them accessible as a regional resource for the entire Monterey Peninsula.

Recreation Policy A-1: The City of Marina shall work with the California State Park System to coordinate the development of Fort Ord Beach State Park.

Recreation Policy A-2: The City of Marina shall support the development of a regional Visitor Center/Historical Museum complex adjacent the 8th Street entrance to Fort Ord Beach State Park which will serve as a orientation center to communicate information about all of the former Fort Ord's recreation opportunities.

Objective B: Protect scenic views, and preserve and enhance visual quality.

Recreation Policy B-1: The City of Marina shall designate a Scenic Corridor adjacent to State Highway 1 to preserve and enhance the State Highway 1 viewshed.

Program B-1.1: The City of Marina shall establish guidelines for minimum landscaping standards within the corridor which incorporate a regional landscape theme with regards to permitted plantings, as well as other design features.

Program B-1.2: The City of Marina shall require that all development within the Town Center and Del Monte Mixed Use Districts incorporate landscape buffers adequate to screen visual intrusion into the State Highway 1 Scenic Corridor.

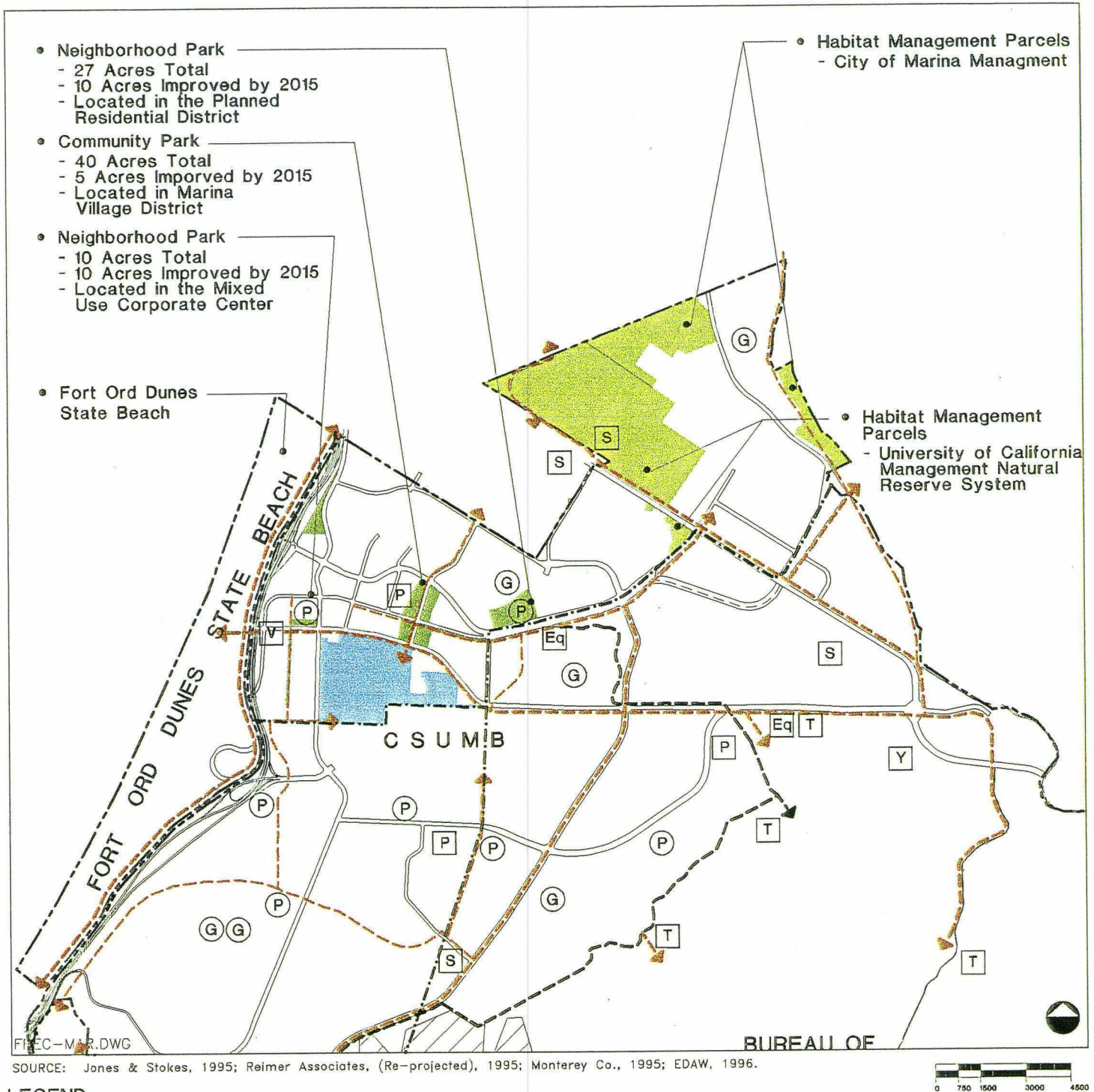
Recreation Policy B-2: The City of Marina shall establish landscape gateways into the former Fort Ord along major transportation corridors with the intent of establishing a regional landscape character.

Objective C: Promote the goals of the Habitat Management Plan through the sensitive siting and integration of recreation areas which enhance the natural community.

Recreation Policy C-1: The City of Marina shall establish an oak tree protection program to ensure conservation of existing coastal live oak wood lands in large corridors within a comprehensive open space system. Locate local and regional trails within this system.

Objective D: Establish a system of community and neighborhood parks which provide recreation opportunities reflective of local community standards.

Recreation Policy D-1: The City of Marina shall designate and locate park facilities to adequately serve the current and projected population of Marina



NOTE: Recreation program reflects assumptions and standards used to contribute to the preparation of the Business and Operations Plan and are illustrative.

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FIGURE 4.3-1
**MARINA OPEN SPACE AND
RECREATION ELEMENT**
Attachment D, p. 751 of 1882

within the former Fort Ord for both active recreation as well as to provide for passive uses such as scenic vistas, fish and wildlife habitat, and nature study.

Recreation Policy D-2: The City of Marina shall develop active parkland within the former Fort Ord which reflects the adopted City of Marina standard of 5 acres of neighborhood/community parks per 1,000 population.

Recreation Policy D-3: The City of Marina shall maximize use of existing former military recreation facilities as a catalyst for creation of quality parks and recreation opportunities.

Recreation Policy D-4: The City of Marina shall develop a plan for adequate and long-term maintenance for every public park prior to construction.

Objective E: Create opportunities for economic revitalization of the former Fort Ord through encouragement of commercial recreation opportunities in appropriate settings.

Recreation Policy E-1: The City of Marina shall identify golf course opportunity sites where appropriate as long-term or interim use solutions within the Marina portion of the former Fort Ord.

Program E-1.1: The City of Marina shall promote the development of a private golf course as an interim land use within the North Airport Light Industrial/Technology District

Program E-1.2: The City of Marina shall promote the development of a private golf course as an interim land use within the Planned Residential District in polygon 4.

Recreation Policy E-2: The City of Marina shall promote the development of a variety of interim use recreation facilities where appropriate within the former Fort Ord.

Program E-2.1: The City of Marina shall facilitate the development and operation of a commercial equestrian center as an interim land use within the Marina Village District.

Objective F: Create a unified system of hiker/biker and equestrian trails which links all sectors of the former Fort Ord and encourages alternative means of transportation.

Recreation Policy F-1: The City of Marina shall adopt roadway standards which allow for the development of hiker/biker trails within the right-of-way where appropriate.

Recreation Policy F-2: The City of Marina shall encourage the development of alternative means of transportation for recreation and other travel.

Program F-2.1: The City of Marina shall adopt a Comprehensive Trails Plan, and incorporate it into its General Plan. This Trail Plan will identify desired hiker/biker and equestrian trails within that portion of the former Fort Ord within Marina's jurisdiction, create a trail hierarchy, and coordinate trail planning with other jurisdictions within Fort Ord boundaries in order to improve access to parks, recreational facilities and other open space.

Objective G: Use open space wherever possible to create an attractive setting for the former Fort Ord's new neighborhoods and institutions.

Recreation Policy G-1: The City of Marina shall use incentives to promote the development of an integrated, attractive park and open space system during the development of individual districts and neighborhood's within the former Fort Ord.

Recreation Policy G-2: The City of Marina shall encourage the creation of private parks and open space as a component of private development within the former Fort Ord.

Recreation Policy G-3: The City of Marina shall adopt landscape standards to guide development of streetscapes, parking lots, government facilities, institutional grounds, and other public and semi-public settings within the former Fort Ord.

Recreation Policy G-4: The City of Marina shall coordinate the development of park and recreation facilities with neighboring jurisdictions including the City of Seaside, Monterey County, CSUMB, California State Parks, and the Bureau of Land Management.

Objective H: Promote environmental education

Recreation Policy H-1: The City of Marina shall work with educational and environmental institutions and organizations to create opportunities for environmental learning experiences on Marina habitat management lands.

City of Seaside

All physical features discussed in the City of Seaside Policies and Programs section are shown in Figure 4.3-2, the Seaside Recreation and Open Space Element Plan.

Objective A: Integrate the former Fort Ord's open spaces into the larger regional open space system, making them accessible as a regional resource for the entire Monterey Peninsula.

Recreation Policy A-1: The City of Seaside shall work with the California State Park System to coordinate the development of Fort Ord Beach State Park.

Objective B: Protect scenic views, and preserve and enhance visual quality.

Recreation Policy B-1: The City of Seaside shall create a Scenic Corridor adjacent State Highway 1 to preserve and enhance the State Highway 1 viewshed.

Program B-1.1: The City of Seaside shall establish guidelines for minimum landscaping standards within the corridor which incorporate a regional landscape theme.

Program B-1.2: The City of Seaside shall require that all development within the Regional Retail and Golf Course Housing Districts incorporate landscape buffers adequate to visual intrusion into the State Highway 1 Scenic Corridor.

Recreation Policy B-2: The City of Seaside shall establish landscape gateways into the former Fort Ord along major transportation corridors to establish a regional landscape character.

Objective C: Promote the goals of the Habitat Management Plan through the sensitive siting and integration of recreation areas which enhance the natural community.

Recreation Policy C-1: The City of Seaside shall establish an oak tree protection program to ensure conservation of existing coastal live oak wood lands in large corridors within a comprehensive open space system. Locate local and regional trails within this system.

Objective D: Establish a system of community and neighborhood parks which provide recreation opportunities reflective of local community standards.

Recreation Policy D-1: The City of Seaside shall designate and locate park facilities to adequately serve the current and projected population of Seaside within the former Fort Ord for both active recreation as well as to provide for passive uses such as scenic vistas, fish and wildlife habitat, and nature study.

Recreation Policy D-2: The City of Seaside shall develop active parkland within the former Fort Ord within the 2015 time frame which reflects the adopted City of Seaside standard of 2 acres of neighborhood parkland and 1 acre of community parkland per 1,000 population.

Recreation Policy D-3: The City of Seaside shall maximize use of existing former military recreation facilities as a catalyst for creation of quality parks and recreation opportunities.

Recreation Policy D-4: The City of Seaside shall develop a plan for adequate and long-term maintenance for every public park prior to construction.

Objective E: Create opportunities for economic revitalization of the former Fort Ord through encouragement of commercial recreation opportunities in appropriate settings.

Recreation Policy E-1: Seaside shall identify an appropriate amount of commercial recreation opportunity sites in compatible settings to ensure that these recreation opportunities are realized. These uses will be considered compatible land uses where identified.

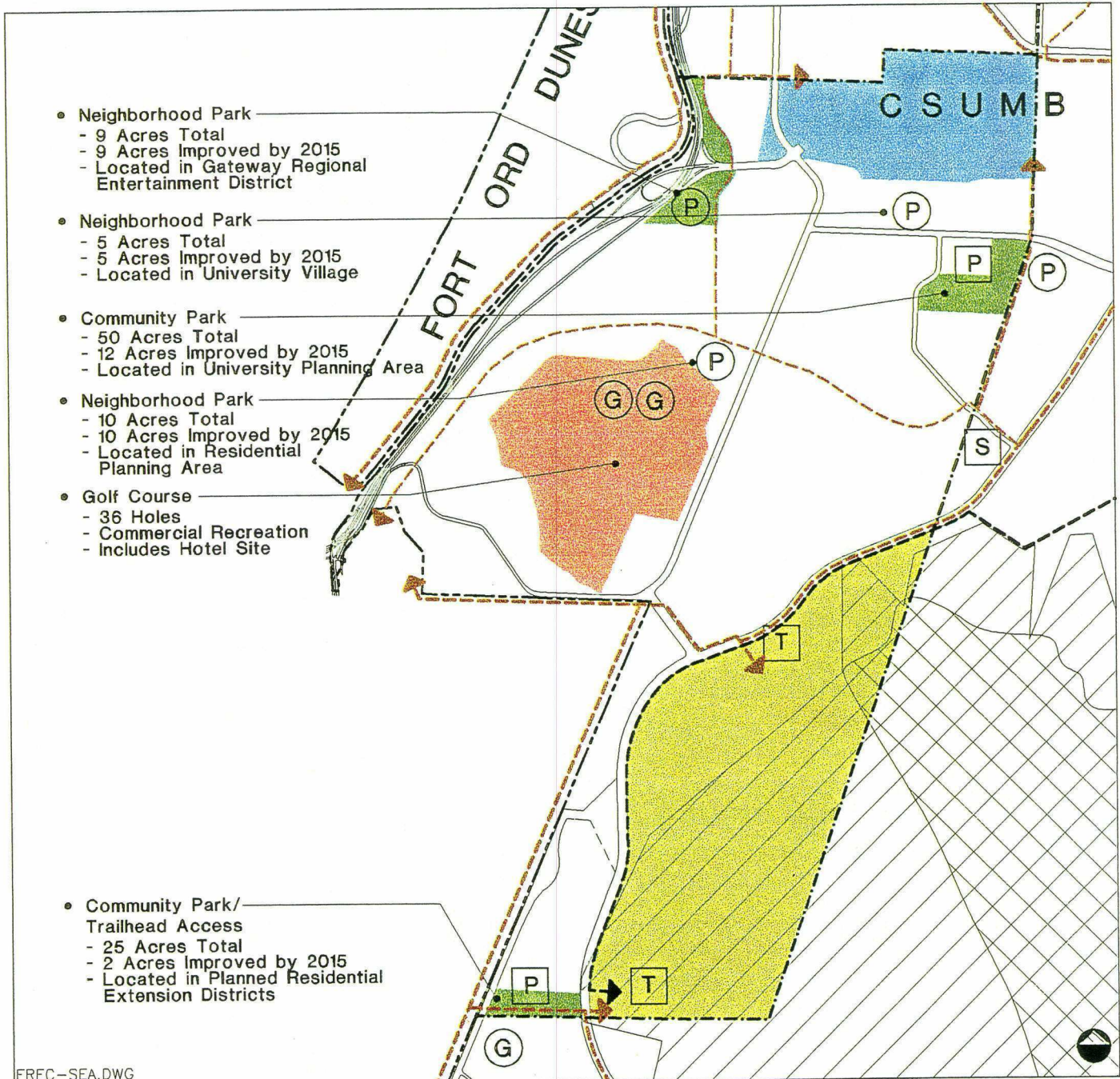
Program E-1.1: The City of Seaside shall designate the existing golf course as a recreation opportunity site, and to be operated as a commercial venture.

Objective F: Create a unified system of hiker/biker and equestrian trails which links all sectors of the former Fort Ord and encourages alternative means of transportation.

Recreation Policy F-1: The City of Seaside shall reserve sufficient space within key transportation arterials to accommodate paths for alternative means of transportation.

Recreation Policy F-2: The City of Seaside shall encourage the development of alternative means of transportation for recreation and other travel.

Program F-2.1: The City of Seaside shall adopt a Comprehensive Trails Plan, and incorporate it into its General Plan. This Trail Plan will identify desired hiker/biker and equestrian trails within that portion of the former



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SOURCE: Jones & Stokes, 1995; Reimer Associates, (Re-projected), 1995; Monterey Co., 1995; EDAW, 1996.



Fort Ord within Marina's jurisdiction, create a trail hierarchy, and coordinate trail planning with other jurisdictions within Fort Ord boundaries in order to improve access to parks, recreational facilities and other open space.

Objective G: Use open space wherever possible to create an attractive setting for the former Fort Ord's new neighborhoods and institutions.

Recreation Policy G-1: The City of Seaside shall use incentives to promote the development of an integrated, attractive park and open space system during the development of individual districts and neighborhood's within the former Fort Ord.

Recreation Policy G-2: The City of Seaside shall encourage the creation of private parks and open space as a component of private development within the former Fort Ord.

Recreation Policy G-3: The City of Seaside shall adopt landscape standards to guide development of streetscapes, parking lots, government facilities, institutional grounds, and other public and semi-public settings within the former Fort Ord.

Recreation Policy G-4: The City of Seaside shall coordinate the development of park and recreation facilities with neighboring jurisdictions including the City of Marina, Monterey County, CSUMB, California State Parks, and the Bureau of Land Management.

Objective H: Promote environmental education

Recreation Policy H-1: The City of Seaside shall work with educational and environmental institutions and organizations to create opportunities for environmental learning experiences on Seaside open space and recreation lands.

Monterey County

All physical features discussed in the Monterey County Policies and Programs section are shown in Figure 4.3-3, the Monterey County Recreation and Open Space Element Plan.

Objective A: Integrate the former Fort Ord's open spaces into the larger regional open space system, making them accessible as a regional resource for the entire Monterey Peninsula.

Recreation Policy A-1: Monterey County shall provide for adequate access to BLM recreation area.

Objective B: Protect scenic views, and preserve and enhance visual quality.

Recreation Policy B-1: Monterey County shall work with the Army to review design of the landfill closure cap and related infiltration ponds to ensure development of a landscape which enhances the adjacent natural setting and becomes a visual asset to former Fort Ord.

Objective C: Promote the goals of the Habitat Management Plan through the sensitive siting and integration of recreation areas which enhance the natural community.

Recreation Policy C-1: Monterey County shall establish an oak tree protection program to ensure conservation of existing coastal live oak wood lands in large corridors within a comprehensive open space system. Locate local and regional trails within this system.

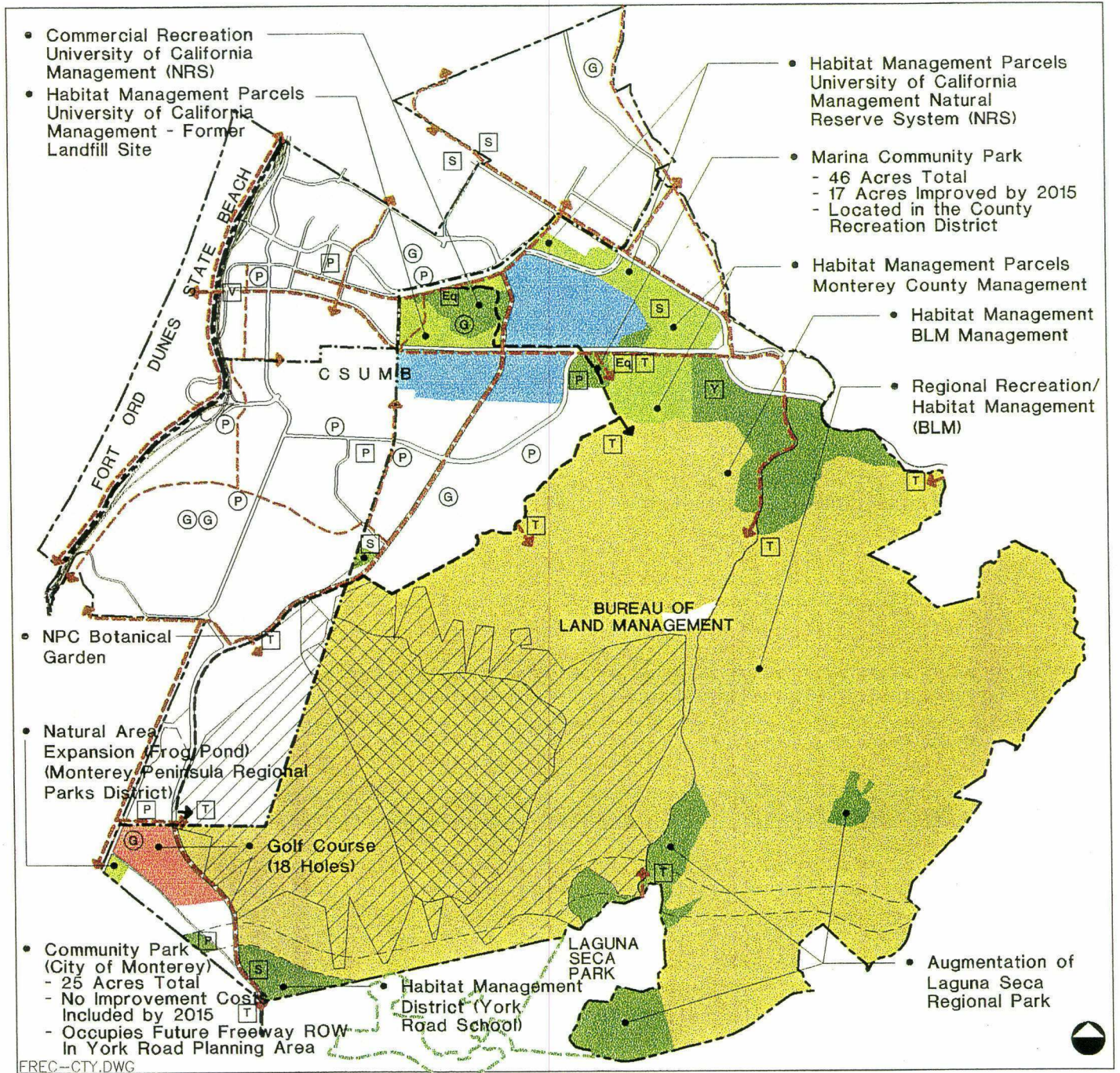
Objective D: Establish a system of community and neighborhood parks which provide recreation opportunities reflective of local community standards.

Recreation Policy D-1: Monterey County shall designate and locate park facilities to adequately serve the current and projected population of Monterey County within the former Fort Ord for both active recreation as well as to provide for passive uses such as scenic vistas, fish and wildlife habitat, and nature study.

Recreation Policy D-2: Monterey County shall develop active parkland within the former Fort Ord within the 2015 time frame which reflects the County subdivision standard of .003 acres of neighborhood parkland per person within development areas.

Objective E: Create opportunities for economic revitalization of the former Fort Ord through encouragement of commercial recreation opportunities in appropriate settings.

Recreation Policy E-1: Monterey County shall identify an appropriate amount of commercial recreation opportunity sites in compatible settings to ensure that these recreation opportunities are realized. These uses will be considered compatible land uses where identified.



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SOURCE: Jones & Stokes, 1995; Reimer Associates, (Re-projected), 1995; Monterey Co., 1995; EDAW, 1996.

LEGEND:

- Bureau of Land Management Lands
- Limited Access
- Restricted Access
- CSUMB Campus
- Other Public Open Space - Recreation-Oriented
- Other Public Open Space - Habitat Management
- Commercial Recreation
- Jurisdiction Boundaries
- Equestrian Trail
- Regional Hiker/Biker Trail
- Local Hiker/Biker Trail
- P Neighborhood Park
- P Community Park
- G Golf Course Opportunity Site
- Eq Equestrian Center Opportunity Site
- V Visitor/Cultural Center
- T Trailhead
- S Environmental Education
- Y Youth Camp

NOTE: Recreation program reflects assumptions
and standards used to contribute to the preparation
of the Business and Operations Plan and are illustrative.

Recreation Policy E-2: Monterey County shall work with landowners to create a multi-functional recreation area within the former military landfill area.

Program E-2.1: Monterey County shall create a joint management team with representatives of adjacent agencies to work together institutionally in the planning and development of the landfill, protect oak woodlands, and address potential impacts of planned uses on surrounding neighborhoods.

Program E-2.2: Monterey County shall promote the development of commercial recreation uses of this area compatible with the capping of the landfill, including such uses as a golf course, an equestrian center, and a region-serving amphitheater.

Program E-2.3: Monterey County shall designate a team of staff planners, landscape architects, engineers, and other qualified professionals to work with the Army through the BRAC process to ensure landfill cap design is adequate for proposed uses, including such parameters as depth of cap, final landforms, and visual attractiveness.

Recreation Policy E-3: Monterey County shall coordinate with the City of Marina and the BLM to create an equestrian center/trail access point into the BLM lands within Marina's Community Park on Intergarrison Road.

Program E-3.1: Monterey County shall designate an equestrian trail between the former landfill area equestrian center and the Marina Community Park along Intergarrison Road, including a safe crossing point of Intergarrison Road.

Objective F: Create a unified system of hiker/biker and equestrian trails which links all sectors of the former Fort Ord and encourages alternative means of transportation.

Recreation Policy F-1: Monterey County shall reserve sufficient space within key transportation arterials to accommodate paths for alternative means of transportation.

Recreation Policy F-2: The County of Monterey shall encourage the development of alternative means of transportation for recreation and other travel.

Program F-2.1: The County of Monterey shall adopt a Comprehensive Trails Plan, and incorporate it into its Greater Monterey Peninsula Area Plan. This Trail Plan will identify desired hiker/biker and equestrian trails

within that portion of the former Fort Ord within Marina's jurisdiction, creates a trail hierarchy, and coordinates trail planning with other jurisdictions within the former Fort Ord boundaries in order to improve access to parks, recreational facilities and other open space.

Objective G: Use open space wherever possible to create an attractive setting for the former Fort Ord's new neighborhoods and institutions.

Recreation Policy G-1: Monterey County shall use incentives to promote the development of an integrated, attractive park and open space system during the development of individual districts and neighborhood's within the former Fort Ord to encourage recreation and the conservation of natural resources.

Recreation Policy G-2: Monterey County shall encourage the creation of private parks and open space as a component of private development within Fort Ord.

Recreation Policy G-3: Monterey County shall adopt landscape standards to guide development of streetscapes, parking lots, government facilities, institutional grounds, and other public and semi-public settings within the former Fort Ord.

Recreation Policy G-4: Monterey County shall coordinate the development of park and recreation facilities with neighboring jurisdictions including the Cities of Seaside and Marina, CSUMB, Monterey Peninsula Regional Parks District, California State Parks, and the Bureau of Land Management.

Objective H: Promote environmental education.

Recreation Policy H-1: The County of Monterey shall work with educational and environmental institutions and organizations to create opportunities for environmental learning experiences on County habitat management lands.

Recreation Policy H-2: The County of Monterey shall ensure that the designated operator of it's Youth Camp develops a theme of environmental education as part of its curriculum.

4.4 CONSERVATION ELEMENT

Goal: Promote the protection, maintenance and use of natural resources, with special emphasis on scarce resources and those that require special control and management.

The Conservation Element for Fort Ord conveys goals and policies on soils and geology, hydrology and water quality, biological resources, and air quality. The section identifies important natural resources at the former Fort Ord, recognizes their irreplaceable value and limited quantities, and provides specific strategies for their preservation.

The element, which is state mandated, requires that the natural resources within the boundaries of the former Fort Ord are supervised in perpetuity and that these resources are not diminished. The element's contents respond to California environmental laws, including the Clean Water Act and the Clean Air Act.

The Conservation Element overlaps provisions found in the land use, circulation, open space, and safety elements. It differs, however, from other portions of the reuse plan in its almost exclusive orientation toward natural resources. In addition, this element recognizes that natural resources, more so than any other issue discussed in the plan, are not constrained by jurisdictional boundaries. Vehicles traveling within and outside the former Fort Ord will impact air quality both within and outside. And animal species may move through the former Fort Ord on their way through the region, unaware of borders drawn on maps.

4.4.1 Soils and Geology

4.4.1.1 Summary of Existing Conditions

Following is a general description of soils, geology, and topography at the former Fort Ord. A more detailed description of these conditions is included in the Soils Baseline Study of Fort Ord, California (U.S. Army Corps of Engineers, Sacramento District 1992) and the setting section in Volume I of the Final Environmental Impact Statement (EIS) on Fort Ord Disposal and Reuse (U.S. Army Corps of Engineers, Sacramento District 1993.)

Soils: Most soils at the former Fort Ord were formed by deposition of sand during the rising and falling sea levels associated with the ice ages of the mid- and late-Pleistocene Epoch. Nearly 200 feet of sand was deposited in some areas, creating the older cemented sandstone layers and younger loose sandy soils common throughout the installation. More recently, very high dunes have developed along the coast as coastal beach and recent-age dune deposits.

The soils at the former Fort Ord are characteristically medium-grained sand of low to moderate organic matter content. The soils are highly erodible in areas of steeper slopes and cemented subsoil horizons, generally low in fertility and water-holding capacity, and excessively well drained. Although there are some minor inclusions of other soils, most of the soils at the former Fort Ord are represented in seven soil series (Oceano, Baywood, Santa Ynez, Arnold, Antioch, San Andreas, and Diablo) and three general classifications (Coastal beaches, Dune land, and Xerorthents). (See Figure 4.3-2 in Volume I of the final EIS for the distribution of these soil series at the former Fort Ord.)

Erosion: The severe coastal erosion at the former Fort Ord is a natural process that has been occurring for at least several thousand years. Some of the causes are the postglacial sea level rise and the wave patterns and geomorphic structure of Monterey Bay. The erosion rate has accelerated in this century from about 1.5 feet per year up to 7.0 feet per year in 1983. This increase is the result of reduced sediment supply from sand mining along the coast and sediment trapping in reservoirs in the Salinas River watershed, and loss of vegetation in shoreline dunes.

Wind erosion can affect Dune land, Oceano, and Baywood soils, and wind and water erosion can affect Arnold soil if vegetation is removed and the ground surface is disturbed. Organic matter accumulation or minimal development of soil structure in the surface horizons of the Oceano and Baywood soils may retard wind erosion and lower the erosion hazard if the topsoil has not been disturbed or removed. Sand blown from exposed soils damages existing and replanted vegetation and accumulates in areas from which it must be removed.

Five soils at the former Fort Ord are highly susceptible to water erosion: Santa Ynez, Arnold, San Andreas, Diablo, and Xerorthents soils. Although some erosion occurs naturally on these soils, water erosion is accelerated by disturbances such as road cuts. Erosion results in gullying, channel incisions, sedimentation in wetlands or stream channels down-slope from erosion sites, and, in some areas, landslides.

Soil Limitations: Some soils on the former Fort Ord have limitations as substrates for engineering and construction purposes. These limitations are primarily related to piping, low-strength, and shrink-swell potential.

Soils with high piping potential are unconsolidated sands with very little organic or clay binders. Unconsolidated soils have large pore spaces between the soil particles. When water flows in these large pores, sand particles are washed away, which enlarges the pores further until they coa-

lesce and form a continuous pipe-like passage. The flow rate accelerates, causing sand particles to break away and the pipe to enlarge. Concentrated flows of water or natural infiltration causes piping. Large amounts of soil material can be washed away below the soil surface without being detected until the surface collapses. Most of the soils at the former Fort Ord have high piping potential, and special consideration must be given to this soil hazard when developing these areas. (See Figure 4.3-11 in Volume I of the final EIS for areas with piping potential at the former Fort Ord.)

Soils with low strength lack adequate cohesion between the soil particles to support the weight of the soil. Sandy soils typically have low strength because of the lack of organic or clay materials to bind the grains together. When moisture is added to the soil, the weight may exceed the cohesive bonds. Low-strength soils typically fail on cut and fill banks that are excessively steep. Sandy soils, such as Baywood, Oceano, and Dune land, may be subject to low-strength conditions. In addition, soils with high shrink-swell potential contain clay minerals that expand when wet and shrink when the moisture content is reduced. These soils also have low-strength properties. High shrink-swell potential in soils typically causes seasonal uplifting of roads and foundations that result in cracking. Clay soils, such as Diablo and Santa Ynez, have limitations caused by both low-strength and shrink-swell potential. (See Figures 4.3-9 and 4.3-10 in Volume I of the final EIS for the location of soils with low-strength and shrink-swell potential, respectively.)

Topography: Extensive areas in the southwestern quadrant of the former Fort Ord have slopes in excess of 30%. (See Figure 4.3-8 in Volume I of the final EIS for a slope map of the former Fort Ord.) Certain areas have slopes approaching vertical. Development has been limited in these areas because of the severe erosion and landslide hazard that exists.

4.4.1.2 Objectives

Objective A: Prevent the loss and transport of soil resulting from wind and water erosion and promote construction practices that recognize soils with development limitations.

The predominantly sandy and poorly aggregated soils of the former Fort Ord are highly susceptible to both wind and water erosion. When erosion occurs, sand and soil can be blown across highways, gullyng can take place, and sedimentation of soil in streams and wetlands can increase, thereby degrading habitat values and increasing flood hazards. In defining the location and nature of development activities, planners should con-

sider the affected soil resources including the erosion potential of the soil, the prevailing slope of the land, and the engineering limitations of the soil.

Objective B: Provide for mineral extraction and reclamation activities that are consistent with the surrounding natural landscape, proposed future land uses, and soil conservation practices.

The California Division of Mines and Geology is responsible for classifying areas of urbanization according to the presence or absence of significant gravel, sand, or stone deposits that are suitable sources of aggregate. The western approximate one-third of the former Fort Ord has been mapped and classified as Mineral Resource Zone - 2 (MRZ-2) for sand and gravel. This designation identifies areas where information indicates that significant mineral deposits are present or a high likelihood for their presence exists.

No active mining sites are known to exist within the former Fort Ord. Several borrow areas and quarries previously used by the Army appear to exist on the installation. Sand mining also occurs along the dunes to both the north and south of the former Fort Ord. If removal of sand or other materials is continued at selected areas within and adjacent to the former Fort Ord, these areas should be protected from incompatible land uses within the former Fort Ord. Measures should be taken to buffer the impact of mining activities on the surrounding natural environment and developed land uses, and to ensure that continued mining does not result in erosion and sedimentation problems.

Objective C: Strive to conserve soils that rare species or plant communities are dependent on or are strongly associated with.

Several plant and wildlife species addressed in the HMP are strongly associated with or dependent on specific soil types. For example, inland populations of sand gilia at the former Fort Ord are found almost exclusively on the Baywood and Arnold soil series, coast wallflower populations are limited to Baywood and Dune land soils, and the black legless lizard is most frequently found in Dune land, Baywood, or Oceano soils. The association between soils and rare species at the former Fort Ord limits the available habitat for these species and restricts the areas available for habitat restoration or enhancement.

4.4.1.3 Policies and Programs

City of Marina

Objective A: Prevent soil transport and loss caused by wind and water erosion and promote construction practices that maintain the productivity of soil resources.

Soils and Geology Policy A-1: In the absence of more detailed site-specific information, the City shall use the Natural Resources Conservation Service's Soil Survey of Monterey County in determining the suitability of soil for particular land uses.

Soils and Geology Policy A-2: The City shall require developers to prepare and implement erosion control and landscape plans for projects that involve high erosion risk. Each plan shall be prepared by a registered civil engineer or certified professional in the field of erosion and sediment control and shall be subject to the approval of the public works director for the City of Marina. The erosion component of the plan must at least meet the requirements of Storm Water Pollution Prevention Plans (SWPPPs) required by the California State Water Resources Control Board.

Program A-2.1: The City shall develop and make available a list and description of feasible and effective erosion control measures for various soil conditions within the City to be used by all future development at former Fort Ord.

Program A-2.2: The City shall develop and make available a list of recommended native plant species, application rates, and planting procedures suitable for erosion control under various soil, slope, and climatic conditions that may be encountered in the City's sphere of influence.

Program A-2.3: The City shall develop and make available a list and description of feasible and effective engineering and design techniques that address the soil limitations characteristic of the former Fort Ord to be used by all future development at the former Fort Ord.

Soils and Geology Policy A-3: Through site monitoring, the City shall ensure that all measures included in the developer's erosion control and landscape plans are properly implemented.

Soils and Geology Policy A-4: The City shall continue to enforce the Uniform Building Code to minimize erosion and slope instability problems.

Soils and Geology Policy A-5: Before issuing a grading permit, the City shall require that geotechnical reports be prepared for development proposed on soils that have limitations as substrates for construction or engineering purposes, including limitations concerning slope and soils that have piping, low-strength, and shrink-swell potential. The City shall require that engineering and design techniques be recommended and implemented to address these limitations.

Program A-5.1: See Program A-2.3 above.

Program A-5.2: The City shall designate areas with severe soil limitations, such as those related to piping, low-strength, and shrink-swell potential, for open space or similar use if adequate measures cannot be taken to ensure the structural stability of these soils. This shall be designated at the project-specific level through a geotechnical study.

Objective B: Provide for mineral extraction and reclamation activities that are consistent with the surrounding natural landscape, proposed future land uses, and soil conservation practices.

Soils and Geology Policy B-1: The City shall identify areas of highly valuable mineral resources within the former Fort Ord, based on the State of California Division of Mines and Geology's mineral resource "classification-designation" system, and provide for the protection of these areas.

Program B-1.1: If the City determines that valuable mineral resources warranting protection are contained within the former Fort Ord, the City shall designate these areas in a mineral resource or similar land use category that would afford them protection; these areas shall also be zoned in a district consistent with this designation.

Program B-1.2: On property titles in the affected mineral resource protection areas, the City shall record a notice identifying the presence of valuable mineral resources.

Soils and Geology Policy B-2: The City shall protect designated mineral resource protection areas from incompatible land uses.

Program B-2.1: If so provided, the City shall specify in its mineral resource protection zoning district a requirement that provides sufficient buffers between mining activities and incompatible adjacent land uses.

Program B-2.2: If so provided, the City shall specify in its mineral resource protection zoning district those uses that are deemed compatible with mining activities.

Soils and Geology Policy B-3: Prior to granting permits for operation, the City shall require that mining and reclamation plans be prepared for all proposed mineral extraction operations.

Program B-3.1: The City shall develop and make available a list of issues to be considered and mitigated in mining and reclamation plans, including, but not limited to, the following: buffering, dust control, erosion control, protection of water quality, noise impacts, access, security, and reclamation.

Soils and Geology Policy B-4: The City shall require the posting of bonds for new mining permits if it determines that such a measure is needed to guarantee the timely and faithful performance of mining and reclamation plans.

Objective C: Strive to conserve soils that rare species or plant communities are dependent on or strongly associated with.

Soils and Geology Policy C-1: The City shall support and encourage existing state and federal soil conservation and restoration programs within its borders.

Soils and Geology Policy C-2: The City shall consider the compatibility with existing soil conditions of all habitat restoration, enhancement, and preservation programs undertaken within the City.

Program C-2.1: The City shall require that the land recipients of properties within the former Fort Ord implement the Fort Ord Habitat Management Plan.

City of Seaside

Objective A: Prevent soil transport and loss caused by wind and water erosion and promote construction practices that maintain the productivity of soil resources.

Soils and Geology Policy A-1: In the absence of more detailed site-specific information, the City shall use the Natural Resources Conservation Service's Soil Survey of Monterey County in determining the suitability of soil for particular land uses.

Soils and Geology Policy A-2: The City shall require developers to prepare and implement erosion control and landscape plans for projects that involve high erosion risk. Each plan shall be prepared by a registered civil engineer or certified professional in the field of erosion and sediment control and shall be subject to the approval of the public works director for the City of Seaside. The erosion component of the plan must at least meet the requirements of Storm Water Pollution Prevention Plans (SWPPPs) required by the California State Water Resources Control Board.

Program A-2.1: The City shall develop and make available a list and description of feasible and effective erosion control measures for various soil conditions within the City to be used by all future development at the former Fort Ord.

Program A-2.2: The City shall develop and make available a list of recommended native plant species, application rates, and planting procedures suitable for erosion control under various soil, slope, and climatic conditions that may be encountered in the City's sphere of influence.

Program A-2.3: The City shall develop and make available a list and description of feasible and effective engineering and design techniques that address the soil limitations characteristic of the former Fort Ord to be used by all future development at the former Fort Ord.

Soils and Geology Policy A-3: Through site monitoring, the City shall ensure that all measures included in the developer's erosion control and landscape plans are properly implemented.

Soils and Geology Policy A-4: The City shall continue to enforce the Uniform Building Code to minimize erosion and slope instability problems.

Soils and Geology Policy A-5: Before issuing a grading permit, the City shall require that geotechnical reports be prepared for developments proposed on soils that have limitations as substrates for construction or engineering purposes, including limitations concerning slope and soils that have piping, low-strength, and shrink-swell potential. The City shall require that engineering and design techniques be recommended and implemented to address these limitations.

Program A-5.1: See Program A-2.3 above.

Program A-5.2: The City shall designate areas with severe soil limitations, such as those related to piping, low-strength, and shrink-swell potential, for open space or similar use if adequate measures cannot be taken to en-

sure the structural stability of these soils. This shall be designated at the project-specific level through a geotechnical study.

Soils and Geology Policy A-6: The City shall require that development of lands having a prevailing slope above 30% include implementation of adequate erosion control measures.

Program A-6.1: The City shall prepare and make available a slope map to identify locations in the study area where slope poses severe constraints for particular land uses.

Program A-2.1: See description of this program above.

Program A-2.2: See description of this program above.

Program A-2.3: See description of this program above.

Program A-6.2: The City shall designate areas with extreme slope limitations for open space or similar use if adequate erosion control measures and engineering and design techniques cannot be implemented.

Objective B: Provide for mineral extraction and reclamation activities that are consistent with the surrounding natural landscape, proposed future land uses, and soil conservation practices.

Soils and Geology Policy B-1: The City shall identify areas of highly valuable mineral resources within the former Fort Ord, based on the State of California Division of Mines and Geology's mineral resource "classification-designation" system, and provide for the protection of these areas.

Program B-1.1: If the City determines that valuable mineral resources warranting protection are contained within the former Fort Ord, the City shall designate these areas in a mineral resource or similar land use category that would afford them protection; these areas shall also be zoned in a district consistent with this designation.

Program B-1.2: On property titles in the affected mineral resource protection areas, the City shall record a notice identifying the presence of valuable mineral resources.

Soils and Geology Policy B-2: The City shall protect designated mineral resource protection areas from incompatible land uses.

Program B-2.1: If so provided, the City shall specify in its mineral resource

protection zoning district a requirement that provides sufficient buffers between mining activities and incompatible adjacent land uses.

Program B-2.2: If so provided, the City shall specify in its mineral resource protection zoning district those uses that are deemed compatible with mining activities.

Soils and Geology Policy B-3: Prior to granting permits for operation, the City shall require that mining and reclamation plans be prepared for all proposed mineral extraction operations.

Program B-3.1: The City shall develop and make available a list of issues to be considered and mitigated in mining and reclamation plans, including, but not limited to, the following: buffering, dust control, erosion control, protection of water quality, noise impacts, access, security, and reclamation.

Soils and Geology Policy B-4: The City shall require the posting of bonds for new mining permits if it determines that such a measure is needed to guarantee the timely and faithful performance of mining and reclamation plans.

Objective C: Strive to conserve soils that rare species or plant communities are dependent on or strongly associated with.

Soils and Geology Policy C-1: The City shall support and encourage existing state and federal soil conservation and restoration programs within its borders.

Soils and Geology Policy C-2: The City shall consider the compatibility with existing soil conditions of all habitat restoration, enhancement, and preservation programs undertaken within the City.

Program C-2.1: The City shall require that the land recipients of properties within the former Fort Ord implement the Fort Ord Habitat Management Plan.

Monterey County

Objective A: Prevent soil transport and loss caused by wind and water erosion and promote construction practices that maintain the productivity of soil resources.

Soils and Geology Policy A-1: In the absence of more detailed site-specific information, the County shall use the Natural Resources Conservation

Service's Soil Survey of Monterey County in determining the suitability of soil for particular land uses.

Soils and Geology Policy A-2: The County shall require developers to prepare and implement erosion control and landscape plans for projects that involve high erosion risk. Each plan shall be prepared by a registered civil engineer or certified professional in the field of erosion and sediment control and shall be subject to the approval of the public works director for the County of Monterey. The erosion component of the plan must at least meet the requirements of Storm Water Pollution Prevention Plans (SWPPPs) required by the California State Water Resources Control Board.

Program A-2.1: The County shall develop and make available a list and description of feasible and effective erosion control measures for various soil conditions within the County to be used by all future development at former Fort Ord.

Program A-2.2: The County shall develop and make available a list of recommended native plant species, application rates, and planting procedures suitable for erosion control under various soil, slope, and climatic conditions that may be encountered in the County's sphere of influence.

Program A-2.3: The County shall develop and make available a list and description of feasible and effective engineering and design techniques that address the soil limitations characteristic of the former Fort Ord to be used by all future development at the former Fort Ord.

Soils and Geology Policy A-3: Through site monitoring, the County shall ensure that all measures included in the developer's erosion control and landscape plans are properly implemented.

Soils and Geology Policy A-4: The County shall continue to enforce the Uniform Building Code to minimize erosion and slope instability problems.

Soils and Geology Policy A-5: Before issuing a grading permit, the County shall require that geotechnical reports be prepared for developments proposed on soils that have limitations as substrates for construction or engineering purposes, including limitations concerning slope and soils that have piping, low-strength, and shrink-swell potential. The County shall require that engineering and design techniques be recommended and implemented to address these limitations.

Program A-5.1: See Program A-2.3 above.

Program A-5.2: The County shall designate areas with severe soil limitations, such as those related to piping, low-strength, and shrink-swell potential, for open space or similar use if adequate measures cannot be taken to ensure the structural stability of these soils. This shall be designated at the project-specific level through a geotechnical study.

Soils and Geology Policy A-6: The County shall require that development of lands having a prevailing slope above 30% include implementation of adequate erosion control measures.

Program A-6.1: The County shall prepare and make available a slope map to identify locations in the study area where slope poses severe constraints for particular land uses.

Program A-2.1: See description of this program above.

Program A-2.2: See description of this program above.

Program A-2.3: See description of this program above.

Program A-6.2: The County shall designate areas with extreme slope limitations for open space or similar use if adequate erosion control measures and engineering and design techniques cannot be implemented.

Objective B: Provide for mineral extraction and reclamation activities that are consistent with the surrounding natural landscape, proposed future land uses, and soil conservation practices.

Soils and Geology Policy B-1: The County shall identify areas of highly valuable mineral resources within the former Fort Ord, based on the State of California Division of Mines and Geology's mineral resource "classification-designation" system, and provide for the protection of these areas.

Program B-1.1: If the County determines that valuable mineral resources warranting protection are contained within the former Fort Ord, the County shall designate these areas in a mineral resource or similar land use category that would afford them protection; these areas shall also be zoned in a district consistent with this designation.

Program B-1.2: On property titles in the affected mineral resource protection areas, the County shall record a notice identifying the presence of valuable mineral resources.

Soils and Geology Policy B-2: The County shall protect designated mineral resource protection areas from incompatible land uses.

Program B-2.1: If so provided, the County shall specify in its mineral resource protection zoning district a requirement that provides sufficient buffers between mining activities and incompatible adjacent land uses.

Program B-2.2: If so provided, the County shall specify in its mineral resource protection zoning district those uses that are deemed compatible with mining activities.

Soils and Geology Policy B-3: Prior to granting permits for operation, the County shall require that mining and reclamation plans be prepared for all proposed mineral extraction operations.

Program B-3.1: The County shall develop and make available a list of issues to be considered and mitigated in mining and reclamation plans, including, but not limited to, the following: buffering, dust control, erosion control, protection of water quality, noise impacts, access, security, and reclamation.

Soils and Geology Policy B-4: The County shall require the posting of bonds for new mining permits if it determines that such a measure is needed to guarantee the timely and faithful performance of mining and reclamation plans.

Objective C: Strive to conserve soils that rare species or plant communities are dependent on or strongly associated with.

Soils and Geology Policy C-1: The County shall support and encourage existing state and federal soil conservation and restoration programs within its borders.

Soils and Geology Policy C-2: The County shall consider the compatibility with existing soil conditions of all habitat restoration, enhancement, and preservation programs undertaken within the County.

Program C-2.1: The County shall require that the land recipients of properties within the former Fort Ord implement the Fort Ord Habitat Management Plan.

4.4.2 Hydrology and Water Quality

4.4.2.1 Summary of Existing Conditions

Following is a brief discussion of the hydrology and surface water and groundwater quality at the former Fort Ord. A more detailed discussion of these systems can be found in the setting sections in Volume I of the Fort Ord Disposal and Reuse Final Environmental Impact Statement (U.S. Army Corps of Engineers, Sacramento District 1993) and the Fort Ord Disposal and Reuse Draft Supplemental Environmental Impact Statement (U.S. Army Corps of Engineers, Sacramento District 1995).

Surface Water Hydrology: The former Fort Ord, located between the Salinas and Carmel River watersheds, covers an area of approximately 44 square miles. The area has a moderate Mediterranean climate, receiving 90% of its 14.2 inches of annual precipitation from November through April. The topography of the former Fort Ord is characterized by stabilized sand dunes in the western half of the base, transitioning to rolling hills and canyons in the eastern half. The sandy soils in the western half of the base are highly permeable and absorb much of the rainfall and runoff without forming distinct creek channels. The streams in the canyons in the eastern part of the base are small and intermittent. A number of creeks drain into the Salinas River. Canyon Del Rey drains the southern portion of the base and empties into Monterey Bay, a designated national marine sanctuary.

Groundwater Hydrology: Three distinct geological and hydrological regions exist at the former Fort Ord (see Figure 4.5-1 in Volume I of the final EIS). The northwest part of the former Fort Ord overlies a small part of the Salinas Valley groundwater basin. The 180-foot aquifer is the shallowest of the aquifers in the former Fort Ord used for water supply. Beneath the 180-foot aquifer are two deeper aquifer zones referred to as the 400-foot and 900-foot aquifers. Historically, most pumpage from Fort Ord and the City of Marina came from the 180-foot aquifer, and by the early 1980s, seawater intrusion caused by pumping extended approximately 2.5 miles into the aquifer. Intrusion has stabilized since the 1980s as the result of decreases in the number of Army personnel, conservation, changes in well depths and locations, and drought-related decreases in total pumpage.

The southwest part of the former Fort Ord overlies the Seaside groundwater basin. The only pumpage from this basin by the former Fort Ord is for irrigation at the golf course. Most of the remaining pumpage is by

municipal wells in Seaside and Sand City. With the exception of one shallow well near the shoreline, seawater has not intruded into wells in this basin.

The geological formations of the eastern part of the former Fort Ord, although less permeable than the sands of the western part, are capable of supporting water wells. The recharge that occurs in the eastern part of the former Fort Ord contributes groundwater inflow to the western part.

Surface Water Quality: Surface water quality of drainage channels within the base varies with the seasons. During the first strong rains of the season, ditches and storm drainage systems draining the urban areas of the base receive the highest concentration of urban pollutants, such as oils, grease, heavy metals, pesticide residues, and coliform bacteria. In general, surface waters of this region are hard and high in total dissolved solids. Streams may contain elevated levels of sulfates, bicarbonates, calcium, magnesium, and sodium, depending on local conditions. Urban stormwater runoff discharging into the ocean may also locally impair coastal water quality.

Monterey Bay is designated as a national marine sanctuary. Under this designation, resource protection is assigned a higher priority than research, education programs, and visitor use. The Marine Protection, Research, and Sanctuaries Act of 1972 requires a management plan to protect the sanctuary's resources.

Groundwater Quality: Groundwater quality within the former Fort Ord is variable, depending on the location and depth of the well. Seawater intrusion from groundwater pumping has caused the water to be unacceptable for drinking in most wells in the 180-foot and 400-foot aquifers in the Main Garrison area. Recent water quality data for other active and standby potable supply wells in the East Garrison area and the golf course well in the Seaside basin have shown some concentrations of dissolved solids that exceed the recommended limit for drinking water. However, water from wells with high salinity can be blended with higher quality water to meet drinking water standards.

Water Supply and Demand: Wells provide the sole source of water supply for the former Fort Ord. The main potable supply wells are located in the Salinas Valley groundwater basin, and the golf course well is located in the Seaside basin.

Safe yield is the amount of groundwater that can be pumped annually on a long-term basis without causing undesirable effects. The worst of these

potential effects in the Fort Ord area are excessive drawdown and seawater intrusion. The concept of safe yield is usually applied to an entire groundwater basin. However, overdraft can result in seawater intrusion locally, with other parts of the basin maintaining a positive groundwater balance. In the Salinas Valley groundwater basin, recent historical pumpage in the former Fort Ord exceeded safe yield, as indicated by seawater intrusion and water levels below sea level. The safe yield of the Seaside basin in the vicinity of Fort Ord approximately equals historical pumpage, and any increase in pumpage in the southern part of the former Fort Ord could cause total pumpage to exceed the Seaside basin's safe yield. The imbalance between supply and demand has caused local agencies to pursue water conservation measures and additional water supplies, including importation of water from inland parts of the Salinas Valley groundwater basin and a desalination plant.

Fort Ord Reuse Authority Water Supply: The Monterey County Water Resources Agency (MCWRA) has agreed that 6,600 acre-feet (AF) of water can be pumped each year at the former Fort Ord provided that such withdrawals do not aggravate or accelerate the existing seawater intrusion. It is expected that the Army will retain 1,500 AF of water for its own use, leaving 5,100 AF for other uses provided for by the Fort Ord Reuse Plan. It is unknown at this time whether the remaining 5,100 AF will be assigned in advance to specific uses or jurisdictions or distributed on a first-come, first-served basis.

4.4.2.2 Objectives

Objective A: Protect and preserve watersheds and recharge areas, particularly those critical for the replenishment of aquifers.

Because groundwater provides the sole source of water supply to the former Fort Ord, replenishment of the groundwater aquifer from precipitation and surface water sources is critical. The suitability of areas for groundwater recharge at the former Fort Ord is limited by a number of factors, including topography; soil type; the amount of impervious surfaces; and the Salinas Valley Aquiclude, an extensive clay layer that underlies a portion of the dune sand deposits. The value of the former Fort Ord's recharge and watershed areas for groundwater recharge should be considered when considering development plans for the former Fort Ord.

Objective B: Eliminate long-term groundwater overdraft as soon as practically possible.

When the demand for groundwater exceeds the safe yield of an aquifer either locally or throughout a basin, groundwater overdraft occurs. Groundwater overdraft causes a series of related problems, including seawater intrusion. Wells that are encountered by the intruding seawater become contaminated and can no longer be used for domestic or agricultural uses. As noted earlier in the "Summary of Existing Conditions" section, seawater intrusion from groundwater pumping has occurred in the Salinas Valley groundwater basin. Those responsible for determining the allocation of water resources in the former Fort Ord and the location and nature of development activities need to consider the magnitude of available water resources, especially the safe yield of the aquifers.

Objective C: Control nonpoint and point water pollution sources to protect the adopted beneficial uses of water.

As discussed above in the "Summary of Existing Conditions" section, two important water quality issues for the former Fort Ord are related to Monterey Bay's designation as a national marine sanctuary and the effect of seawater intrusion on groundwater quality and drinking water supplies. Surface water and groundwater quality impacts can be minimized through compliance with existing federal, state, and local programs aimed at controlling nonpoint and point source discharges affecting the quality of surface water and groundwater, and by controlling the type, location, and intensity of development that occurs at the former Fort Ord.

4.4.2.3 Policies and Programs

City of Marina

Objective A: Protect and preserve watersheds and recharge areas, particularly those critical for the replenishment of aquifers.

Hydrology and Water Quality Policy A-1: At the project approval stage, the City shall require new development to demonstrate that all measures will be taken to ensure that runoff is minimized and infiltration maximized in groundwater recharge areas.

Program A-1.1: The City shall develop and make available a description of feasible and effective best management practices and site drainage designs that shall be implemented in new development to ensure adequate storm-water infiltration.

Program B-1.1: See description of this program below.

Objective B: Eliminate long-term groundwater overdrafting as soon as

practicably possible.

Hydrology and Water Quality Policy B-1: The City shall ensure additional water to critically deficient areas.

Program B-1.1: The City, with input from the MCWRA and MPWMD, shall identify potential reservoir and water impoundment sites on the former Fort Ord and zone those areas for watershed use which would preclude urban development.

Program B-1.2 The City shall work with the appropriate agencies to determine the feasibility of developing additional water supply sources for the former Fort Ord, such as water importation and desalination, and actively participate in implementing the most viable option(s).

Program B-1.3: The City shall adopt and enforce a water conservation ordinance, which includes requirements for plumbing retrofits and is at least as stringent as Monterey County's ordinance, to reduce both water demand and effluent generation.

Hydrology and Water Quality Policy B-2: The City shall condition approval of development plans on verification of an assured long-term water supply for the projects.

Objective C: Control nonpoint and point water pollution sources to protect the adopted beneficial uses of water.

Hydrology and Water Quality Policy C-1: The City shall comply with all mandated water quality programs and establish local water quality programs as needed.

Program C-1.1: The City shall comply with the nonpoint pollution control plan developed by the California Coastal Commission and the State Water Resources Control Board (SWRCB), pursuant to Section 6217 of the Federal Coastal Zone Management Act Reauthorization Amendments of 1990, if any stormwater is discharged into the ocean.

Program C-1.2: The City shall comply with the General Industrial Storm Water Permit adopted by the SWRCB in November 1991 that requires all storm drain outfalls classified as industrial to apply for a permit for discharge.

Program C-1.3: The City shall comply with the management plan to protect Monterey Bay's resources in compliance with the Marine Protection, Re-

search, and Sanctuaries Act of 1972, as amended, and its implementing regulations.

Program C-1.4: The City shall develop and implement a surface water and groundwater quality monitoring program that includes new domestic wells, to detect and solve potential water quality problems, including drinking water quality.

Program C-1.5: The City shall adopt and enforce an hazardous substance control ordinance that requires that hazardous substance control plans be prepared and implemented for construction activities involving the handling, storing, transport, or disposal of hazardous waste materials.

Program C-1.6: The City shall develop a program to identify wells that contribute to groundwater degradation. The City shall require that these wells be repaired or destroyed by the property owner according to state standards. These actions shall be reviewed and approved by the Monterey County Environmental Health Department (MCEHD).

Hydrology and Water Quality Policy C-2: At the project approval stage, the City shall require new development to demonstrate that all measures will be taken to ensure that on-site drainage systems are designed to capture and filter out urban pollution, to the extent feasible.

Program C-2.1: The City shall develop and make available a description of feasible and effective measures and site drainage designs that could be implemented in new development to minimize water quality impacts.

Hydrology and Water Quality Policy C-3: The City shall prevent further seawater intrusion, to the extent feasible.

Program C-3.1: The City shall work with the MCWRA and the MPWMD to estimate the current safe yields of those portions of the former Fort Ord overlying the Salinas Valley and with the MPWMD Seaside groundwater basins to determine available water supplies.

Program C-3.2: The City shall work with the appropriate agencies to determine the extent of seawater intrusion into the Salinas Valley and Seaside groundwater basins and shall participate in developing and implementing measures to prevent further intrusion.

Program B.1-1: See description of this program above.

Program B.1-2: See description of this program above.

Program B.1-3: See description of this program above.

Hydrology and Water Quality Policy C-4: The City shall prevent siltation of waterways, to the extent feasible.

Program C-4.1: The City, in consultation with the Natural Resources Conservation Service, shall develop a program that will provide, to owners of property near waterways and other appropriate entities, information concerning vegetation preservation and other best management practices that would prevent siltation of waterways in or downstream of the former Fort Ord.

Program A-2.1: See description of this program in the Conservation Element.

Program A-2.2: See description of this program in the Conservation Element.

Program A-2.3: See description of this program in the Conservation Element.

Hydrology and Water Quality Policy C-5: The City shall support all actions necessary to ensure that sewage treatment facilities operate in compliance with waste discharge requirements adopted by the California Regional Water Quality Control Board.

Hydrology and Water Quality Policy C-6: In support of Monterey Bay's national marine sanctuary designation, the City shall support all actions required to ensure that the bay and intertidal environment will not be adversely affected, even if such actions would exceed state and federal water quality requirements.

Hydrology and Water Quality Policy C-7: The City shall condition all development plans on verification of adequate wastewater treatment capacity.

City of Seaside

Objective A: Protect and preserve watersheds and recharge areas, particularly those critical for the replenishment of aquifers.

Hydrology and Water Quality Policy A-1: At the project approval stage, the City shall require new development to demonstrate that all measures will be taken to ensure that runoff is minimized and infiltration maximized in groundwater recharge areas.

Program A-1.1: The City shall develop and make available a description of feasible and effective best management practices and site drainage designs that shall be implemented in new development to ensure adequate storm-water infiltration.

Program B-1.1: See description of this program below.

Objective B: Eliminate long-term groundwater overdrafting as soon as practicably possible.

Hydrology and Water Quality Policy B-1: The City shall ensure additional water to critically deficient areas.

Program B-1.1: The City, with input from the MCWRA and MPWMD, shall identify potential reservoir and water impoundment sites on the former Fort Ord and zone those areas for watershed use which would preclude urban development.

Program B-1.2: The City shall work with the appropriate agencies to determine the feasibility of developing additional water supply sources for the former Fort Ord, such as water importation and desalination, and actively participate in implementing the most viable option(s).

Program B-1.3: The City shall adopt and enforce a water conservation ordinance, which includes requirements for plumbing retrofits and is at least as stringent as Monterey County's ordinance, to reduce both water demand and effluent generation.

Hydrology and Water Quality Policy B-2: The City shall condition approval of development plans on verification of an assured long-term water supply for the projects.

Objective C: Control nonpoint and point water pollution sources to protect the adopted beneficial uses of water.

Hydrology and Water Quality Policy C-1: The City shall comply with all mandated water quality programs and establish local water quality programs as needed.

Program C-1.1: The City shall comply with the nonpoint pollution control plan developed by the California Coastal Commission and the State Water Resources Control Board (SWRCB), pursuant to Section 6217 of the Federal Coastal Zone Management Act Reauthorization Amendments of

1990, if any stormwater is discharged into the ocean.

Program C-1.2: The City shall comply with the General Industrial Storm Water Permit adopted by the SWRCB in November 1991 that requires all storm drain outfalls classified as industrial to apply for a permit for discharge.

Program C-1.3: The City shall comply with the management plan to protect Monterey Bay's resources in compliance with the Marine Protection, Research, and Sanctuaries Act of 1972, as amended, and its implementing regulations.

Program C-1.4: The City shall develop and implement a surface water and groundwater quality monitoring program that includes new domestic wells, to detect and solve potential water quality problems, including drinking water quality.

Program C-1.5: The City shall adopt and enforce an hazardous substance control ordinance that requires that hazardous substance control plans be prepared and implemented for construction activities involving the handling, storing, transport, or disposal of hazardous waste materials.

Program C-1.6: The City shall develop a program to identify wells that contribute to groundwater degradation. The City shall require that these wells be repaired or destroyed by the property owner according to state standards. These actions shall be reviewed and approved by the Monterey County Environmental Health Department (MCEHD).

Hydrology and Water Quality Policy C-2: At the project approval stage, the City shall require new development to demonstrate that all measures will be taken to ensure that on-site drainage systems are designed to capture and filter out urban pollution, to the extent feasible.

Program C-2.1: The City shall develop and make available a description of feasible and effective measures and site drainage designs that could be implemented in new development to minimize water quality impacts.

Hydrology and Water Quality Policy C-3: The City shall prevent further seawater intrusion, to the extent feasible.

Program C-3.1: The City shall work with the MCWRA and the MPWMD to estimate the current safe yields of those portions of the former Fort Ord overlying the Salinas Valley and Seaside groundwater basins to determine available water supplies.

Program C-3.2: The City shall work with the appropriate agencies to determine the extent of seawater intrusion into the Salinas Valley and Seaside groundwater basins and shall participate in developing and implementing measures to prevent further intrusion.

Program B-1.1: See description of this program above.

Program B-1.2: See description of this program above.

Program B-1.3: See description of this program above.

Hydrology and Water Quality Policy C-4: The City shall prevent siltation of waterways, to the extent feasible.

Program C-4.1: The City, in consultation with the Natural Resources Conservation Service, shall develop a program that will provide, to owners of property near waterways and other appropriate entities, information concerning vegetation preservation and other best management practices that would prevent siltation of waterways in or downstream of the former Fort Ord.

Program A-2.1: See description of this program in the Conservation Element.

Program A-2.2: See description of this program in the Conservation Element.

Program A-2.3: See description of this program in the Conservation Element.

Hydrology and Water Quality Policy C-5: The City shall support all actions necessary to ensure that sewage treatment facilities operate in compliance with waste discharge requirements adopted by the California Regional Water Quality Control Board.

Hydrology and Water Quality Policy C-6: In support of Monterey Bay's national marine sanctuary designation, the City shall support all actions required to ensure that the bay and intertidal environment will not be adversely affected, even if such actions would exceed state and federal water quality requirements.

Hydrology and Water Quality Policy C-7: The City shall condition all development plans on verification of adequate wastewater treatment capacity.

Monterey County

Objective A: Protect and preserve watersheds and recharge areas, particularly those critical for the replenishment of aquifers.

Hydrology and Water Quality Policy A-1: At the project approval stage, the County shall require new development to demonstrate that all measures will be taken to ensure that runoff is minimized and infiltration maximized in groundwater recharge areas.

Program A-1.1: The County shall develop and make available a description of feasible and effective best management practices and site drainage designs that shall be implemented in new development to ensure adequate stormwater infiltration.

Program B-1.1: See description of this program above.

Hydrology and Water Quality Policy A-2: To avoid adversely affecting groundwater recharge or surface water users in downstream areas, the County shall ensure that land use and drainage facilities on newly developed lands do not decrease the magnitude and duration of flows less than the mean annual flow in creeks downstream of the development sites.

Program A-2.1: The County shall implement a stream gauging program for creeks in the eastern part of the former Fort Ord if proposals are submitted for development in that area. The gauging program should be partially or entirely funded by development fees.

Objective B: Eliminate long-term groundwater overdrafting as soon as practicably possible.

Hydrology and Water Quality Policy B-1: The County shall ensure additional water to critically deficient areas.

Program B-1.1: The County, with input from the MCWRA and MPWMD, shall identify potential reservoir and water impoundment sites on the former Fort Ord and zone those areas for watershed use which would preclude urban development.

Program B-1.2: The County shall work with the appropriate agencies to determine the feasibility of developing additional water supply sources for the former Fort Ord, such as water importation and desalination, and actively participate in implementing the most viable option(s).

Hydrology and Water Quality Policy B-2: The County shall condition approval of development plans on verification of an assured long-term water supply for the projects.

Objective C: Control nonpoint and point water pollution sources to protect the adopted beneficial uses of water.

Hydrology and Water Quality Policy C-1: The County shall comply with all mandated water quality programs and establish local water quality programs as needed.

Program C-1.1: The County shall comply with the nonpoint pollution control plan developed by the California Coastal Commission and the State Water Resources Control Board (SWRCB), pursuant to Section 6217 of the Federal Coastal Zone Management Act Reauthorization Amendments of 1990, if any stormwater is discharged into the ocean.

Program C-1.2: The County shall comply with the General Industrial Storm Water Permit adopted by the SWRCB in November 1991 that requires all storm drain outfalls classified as industrial to apply for a permit for discharge.

Program C-1.3: The County shall comply with the management plan to protect Monterey Bay's resources in compliance with the Marine Protection, Research, and Sanctuaries Act of 1972, as amended, and its implementing regulations.

Program C-1.4: The County shall develop and implement a surface water and groundwater quality monitoring program that includes new domestic wells, to detect and solve potential water quality problems, including drinking water quality.

Program C-1.5: The County shall adopt and enforce an hazardous substance control ordinance that requires that hazardous substance control plans be prepared and implemented for construction activities involving the handling, storing, transport, or disposal of hazardous waste materials.

Program C-1.6: The County shall develop a program to identify wells that contribute to groundwater degradation. The County shall require that these wells be repaired or destroyed by the property owner according to state standards. These actions shall be reviewed and approved by the Monterey County Environmental Health Department (MCEHD).

Hydrology and Water Quality Policy C-2: At the project approval stage, the County shall require new development to demonstrate that all measures will be taken to ensure that on-site drainage systems are designed to capture and filter out urban pollution, to the extent feasible.

Program C-2.1: The County shall develop and make available a description of feasible and effective measures and site drainage designs that could be implemented in new development to minimize water quality impacts.

Hydrology and Water Quality Policy C-3: The County shall prevent further seawater intrusion, to the extent feasible.

Program C-3.1: The County shall work with the MCWRA and the MPWMD to estimate the current safe yields of those portions of the former Fort Ord overlying the Salinas Valley and Seaside groundwater basins to determine available water supplies.

Program C-3.2: The County shall work with the appropriate agencies to determine the extent of seawater intrusion into the Salinas Valley and Seaside groundwater basins and shall participate in developing and implementing measures to prevent further intrusion.

Program B-1.1: See description of this program above under Seaside.

Program B-1.2: See description of this program above under Seaside.

Program B-1.3: See description of this program above under Seaside.

Hydrology and Water Quality Policy C-4: The County shall prevent siltation of waterways, to the extent feasible.

Program C-4.1: The County, in consultation with the Natural Resources Conservation Service, shall develop a program that will provide, to owners of property near waterways and other appropriate entities, information concerning vegetation preservation and other best management practices that would prevent siltation of waterways in or downstream of the former Fort Ord.

Program A-2.1: See description of this program in the Conservation Element.

Program A-2.2: See description of this program in the Conservation Element.

Program A-2.3: See description of this program in the Conservation Element.

Hydrology and Water Quality Policy C-5: The County shall support all actions necessary to ensure that sewage treatment facilities operate in compliance with waste discharge requirements adopted by the California Regional Water Quality Control Board.

Hydrology and Water Quality Policy C-6: In support of Monterey Bay's national marine sanctuary designation, the County shall support all actions required to ensure that the bay and intertidal environment will not be adversely affected, even if such actions would exceed state and federal water quality requirements.

Hydrology and Water Quality Policy C-7: The County shall condition all development plans on verification of adequate wastewater treatment capacity.

4.4.3 Biological Resources

4.4.3.1 Summary of Existing Conditions

The following is a general description of the biological resources at the former Fort Ord. A more detailed description of these resources is included in the EIR component of the Fort Ord Base Reuse Plan which incorporates by reference data collected and analyzed in the following documents: *Flora and Fauna Baseline Study of Fort Ord, California* (December 1992); *Draft Fort Ord Disposal and Reuse Biological Assessment* (February 1993); *Supplement to the Draft Fort Ord Disposal and Reuse Biological Assessment* (April 1993); *Final Environmental Impact Statement, Fort Ord Disposal and Reuse* (April 1993); *Installation-Wide Multispecies Habitat Management Plan for Fort Ord, California* (February 1994); *University of California-Fort Ord Step Center Biotic Study, Phase I* (July 1994).

The wide range of climatic, topographic, and soil conditions at the former Fort Ord contribute to the variety and uniqueness of the biological communities present. Fog protects much of the coastal areas from the effects of the summer dry season but the inland areas that are sheltered by hills are hot and dry. A large percentage of the ranges of relatively restricted habitat types such as central coast maritime chaparral and coastal coast live oak woodland occurs on the base. Coastal strand and dune, grasslands, riparian, vernal pond and other wetland communities are all well-

represented at the former Fort Ord. The diverse habitat conditions support a broad array of wildlife species, many of which are adapted to specific habitat conditions found on the central coast.

Eight broad categories of biological communities have been identified at the former Fort Ord: beaches, bluffs & coastal strand; disturbed dune; coastal scrub; maritime chaparral; coast live oak woodland & savanna; native grassland; annual grassland and wetlands. The beaches, bluffs, coastal strand and disturbed dune communities occur adjacent to Monterey Bay and generally west of State Highway 1. Coastal scrub and maritime chaparral communities cover approximately 50% of the former Fort Ord and occur primarily in the inland areas. Coastal live oak woodland and savanna occur on about 5,000 acres distributed through the central portions of the base and grasslands and wetlands are scattered throughout, often occurring as islands within the other communities.

Several plant and animal species are found at the former Fort Ord that have been designated or proposed for listing as threatened, endangered, rare, or otherwise sensitive by various federal and state agencies and public interest organizations including, the U.S. Fish and Wildlife Service (USFWS), the California Department of Fish and Game (CDFG) and the California Native Plant Society (CNPS). Botanical surveys during Spring 1992 identified populations of 22 special-status plant species at the former Fort Ord. Four of the species are listed as threatened or endangered under the federal or state endangered species acts: sand gilia, Monterey spineflower, robust spineflower, and Seaside bird's beak. There are also 22 special-status wildlife species known to occur or have potential to occur in terrestrial and freshwater environments at the former Fort Ord. The names, legal status and habitat distribution for each of these special status plant and wildlife species are provided in Table 4.4-1 and Table 4.4-2. Table 4.4-3 shows known or potential occurrences of HMP and Non-HMP Resources within each jurisdiction.

4.4.3.2 Objectives

Objective A: Preserve and protect the sensitive species and habitats addressed in the Installation-Wide Habitat Management Plan (HMP) for Fort Ord in conformance with its resource conservation and habitat management requirements and with the guidance provided in the HMP Implementing/Management Agreement

The installation-wide multispecies habitat management plan for the former Fort Ord establishes the guidelines for the conservation and management of wildlife and plant species and habitats that largely depend on the former Fort Ord land for survival. The HMP was developed with

Table 4.4.1
Resources Considered in the HMP - "HMP Species"

Species Common and Scientific Name	Status' Federal/State/Other	Habitat
Plants		
Sand gilia	E/T/CNPS IB	Sandy openings in coastal dunes and scrub and maritime chaparral
<i>Gilia tenuiflora</i> ssp. <i>arenaria</i>		
Monterey spineflower	T/-/CNPS IB	Recently disturbed sandy sites in coastal dune, coastal scrub, grassland, and maritime chaparral
<i>Chorizanthe pungens</i> var. <i>pungens</i>		
Robust spineflower	PE/-/CNPS IB	Sandy soils in coastal dune and coastal scrub habitats
<i>Chorizanthe robusta</i> var. <i>robusta</i>		
Seaside bird's-beak	C1/E/CNPS IB	sandy soils of stabilized dunes, maritime chaparral, coastal scrub, and closed-cone coniferous forests
<i>Cordylanthus rigidus</i> var. <i>littoralis</i>		
Toro manzanita	C2/-/CNPS IB	stabilized sandy soils and badlands in maritime chaparral
<i>Arctostaphylos montereyensis</i>		
Sandmat manzanita	C2/-/CNPS IB	sandhills of maritime chaparral and coast live oak woodland
<i>Arctostaphylos pumila</i>		
Monterey ceanothus	C2/-/CNPS 4	sandy hills and flats of maritime chaparral, closed-cone forest, and coastal scrub
<i>Ceanothus rigidus</i>		
Eastwood's ericameria	C2/-/CNPS IB	Inhabits coastal dune and scrub, maritime chaparral, and closed-cone coniferous forest communities
<i>Ericameria fasciculata</i>		
Coast wallflower	C2/-/CNPS IB	scattered on stabilized coastal dunes
<i>Erysimum ammobilum</i>		
Yadons piperia	C1/-/CNPS IB	sandy soils in maritime chaparral, coastal scrub, and closed-cone coniferous forest
<i>Piperia yadoni</i>		
Hooker's manzanita	-/-/CNPS IB	sandy soils, sandy shales, and sandstone outcrops
<i>Arctostaphylos hookeri</i>		
Wildlife		
Smith's blue butterfly	E/-/-	Uses coastal dunes and hillsides that support seaciff buckwheat or coast buckwheat (nectar source for adults and host plant for larvae)
<i>Euphilotes enoptes smithi</i>		
California red-legged frog	FPE/CSC/-	cold water ponds with emergent and submergent vegetation and riparian vegetation at the edges
<i>Rana aurora draytoni</i>		
Western snowy plover	T/CSC/-	along beaches above the high tide limit, shores of salt ponds and alkali or brackish inland lakes
<i>Charadrius alexandrinus nivosus</i>		
California black legless lizard	PE/CSC/-	moist, warm habitats with loose soil for burrowing and prostrate plant cover, may be found on beaches, in chaparral, pine oak woodland, or riparian areas
<i>Anniella pulchra nigra</i>		

Table 4.4-1 (Continued)
Resources Considered in the HMP - "HMP Species"

Species Common and Scientific Name	Status' Federal/State/Other	Habitat
California tiger salamander	C1/CSC	open woodlands and grasslands, required water for breeding and burrows or cracks in the soil for summer dormancy
<i>Ambystoma tigrinum californiense</i>	C2/-/-	variety of riparian, woodland, and upland communities where there is thick duff or downed logs
Monterey ornate shrew		
<i>Sorex ornatus salarius</i>		
Habitats		
Maritime chaparral	-/-/CEQA	
Native coastal strand	-/-/CEQA	
Dune scrub	-/-/CEQA	

1. Status Explanations

Federal

- E - listed as endangered under the federal Endangered Species Act
- T - listed as threatened under the federal Endangered Species Act
- PE - proposed for federal listing as endangered under the federal Endangered Species Act
- C1 - Category 1 candidate for federal listing. Category 1 includes species for which USFWS has on file enough substantial information on biological vulnerability and threats to support proposals to list them.
- C2 - Category 2 candidate for federal listing. Category 2 includes species for which USFWS has some biological information indicating that listing may be appropriate but for which further biological research and field study are usually needed to clarify the most appropriate status.
- - no designation

State

- E - listed as endangered under the California Endangered Species Act
- T - listed as threatened under the California Endangered Species Act
- CSC - California Department of Fish and Game species of special concern
- - no designation

Other

- CNPS 1B - California Native Plant Society list 1B: plants listed as rare, threatened or endangered in California and elsewhere
- CNPS 4 - California Native Plant Society list 4: plants of limited distribution in California - a watch list
- CEQA - resources with no formal listing that are considered sensitive by CDFG through the CEQA review process (see Appendix A for explanation)
- - no designation

Table 4.4-2: Resources Not Considered in the HMP - "Non-HMP Species"

Species Common and Scientific Name	Status' Federal/State/Other	Habitat
Plants		
Hickman's onion <i>Allium hickmanii</i>	C1/-/CNPS 1B	Grassy openings in closed-cone pine forests, maritime chaparral, and valley and foothill grasslands
Pajaro manzanita <i>Arctostaphylos pajaroensis</i>	-/-/CNPS 4	Sandy hills in chaparral
Monterey Indian paintbrush <i>Castilleja latifolia</i>	-/-/CNPS 4	Coastal dunes and scrub
Douglas' spiniflower <i>Chorizanthe douglasii</i>	-/-/CNPS 4	Gravelly or sandy slopes
Lewis' clarkia <i>Clarkia lewisii</i>	-/-/CNPS 4	Coastal scrub, oak woodland, and chaparral communities
Virgate eriastrum <i>Eriastrum virgatum</i>	-/-/CNPS 4	Sand hills and mesas
Wedge-leaved horkelia <i>Horkelia cuneata</i> ssp. <i>sericea</i>	C2/-/CNPS 1B	Sandy and gravelly places in coastal scrub, maritime chaparral, and closed-cone coniferous forest communities
Small-leaved lomatium <i>Lomatium parvifolium</i>	-/-/CNPS 4	Chaparral and open pine forests
Santa Cruz monkey flower <i>Mimulus rattanii</i> var. <i>decurtatus</i>	-/-/CNPS 4	Sandy, open places, especially around sandstone outcrops or on burns, and other disturbed areas in chaparral and conifer forests
Curly-leaved monardella <i>Monardella undulata</i> var. <i>undulata</i>	-/-/CNPS 4	Chaparral and coastal dunes and scrub near the coast
Purple-flowered piperia <i>Piperia elongata</i> ssp. <i>michaelii</i>	-/-/CNPS 4	Coastal scrub and chaparral
Animals		
Southwestern pond turtle <i>Clemmys marmorata pallida</i>	C2/CSC/-	Requires aquatic habitats such as ponds, marshes or streams, with rocky or muddy bottoms and vegetation for cover and food
Coast horned lizard <i>Phrynosoma coronatum</i>	C2/CSC/-	Occurs in areas with sandy soils and moderate cover
Cooper's hawk <i>Accipiter cooperi</i>	-/-CSC/-	Nests in riparian forests and dense canopy oak woodlands; forages in open woodlands
Sharp-shinned hawk <i>Accipiter striatus</i>	-/-CSC/-	Found in riparian forests, conifer forests and oak woodlands
Golden eagle <i>Aquila chrysaetos</i>	-/-CSC/-	Nests in cliffs and large oaks; forages in annual grasslands, chaparral and oak woodlands with abundant medium-sized and large mammals for prey
Burrowing owl	C2/CSC/-	Nests in abandoned ground squirrel burrows in dry, flat grasslands, deserts and agricultural

Table 4.4-2: Resources Not Considered in the HMP - "Non-HMP Species"

Species Common and Scientific Name	Status' Federal/State/Other	Habitat
<i>Athene cunicularia</i>		areas
Northern harrier	--/CSC/--	Marshes and grasslands
<i>Circus cyaneus</i>		
Yellow warbler	--/CSC/--	Nests in riparian areas dominated by willows, cottonwoods, sycamores, or alders; may also use oaks, conifers and urban areas if they are near stream courses
<i>Dendroica petechia</i>		
Prairie falcon	--/CSC/--	Nests in cliffs and escarpments; forages in grasslands, pastures, savannas and desert scrub
<i>Falco mexicanus</i>		
Peregrine falcon	E/E/--	Nests and roosts on protected ledges on high cliffs, usually adjacent to water sources that support large bird populations
<i>Falco peregrinus</i>		
Tricolor blackbird	C2/CSC/--	Nests in freshwater marshes with heavy growths of cattails and tules; other forms of dense vegetation may also be used for nesting; nesting areas must be large enough to support a colony of at least 50 pairs; birds forage in grasslands and fields surrounding the colony
<i>Agelaius tricolor</i>		
Monterey dusky-footed woodrat	C2/--/--	Uses habitats with moderate to dense cover and abundant dead wood for nest construction; maritime chaparral and coastal live oak woodland at Fort Ord
<i>Neotoma fuscipes luciana</i>		
American badger	--/CSC/--	Open, grassy areas with scattered shrubs or trees for cover and loose soil for digging
<i>Taxidea taxus</i>		
Loggerhead shrike	C2/--/--	Open woodland habitats with scattered trees, shrubs, posts, fences, or other perches
<i>Lanius ludovicianus</i>		
California horned lark	C2/--/--	Grasslands, rangelands, and other open habitats with low, sparse cover
<i>Eremophila alpestris actia</i>		
Townsend's big-eared bat	C2/CSC/--	Inhabits oak bay woodlands and mixed broadleaf conifer woodlands. Requires access to caves, abandoned mines, building attics, or other dark cavities for daytime refuges.
<i>Plecotus townsendii</i> ssp <i>townsendii</i>		
Pallid bat	C2/CSC/--	Found from annual grasslands through mixed-conifer forests. Most common in dry, open habitats with rocky areas available for day roosts.
<i>Antrozous pallidus</i>		
California mastiff bat	--/CSC/--	Lowland areas in arid to semi-arid habitats including deciduous woodlands, coastal scrub, and annual grasslands.
<i>Eumops perotis</i>		

Habitats

Table 4.4.2: Resources Not Considered in the HMP - "Non-HMP Species"

Species Common and Scientific Name	Status' Federal/State/Other	Habitat
Valley needlegrass grassland	--/--/CEQA	
Riparian forest	--/--/CEQA	
Oak woodlands	--/--/CEQA	
Streamzones	--/--/COE, CDFG	
Wetlands	--/--/COE, CEQA	

1. Status Explanations

- E - Listed as endangered under the California Endangered Species Act
- CSC - California Department of Fish and Game species of special concern
- No designation
- Other
 - CNPS 1B - California Native Plant Society list 1B: plants listed as rare, threatened or endangered in California and elsewhere
 - CNPS 4 - California Native Plant Society list 4: plants of limited distribution in California - a watch list
 - CEQA - Resources with no formal listing that are considered sensitive by CDFG through the CEQA review process (see Appendix A for explanation)
 - COE - Resources that may be subject to the jurisdiction of the U.S. Army Corps of Engineers (see Appendix A for explanation)
 - CDFG - Resources that may be subject to the jurisdiction of the California Department of Fish and Game (see Appendix A for explanation)
 - No designation

Table 4.4-3 Known or Potential Occurrences of HMP and Non-HMP Resources within each Jurisdiction ¹				
	Resource	Marina	Seaside	Monterey County
HMP	<i>HMP Plants</i>			
	Sand gilia	k	k	k
	Monterey spineflower	k	k	k
	Robust spineflower			k (west of SR 1)
	Seaside bird's beak		k	k
	Toro manzanita		k	k
	Sandmat manzanita	k	k	k
	Monterey ceanothus	k	k	k
	Eastwood's ericameria	k	k	k
	Coast wallflower	k	k	k
	Yadon's piperia	k		
	Hooker's manzanita			k
	<i>HMP Animals</i>			
	Smith's blue butterfly			k (west of SR 1)
	California red-legged frog	p		p
	Western snowy plover			k (west of SR 1)
	California black legless lizard	k	p	k
	California tiger salamander			k
	Monterey ornate shrew	p	p	p
	<i>Other HMP Resources</i>			
	Maritime chaparral	k	k	k
	Native coastal strand			k
	Dune scrub			k
NON-HMP	<i>Non-HMP Plants</i>			
	Hickman's onion			k
	Pajaro manzanita		k	
	Monterey Indian paintbrush			k (west of SR 1)
	Douglas' spineflower			k
	Lewis' clarkia	k		
	Virgate eriastrum	k	k	k
	Wedge-leaved horkelia	k	k	k
	Small-leaved lomatum	k	k	k
	Santa Cruz monkey flower	k		k
	Curly-leaved monardella	k	k	k
	Purple-flowered piperia	k	k	k
	<i>Non-HMP Animals</i>			
	Southwestern pond turtle	p		p
	Coast horned lizard	k	p	k
	Cooper's hawk			k
	Sharp-shinned hawk (wintering)	p		p
	Golden eagle	p	p	k
	Burrowing owl	p	p	p
	Northern harrier	p	p	p
	Yellow warbler			k
	Prairie falcon (foraging)	p	p	p
	Peregrine falcon			
	Tricolor blackbird			k
	Monterey dusky-footed woodrat	k	p	k
	Salinas harvest mouse	p	p	k
	Horned Lark	k	p	p
	Loggerhead shrike	k	k	k
	Greater road runner	p	p	p
	American badger	p	p	k
	<i>Other Non-HMP Resources</i>			
	Oak woodlands	k	k	k
	Streamzones	p	p	k
	Wetlands	p	p	k

input from federal, state, local and private agencies and organizations concerned with the natural resources and reuse of the former Fort Ord. Implementation of the HMP will assist in the orderly disposal and reuse of the former Fort Ord.

Identification of a list of "HMP species" was the first step in developing the guidelines for the HMP. Plant and wildlife species addressed in the HMP were selected based on their legal protection, current listing status, and the relative importance of populations and habitats at the former Fort Ord to the continued survival of the species. In addition, certain habitat types known to support large concentrations of HMP species, such as maritime chaparral, coastal strand and dune scrub, were included in the management guidelines. Table 4.2-1 provides a list of the species and habitats considered in the HMP. A conceptual conservation area and corridor system was developed to define the minimal area necessary to preserve HMP species populations and habitats according to known ecological principals and the known biological resource distributions at the former Fort Ord.

A general goal of the HMP is to promote preservation, enhancement and restoration of habitat and populations of HMP species while allowing implementation of a community-based reuse plan that promotes economic recovery of the former Fort Ord. As an installation-wide plan, all land areas to be disposed of by the Army are addressed in the HMP and are considered in achieving HMP goals. However, management guidelines and specifications for reuse vary from parcel to parcel based on future plans for the parcel associated with the HMP and overall reuse plan.

All recipients of former Fort Ord lands will be required to abide by the resource conservation and habitat management guidelines and procedures presented in the HMP and as outlined in the HMP Implementing/Management Agreement.

Objective B: Preserve and protect sensitive species and habitats not addressed in the HMP.

Both sensitive species and habitats exist at the former Fort Ord that were not addressed in the HMP. These species and habitats were not addressed either because they have no legal protection under the state and federal Endangered Species Acts, the USFWS was not currently preparing listing packages for these species to advance them to proposed, threatened or endangered status, or their existing populations and habitats at the former Fort Ord are not relatively important to the continued survival of the species. Nevertheless, these resources are important biologically and contribute greatly to the biological diversity on the former Fort Ord. These

resources all also of concern to the California Department of Fish and Game and warrant consideration under California's planning and environmental laws, specifically CEQA. A list of these sensitive species and habitats is provided in Table 4.2-2.

The jurisdictions need to consider preservation, enhancement and restoration of habitat and populations of sensitive species not addressed in the HMP to maintain the former Fort Ord's biodiversity and to satisfy CDFG and CEQA requirements. This can be achieved in various ways: through avoidance or minimization of disturbance to the targeted habitats or species; preservation of additional set-aside areas, beyond those established in the HMP, which include the targeted habitats and/or species; and transplant or relocation of the targeted species to designated preserve areas.

Objective C: Avoid or minimize disturbance to natural land features and habitats through sensitive planning, siting and design as new development is proposed in undeveloped lands.

The reuse of the former Fort Ord will result in new development over as much as 4,000 acres of currently undeveloped land. With this new development, there is opportunity for the jurisdictions to maintain the uniqueness of the biological communities and the overall character of the natural lands by planning, siting and designing the development to complement the natural setting. Working with the natural topography as much as possible, and maintaining the native vegetation within the landscape will not only enhance the development but could add to the overall conservation of biological resources and maintenance of the region's biodiversity.

Objective D: Promote public awareness and education concerning the biological resources on the former Fort Ord.

The jurisdictions should promote both active and passive programs that increase public awareness of the value of these resources. Education of the public will be important in all stages of reuse and development of the former Fort Ord. To avoid unnecessary damage to biological resources as infrastructure and development projects proceed, contractors and others directly involved in reuse and redevelopment "on the ground" must understand and respect the biological resources of the area. Students at all levels will benefit from the environmental educational opportunities provided by the "outdoor classrooms" at the former Fort Ord. The recreational experience will be enhanced by interpretive displays along

trails and in other designated areas. Finally, residents and other daily users of the base will gain understanding and respect for their natural surroundings through such programs.

Objective E: Develop strategies for interim management of undeveloped natural land areas.

As much as 4,000 acres of land within the developable footprint of the Fort Ord Reuse Plan exists as natural open space today and may remain so for twenty years or more before it is developed. Interim habitat management measures on these lands need to be addressed in order to protect designated habitat management and corridor areas from off-road vehicle use, any unauthorized disturbance, and invasion of exotic species.

All new Fort Ord land recipients with HMP obligations will need to submit to the USFWS and CDFG, through the Coordinated Resource Management Planning (CRMP) program, a plan for implementation of both short-term and long-term habitat management and protection measures for all natural lands as required by the HMP Implementing/Management Agreement. Similar programs for short-term management of undeveloped natural land areas will also need to be considered to protect not only HMP conservation areas and corridors, but to also protect additional set aside areas established through the Fort Ord Reuse Plan.

4.4.3.3 Policies and Programs

City of Marina

Objective A: Preserve and protect the sensitive species and habitats addressed in the Installation-wide Habitat Management Plan (HMP) for the former Fort Ord in conformance with its resource conservation and habitat management requirements and with the guidance provided in the HMP Implementing/Management Agreement.

Biological Resources Policy A-1: The City shall manage, or cause to be managed, the Salinas River Habitat Area (Polygons 1e and 1d) to maintain existing habitat values for HMP species.

Program A-1.1: The City shall restrict development in parcels adjacent to the Salinas River Habitat Area to areas above the bluffs.

Program A-1.2: The City shall monitor, or cause to be monitored, the Salinas River Habitat Area in accordance with the HMP Implementing/Management Agreement and submit annual monitoring reports to CRMP.

Program A-1.3: The City may contract with an appropriate CRMP agency (or other such agency as approved by USFWS) to manage natural resources within the polygon.

Biological Resources Policy A-2: The City shall manage, or cause to be managed the remaining habitat within Marina Habitat Area #2 (Polygon 1b) to maintain existing habitat values for HMP species.

Program A-2.1: The City shall submit to the USFWS and CDFG, through the CRMP program, a plan for implementation of both short-term and long-term habitat management and protection measures for the Marina Habitat Area #2, including consideration of funding sources, legal mechanisms and a time table to provide for prompt implementation of HMP requirements along with the following actions to prevent degradation of habitat:

- Control of off-road vehicle use.
- Prevention of any unauthorized disturbance to the habitat.
- Prevention of the spread of non-native, invasive species that may displace native habitat.

Program A-2.2: Development in this parcel shall be limited to FAA-required airport support facilities (navigational aids, access, and utilities), as well as a six-lane road through the area. Prior to proceeding with the design of allowable facilities, the City shall evaluate alternatives in coordination with a qualified biologist to ensure that the design and/or alignment is environmentally sensitive.

Program A-2.3: The City shall ensure that gates or vehicle barriers are constructed along access roads to prevent unauthorized off-road vehicle travel within the Habitat Area.

Program A-2.4: The City shall maintain, or cause to be maintained, small areas within the Habitat Area with disturbed sandy soils to support Monterey spineflower habitat.

Program A-2.5: The City shall monitor, or cause to be monitored this conservation area in accordance with the HMP Implementing/Management Agreement and submit annual monitoring reports to CRMP.

Program A-2.6: The City may contract with an appropriate CRMP agency (or other such agency as approved by USFWS) to manage natural resources within the polygon

Biological Resources Policy A-3: The City shall preserve in perpetuity the population of Yadon's piperia in Polygon 2a.

Program A-3.1: The City shall require seasonally-timed surveys for Yadon's piperia in Polygon 2a over time in order to establish suitable boundaries for the habitat preserve and proposed mixed-use areas. Consecutive annual surveys for a period of years will provided a comprehensive data base from which to plan land use.

Program A-3.2: Once the habitat preserve for Yadon's piperia has been established, the City shall erect a barrier around the preserve sufficient to restrict vehicle access and require adjacent development to direct its runoff and storm drainage away from the preserve.

Program A-3.3: The City shall monitor, or cause to be monitored this preserve in accordance with the HMP Implementing/Management Agreement and submit annual monitoring reports to CRMP.

Biological Resources Policy A-4: The City shall ensure that all habitat conservation and corridor areas are protected from degradation due to development in, or use of adjacent polygons.

Program A-4.1: The City shall install or require the installation of a barrier sufficient to prevent vehicle access to all habitat conservation and corridor areas within its jurisdiction. Barriers are to be erected on the parcels adjacent to the conservation and corridor areas and are to be maintained in perpetuity. The barrier erected to protect the habitat corridor in Polygon 5c shall also be sufficient to strongly discourage pedestrian access.

Program A-4.2: The City shall require stormwater drainage plans for all developments adjacent to habitat conservation and corridor areas to direct its runoff and storm drainage away from these areas to minimize potential for hydrologic modifications and erosion problems. The City shall require that all developments comply with the drainage plan as well as employ Best Management Practices during construction.

Program A-4.3: The City shall coordinate with the University of California Natural Reserve System when reviewing project applications for city lands that abut the habitat areas managed by the University of California

to incorporate appropriate barriers and/or drainage controls into the project design.

Biological Resources Policy A-5: The City shall protect structures in parcels adjacent to the habitat corridor south of Reservation Road and west of Imjin Road (Polygon 5c) from wildfires that may originate in the corridor.

Program A-5.1: The City shall not permit any structures which directly abut the habitat corridor.

Program A-5.2: The City shall require a greenbelt, park, or other fire-resistant, non-residential land use at the boundary between development structures and the habitat corridor.

Biological Resources Policy A-6: The City shall design the Community Park within the residential development north of Imjin Road to incorporate natural habitat features.

Program A-6.1: The City shall encourage the use of native vegetation for landscaping, either as preserved during construction or planted as part of a landscaping plan after construction.

Program A-6.2: The City shall install permanent interpretive displays within the Community Park that describe the natural resources on the former Fort Ord and their importance to the Monterey Bay Area.

Biological Resources Policy A-7: Where possible, the City shall encourage the preservation of small pockets of habitat and populations of HMP species within and around developed areas.

Program A-7.1: The City shall require project applicants who propose development in undeveloped natural lands to conduct reconnaissance-level surveys to verify the general description of resources for the parcel provided in the biological resource documents prepared for the U.S. Army Corps of Engineers. The information gathered through these reconnaissance-level surveys shall be submitted as a component of the project application package.

Program A-7.2: The City shall encourage project applicants to incorporate small pockets of habitat containing HMP species and/or habitats amidst the development, where feasible.

Program A-7.3: Where development will replace existing habitat which supports sensitive biological resources, the City shall encourage attempts to salvage some of those resources by collecting seed or cuttings of plants, transplanting vegetation, or capturing and relocating sensitive wildlife species.

Biological Resources Policy A-8: The City shall protect the coastal zone west of State Highway 1 from habitat degradation due to increased public access.

Program A-8.1: The City shall abide by the habitat protection measures outlined in the State Parks Public Works Plan prepared by the State Department of Parks and Recreation for the Fort Ord Dunes State Park.

Objective B: Preserve and protect sensitive species and habitats not addressed in the HMP.

Biological Resources Policy B-1: The City shall strive to avoid or minimize loss of sensitive species listed in Table 4.4-2 that are known or expected to occur in areas planned for development.

Program B-1.1: The City shall require directed, seasonally-timed surveys for sensitive species listed in Table 4.4-2 as an early component of site-specific development planning.

Program B-1.2: If any sensitive species listed in Table 4.4-2 are found in areas proposed for development, all reasonable efforts should be made to avoid habitat occupied by these species while still meeting project goals and objectives. If permanent avoidance is infeasible, a seasonal avoidance and/or salvage/relocation program shall be prepared. The seasonal avoidance and/or salvage/relocation program for these species should be coordinated through the CRMP.

Biological Resources Policy B-3: The City shall preserve, enhance and protect, coastal ponds and other wetland areas.

Program B-3.1: The City shall manage the coastal pond in Polygon 2a in conformance with the Coastal/Vernal Ponds Comprehensive Management Plan prepared for the City in 1993.

Program B-3.2: The City shall evaluate areas proposed for new development during the site planning process to determine whether wetlands occur. In the event that wetlands are present, the City shall require that they either be avoided or replaced so that there is no net loss to wetland resources as a

result of development on the site. Wetlands replacement/mitigation plans should be coordinated through the CRMP.

Program B-3.3: The City should incorporate wetland features into stormwater control facilities to the extent practicable.

Objective C: Avoid or minimize disturbance to natural land features and habitats through sensitive planning, siting and design as new development is proposed in undeveloped lands.

Biological Resources Policy C-1: The City shall encourage that grading for projects in undeveloped lands be planned to complement surrounding topography and minimize habitat disturbance.

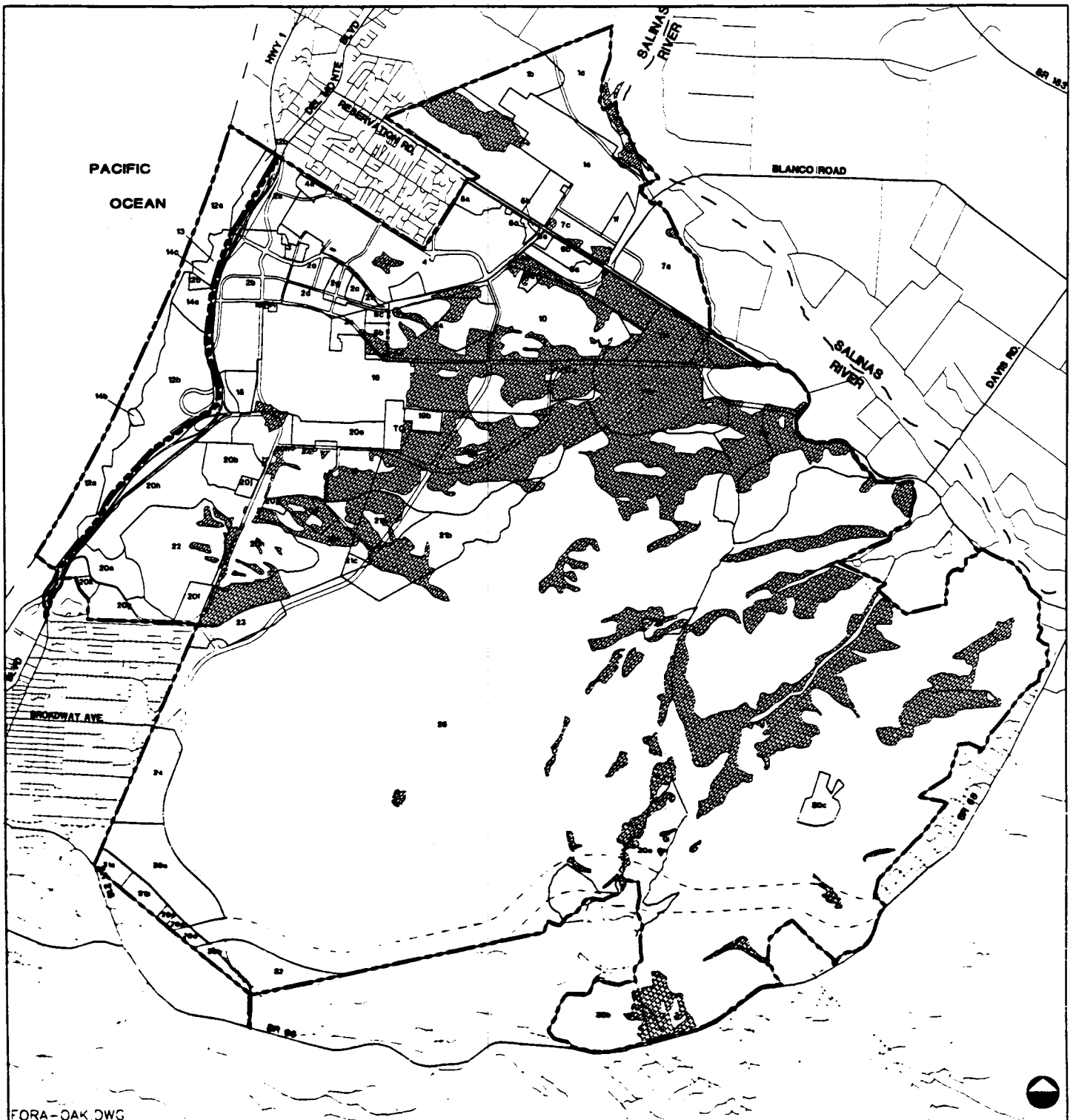
Program C-1.1: The City shall encourage the use of landform grading techniques for 1) projects involving major changes to the existing topography, 2) large projects with several alternative lot and roadway design possibilities, 3) projects with known geological problem areas, or 4) projects with potential drainage problems requiring diverters, dissipaters, debris basins, etc.

Biological Resources Policy C-2: The City shall encourage the preservation and enhancement of oak woodland elements in the natural and built environments. Refer to Figure 4.4-1 for general location of oak woodlands in the former Fort Ord.

Program C-2.1: The City shall protect the small patches of oak woodland located along the bluffs in Polygon 1c unless project-specific plans for development in those areas cannot proceed without selective tree removal.

Program C-2.2: Where development incorporates oak woodland elements into the design, the City shall provide the following standards for plantings that may occur under oak trees; 1) plantings may occur within the dripline of mature trees, but only at a distance of five feet from the trunk and 2) plantings under and around oaks should be selected from the list of approved species compiled by the California Oak Foundation (see *Compatible Plants Under and Around Oaks*).

Program C-2.3: The City shall require that paving within the dripline of preserved oak trees be avoided wherever possible. To minimize paving impacts, the surfaces around tree trunks should be mulched, paving materials should be used that are permeable to water, aeration vents should be installed in impervious pavement, and root zone excavation should be avoided.



SOURCE: Jones & Stokes, 1995; Reimer Associates, (Re-projected), 1995; Monterey Co., 1995; EDAW, 1996.



LEGEND:



Existing Oak Woodlands

DRAFT

FIGURE 4.4-1

OAK WOODLAND AREAS

Attachment D, p. 804 of 1882

Biological Resources Policy C-3: Lighting of outdoor areas shall be minimized and carefully controlled to maintain habitat quality for wildlife in undeveloped natural lands. Street lighting shall be as unobtrusive as practicable and shall be consistent in intensity throughout development areas adjacent to undeveloped natural lands.

Program C-3.1: The City shall review lighting and landscape plans for all developments adjacent to habitat conservation and corridor areas, or other open space that incorporates natural lands to ensure consistency with Policy C-3.

Objective D: Promote awareness and education concerning the biological resources on the former Fort Ord.

Biological Resources Policy D-1: The City shall require project applicants to implement a contractor education program that instructs construction workers on the sensitivity of biological resources in the vicinity and provides specifics for certain species that may be recovered and relocated from particular development areas.

Program D-1.1: The City shall participate in the preparation of a contractor education program with other Fort Ord land use jurisdictions. The education program should describe the sensitivity of biological resources, provide guidelines for protection of special status biological resources during ground disturbing activities at the former Fort Ord, and outline penalties and enforcement actions for take of listed species under Section 9 of the Endangered Species Act and Section 2080 of the Fish and Game Code.

Program D-1.2: The City shall provide project applicants specific information on the protocol for recovery and relocation of particular species that may be encountered during construction activities.

Biological Resources Policy D-2: The City shall encourage and participate in the preparation of educational materials through various media sources which describe the biological resources on the former Fort Ord, discuss the importance of the HMP and emphasize the need to maintain and manage the biological resources to maintain the uniqueness and biodiversity of the former Fort Ord.

Program D-2.1: The City shall develop interpretive signs for placement in habitat management areas. These signs shall describe resources present, how they are important to the former Fort Ord, and ways in which these resources are or can be protected.

Program D-2.2: The City shall coordinate production of educational materials through the CRMP process.

Program D-2.3: Where development will be adjacent to habitat management areas, corridors, oak woodlands, or other reserved open space, the City shall require project applicants to prepare a Homeowner's Brochure which describes the importance of the adjacent land areas and provides recommendations for landscaping, and wildfire protection, as well as describes measures for protecting wildlife and vegetation in the adjacent habitat areas. (i.e. access controls, pet controls, use of natives in the landscape, etc.).

Objective E: Develop strategies for interim management of undeveloped natural land areas.

Biological Resources Policy E-1: The City shall develop a plan describing how it intends to address the interim management of natural land areas for which the City is designated as the responsible party.

Program E-1.1: The City shall submit to the USFWS and CDFG, through CRMP, a plan for implementation of short-term habitat management for all natural lands, including consideration of funding sources, legal mechanisms and a time table to provide for prompt implementation of the following actions to prevent degradation of habitat:

- Control off-road vehicle use in all undeveloped natural land areas.
- Prevent any unauthorized disturbance in all undeveloped natural land areas, but especially in designated conservation areas and habitat corridors.
- Prevent the spread of non-native, invasive species that may displace native habitat.

Program E-1.2: For natural land areas under City responsibility with partial or no HMP resource conservation or management requirements, but which remain undeveloped, the City shall annually provide the BLM evidence of successful implementation of interim habitat protection measures as specified in Program E-1.1.

Biological Resources Policy E-2: The City shall monitor activities that affect all undeveloped natural lands, including, but not limited to conservation areas and habitat corridors as specified and assigned in the HMP.

Program E-2.1: The City shall conduct Land Use Status Monitoring in accordance with the methods prescribed in the Implementing Agreement for Fort Ord land under City responsibility that has any natural lands identified by the baseline studies. This monitoring will provide data on the amount (in acres) and location of natural land (by habitat type) remaining undeveloped and the amount (in acres) and location of natural land (by habitat type) disturbed by development since the date of land transfer for as long as the Implementing Agreement is in effect.

City of Seaside

Objective A: Preserve and protect the sensitive species and habitats addressed in the Installation-wide Habitat Management Plan (HMP) for Fort Ord in conformance with its resource conservation and habitat management requirements and with the guidance provided in the HMP Implementing/Management Agreement.

Biological Resources Policy A-1: The City shall ensure that the NRMA is protected from degradation due to development in, or use of, adjacent parcels within its jurisdiction.

Program A-1.1: The City shall coordinate with BLM in the design and installation of appropriate firebreaks to be required on all parcels that border the NRMA. Potential firebreaks include greenbelts, fuel reduction zones, fire roads, paved roads, tilled firebreaks, and parking lots. All firebreaks shall be at the development/habitat boundary, not necessarily at the parcel boundary, and shall be installed within the parcel, not on NRMA lands. Firebreaks on adjacent parcels shall be contiguous.

Program A-1.2: The City shall coordinate with BLM in the design and siting of barriers sufficient to prevent unauthorized vehicle access to the NRMA from adjacent parcels. Gates shall be installed at appropriate points in the barrier to allow for emergency access and BLM and other appropriate agencies shall be provided keys to the gates. The City shall maintain, repair and replace, or cause to be maintained, repaired or replaced, the barrier as necessary in perpetuity.

Program A-1.3: The City shall require stormwater drainage plans for all developments adjacent to the NRMA to incorporate measures for minimizing the potential for erosion in the NRMA due to stormwater runoff.

Biological Resources Policy A-2: The City shall ensure that measures are taken to prevent degradation and siltation of the ephemeral drainage that passes through the Planned Residential Extension District and Commu-

nity Park in Polygon 24.

Program A-2.1: The City shall require preparation of erosion control plans for proposed developments in vicinity of the ephemeral drainage that specifically address measures for protecting the drainage.

Biological Resources Policy A-3: The City shall protect the coastal zone west of State Highway 1 from habitat degradation due to increased public access.

Program A-3.1: The City shall abide by the habitat protection measures outlined in the State Parks Public Works Plan prepared by the State Department of Parks and Recreation for the Fort Ord Dunes State Park.

Biological Resources Policy A-4: The City shall encourage the preservation of small pockets of habitat and populations of HMP species within and around developed areas.

Program A-4.1: The City shall require project applicants who propose development in underdeveloped natural lands to conduct reconnaissance-level surveys to verify the general description of resources for the parcel provided in the biological resource documents prepared for the U.S. Army Corps of Engineers. The information gathered through these reconnaissance-level surveys shall be submitted as a component of the project application package.

Program A-4.2: The City shall encourage project applicants to incorporate small pockets of habitat containing HMP species and/or habitats amidst the development, where feasible.

Program A-4.3: Where development will replace existing habitat which supports sensitive biological resources, the City shall encourage attempts to salvage some of those resources by collecting seed or cuttings of plants, transplanting vegetation, or capturing and relocating sensitive wildlife species.

Objective B: Preserve and protect sensitive species and habitats not addressed in the HMP.

Biological Resources Policy B-1: The City shall strive to avoid or minimize loss of sensitive species listed in Table 4.4-2 that are known or expected to occur in areas planned for development.

Program B-1.1: The City shall require directed, seasonally-timed surveys for sensitive species listed in Table 4-2 as an early component of site-specific development planning.

Program B-1.2: If any sensitive species listed in Table 4.4-2 are found in areas proposed for development, all reasonable efforts should be made to avoid habitat occupied by these species while still meeting project goals and objectives. If permanent avoidance is infeasible, a seasonal avoidance and/or salvage/relocation program shall be prepared. The seasonal avoidance and/or salvage/relocation program for these species should be coordinated through the CRMP.

Biological Resources Policy B-2: As site-specific development plans for a portion of the reconfigured POM Annex Community (Polygon 20c) and the Community Park in the University Planning Area (Polygon 18) are formulated, the City shall coordinate with Monterey County, California State University, FORA and other interested entities in the designation of an oak woodland conservation area connecting the open space lands of the NRMA on the south to the landfill polygon (8a) in the north.

Program B-2.1: For lands within the jurisdictional limits of the City that are components of the designated oak woodland conservation area, the City shall ensure that those areas are managed to maintain or enhance habitat values existing at the time of base closure so that suitable habitat is available for the range of sensitive species known or expected to use these oak woodland environments. Management measures shall include, but not be limited to maintenance of a large, contiguous block of oak woodland habitat, access control, erosion control and non-native species eradication. Specific management measures should be coordinated through the CRMP.

Program B-2.2: For lands within the jurisdictional limits of the City that are components of the designated oak woodland conservation area, the City shall monitor, or cause to be monitored, those areas in conformance with the habitat management compliance monitoring protocol specified in the HMP Implementing/Management Agreement and shall submit annual monitoring reports to the CRMP.

Biological Resources Policy B-3: The City shall preserve, enhance and protect wetland areas.

Program B-3.1: The City shall evaluate areas proposed for new development during the site planning process to determine whether wetlands occur. In the event that wetlands are present, the City shall require that they either be avoided or replaced so that there is no net loss to wetland resources as a

result of development on the site. Wetlands replacement/mitigation plans should be coordinated through the CRMP.

Program B-3.2: The City should incorporate wetland features into stormwater control facilities to the extent practicable.

Objective C: Avoid or minimize disturbance to natural land features and habitats through sensitive planning, siting and design as new development is proposed in undeveloped lands.

Biological Resources Policy C-1: The City shall encourage that grading for projects in undeveloped lands be planned to complement surrounding topography and minimize habitat disturbance.

Program C-1.1: The City shall encourage the use of landform grading techniques for 1) projects involving major changes to the existing topography, 2) large projects with several alternative lot and roadway design possibilities, 3) projects with known geological problem areas, or 4) projects with potential drainage problems requiring diverters, dissipaters, debris basins, etc.

Biological Resources Policy C-2: The City shall encourage the preservation and enhancement of oak woodland elements in the natural and built environments. Refer to Figure 4.4-1 for general location of oak woodlands in the former Fort Ord.

Program C-2.1: The City shall adopt an ordinance specifically addressing the preservation of oak trees. At a minimum, this ordinance shall include restrictions for the removal of oaks of a certain size, requirements for obtaining permits for removing oaks of the size defined, and specifications for relocation or replacement of oaks removed.

Program C-2.2: When reviewing project plans for developments within oak woodlands, the City shall encourage clustering of development wherever possible so that contiguous stands of oak trees can be maintained in the non-developed natural land areas.

Program C-2.3: The City shall require project applicants to submit a plot plan of the proposed development which: 1) clearly shows all existing trees (noting location, species, age, health, and diameter; 2) notes whether existing trees will be retained, removed or relocated, and 3) notes the size, species, and location of any proposed replacement trees.

Program C-2.4: The City shall require the use of oaks and other native plant

species for project landscaping. To that end, the City shall recommend collection and propagation of acorns and other plant material from Fort Ord oak woodlands to be used for restoration areas or as landscape material.

Program C-2.5: The City shall provide the following standards for plantings that may occur under oak trees; 1) plantings may occur within the dripline of mature trees, but only at a distance of five feet from the trunk and 2) plantings under and around oaks should be selected from the list of approved species compiled by the California Oak Foundation (see *Compatible Plants Under and Around Oaks*).

Program C-2.6: The City shall require that paving within the dripline of preserved oak trees be avoided wherever possible. To minimize paving impacts, the surfaces around tree trunks should be mulched, paving materials should be used that are permeable to water, aeration vents should be installed in impervious pavement, and root zone excavation should be avoided.

Biological Resources Policy C-3: Lighting of outdoor areas shall be minimized and carefully controlled to maintain habitat quality for wildlife in undeveloped natural lands. Street lighting shall be as unobtrusive as practicable and shall be consistent in intensity throughout development areas adjacent to undeveloped natural lands.

Program C-3.1: The City shall review lighting and landscape plans for all developments adjacent to undeveloped natural lands to ensure consistency with Policy C-3.

Objective D: Promote awareness and education concerning the biological resources on the former Fort Ord.

Biological Resources Policy D-1: The City shall require project applicants to implement a contractor education program that instructs construction workers on the sensitivity of biological resources in the vicinity and provides specifics for certain species that may be recovered and relocated from particular development areas.

Program D-1.1: The City shall participate in the preparation of a contractor education program with other Fort Ord land use jurisdictions. The education program should describe the sensitivity of biological resources, provide guidelines for protection of special status biological resources during ground disturbing activities at the former Fort Ord, and outline penalties and enforcement actions for take of listed species under Section 9

of the Endangered Species Act and Section 2080 of the Fish and Game Code.

Program D-1.2: The City shall provide project applicants specific information on the protocol for recovery and relocation of particular species that may be encountered during construction activities.

Biological Resources Policy D-2: The City shall encourage and participate in the preparation of educational materials through various media sources which describe the biological resources on the former Fort Ord, discuss the importance of the HMP and emphasize the need to maintain and manage the biological resources to maintain the uniqueness and biodiversity of the former Fort Ord.

Program D-2.1: The City shall develop interpretive signs for placement in habitat management areas. These signs shall describe resources present, how they are important to the former Fort Ord, and ways in which these resources are or can be protected.

Program D-2.2: The City shall coordinate production of educational materials through the CRMP process.

Program D-2.3: Where development will be adjacent to habitat management areas, corridors, oak woodlands, or other reserved open space, the City shall require project applicants to prepare a Homeowner's Brochure which describes the importance of the adjacent land areas and provides recommendations for landscaping, and wildfire protection, as well as describes measures for protecting wildlife and vegetation in the adjacent habitat areas. (i.e. access controls, pet controls, use of natives in the landscape, etc.).

Objective E: Develop strategies for interim management of undeveloped natural land areas.

Biological Resources Policy E-1: The City shall develop a plan describing how it intends to address the interim management of natural land areas for which the City is designated as the responsible party.

Program E-1.1: The City shall submit to the USFWS and CDFG, through the Coordinated Resource Management Planning (CRMP) program, a plan for implementation of short-term management for all natural lands adjacent to the NRMA, including consideration of funding sources, legal mechanisms and a time table to provide for prompt implementation of the following actions to prevent degradation of habitat within the

NRMA:

- Control off-road vehicle use in all undeveloped natural land areas adjacent to the NRMA.
- Prevent any unauthorized disturbance in all undeveloped natural land areas adjacent to the NRMA.
- Prevent the spread of non-native, invasive species that may displace native habitat.

Program E-1.2: For natural land areas under City responsibility with partial or no HMP resource conservation or management requirements, but which remain undeveloped, the City shall annually provide the BLM evidence of successful implementation of interim habitat protection measures as specified in Program E-1.1.

Biological Resources Policy E-2: The City shall monitor activities that affect all undeveloped natural lands.

Program E-2.1: The City shall conduct Land Use Status Monitoring in accordance with the methods prescribed in the Implementing Agreement for Fort Ord land under City responsibility that has any natural lands identified by the baseline studies. This monitoring will provide data on the amount (in acres) and location of natural land (by habitat type) remaining undeveloped and the amount (in acres) and location of natural land (by habitat type) disturbed by development since the date of land transfer for as long as the Implementing Agreement is in effect:

County of Monterey

Objective A: Preserve and protect the sensitive species and habitats addressed in the Installation-wide Habitat Management Plan (HMP) for Fort Ord in conformance with its resource conservation and habitat management requirements and with the guidance provided in the HMP Implementing/Management Agreement.

Biological Resources Policy A-1: The County shall preserve all habitat in the County of Monterey Habitat Area (Polygon 11a) in perpetuity and manage, or cause to be managed, the area to maintain existing habitat values for HMP species.

Program A-1.1: The County shall submit to the USFWS and CDFG, through the CRMP program, a plan for implementation of both short-term and long-term habitat management and protection measures for this habitat corridor, including consideration of funding sources, legal mechanisms and a time table to provide for prompt implementation of HMP requirements along with the following actions to prevent degradation of habitat:

- Control of off-road vehicle use.
- Prevention of any unauthorized disturbance to the habitat.
- Prevention of the spread of non-native, invasive species that may displace native habitat.

Program A-1.2: Management of this habitat conservation area shall include:

- Maintenance of areas with disturbed sandy soils to support sand gilia and Monterey spineflower.
- Maintenance of north-south trending linear habitat, such as dirt roads or firebreaks and to retain and improve the area's function as a corridor for sand gilia dispersal.

Program A-1.3: The County shall monitor, or cause to be monitored, the Monterey County Habitat Area in accordance with the HMP Implementing/Management Agreement and submit annual monitoring reports to CRMP.

Program A-1.4: The County may contract with an appropriate CRMP agency (or other agency approved by the USFWS) to manage resources.

Biological Resources Policy A-2: The County shall limit development in the East Garrison area (Polygon 11b) to approximately 200 acres and retain the remainder of the parcel as natural habitat.

Program A-2.1: The County shall ensure the majority of the development in this parcel is contained within existing developed areas of East Garrison. Development that cannot be accommodated in existing developed areas shall be constructed in areas with less than 30% slope and sited to minimize impacts to HMP species.

Program A-2.2: Development within the East Garrison area shall be planned, sited, and designed to retain natural habitat areas that are contiguous within the parcel and with natural habitats in adjacent parcels.

Program A-2.3: The County shall prepare, or cause to be prepared, a management plan that addresses; special-status species monitoring, development and maintenance of fire breaks, controlled burning as appropriate, vehicle access controls, erosion control, and regular patrol to assure that passive public use and/or unauthorized actions are not adversely affecting natural habitats. The management plan shall be submitted to the USFWS and CDFG, through the CRMP program.

Program A-2.4: The County shall monitor, or cause to be monitored, the remaining natural areas within the parcel in accordance with the HMP Implementing/Management Agreement and submit annual monitoring reports to CRMP.

Program A-2.5: The County may contract with an appropriate CRMP agency (or other agency approved by the USFWS) to manage resources.

Biological Resources Policy A-3: The County shall maintain the habitat value and integrity of the habitat corridor through the western portion of the Recreational Vehicle Park/Youth Camp (Polygon 17b)

Program A-3.1: The County shall require that plans for expansion of the existing campground be approved by USFWS and CDFG.

Program A-3.2: The County shall restrict uses in the natural lands outside of campground facilities to low-impact programs for youth, outdoor nature education, resource management, and trails. The existing pond in the parcel shall continue to be used for recreational fishing.

Program A-3.3: The County shall prepare, or cause to be prepared, a management plan for the parcel that addresses special status species monitoring, controlled burning and firebreak construction/maintenance, vehicle access controls, erosion controls, and regular patrols to assure public use/unauthorized actions are not impacting the habitat. The County shall coordinate with the California Department of Forestry and CDFG to determine suitable habitat management practices for retaining and enhancing habitat values within the oak woodlands.

Program A-3.4: The County shall require the preparation and installation of interpretive signs/displays that describe the importance of the area as a wildlife corridor and methods for maintaining values such as trash removal, limiting ground disturbance, restraining pets, and discouraging capture or harassment of wildlife. The County shall also require that campers be notified not to collect any of the rare plants in the area. Interpretive signs/displays shall be installed at the RV park entrance and in

selected locations throughout the park and camping areas.

Program A-3.5: The County shall require surveys for the Monterey ornate shrew throughout the natural lands in the RV parcel. If found, the following management practices shall be implemented: wood collection for campfires shall not be permitted (wood shall be provided at the entrance to the campground); if trees or snags must be cut down for public safety reasons, the trunk shall be left on ground to provide potential habitat for the shrew.

Program A-3.6: The County shall require that landscaping within the campground consist of species native to the project site.

Biological Resources Policy A-4: The County shall protect the habitat corridor in the RV park/youth camp parcel from degradation due to development in, or use of adjacent parcels.

Program A-4.1: The County shall design the Community Park adjacent to the RV park/youth camp such that it does not impede the function of the habitat corridor in this area.

Program A-4.2: The County shall control unauthorized vehicle access into the habitat corridor area from adjacent parcels by erecting appropriate barriers along the boundaries between the parcels and the corridor.

Program A-4.3: The County shall direct all lighting in the Community Park and in the residential areas west of the RV parcel away from the natural lands in the habitat corridor.

Program A-4.4: Where possible, the County shall use vegetation native to the former Fort Ord in the landscaping for the Community Park.

Program A-4.5: The County shall include permanent interpretive displays in the Community Park design that describe the natural resources within the former Fort Ord and their importance to the Monterey Bay region.

Program A-4.6: The County shall require the following measures of development in the residential lands adjacent to the habitat corridor to protect structures from wildfires and minimize the potential for erosion in the corridor:

- No structures shall be constructed immediately along the boundary of the residential area and the habitat corridor.

- A non-flammable surface (parking lots, green belt) shall be constructed where development in the residential area abuts the natural lands.
- Stormwater runoff and other drainage from the residential area shall be directed away from the habitat corridor.

Biological Resources Policy A-5: The County shall ensure that the NRMA is protected from degradation due to development in, or use of adjacent parcels within its jurisdiction.

Program A-5.1: The County shall coordinate with BLM in the design and installation of appropriate firebreaks to be required on all parcels that border the NRMA. Potential firebreaks include greenbelts, fuel reduction zones, fire roads, paved roads, tilled firebreaks, and parking lots. All firebreaks shall be at the development/habitat boundary, not necessarily at the parcel boundary, and shall be installed within the parcel, not on NRMA lands. Firebreaks on adjacent parcels shall be contiguous.

Program A-5.2: The County shall coordinate with BLM in the design and siting of barriers sufficient to prevent unauthorized vehicle access to the NRMA from adjacent parcels. Gates shall be installed at appropriate points in the barrier to allow for emergency access and BLM and other appropriate agencies shall be provided keys to the gates. The County shall maintain, repair and replace, or cause to be maintained, repaired or replaced, the barrier as necessary in perpetuity.

Program A-5.3: The County shall require stormwater drainage plans for all developments adjacent to the NRMA to incorporate measures for minimizing the potential for erosion in the NRMA due to stormwater runoff.

Program A-5.4: The County shall require that plans for construction of facilities in the northeastern portion of Polygon 19a include measures to protect the flow to and water quality of the ponds nearby, in the NRMA.

Program A-5.5: To minimize the potential for erosion or accelerated sedimentation, prevent fires from spreading, and prevent unauthorized access in the adjacent NRMA, the County shall require the following in the Laguna Seca Regional Park expansion areas on the former Fort Ord:

- Maintain grass over the majority of the areas where vegetation is removed to allow for parking. Mow the grass prior to using the area for parking.

- Require construction of a firebreak along the inside perimeter of each of the expansion areas. The firebreak shall be inspected before each event for which the areas are used and shall be improved as necessary to ensure its effectiveness.
- Require the removal of all trash immediately following each event in which the expansion areas are used.
- Post signs before each event in the expansion areas that state off-road vehicle use is not permitted in the NRMA.

Program A-5.6: The County shall monitor, or cause to be monitored, the two ponds within the NRMA adjacent to the Laguna Seca Regional Park expansion areas to identify any impacts to these areas from the adjacent use. The ponds shall be inspected after each event for which the expansion areas are used. If adverse impacts are noted, the County shall require appropriate actions to prevent similar effects during future events.

Biological Resources Policy A-6: The County shall protect the coastal zone west of State Route 1 from habitat degradation due to increased public access.

Program A-6.1: The County shall abide by the habitat protection measures outlined in the State Parks Public Works Plan prepared by the State Department of Parks and Recreation for the Fort Ord Dunes State Park.

Biological Resources Policy A-7: The County shall coordinate with California State University and UCNRS to minimize the potential for HMP species in the habitat conservation and corridor areas adjacent the CSUMB land to be adversely affected by human activity associated with access.

Program A-7.1: The County shall consult with CSUMB during its Master Plan Process regarding potential pedestrian, bicycle and vehicle access to adjacent habitat conservation and corridor areas from the campus. Methods for controlling this access should be developed by CSUMB with assistance from the County and UCNRS.

Biological Resources Policy A-8: The County shall maintain the quality of the habitat in the Frog Pond Natural Area.

Program A-8.1: The County shall prohibit development in Polygon 31b to discharge storm water or other drainage into the ephemeral drainage in this parcel that feeds into the Frog Pond.

Program A-8.2: The County shall require installation of appropriate fire-breaks and barriers sufficient to prevent unauthorized vehicle access along the border of Polygons 31a and 31b. Firebreaks should be designed to protect structures in Polygon 31b from potential wildfires in Polygon 31a. Barriers should be designed to prohibit unauthorized access into Polygon 31a.

Policy A-9: The County shall encourage the preservation of small pockets of habitat and populations of HMP species within and around developed areas.

Program A-9.1: The County shall require project applicants who propose development in undeveloped natural lands to conduct reconnaissance-level surveys to verify the general description of resources for the parcel provided in the biological resource documents prepared for the U.S. Army Corps of Engineers. The information gathered through these reconnaissance-level surveys shall be submitted as a component of the project application package.

Program A-9.2: The County shall encourage project applicants to incorporate small pockets of habitat containing HMP species and/or habitats amidst the development, where feasible.

Program A-9.3: Where development will replace existing habitat which supports sensitive biological resources, the County shall encourage attempts to salvage some of those resources by collecting seed or cuttings of plants, transplanting vegetation, or capturing and relocating sensitive wildlife species.

Objective B: Preserve and protect sensitive species and habitats not addressed in the HMP.

Biological Resources Policy B-1: The County shall strive to avoid or minimize loss of sensitive species listed in Table 4.4-2 that are known or expected to occur in areas planned for development.

Program B-1.1: The County shall require directed, seasonally-timed surveys for sensitive species listed in Table 4.4-2 as an early component of site-specific development planning in previously undeveloped areas of the former Fort Ord.

Program B-1.2: If any sensitive species listed in Table 4.4-2 are found in areas proposed for development, all reasonable efforts should be made to

avoid habitat occupied by these species while still meeting project goals and objectives. If permanent avoidance is infeasible, a seasonal avoidance and/or salvage/relocation program shall be prepared. The seasonal avoidance and/or salvage/relocation program for these species should be coordinated through the CRMP.

Biological Resources Policy B-2: As site-specific planning proceeds for Polygons 8a, 16, 17a, 19a, 21a and 21b, the County shall coordinate with the Cities of Seaside and Marina, California State University, FORA and other interested entities in the designation of an oak woodland conservation area connecting the open space lands of the NRMA on the south, the oak woodland corridor in Polygons 17b and 11a on the east and the oak woodlands surrounding the former Fort Ord landfill in Polygon 8a on the north. Oak woodlands areas are depicted in Figure 4.4-1.

Program B-2.1: For lands within the jurisdictional limits of the County that are components of the designated oak woodland conservation area, the County shall ensure that those areas are managed to maintain or enhance habitat values existing at the time of base closure so that suitable habitat is available for the range of sensitive species known or expected to use those oak woodland environments. Management measures shall include, but not be limited to maintenance of a large, contiguous block of oak woodland habitat, access control, erosion control and non-native species eradication. Specific management measures should be coordinated through the CRMP.

Program B-2.2: For lands within the jurisdictional limits of the County that are components of the designated oak woodland conservation area, the County shall monitor, or cause to be monitored, those areas in conformance with the habitat management compliance monitoring protocol specified in the HMP Implementing/Management Agreement and shall submit annual monitoring reports to the CRMP.

Biological Resources Policy B-3: The County shall preserve, enhance, restore and protect vernal ponds, riparian corridors and other wetland areas.

Program B-3.1: The County shall require that, prior to any development activities within the watersheds of riparian drainages, vernal ponds or other important wetlands in the NRMA or other habitat conservation areas, a watershed management plan be prepared to assure that such activities do not adversely affect the flow to or water quality of those drainages, ponds or wetlands.

Program B-3.2: The County shall evaluate areas proposed for new development during the site planning process to determine whether wetlands occur. In the event that wetlands are present, the County shall require that they either be avoided or replaced so that there is no net loss to wetland resources as a result of development on the site. Wetlands replacement/mitigation plans should be coordinated through the CRMP.

Program B-3.3: The County should incorporate wetland features into stormwater control facilities to the extent practicable.

Program B-3.4: The County shall coordinate with the State Department of Transportation in the design of SR 68 to assess the feasibility of avoiding the riparian forest within the alignment. Where riparian forest removal is unavoidable, the County shall request CalTrans to compensate at a 2:1 ratio of newly created habitat to lost habitat or a 4:1 acreage ratio of enhanced habitat to lost habitat. Compensation and restoration could occur on other areas of Toro Creek.

Objective C: Avoid or minimize disturbance to natural land features and habitats through sensitive planning, siting and design as new development is proposed in undeveloped lands.

Biological Resources Policy C-1: The County of Monterey shall encourage that grading for projects be designed to complement surrounding topography, minimize habitat disturbance.

Program C-1.1: The County shall encourage the use of landform grading techniques for 1) projects involving major changes to the existing topography, 2) large projects with several alternative lot and roadway design possibilities, 3) projects with known geological problem areas, or 4) projects with potential drainage problems requiring diverters, dissipaters, debris basins, etc.

Biological Resources Policy C-2: The County shall encourage the preservation and enhancement of oak woodland elements in the natural and built environments. Refer to Figure 4.4-1 for general location of oak woodlands in the former Fort Ord.

Program C-2.1: The County shall encourage clustering of development wherever possible so that contiguous stands of oak trees can be maintained in the non-developed natural land areas.

Program C-2.2: The County shall apply certain restriction for the preservation of oak and other protected trees in accordance with Chapter 16.60 of

Title 16 of the Monterey County Code (Ordinance 3420).

Program C-2.3: The County shall require the use of oaks and other native plant species for project landscaping. To that end, the County shall recommend collection and propagation of acorns and other plant material from the former Fort Ord oak woodlands to be used for restoration areas or as landscape material.

Program C-2.4: The County shall provide the following standards for plantings that may occur under oak trees; 1) plantings may occur within the dripline of mature trees, but only at a distance of five feet from the trunk and 2) plantings under and around oaks should be selected from the list of approved species compiled by the California Oak Foundation (see *Compatible Plants Under and Around Oaks*).

Program C-2.5: The County shall require that paving within the dripline of preserved oak trees be avoided wherever possible. To minimize paving impacts, the surfaces around tree trunks should be mulched, paving materials should be used that are permeable to water, aeration vents should be installed in impervious pavement, and root zone excavation should be avoided.

Biological Resources Policy C-3: Lighting of outdoor areas shall be minimized and carefully controlled to maintain habitat quality for wildlife in undeveloped natural lands. Street lighting shall be as unobtrusive as practicable and shall be consistent in intensity throughout development areas adjacent to undeveloped natural lands.

Program C-3.1: The County shall review lighting and landscape plans for all development applications to ensure consistency with Policy C-3:

Objective D: Promote awareness and education concerning the biological resources on the former Fort Ord.

Biological Resources Policy D-1: The County shall require project applicants to implement a contractor education program that instructs construction workers on the sensitivity of biological resources in the vicinity and provides specifics for certain species that may be recovered and relocated from particular development areas.

Program D-1.1: The County shall participate in the preparation of a contractor education program with other Fort Ord land use jurisdictions. The education program should describe the sensitivity of biological resources, provide guidelines for protection of special status biological resources dur-

ing ground disturbing activities at the former Fort Ord, and outline penalties and enforcement actions for take of listed species under Section 9 of the Endangered Species Act.

Program D-1.2: The County shall provide project applicants specific information on the protocol for recovery and relocation of particular species that may be encountered during construction activities.

Biological Resources Policy D-2: The County shall encourage and participate in the preparation of educational materials through various media sources which describe the biological resources on the former Fort Ord, discuss the importance of the HMP and emphasize the need to maintain and manage the biological resources to maintain the uniqueness and biodiversity of the former Fort Ord.

Program D-2.1: The County shall develop interpretive signs for placement in habitat management areas. These signs shall describe resources present, how they are important to the former Fort Ord, and ways in which these resources are or can be protected.

Program D-2.2: The County shall coordinate production of educational materials through the CRMP process.

Program D-2.3: Where development will be adjacent to habitat management areas, corridors, oak woodlands, or other reserved open space, the County shall require project applicants to prepare a Homeowner's Brochure which describes the importance of the adjacent land areas and provides recommendations for landscaping, and wildfire protection, as well as describes measures for protecting wildlife and vegetation in the adjacent habitat areas. (i.e. access controls, pet controls, use of natives in the landscape, etc.).

Objective E: Develop strategies for interim management of undeveloped natural land areas.

Biological Resources Policy E-1: The County shall develop a plan describing how it intends to address the interim management of natural land areas for which the County is designated as the responsible party.

Program E-1.1: The County shall submit to the USFWS and CDFG, through the Coordinated Resource Management Planning (CRMP) program, a plan for implementation of short-term habitat management for all natural lands, including consideration of funding sources, legal mechanisms and a time table to provide for prompt implementation of the

following actions to prevent degradation of habitat:

- Control off-road vehicle use in all undeveloped natural land areas.
- Prevent any unauthorized disturbance in all undeveloped natural land areas, but especially in designated conservation areas and habitat corridors.
- Prevent the spread of non-native, invasive species that may displace native habitat.

Program E-1.2: For natural land areas under County responsibility with partial or no HMP resource conservation or management requirements, but which remain undeveloped, the County shall annually provide the BLM evidence of successful implementation of interim habitat protection measures as specified in Program E-1.1.

Biological Resources Policy E-2: The County shall monitor activities that affect all undeveloped natural lands, including, but not limited to conservation areas and habitat corridors as specified and assigned in the HMP.

Program E-2.1: The County shall conduct Land Use Status Monitoring in accordance with the methods prescribed in the Implementing Agreement for former Fort Ord land under County responsibility that has any natural lands identified by the baseline studies. This monitoring will provide data on the amount (in acres) and location of natural land (by habitat type) remaining undeveloped and the amount (in acres) and location of natural land (by habitat type) disturbed by development since the date of land transfer for as long as the Implementing Agreement is in effect.

4.4.4 Air Quality

4.4.4.1 Summary of Existing Conditions

Regional Air Quality Planning

The cities of Marina and Seaside and the County of Monterey are in the North Central Coast Air Basin (the "Basin"). The North Central Coast Air Basin is also comprised of Monterey, Santa Cruz and San Benito Counties. The Basin is currently in attainment for the federal PM₁₀ (particulate matter less than 10 microns in diameter) standards and state and federal nitrogen dioxide, sulfur dioxide, and carbon monoxide standards. However, the Basin is classified as a nonattainment area for the state and federal ozone standards and the state PM₁₀ standards. The non-attainment designation means that the Basin does not meet ambient air quality standards.

The Monterey Bay Unified Air Pollution Control District (MBUAPCD) is delegated responsibility on the local level to implement both federal and state mandates for improving air quality in the Basin through an air quality plan. The 1994 Air Quality Management Plan contains the steps that will be taken to come into attainment with the state and federal standards. The MBUAPCD board has determined that, based on the existing information and analysis prepared by the MBUAPCD staff, the existing control strategies implemented by the MBUAPCD to reduce ozone will adequately control PM10 emissions at this time. It is important to note that the current federal nonattainment designation for ozone is expected to be changed to a "Maintenance Area" by mid 1996.

Numerous exceedances of the local ozone standard in the Basin are attributable to the emissions generated from the San Francisco Bay Area Air Basin (MBUAPCD, 1994; Air Quality Management Plan, December 1994).

Regional Air Quality and Fort Ord

Emissions from Fort Ord's permitted sources (i.e., sources for which the Department of the Army held a permit to operate from the MBUAPCD) have been converted to "emission credits" during the base closure process through application of MBUAPCD Rule 215. This rule establishes procedures for the creation, banking (storage), and use of emission reduction credits and allows credits to apply to new uses. Future reuse of the former Fort Ord can then use these credits to offset emissions associated with future economic growth.

4.4.4.2 Objectives

Objective A: Protect and improve air quality

The Air Quality Management Plan includes Transportation Control Measures (TCM) and Indirect Source Review implementation measures. The TCMs attempt to reduce motor vehicle use through incentives to carpool, improved public transportation, parking management, and special motor vehicle fees.

The Transportation Agency for Monterey County (TAMC), through its Congestion Management Plan (CMP), is developing an integrated approach for transportation programming, focusing remedial efforts on congestion "hot spots", managing traffic congestion, and improving air quality.

Through protection and improvement of air quality in the Basin, the economy of the region can continue to grow. It is important to note that

air quality is integral to land use patterns and transportation choices.

Though the major efforts to reduce air pollution come from regional, state and federal programs, local jurisdictions and agencies can do much to reduce emissions. For example, the Monterey Peninsula Regional Park District has developed a bicycle path that connects Carmel with Castroville. Another strategy to reduce emissions includes zoning whereby housing is placed near jobs centers. Additionally, increasing residential land use densities and/or compact development allows mass transit to be operated more cost effectively.

The Land Use - Air Quality Linkage

This section is based on the 1994 California Environmental Protection Agency Air Resources Board report titled "The Land Use - Air Quality Linkage. How Land Use and Transportation Affect Air Quality."

Vehicle Use and Air Quality

Today's new cars pollute about ten times less than models produced 25 years ago due to California's strict emissions standards. However, these reductions in emissions are also being offset by increased vehicle travel and population growth. During the past twenty years, the total number of "vehicle miles traveled" (VMT) in the State has increased twice as fast as the rate of population growth. Californians are driving more often, longer distances, and we also tend to be driving alone more often.

In California, the total annual vehicle miles of travel more than doubled between 1970 and 1990, increasing from 115 billion to over 250 billion miles of travel per year. During the same period of time, the State's population grew by about 51%. The vehicle miles traveled within the Basin in 1992 resulted in 962 tons of oxides of nitrogen, 20 tons of oxides of sulfur, 11,381 tons of carbon monoxide, 138 tons of PM10, and 1,001 tons of reactive organic gases being emitted (MBUAPCD 1994).

Land Use and Air Quality

The Governor's Growth Management Council report states: "California cannot support a population growing past thirty million people based on existing housing and transportation patterns without unacceptable economic, social and environmental costs. Such housing and transportation patterns use too much land, are too spread out, require too much infrastructure, create too much traffic congestion, have adverse air impacts and other environmental costs, and simply cost too much. The State cannot afford it, as a financial matter. Most people could not afford it, either, if they bore the full costs of these housing and transportation patterns. What may have been possible with ten or even twenty million people is

simply not sustainable for a population of twice that much in the same place.

The places that we drive in our daily routine, such as shopping centers, schools and universities, employment centers, and medical offices, are referred to as "indirect sources" by air quality specialists because they attract vehicle travel. The numerous vehicle trips to and from such destinations produce emissions that are monumental when compared to the pollutants emitted by typical stationary sources of air pollution, such as power plants, oil refineries and manufacturing facilities.

Vehicles traveling to and from a major regional shopping center located in a suburban area with limited transit service produce a significant amount of carbon monoxide. If that shopping center were located in an urban downtown area that is served by a good regional transit system and easily accessible by pedestrians, the amount of vehicle travel and related emissions could be much lower (JHK 1993).

Optimum Land Use Strategies for Air Quality/Community Strategies

Land uses that enable people to walk or to use transit, rather than needing to rely primarily on their cars for mobility, tend to be better for air quality. The following discussion briefly explores several such strategies.

To enhance transit use, the promotion of land uses that generate the most transit trips near stations, the location of these land uses in close proximity to transit station entrances, and accommodating high density land uses around stations, including suburban locations, are key land use programs for making best use of a transit system.

Enhanced Central Business Districts: Strong central business districts that include substantial amounts of both employment and housing have historically had the best quality transit service and the highest rates of transit use. Transit use tends to be higher at downtown sites for many reasons. There are a concentrated number of land uses located within walking distance of transit stations (such as jobs, shops, public facilities and retail services), higher parking costs, traffic congestion, limited parking availability, and there is better access to transit at both trip ends (JHK 1987).

Compact Development: Transit use generally increases in areas with higher overall residential and non-residential density. Concentrated land uses tend to reduce personal vehicle travel in several ways: activities located spatially closer together reduce travel distances; higher densities provide a larger number of potential transit riders and support a more efficient transportation system; and activities located closer together facilitate mode

shifts from automobiles to walking, biking and transit. Higher levels of transit service become more feasible in areas with higher densities of residences, employees and services, especially if the land uses are clustered in proximity to transit stations and corridors.

Residential Density: Large areas of low density housing generally cannot justify or support effective levels of transit service. As noted by the Institute of Transportation Engineers (ITE 1989), the minimum density threshold for minimal local bus service to residential areas is between four and six dwellings per acre. At or above seven dwelling units per acre, bus service may be improved to one-half hour from one-hour headways, if this density is clustered and/or maintained over a large enough area to provide sufficient ridership.

Clusters of medium-density residential areas that average 7-15 dwelling units per acre can generally support frequent local bus service. If such densities are maintained over a large enough area, with good pedestrian accessibility, then light rail transit service may also become feasible. Heavy rail transit, such as the Bay Area Rapid Transit District (BART) and Cal Train in the San Francisco Bay Area, is generally appropriate for linking major concentrated urban areas.

Employment Density: The location, size and concentration of different employment activities are also significant factors in determining the type and level of transit service that can be efficiently provided and its eventual rate of use.

Employment sites scattered over a large area often attract enough vehicles to create significant traffic congestion, but usually do not generate enough transit rider to sustain convenient levels of transit service. In contrast, industrial facilities or offices with more closely-spaced buildings that are connected by direct pedestrian routes and served by convenient transit can result in increased use of alternative modes of travel.

Clustered Activity Centers: If a variety of activities, such as shops, services, offices and other employment sites as well as higher-density residential units are clustered together, they can become lively "activity centers". A network of such centers, or "nodes", can more easily be linked by a transit system to other similar centers and to the central business district. Centers that are served by transit can also provide access to transit service for surrounding residential areas.

Activity centers can combine higher-density development and can be located in both urban and suburban areas. It is important that such centers

be located appropriately to take advantage of transit, and that adequate pedestrian facilities be provided. Otherwise, traffic levels can deteriorate even further. The clustered activity centers, by combining employment sites and residential units, necessarily incorporate a jobs-housing balance.

Optimum Land Use Strategies for Air Quality/Neighborhood Strategies

Mixed-Use Developments: Mixed-use development allows compatible land uses, such as shops, offices, and housing, to locate closer together and thus decreases travel distances between them. Mixed-use development, if properly designed and implemented can reduce vehicle miles traveled and trips and can help increase transit ridership, especially during the off-peak (non-commute) periods.

Integrated Street Patterns: During the past 20 years, the typical street circulation pattern in developing suburban areas has consisted of a hierarchy of local streets leading to collector streets, and then to major arterials that interconnect sections of a community to each other and to freeways.

Collector and arterial streets, which often provide the only connections between different sections of suburban communities, tend to be quite wide to allow vehicles to travel faster. The typical suburban circulation pattern decreases the number of available routes between trip origin and destination points, and places many vehicles on major streets and at signalized intersections during peak hours. This type of circulation pattern often results in much higher levels of traffic congestion, especially during peak periods. Wide streets with fast moving traffic are difficult and often dangerous for pedestrians and bicyclists to cross or to share with vehicles. Such thoroughfares become significant barriers to walking and bicycling, and thus tend to encourage the use of vehicles, even for very short trips.

In contrast to the typical suburban street hierarchy, an integrated street pattern provides multiple routes to destinations, reducing the distances between two points. Overall vehicle travel times for integrated street patterns are comparable to the faster-moving arterials due to the shorter distances between various origin and destination points. A study conducted by the American Society of Civil Engineers concluded that the gridded street patterns can reduce vehicle miles traveled by up to 57% within the neighborhood or subdivision, primarily due to more direct routing between locations. Actual travel times for vehicles were projected to be very similar to those found in typical hierarchical circulation patterns (Kulas, et. al. 1990).

4.4.4.3 Policies and Programs (applicable to all jurisdictions)

Objective A: Protect and improve air quality

Air Quality Policy A-1: Each jurisdiction shall participate in regional planning efforts to improve air quality.

Program A-1.1: Each jurisdiction shall continue to cooperate with the MBUAPCD in carrying out the regional Air Quality Management Plan.

Program A-1.2: Each jurisdiction shall coordinate with the TAMC to carry out the Congestion Management Plan.

Air Quality Policy A-2: Each jurisdiction shall promote local efforts to improve air quality.

Program A-2.1: Each jurisdiction shall use the CEQA process to identify and avoid or mitigate potentially significant project specific and cumulative air quality impacts associated with development. As a Responsible Agency, the MBUAPCD oversees issuance of air pollution permits for toxic air contaminants, and thus is responsible for U.S. EPA health standards as they related to air emissions.

Program A-2.2: Each jurisdiction shall use the Transportation Demand Management Ordinance and similar transportation measures to encourage commute alternatives.

Air Quality Policy A-3: Integrate the land use strategies of the California Air Resources Board's *The Land Use - Air Quality Linkage - How Land Use and Transportation Affect Air Quality*, into local land use decisions.

Program A-3.1: Each jurisdiction shall plan and zone properties, as well as review development proposals to promote the Land Use-Air quality linkage. This linkage includes, but is not limited to, enhancement of Central Business Districts, compact development patterns, residential densities that average above seven dwelling units per acre, clustered employment densities and activity centers, mixed use development, and integrated street patterns.

Program A-3.2: Each jurisdiction shall zone high density residential and employment land uses to be clustered in and near activity centers to maximize the efficient use of mass transit.

4.4.5 Cultural Resources

4.4.5.1 Summary of Existing Conditions

This section describes archeological and historical resources at the former Fort Ord. It incorporates by reference the Fort Ord Disposal and Reuse Environmental Impact Statement, Volume I, U.S. Army Corps of Engineers, Sacramento District, 1993, and Supplemental Environmental Impact Statement, U.S. Army Corps of Engineers, Sacramento District, 1995.

Historical Background of Fort Ord

Archeological evidence and radiocarbon dates establish human occupation of the California Coast dating back at least 10,000 years. Evidence from coastal areas of Monterey County suggests settlement of this area by at least 5,000 B.C., and possibly earlier. Proto-Esselen foragers speaking Hokan represented the Sur Pattern, dating to 5,000 B.C. They were replaced by proto-Coastanoan peoples in the Monterey Pattern, which began about 500 B.C. and lasted up to the Historic Period.

The former Fort Ord is located within lands historically occupied by the Rumsen Indians who belonged to a branch of the Coastanoan, or Ohlone, language family. Their closest village center to the former Fort Ord was located at present day San Carlos. Rumsen/Ohlone traditional lifeways were largely destroyed when Euro-Americans began colonizing their territory in the 1770.

European contact began with the arrival of Spanish explorers in the 16th Century. In 1770, the Portola expedition established the first mission and the Royal Presidio in Monterey. In 1771, the Mission was moved to the Carmel Valley adjacent to arable land. By 1778, most of the remaining Rumsen and Esslen Indians in Carmel and Monterey were baptized and farming church lands, marking the beginning of the disintegration of Native American traditional lifeways in this area. By the turn of the century, vestigial Indian communities disappeared, and by 1935 the Ohlone language was extinct.

Fort Ord was created in 1917 from land designated as City of Monterey Tract No. 1 and several ranches. Originally named Gigling Reservation, the installation was renamed Camp Ord in 1933 after Major General Edward Ord, an important figure in California military history. Fort Ord became an active military installation for the housing and training of Army troops just before World War II. Many facilities were built beginning in 1940 using funds from the Work Progress Administration. Fort

Ord was used as an important staging area during World War II and as a training facility during the Korean and Vietnam wars.

The areas of greatest archeological sensitivity at the former Fort Ord include all terraces and benches adjacent to the Salinas River and El Toro Creek, the peripheries of the wet cycle lakes, areas adjacent to streams in the BLM lands, and the coastal beaches. The areas of high archaeological resource sensitivity are generally illustrated in Figure 4.4-2. All other lands in the area have low to medium potential for possessing archeological resources.

Historical Sites and Buildings

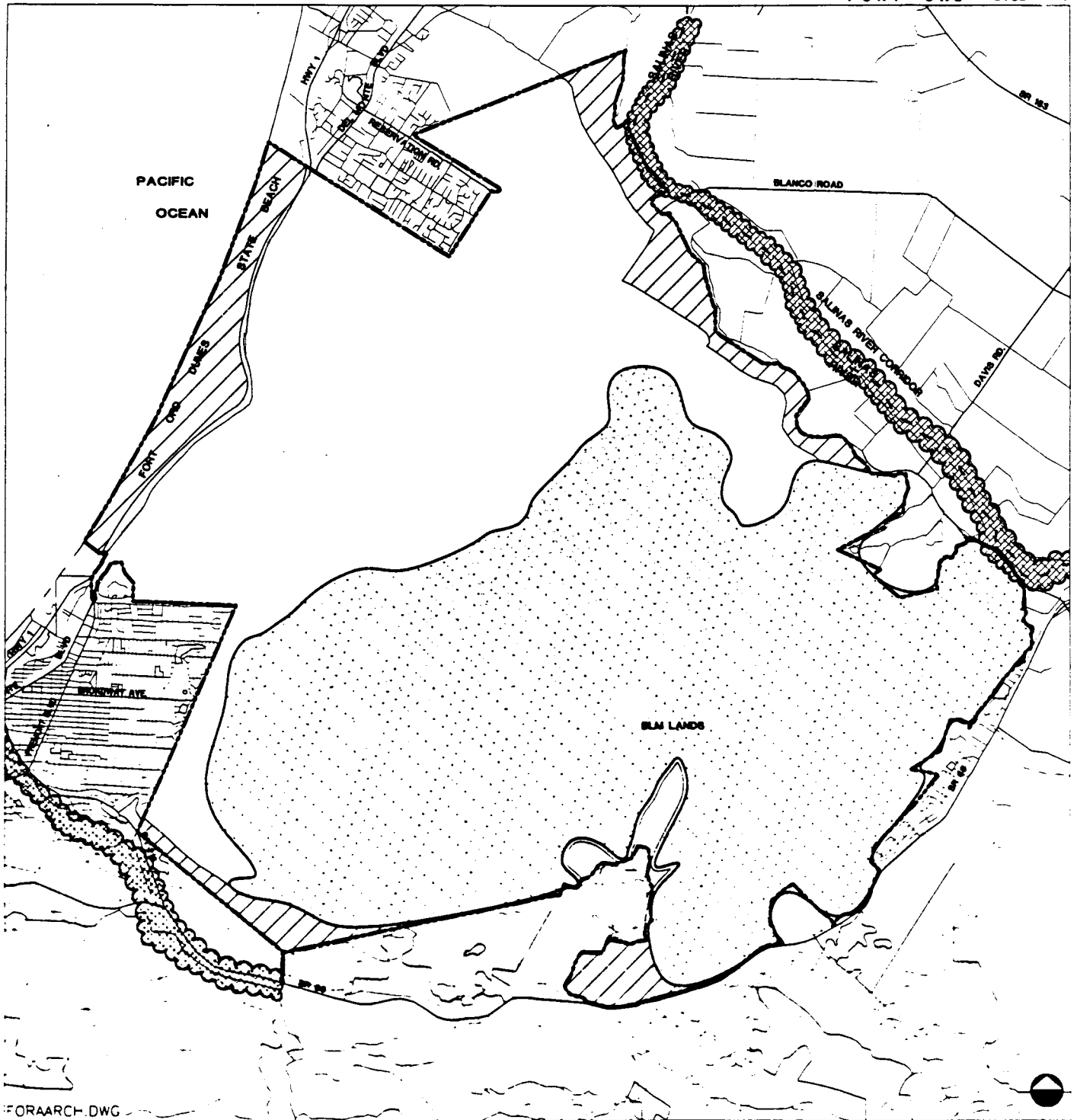
The Army and the California State Historic Preservation Officer (SHPO) concluded from the results of five reports conducted for the U.S. Army's Environmental Impact Statement (EIS) that Stilwell Hall and 35 structures in the East Garrison area were the only Fort Ord properties eligible for the National Register of Historic Places (NRHP).

Stilwell Hall is located on the edge of Monterey Bay, west of State Highway 1 in an area formerly occupied by small arms training ranges. Built in 1940 as a soldiers' club, the structure was considered eligible for NRHP status because of its Works Progress Administration construction and interior art work, as well as its role as an interface between Fort Ord and the surrounding community. In recent years, the building's integrity has been threatened by coastal bluff erosion, and it is no longer used. In anticipation of further damage from erosion, the Army has completed a Historic American Building Survey inventory of the structure and its current condition (Office of Directorate of Environmental Programs, 1993).

The East Garrison area includes a variety of concrete and wood frame structures, most built in 1940, in the Spanish mission revival style, as mess hall facilities for the 7th Infantry Division. Thirty-five of these structures, many converted to other uses, have been determined to comprise the East Garrison historic district.

More detailed descriptions of these architectural resources and their current condition are contained in Historical and Architectural Documentation Reports for Fort Ord (Office of Directorate of Environmental Programs, 1993).

Since issuance of the final EIS and Record of Decision, the Army has developed an agreement with the Advisory Council on Historic Preservation and the California SHPO to dispose of the historic Fort Ord property in accordance with the National Historic Preservation Act.



FORAARCH.DWG

SOURCE: Jones & Stokes, 1995; Reimer Associates, (Re-projected), 1995; Monterey Co., 1995; EDAW/EMC, 1996.



LEGEND:



High Sensitivity



BLM - Bureau of Land Management



Riparian/
Estuarine Corridor

Higher Sensitivity - All terraces and benches adjacent to the Salinas River and El Toro Creek, the peripheries of the wet cycle lakes, and lands adjacent to the streams.

DRAFT
FIGURE 4.4-2

ARCHAEOLOGICAL RESOURCE SENSITIVITY

4.4.5.2 Objectives

Objective A: Identify and protect all cultural resources at the former Fort Ord.

Several archaeological surveys conducted for the Army's Environmental Impact Statement found cultural resources at the former Fort Ord (Lapp et al., 1993; Babson, 1993; Bowman et al., 1994; Waite 1994). Human occupation of the coastal area dates back approximately 10,000 years, with evidence suggesting settlement by Native American peoples in the area at least 5,000 years ago. The former Fort Ord is located within lands historically occupied by the Rumsen Indians who belonged to the Ohlone language family.

Objective B: Preserve and protect historically significant resources at the former Fort Ord.

The Army and the California historic authorities have concluded that several structures at the former Fort Ord, including Stilwell Hall and buildings in the East Garrison area, are eligible for the National Register of Historic Places.

4.4.5.3 Policies and Programs

City of Marina

Objective A: Identify and protect all cultural resources at the former Fort Ord.

Cultural Resources Policy A-1: The City of Marina shall ensure the protection and preservation of archaeological resources at the former Fort Ord.

Program A-1.1: The City of Marina shall conduct a records search and a preliminary archaeological surface reconnaissance as a part of environmental review for any development project(s) proposed in a high archaeological resource sensitivity zone.

Program A-1.2: The City of Marina shall require that all known and discovered sites on the former Fort Ord with resources likely to be disturbed by a proposed project be analyzed by a qualified archaeologist with local expertise, recommendations made to protect and preserve resources and, as necessary, restrictive covenants imposed as a condition of project action or land sale.

Program A-1.3: As a contractor work specification for all new construction projects, the City of Marina shall include that during construction upon the first discovery of any archaeological resource or potential find, development activity shall be halted within 50 meters of the find until the potential resources can be evaluated by a qualified professional archaeologist and recommendations made.

Cultural Resources Policy A-2: The City of Marina shall provide for and/or support protection of Native American cultural properties at the former Fort Ord.

Program A-2.1: The City of Marina shall coordinate with the California Native American Heritage Commission and California Native American points of contact for this region to identify traditional cultural properties located on former Fort Ord lands.

Program A-2.2: If traditional cultural properties are found to exist on the City's lands at the former Fort Ord, the City of Marina shall ensure that deeds transferring Native American traditional properties include covenants that protect and allow Native Americans access to these properties. These covenants will be developed in consultation with interested Native American groups, the State Historic Preservation Officer, and the Advisory Council on Historic Preservation. Leases will contain clauses that require compatible use and protection as a condition of the lease.

Objective B: Preserve and protect historically significant resources at the former Fort Ord.

Cultural Resources Policy B-1: The City of Marina shall provide for the identification, protection, preservation and restoration of the former Fort Ord's historically and architecturally significant resources.

Program B-1.1: The City of Marina shall seek funding that can be used to rehabilitate, restore and preserve existing historic resources at the former Fort Ord.

Program B-1.2: The City of Marina shall maintain historic buildings at the former Fort Ord in accordance with local and state historic preservation standards and guidelines, and condition their sale or transfer with protective covenants. These covenants will be developed in consultation with the SHPO, the Advisory Council on Historic Preservation, and interested parties.

Program B-1.3: The City of Marina shall regulate demolition of buildings of architectural or historical importance at the former Fort Ord and make sure that such demolition does not occur without notice and hearing. Wherever possible, the City shall encourage the moving of buildings proposed to be demolished when other means for their preservation cannot be found.

Program B-1.4: The City of Marina should attempt to establish a historic barracks district near the 8th Street overcrossing and the State Parks entrance. This small area could represent the historic character of the former Fort Ord, be utilized for museums and non-profit organizations and assist in establishing an activity center in the Town Center Planning Area.

City of Seaside

Objective A: Identify and protect all cultural resources at the former Fort Ord.

Cultural Resources Policy A-1: The City of Seaside shall ensure the protection and preservation of archaeological resources at the former Fort Ord.

Program A-1.1: The City of Seaside shall conduct a records search and a preliminary archaeological surface reconnaissance as a part of environmental review for any development project(s) proposed in a high archaeological resource sensitivity zone.

Program A-1.2: The City of Seaside shall require that all known and discovered sites on the former Fort Ord with resources likely to be disturbed by a proposed project be analyzed by a qualified archaeologist with local expertise, recommendations made to protect and preserve resources and, as necessary, restrictive covenants imposed as a condition of project action or land sale.

Program A-1.3: As a contractor work specification for all new construction projects, the City of Seaside shall include that during construction, upon the first discovery of any archaeological resource or potential find, development activity shall be halted within 50 meters of the find until the potential resources can be evaluated by a qualified professional archaeologist and recommendations made.

Cultural Resources Policy A-2: The City of Seaside shall provide for protection and/or support of Native American cultural properties at the former Fort Ord.

Program A-2.1: The City of Seaside shall coordinate with the California Native American Heritage Commission and California Native American points of contact for this region to identify traditional cultural properties located on former Fort Ord lands.

Program A-2.2: If traditional cultural properties are found to exist on the City's lands at the former Fort Ord, the City of Seaside shall ensure that deeds transferring Native American traditional properties include covenants that protect and allow Native Americans access to these properties. These covenants will be developed in consultation with interested Native American groups, the State Historic Preservation Officer, and the Advisory Council on Historic Preservation. Leases will contain clauses that require compatible use and protection as a condition of the lease.

Objective B: . Preserve and protect historically significant resources at the former Fort Ord.

Cultural Resources Policy B-1: The City of Seaside shall provide for the identification, protection, preservation and restoration of the former Fort Ord's historically and architecturally significant resources.

Program B-1.1: The City of Seaside shall seek funding that can be used to rehabilitate, restore and preserve existing historic resources at the former Fort Ord.

Program B-1.2: The City of Seaside shall maintain historic buildings at the former Fort Ord in accordance with local and state historic preservation standards and guidelines, and condition their sale or transfer with protective covenants. These covenants will be developed in consultation with the SHPO, the Advisory Council on Historic Preservation, and interested parties.

Program B-1.3: The City of Seaside shall regulate demolition of buildings of architectural or historical importance at the former Fort Ord and make sure that such demolition does not occur without notice and hearing. Wherever possible, the City shall encourage the moving of buildings proposed to be demolished when other means for their preservation cannot be found.

County of Monterey

Objective A: Identify and protect all cultural resources at the former Fort Ord.

Cultural Resources Policy A-1: The County of Monterey shall ensure the protection and preservation of archaeological resources at the former Fort Ord.

Program A-1.1: The County of Monterey shall conduct a records search and a preliminary archaeological surface reconnaissance as a part of environmental review for any development project(s) proposed in a high archaeological resource sensitivity zone.

Program A-1.2: The County of Monterey shall require that all known and discovered sites on the former Fort Ord with resources likely to be disturbed by a proposed project be analyzed by a qualified archaeologist with local expertise, recommendations made to protect and preserve resources and, as necessary, restrictive covenants imposed as a condition of project action or land sale.

Program A-1.3: As a contractor work specification for all new construction projects, the County shall include that during construction, upon the first discovery of any archaeological resource or potential find, development activity shall be halted within 50 meters of the find until the potential resources can be evaluated by a qualified professional archaeologist and recommendations made.

Cultural Resources Policy A-2: The City of Marina shall provide for and/or support protection of Native American cultural properties at the former Fort Ord.

Program A-2.1: The County of Monterey shall coordinate with the California Native American Heritage Commission and California Native American points of contact for this region to identify traditional cultural properties located on former Fort Ord lands.

Program A-2.2: If traditional cultural properties are found to exist on the County's lands at the former Fort Ord, the County of Monterey shall ensure that deeds transferring Native American traditional properties include covenants that protect and allow Native Americans access to these properties. These covenants will be developed in consultation with interested Native American groups, the State Historic Preservation Officer, and the Advisory Council on Historic Preservation. Leases will contain clauses that require compatible use and protection as a condition of the lease.

Objective B: Preserve and protect historically significant resources at the former Fort Ord.

Cultural Resources Policy B-1: The County of Monterey shall provide for the identification, protection, preservation and restoration of the former Fort Ord's historically and architecturally significant resources.

Program B-1.1: The County of Monterey shall seek funding that can be used to rehabilitate, restore and preserve existing historic resources at the former Fort Ord.

Program B-1.2: The County of Monterey shall maintain historic buildings at the former Fort Ord in accordance with local and state historic preservation standards and guidelines, and condition their sale or transfer with protective covenants. These covenants will be developed in consultation with the SHPO, the Advisory Council on Historic Preservation, and interested parties.

Program B-1.3: The County of Monterey shall regulate demolition of buildings of architectural or historical importance at the former Fort Ord and make sure that such demolition does not occur without notice and hearing. Wherever possible, the City shall encourage the moving of buildings proposed to be demolished when other means for their preservation cannot be found.

Cultural Resources Policy B-2: The County of Monterey shall promote the preservation and enhancement of the East Garrison historic area.

Program B-2.1: The County of Monterey shall use land use and circulation policies that are effective in maintaining the character of the East Garrison historic area.

Program B-2.2: The County of Monterey shall ensure that development of the East Garrison historic area is consistent with maintaining its historic scale and character.

Program B-2.3: The County of Monterey, in association with Monterey Peninsula College and all other proponents of new uses of historic structures in the East Garrison area, shall cooperate with the California State Historic Preservation Officer to develop a management strategy that recognizes the historic value of the East Garrison historic district, in accordance with the 1994 agreement developed by the U.S. Army, the Advisory Council on Historic Preservation and the California SHPO. The county will be responsible for initiating any further consultation with the SHPO needed to modify these covenants or conditions.

4.5 NOISE ELEMENT

4.5.1 Introduction

Goal: To protect people who live, work, and recreate in and around the former Fort Ord from the harmful effects of exposure to excessive noise; to provide noise environments that enhance and are compatible with existing and planned uses; and to protect the economic base of the former Fort Ord by preventing encroachment of incompatible land uses within areas affected by existing or planned noise-producing uses.

The purpose of the noise element is to provide guidelines that will allow planners to avoid or minimize conflicts that may occur as a result of incompatible noise conditions and achieve land use compatibility relating to noise conditions. Noise and land use elements are, therefore, closely related. By identifying noise-sensitive land uses, such as residential uses, and establishing compatibility guidelines for land use and noise, planners can use the noise element to influence the general distribution, location, and intensity of future land uses at the former Fort Ord.

The noise element is also closely related to the circulation element. Noise from roadway traffic is the primary source of noise in the Fort Ord area. Circulation routes can be located to minimize noise impacts on noise-sensitive uses. Noise-sensitive uses can also be located to avoid impacts from aircraft accessing local airports.

Like the other elements in the Fort Ord Reuse Plan, this noise element presents a description of existing conditions. Existing noise conditions are presented for unincorporated Monterey County and the cities of Marina and Seaside separately to identify the sources of noise characteristic of each jurisdiction. The description of the existing noise environment is followed by a description of the future buildout noise conditions that are expected to occur with implementation of the Fort Ord Reuse Plan.

4.5.2 Summary of Existing Conditions

Following is a general discussion and description of existing environmental noise conditions at the former Fort Ord. This discussion is based on detailed descriptions of existing noise conditions, as provided in the report entitled Other Physical Attributes Baseline Study of Fort Ord, California (U.S. Army Corps of Engineers, Sacramento District 1992) and the setting section of Volume I of the Fort Ord Disposal and Reuse Final Environmental Impact Statement (U.S. Army Corps of Engineers, Sacramento District 1993). Other relevant baseline data and information are provided in the Draft Environmental Assessment/Environmental Impact Report for the City of Marina, California Airport Plans Permits, U.C. Technology Center, Airport Area General Plan and Zoning Amendments and Redevelopment Plan (City of Marina 1995). The general plan noise elements and associated documents for the City of Marina (City of Marina 1982), City of Seaside (City of Seaside 1990), and Monterey County (County of Monterey 1982) also contain useful information.

Section 4.5.6 of this document provides general background information on acoustics, terms, and commonly used terminology used in acoustics.

4.5.2.1 City of Marina

Traffic on roadways is the major source of noise within the City of Marina. Major highways and roadways within the city include:

- State Route (SR) 1,
- Del Monte Boulevard,
- Reservation Road,
- Blanco Road, and
- Imjin Road.

Table 4.5-1 summarizes existing traffic noise (1991-1992, depending on the roadway segment) modeling results for these roadways taken from the Other Physical Attributes Baseline Study of Fort Ord, California report.

Aircraft activity around Fritzsche Field was once a major source of noise in the area. However, with the closure of Fort Ord, the airfield is no longer used for military operations. The airfield has been turned over to the City of Marina and is now the Marina Municipal Airport. Because the facility is in a state of transition, valid aircraft noise exposure data for existing conditions is not available.

Freight rail service is provided to the former Fort Ord and local industries via the Southern Pacific tracks that run parallel to SR 1 through the former Fort Ord. A spur line parallel to Del Monte Boulevard in the cities of Marina and Seaside provides service to these cities. Service to local industries is provided approximately two to three times a week. Because of the infrequency of train activity, noise from these operations is not a major concern.

Noise sensitive land uses in and around the former Fort Ord are limited primarily to residential and recreational uses. Refer to the Land Use Element to locate specific noise sensitive land uses.

4.5.2.2 City of Seaside

Traffic on roadways is the major source of noise within the City of Seaside. Major highways and roadways within the city include:

- SR 1,
- SR 68,
- SR 218,

FORT ORD REUSE PLAN

Table 4.5- 1.
Summary of Traffic Noise Analysis for Existing Conditions (1990-1992)

Roadway	Segment	Ldn at 100 Feet from Centerline of Roadway (dB)	Distance (in feet) from Centerline of Roadway to Ldn Contour Line		
			65 Ldn	60 Ldn	55 Ldn
SR 1	SR 68 to Del Monte Avenue	73.9	392	845	1,820
	Del Monte Avenue to SR 218	74.2	411	884	1,905
	SR 218 to Ord Village interchange	74.1	404	871	1,876
	Ord Village Interchange to 0.5 mile north of Ord Village	74.7	443	955	2,057
	0.5 mile north of Ord Village to Main Gate	75.3	486	1,047	2,256
	Main Gate to 12th Street Gate	74.7	443	955	2,057
	12th Street Gate to South Marina interchange	75.1	471	1,015	2,188
	South Marina interchange to Reservation Road	72.6	321	692	1,491
SR 218	SR 1 to Fremont Boulevard	64.3	90	193	417
	Fremont Boulevard to SR 68	64	86	185	398
SR 68	SR 1 to SR 218	64	86	185	398
	SR 218 to Toro Park	67.3	142	307	661
	Toro Park to Spreckels Boulevard	70.6	236	509	1,096
	Spreckels Boulevard to Blanco Road	68.5	171	369	794
Reservation Road	Del Monte Boulevard to Marina city limit	66.1	118	255	550
	Marina city limit to East Garrison Road	66.4	124	267	575
	East Garrison Road to SR 68	59.4	42	91	196
Davis Road	Blanco Road to Market Street	63	74	158	341
Del Monte Boulevard	Marina city limit to SR 1	65.9	115	247	533
Blanco Road	Reservation Road to Davis Road	65.7	111	240	517
Fremont Boulevard	South of SR 218	65.1	102	219	471
	SR 218 to Broadway Avenue	65.3	105	226	486
	Broadway Avenue to SR 1	64	86	185	398
Broadway Avenue	Del Monte Boulevard to Fremont Boulevard	60.5	50	108	233
	Fremont Boulevard to North-South Road	61.6	59	128	275
Del Monte Boulevard	SR 218 to Broadway Avenue	63.8	83	179	386
	Broadway Avenue to Fremont Boulevard	61.9	62	134	288
Imjin Road	Abrams Drive to Reservation Road	63.5	79	171	369
Inter-Garrison Road	8th Street to East Garrison Road	55.9	25	53	115
North-South Road	North of Broadway	56	25	54	117

Source: U.S. Army Corps of Engineers, Sacramento District (1992)

- Fremont Boulevard,
- Del Monte Boulevard,
- North-South Road, and
- Broadway Avenue.

Table 4.5-1 summarizes existing traffic noise modeling results for these roadways taken from the Other Physical Attributes Baseline Study of Fort Ord report.

Aircraft activity around Monterey Peninsula Airport is another significant source of noise in Seaside. Figure 4.5-1 depicts noise contours around the airport. The 55-60 CNEL contour affects only a small portion of the southerly limits of the City of Seaside. According to the Federal Aviation Regulation Part 150 Noise Compatibility Program for the airport, no residential units in Seaside would require mitigation as a result of adoption of the Comprehensive Land Use Plan for the Monterey Peninsula Airport.

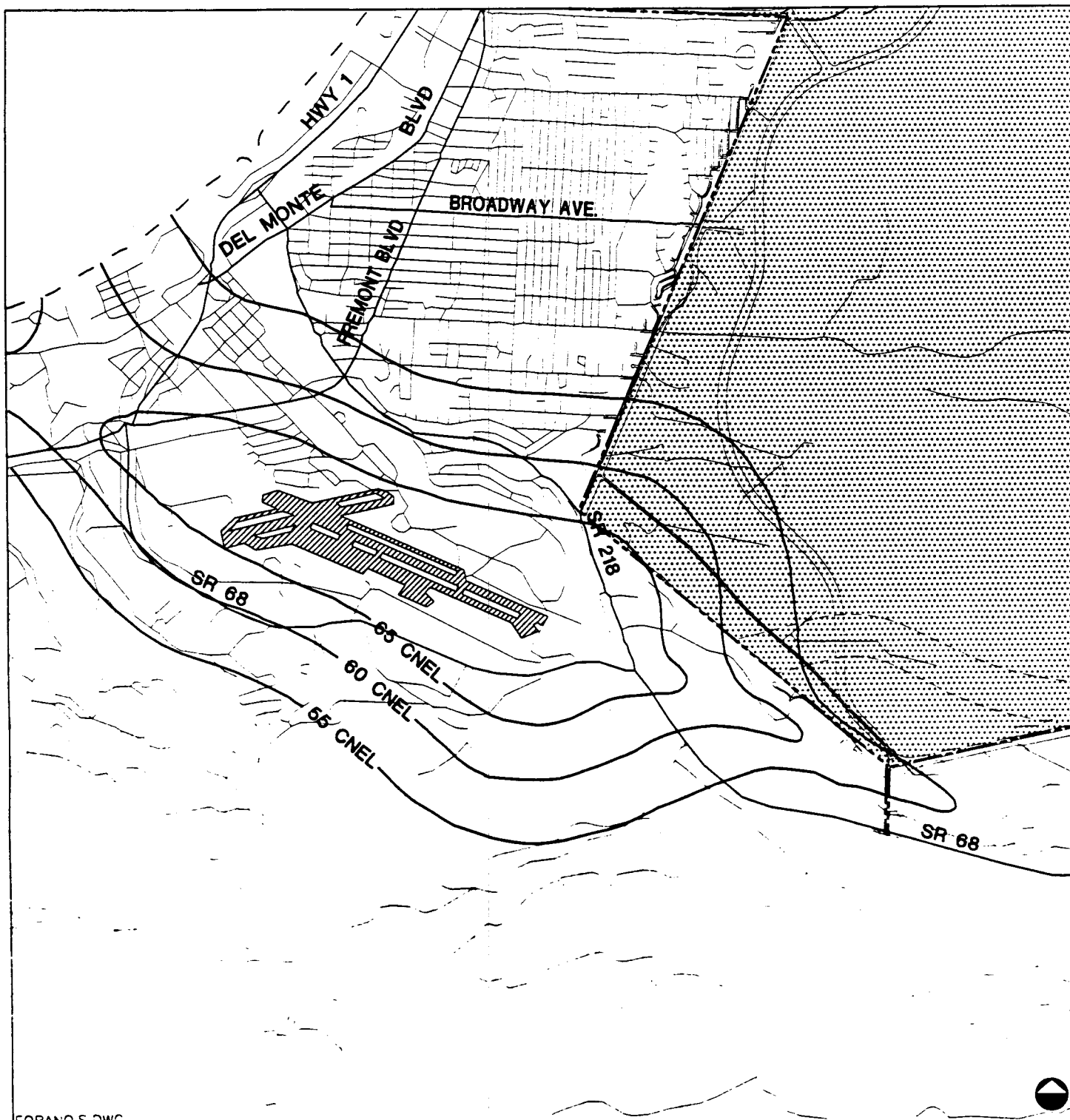
As discussed previously, the Southern Pacific spur line paralleling Del Monte Boulevard provides service to the City of Seaside. Because of the infrequency of train activity, noise from these operations is not a major concern.

Noise sensitive land uses in and around the former Fort Ord are limited primarily to residential areas and recreational areas. Refer to the Land Use Element to locate specific noise sensitive land uses.

4.5.2.3 Monterey County

Unincorporated Monterey County, in the vicinity of the former Fort Ord, does not have major or large-scale noise problems. Although noise associated with firing ranges and aircraft operations at Fort Ord was once a source of occasional complaints, closure of Fort Ord has eliminated these operations as a source of noise. Traffic on highways and roadways is the primary source of noise in the county. Major highways and roadways in the county near the former Fort Ord include:

- SR 1,
- SR 68,
- SR 183,
- SR 218,
- Fremont Boulevard,
- Del Monte Boulevard,
- North-South Road,
- Reservation Road,



LEGEND

— CNEL Noise Contour

- Blanco Road,
- Imjin Road,
- East Garrison Road,
- Davis Road, and
- Blanco Road

Table 4.5-1 summarizes traffic noise modeling results for these roadways taken from the Other Physical Attributes Baseline Study of Fort Ord report.

Aircraft activity around Monterey Peninsula Airport is another significant source of noise in the area. Figure 4.5-1 depicts noise contours around the airport. Although industrial facilities, food-packing plants, and several mining operations are located in the county, none of these operations creates noise conflicts in the vicinity of the former Fort Ord.

As discussed previously, the Southern Pacific spur line parallel to Del Monte Boulevard provides service to the City of Marina. Because of the infrequency of train activity, noise from these operations is not a major concern.

Noise sensitive land uses in and around the former Fort Ord are limited primarily to residential areas and recreational areas. Refer to the Land Use Element to locate specific noise sensitive land uses.

4.5.3 Summary of Future Conditions

Traffic noise conditions that are expected to occur in 2015 with implementation of the Fort Ord Reuse Plan have been estimated based on projected 2015 traffic volumes, as detailed in JHK and Associates (1995). These traffic noise conditions are summarized in Table 4.5-2. Traffic noise conditions under buildout of the Fort Ord Reuse Plan are qualitatively discussed below based on these 2015 estimates of traffic noise.

4.5.3.1 City of Marina

Since a doubling of traffic volumes is generally required before a perceptible increase (equivalent to a 3-dB increase) in traffic noise can occur, traffic noise levels under buildout of the Fort Ord Reuse Plan are likely to be within about 1-2 dB of the noise levels presented in Table 4.5-2 for 2015. For all of the roadways evaluated, traffic noise is predicted to exceed the City of Marina's compatibility criteria for residential uses at 100 feet from the roadway centerlines. In almost all cases, at least several hundred feet would be needed between roads and residential areas before noise is reduced to below 60 dB-Ldn. The Fort Ord Reuse Plan includes a multi-

Table 4.5.2. Summary of Noise Modeling for the Fort Ord Reuse Plan in 2015'
Page 1 of 2

Roadway	Segment	Ldn at 100 Feet from Centerline of Roadway (dB)	Distance (in feet) from Centerline of Roadway to Ldn Contour Line			
			70 Ldn	65 Ldn	60 Ldn	55 Ldn
SR 1	SR 68 to Del Monte Avenue	74	175	377	813	1,752
	Del Monte Avenue to SR 218	75	209	451	971	2,093
	SR 218 to Fremont Boulevard	76	233	502	1,082	2,330
	Fremont Boulevard to Main Gate	75	232	501	1,078	2,323
	Main Gate to 12th Street Gate	75	226	487	1,049	2,260
	12th Street Gate to South Marina interchange (Del Monte Boulevard)	75	221	476	1,025	2,209
SR 218	South Marina (Del Monte Boulevard) to Reservation Road	73	161	347	748	1,612
	Reservation Road to North Marina (Del Monte Boulevard)	73	149	320	689	1,485
	North Marina (Del Monte Boulevard) to SR 156	73	159	342	736	1,586
	SR 156 to County line	74	185	398	858	1,849
	SR 1 to Fremont Boulevard	65	48	103	221	476
SR 68	Fremont Boulevard to North-South Road	67	63	135	291	628
	North-South Road to SR 68	68	77	165	356	766
	SR 1 to SR 218	74	172	370	797	1,716
	SR 218 to San Benancio Road	71	121	260	561	1,209
	San Benancio Road to Reservation Road	73	162	349	752	1,621
Old Highway 68	Reservation Road to E. Blanco Road	72	131	283	610	1,314
	State Highway 218 to San Benancio Road	66	53	114	245	527
	SR 1 to Del Monte Boulevard	61	25	55	118	254
	Del Monte Boulevard to Crescent Avenue	65	44	95	204	439
	Crescent Avenue to Imjin Road	69	82	176	378	815
Reservation Road	Imjin Road to Blanco Road	70	93	201	433	932
	Blanco Road to Inter-Garrison Road	65	48	104	225	484
	Inter-Garrison Road to Davis Road	65	47	101	217	467
	Davis Road to SR 68	65	48	104	223	481

Table 4.5-2. Continued
Page 2 of 2

Roadway	Segment	Ldn at 100 Feet from Centerline of Roadway (dB)	Distance (in feet) from Centerline of Roadway to Ldn Contour Line			
			70 Ldn	65 Ldn	60 Ldn	55 Ldn
Davis Road	Reservation Road to Blanco Road	64	42	90	194	417
	Blanco Road to Rosi Street (SR 183)	64	42	90	193	416
	Rosi Street (SR 183) to US 101	67	59	128	275	593
Del Monte Boulevard	SR 1 to Reservation Road	67	65	140	301	649
	SR 1 to Broadway Avenue	66	54	116	249	537
	Broadway Avenue to Fremont Boulevard	61	26	56	121	261
	SR 1 (South Marina) to Reservation Road	66	54	116	250	539
	Reservation Road to SR 1 (North Marina)	65	43	93	201	432
Blanco Road	Reservation Road to Davis Road	70	101	217	468	1,009
	Davis Road to SR 68	65	44	95	204	441
	SR 68 to US 101	69	86	186	400	862
Fremont Boulevard	SR 1 / SR 68 to Broadway Avenue	65	49	106	227	490
	Broadway Avenue to SR 1	65	47	101	218	471
Broadway Avenue	Del Monte Boulevard to Noche Buena Street	64	37	80	172	370
	Noche Buena Street to North-South Road	63	34	74	159	343
SR 156	SR 1 to 0.1 miles east of Castroville Boulevard	71	118	253	546	1,176
	0.1 miles east of Castroville Boulevard to US 101	72	129	279	600	1,293
SR 183	US 101 to Davis Road	69	85	183	395	851
	Davis Road to Espinosa Road	71	114	245	529	1,139
	Espinosa Road to SR 156	72	133	286	617	1,328

¹ Notes: Based on transportation data provided by Klim (pers. comm.)

modal corridor that would traverse the City of Marina. Issues that are unresolved at this time relating to the corridor include the type of facility (rail, light rail, bus, or exclusive high-occupancy vehicles), operating hours, and frequency of service. Therefore, potential noise impacts generated by use of the corridor cannot be predicted.

The only new source of noise not related to transportation that may potentially occur in Marina with implementation of the Fort Ord Reuse Plan would be an amphitheater. The area proposed for the amphitheater is proposed for annexation into the City of Marina.

Aircraft activity around Marina Municipal Airport would also be a significant source of noise in the City of Marina. Figure 4.5-2 depicts projected noise contours around the airport in the year 2015.

4.5.3.2 City of Seaside

As discussed previously, noise levels under buildout of the Fort Ord Reuse Plan would be expected to be within 1 to 2 dB of those presented in Table 4.5-2. For all of the roadways evaluated, traffic noise is predicted to exceed the City of Seaside's compatibility criteria for residential uses at 100 feet from the roadway center lines. In almost all cases, at least several hundred feet would be needed between roads and residential areas before noise is reduced to below 60 dB-Ldn.

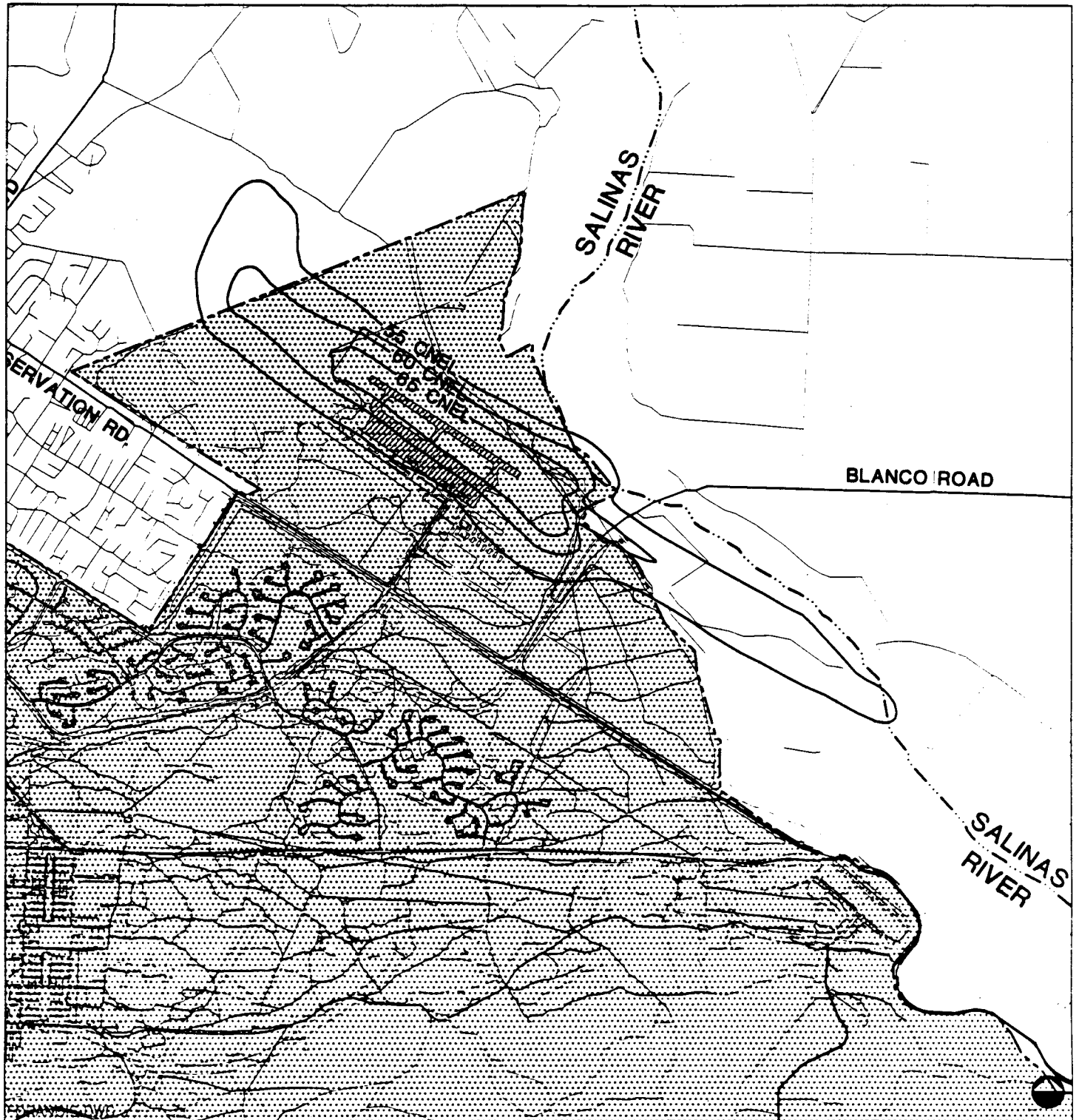
No new non-transportation-related sources of noise are proposed to be located in Seaside under the Fort Ord Reuse Plan.

Aircraft activity around Monterey Peninsula Airport would continue to be a significant source of noise in the City. Figure 4.5-3 depicts projected noise contours around the airport in the year 2010.

4.5.3.3 Monterey County

Noise levels in unincorporated Monterey County under buildout conditions would be expected to be within 1 to 2 dB of those presented in Table 4.5-2. For all of the roadways evaluated, traffic noise is predicted to exceed the county's compatibility criteria for residential uses at 100 feet from the roadway center lines. For almost all roadways, at least several hundred feet would be needed between roads and residential areas before noise is reduced to below 60 dB-Ldn. The multi-modal corridor discussed above would also potentially affect Monterey County.

Potential new sources of noise that would occur in the County include the public amphitheater mentioned above, a desalination facility, a peace offi

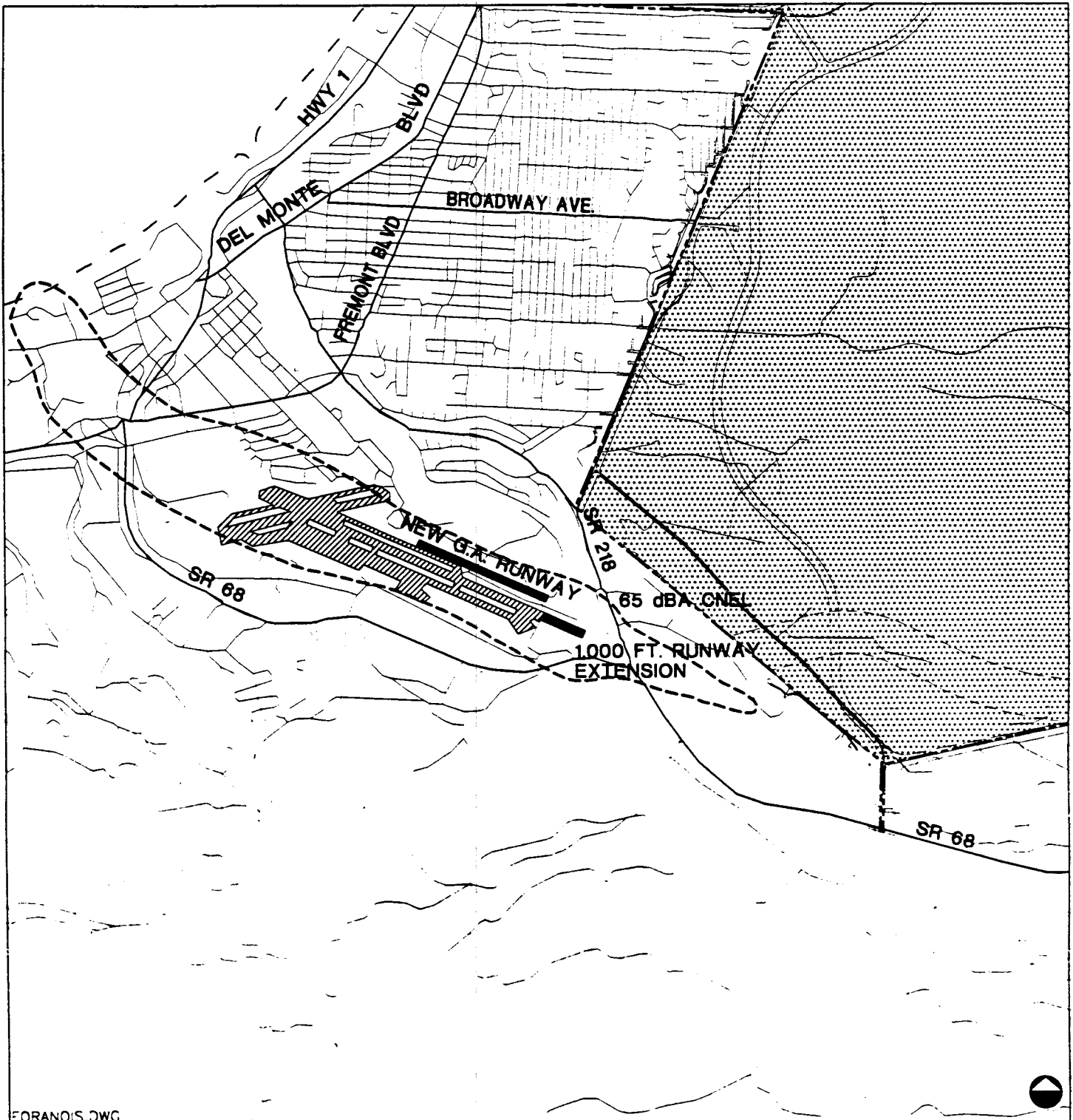


SOURCE: Jones & Stokes, 1995; Reimer Associates, (Re-projected), 1995; Monterey Co., 1995; EDAW, 1996.



LEGEND

— CNEL Noise Contour



FORANOIS.DWG

SOURCE: Jones & Stokes, 1995; Reimer Associates, (Re-projected), 1995; Monterey Co., 1995; EDAW, 1996.



LEGEND:

----- CNEL Noise Contour - Adjusted
for Runway Improvements

DRAFT
FIGURE 4.5-3
FORECAST YEAR 2010 AND CNEL 65db
NOISE CONTOUR FOR MONTEREY PENINSULA AIRPORT

cers training facility, and a transit center. New noise-sensitive land uses include residential areas, open space/recreation areas, and educational facilities. Aircraft activity around Monterey Peninsula Airport would continue to be a significant source of noise in the County (Figure 4.5-3).

4.5.4 Objectives

Objective A: Ensure that application of land use compatibility criteria for noise and enforcement of noise regulations are consistent throughout the Fort Ord Planning area.

The cities of Marina and Seaside and Monterey County have identified compatibility criteria for noise in their general plans. The three jurisdictions use different definitions and quantitative standards for determining noise compatibility. For example, Monterey County identifies 50-55 dB-Ldn as being normally acceptable for low-density residential uses and 50-60 dB-Ldn as being normally acceptable for multi-family residential uses. The City of Seaside General Plan does not specifically identify criteria for residential uses, but states that 60 dB-Ldn is generally recommended for outdoor activities of noise-sensitive areas. The City of Marina General Plan allows a maximum of 60 dB-Ldn for low-density residential and 65 dB-Ldn for multi-family residential uses.

The policies under this objective recommend adoption of a consistent set of land use compatibility criteria for application within the former Fort Ord, based on Monterey County's criteria, which are the most consistent with the guidelines adopted by the Office of Noise Control in the California Department of Health Services and are the most conservative and detailed criteria of the three jurisdictions. The policies also specify quantitative performance standards for non-transportation noise sources.

Objective B: Ensure through land use planning that noise environments are appropriate for and compatible with existing and proposed land uses based on criteria provided in the noise element.

Application of noise compatibility criteria in the land use planning process will ensure that noise will not degrade noise-sensitive environments, such as residential and open space/recreation land uses. Application of compatibility criteria will also help to protect the economic base of the former Fort Ord by preventing noise-sensitive uses from encroaching into noisy commercial or industrial areas. If compatibility standards are not applied, residential uses could be built around noise-generating commercial or industrial uses. Noise complaints from residences would exert pressure on commercial or industrial operations to relocate or implement

expensive noise-control measures, thereby potentially adversely affecting the local economy.

4.5.5 Policies and Programs

City of Marina

Objective A: Ensure that application of land use compatibility criteria for noise and enforcement of noise regulations are consistent throughout the Fort Ord Planning area.

Noise Policy A-1: The City shall coordinate with the other local entities having jurisdiction within the former Fort Ord in establishing a consistent set of guidelines for controlling noise.

Program A-1.1: The City shall adopt the land use compatibility criteria for exterior community noise shown in Table 4.5-3 for application in the former Fort Ord.

Program A-1.2: The City shall adopt a noise ordinance to control noise from non-transportation sources, including construction noise, that incorporates the performance standards shown in Table 4.5-4, for application in the former Fort Ord.

Objective B. Ensure through land use planning that noise environments are appropriate for and compatible with existing and proposed land uses based on noise guidelines provided in the noise element.

Noise Policy B-1: The City shall ensure that the noise environments for existing residences and other existing noise-sensitive uses do not exceed the noise guidelines presented in Tables 4.5-3 and 4.5-4, where feasible and practicable.

Program B-1.1: The City shall develop and implement a program that identifies currently developed areas that are adversely affected by noise impacts and implement measures to reduce these impacts, such as constructing noise barriers and limiting the hours of operation of the noise sources.

Noise Policy B-2: By complying with the noise guidelines presented in Tables 4.5-3 and 4.5-4, the City shall ensure that new development does not adversely affect existing or proposed uses.

Program B-2.1: See description of Program A-1.1 above.

Table 4.5-3. Land Use Compatibility Criteria for Exterior Community Noise

Land Use Category	Noise Ranges (Ldn or CNEL) dB			
	I	II	III	IV
Passively used open spaces	50	50-55	55-70	70+
Auditoriums, concert halls, amphitheaters	45-50	50-65	65-70	70+
Residential—low density single family, duplex, mobile homes	50-55	55-70	70-75	75+
Residential—multi-family	50-60	60-70	70-75	75+
Transient lodging—motels, hotels	50-60	60-70	70-80	80+
Schools, libraries, churches, hospitals, nursing homes	50-60	60-70	70-80	80+
Actively used open spaces—playgrounds, neighborhood parks	50-67	—	67-73	73+
Golf courses, riding stables, water recreation, cemeteries	50-70	—	70-80	80+
Office buildings, business, commercial and professional	50-67	67-75	75+	—
Industrial, manufacturing, utilities, agriculture	50-70	70-75	75+	—

Notes:

Noise Range I—Normally acceptable: Specified land use is satisfactory, based on the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Noise Range II—Conditionally acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

Noise Range III—Normally unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Noise Range IV—Clearly unacceptable: New construction or development should generally not be undertaken.

Source: Monterey County Planning Department (1982).

Table 4.5-4. Noise Level Performance Standards for Non-Transportation Noise Sources

Exterior Noise Level Standards, DBA		
Cumulative Number of Minutes Allowed in Any One-Hour Time Period	Daytime (7:00 a.m. - 10:00 p.m.)	Nighttime (10:00 p.m. - 7:00 a.m.)
30	50	45
15	55	50
5	60	55
1	65	60
0	70	65

Program B-2.2: See description of Program A-1.2 above.

Noise Policy B-3: The City shall require that acoustical studies be prepared by qualified acoustical engineers for all new development that could result in noise environments above noise range I (normally acceptable environment), as defined in Table 4.5-3. The studies shall identify the mitigation measures that would be required to comply with the noise guidelines, specified in Tables 4.5-3 and 4.5-4, to ensure that existing or proposed uses will not be adversely affected. The studies should be submitted prior to accepting development applications as complete.

Noise Policy B-4: The City shall enforce the State Noise Insulation Standards (California Administrative Code, Title 24) which require that interior sound levels of 45 dB-Ldn be achieved for new multi-family dwelling, condominium, hotel, and motel uses.

Noise Policy B-5: If, through site planning or the architectural layout of buildings, it is not feasible or practicable to comply with the noise guidelines presented in Tables 4.5-3 and 4.5-4, the City shall require the following, as conditions to approval: that noise barriers be provided for new development to ensure that the noise guidelines are met; or that acoustical treatments be provided for new buildings to ensure that interior noise levels would be reduced to less than 45 dB-Ldn.

Noise Policy B-6: If the ambient day-night average sound level (DNL) exceeds the normally acceptable noise range for residential uses (low density single family, duplex, and mobile homes; multi-family; and transient lodging), as identified in Table 4.5-3, new development shall not increase ambient DNL in residential areas by more than 3 dBA measured at the property line. If the ambient DNL is within the normally acceptable noise range for residential uses, new development shall not increase the ambient DNL by more than 5 dBA measured at the property line.

Noise Policy B-7: If the ambient DNL exceeds the normally acceptable noise range for commercial (office buildings and business, commercial, and professional uses) or industrial (industrial, manufacturing, utilities, and agriculture) uses, as identified in Table 4.5-3, new development in commercial or industrial areas shall not increase the ambient DNL by more than 5 dBA measured at the property line.

Noise Policy B-8: If the ambient DNL exceeds the normally acceptable noise range for public or institutional uses (passively and actively used open spaces; auditoriums, concert halls, and amphitheaters; schools, libraries, churches, hospitals and nursing homes; golf courses, riding stables,

water recreation areas, and cemeteries), as identified in Table 4.5-3, new development shall not increase ambient Ldn by more than 3 dBA measured at the property line.

Noise Policy B-9: The City shall require construction contractors to employ noise-reducing construction practices.

City of Seaside

Objective A: Ensure that application of land use compatibility criteria for noise and enforcement of noise regulations are consistent throughout the Fort Ord Planning area.

Noise Policy A-1: The City shall coordinate with the other local entities having jurisdiction within the former Fort Ord in establishing a consistent set of guidelines for controlling noise.

Program A-1.1: The City shall adopt the land use compatibility criteria for exterior community noise shown in Tables 4.5-3 for application in the former Fort Ord.

Program A-1.2: The City shall adopt a noise ordinance to control noise from non-transportation sources, including construction noise, that incorporates the performance standards shown in Table 4.5-4, for application in the former Fort Ord.

Objective B: Ensure through land use planning that noise environments are appropriate for and compatible with existing and proposed land uses based on noise guidelines provided in the noise element.

Noise Policy B-1: The City shall ensure that the noise environments for existing residences and other existing noise-sensitive uses do not exceed the noise guidelines presented in Tables 4.5-3 and 4.5-4, where feasible and practicable.

Program B-1.1: The City shall develop and implement a program that identifies currently developed areas that are adversely affected by noise impacts and implement measures to reduce these impacts, such as constructing noise barriers and limiting the hours of operation of the noise sources.

Noise Policy B-2: By complying with the noise guidelines presented in Tables 4.5-3 and 4.5-4, the City shall ensure that new development does not adversely affect existing or proposed uses.

Program 3-2.1: See description of Program A-1.1 above.

Program 3-2.2: See description of Program A-1.2 above.

Noise Policy B-3: The City shall require that acoustical studies be prepared by qualified acoustical engineers for all new development that could result in noise environments above noise range I (normally acceptable environment), as defined in Table 4.5-3. The studies shall identify the mitigation measures that would be required to comply with the noise guidelines, specified in Tables 4.5-3 and 4.5-4, to ensure that existing or proposed uses will not be adversely affected. The studies should be submitted prior to accepting development applications as complete.

Noise Policy B-4: The City shall enforce the State Noise Insulation Standards (California Administrative Code, Title 24) which require that interior sound levels of 45 dB-Ldn be achieved for new multi-family dwelling, condominium, hotel, and motel uses.

Noise Policy B-5: If, through site planning or the architectural layout of buildings, it is not feasible or practicable to comply with the noise guidelines presented in Tables 4.5-3 and 4.5-4, the City shall require the following, as conditions to approval: that noise barriers be provided for new development to ensure that the noise guidelines are met; or that acoustical treatments be provided for new buildings to ensure that interior noise levels would be reduced to less than 45 dB-Ldn.

Noise Policy B-6: If the ambient day-night average sound level (DNL) exceeds the normally acceptable noise range for residential uses (low density single family, duplex, and mobile homes; multi-family; and transient lodging), as identified in Table 4.5-3, new development shall not increase ambient DNL in residential areas by more than 3 dBA measured at the property line. If the ambient DNL is within the normally acceptable noise range for residential uses, new development shall not increase the ambient DNL by more than 5 dBA measured at the property line.

Noise Policy B-7: If the ambient DNL exceeds the normally acceptable noise range for commercial (office buildings and business, commercial, and professional uses) or industrial (industrial, manufacturing, utilities, and agriculture) uses, as identified in Table 4.5-3, new development in commercial or industrial areas shall not increase the ambient DNL by more than 5 dBA measured at the property line.

Noise Policy B-8: If the ambient DNL exceeds the normally acceptable noise range for public or institutional uses (passively and actively used

open spaces; auditoriums, concert halls, and amphitheaters; schools, libraries, churches, hospitals and nursing homes; golf courses, riding stables, water recreation areas, and cemeteries), as identified in Table 4.5-3, new development shall not increase ambient Ldn by more than 3 dBA measured at the property line.

Noise Policy B-9: The City shall require construction contractors to employ noise-reducing construction practices.

Monterey County

Objective A: Ensure that application of land use compatibility criteria for noise and enforcement of noise regulations are consistent throughout the Fort Ord Planning area.

Noise Policy A-1: The County shall coordinate with the other local entities having jurisdiction within the former Fort Ord in establishing a consistent set of guidelines for controlling noise.

Program A-1.1: The County shall adopt the land use compatibility criteria for exterior community noise shown in Tables 4.5-3 for application in the former Fort Ord.

Program A-1.2: The County shall adopt a noise ordinance to control noise from non-transportation sources, including construction noise, that incorporates the performance standards shown in Table 4.5-4, for application in the former Fort Ord.

Objective B: Ensure through land use planning that noise environments are appropriate for and compatible with existing and proposed land uses based on noise guidelines provided in the noise element.

Noise Policy B-1: The County shall ensure that the noise environments for existing residences and other existing noise-sensitive uses do not exceed the noise guidelines presented in Tables 4.5-3 and 4.5-4, where feasible and practicable.

Program B-1.1: The County shall develop and implement a program that identifies currently developed areas that are adversely affected by noise impacts and implement measures to reduce these impacts, such as constructing noise barriers and limiting the hours of operation of the noise sources.

Noise Policy B-2: By complying with the noise guidelines presented in Tables 4.5-3 and 4.5-4, the County shall ensure that new development does not adversely affect existing or proposed uses.

Program 3-2.1: See description of Program A-1.1 above.

Program 3-2.2: See description of Program A-1.2 above.

Noise Policy B-3: The County shall require that acoustical studies be prepared by qualified acoustical engineers for all new development that could result in noise environments above noise range I (normally acceptable environment), as defined in Table 4.5-3. The studies shall identify the mitigation measures that would be required to comply with the noise guidelines, specified in Tables 4.5-3 and 4.5-4, to ensure that existing or proposed uses will not be adversely affected. The studies should be submitted prior to accepting development applications as complete.

Noise Policy B-4: The County shall enforce the State Noise Insulation Standards (California Administrative Code, Title 24) which require that interior sound levels of 45 dB-Ldn be achieved for new multi-family dwelling, condominium, hotel, and motel uses.

Noise Policy B-5: If, through site planning or the architectural layout of buildings, it is not feasible or practicable to comply with the noise guidelines presented in Tables 4.5-3 and 4.5-4, the County shall require the following, as conditions to approval: that noise barriers be provided for new development to ensure that the noise guidelines are met; or that acoustical treatments be provided for new buildings to ensure that interior noise levels would be reduced to less than 45 dB-Ldn.

Noise Policy B-6: If the ambient day-night average sound level (DNL) exceeds the normally acceptable noise range for residential uses (low density single family, duplex, and mobile homes; multi-family; and transient lodging), as identified in Table 4.5-3, new development shall not increase ambient DNL in residential areas by more than 3 dBA measured at the property line. If the ambient DNL is within the normally acceptable noise range for residential uses, new development shall not increase the ambient DNL by more than 5 dBA measured at the property line.

Noise Policy B-7: If the ambient DNL exceeds the normally acceptable noise range for commercial (office buildings and business, commercial, and professional uses) or industrial (industrial, manufacturing, utilities, and agriculture) uses, as identified in Table 4.5-3, new development in

commercial or industrial areas shall not increase the ambient DNL by more than 5 dBA measured at the property line.

Noise Policy B-8: If the ambient DNL exceeds the normally acceptable noise range for public or institutional uses (passively and actively used open spaces; auditoriums, concert halls, and amphitheaters; schools, libraries, churches, hospitals and nursing homes; golf courses, riding stables, water recreation areas, and cemeteries), as identified in Table 4.5-3, new development shall not increase ambient Ldn by more than 3 dBA measured at the property line.

Noise Policy B-9: The City shall require construction contractors to employ noise-reducing construction practices.

4.5.6 Glossary of Acoustic Terms and Guidelines

Sound Terminology

Sound travels through the air as waves of minute air pressure fluctuations caused by some type of vibration. In general, sound waves travel away from the sound source as an expanding spherical surface. The energy contained in a sound wave is consequently spread over an increasing area as it travels away from the source. This results in a decrease in loudness at greater distances from the sound source. The following terms are commonly used in acoustics.

Decibel: Sound-level meters measure the pressure fluctuations caused by sound waves. Because of the ability of the human ear to respond to a wide dynamic range of sound pressure fluctuations, loudness is measured in terms of decibels (dB) on a logarithmic scale. This results in a scale that measures pressure fluctuations in a convenient notation and corresponds to our auditory perception of increasing loudness.

A-Weighted Decibels: Most sounds consist of a broad range of sound frequencies. Because the human ear is not equally sensitive to all frequencies, several frequency-weighting schemes have been used to develop composite decibel scales that approximate the way the human ear responds to sound levels. The "A-weighted" decibel scale (dBA) is the most widely used for this purpose.

Equivalent Sound Level: Time-varying sound levels are often described in terms of an equivalent constant decibel level. Equivalent sound levels (L_{eq}) are used to develop single-value descriptions of average sound exposure over various periods of time. Such average sound exposure values often include additional weighting factors for annoyance potential attrib-

utable to time of day or other considerations. The L_{eq} data used for these average sound exposure descriptors are generally based on A-weighted sound-level measurements.

Day-Night Average Sound Level: Average sound exposure over a 24-hour period is often presented as a day-night average sound level (L_{dn}). L_{dn} values are calculated from hourly L_{eq} values, with the L_{eq} values for the nighttime period (10:00 p.m.-7:00 a.m.) increased by 10 dB to reflect the greater disturbance potential from nighttime noises.

Community Noise Equivalent Level: The community noise equivalent level (CNEL) is also used to characterize average sound levels over a 24-hour period, with weighting factors included for evening and nighttime sound levels. L_{eq} values for the evening period (7:00 p.m.-10:00 p.m.) are increased by 5 dB, whereas L_{eq} values for the nighttime period (10:00 p.m.-7:00 a.m.) are increased by 10 dB. For given set of sound measurements, the CNEL value will usually be about 1 dB higher than the L_{dn} value. In practice, CNEL and L_{dn} are often used interchangeably.

Percentile-Exceeded Sound Level: The sound level exceeded during a given percentage of a measurement period is the percentile-exceeded sound level (L_x). Examples include L_{10} , L_{50} , and L_{90} . L_{10} is the A-weighted sound level that is exceeded 10% of the measurement period, L_{50} is the level exceeded 50% of the period, and so on. L_{90} is often considered to represent the ambient sound level.

Ambient Sound: Ambient sound is the all-encompassing sound associated with a given community site, usually being a composite of sounds from many sources, near and far, with no particular sound being dominant.

Equivalencies Between Various Sound Descriptors

The L_{dn} value at a site calculated from a set of measurements taken over a given 24-hour period will be slightly lower than the CNEL value calculated over the same period. Except in situations where unusually high evening sound levels occur, the CNEL value will be within 1.5 dB of the L_{dn} value for the same set of sound measurements.

The relationship between peak hourly L_{eq} values and associated L_{dn} values depends on the distribution of traffic over the entire day. There is no precise way to convert a peak hourly L_{eq} value to an L_{dn} value. However, in urban areas near heavy traffic, the peak hourly L_{eq} value is

typically 2-4 dB lower than the daily L_{dn} value. In less heavily developed areas, the peak hourly L_{eq} is often equal to the daily L_{dn} value. For rural areas with little nighttime traffic, the peak hourly L_{eq} value will often be 3-4 dB greater than the daily L_{dn} value.

Working With Decibel Values

The nature of the decibel scale is such that the individual sound levels for different sound sources cannot be added directly to give the combined sound level of these sources. Two sound sources producing equal sound levels at a given location will produce a composite sound level that is 3 dB greater than either sound alone. When two sound sources differ by 10 dB, the composite sound level will be only 0.4 dB greater than the louder source alone.

Most people have difficulty distinguishing the louder of two sound sources if they differ by less than 1.5-2.0 dB. Research into the human perception of changes in sound level indicates the following:

- a 3-dB change is just perceptible,
- a 5-dB change is clearly perceptible, and
- a 10-dB change is perceived as being twice or half as loud.

A doubling or halving of acoustic energy will change the resulting sound level by 3 dB, which corresponds to a change that is just perceptible. In practice, this means that a doubling of traffic volume on a roadway, doubling the number of people in a stadium, or doubling the number of wind turbines in a wind farm will, as a general rule, only result in a 3-dB, or just perceptible, increase in noise.

Outdoor Sound Propagation

There are a number of factors that affect how sound propagates outdoors. These factors, described by Miller (1982), are summarized below.

Distance Attenuation: As a general rule, sound from localized or point sound sources spreads out as it travels away from the source and the sound level drops at a rate of 6 dB per doubling of distance. If the sound source is long in one dimension, such as traffic on a highway or a long train, the sound source is considered to be a line source. As a general rule, the sound level from a line source will drop off at a rate of 3 dB per doubling of distance. If the intervening ground between the line source and the receptor is acoustically "soft" (e.g., ground vegetation, scattered trees, clumps of bushes), an attenuation rate of 4.5 dB per doubling of distance is generally used.

Attenuation from Barriers: Any solid structure such as a berm, wall, or building that blocks the line of sight between a source and receiver serves as a sound barrier and will result in additional sound attenuation. The amount of additional attenuation is a function of the difference between the length of the sound path over the barrier and the length of the direct line of sight path. Thus, the sound attenuation of a barrier between a source and a receiver that are very far apart will be much less than the attenuation that would result if either the source or the receiver is very close to the barrier.

Molecular Absorption: Air absorbs sound energy as a function of the temperature, humidity of the air, and frequency of the sound. Additional sound attenuation on the order of 1 to 2 dB per 1,000 feet can occur.

Anomalous Excess Attenuation: Large-scale effects of wind speed, wind direction, and thermal gradients in the air can cause large differences in sound transmission over large distances. These effects when combined result in anomalous excess attenuation, which can be applied to long-term sound-level estimates. Additional sound attenuation on the order of about 1 dB per 1,000 feet can occur.

Other Atmospheric Effects: Short-term atmospheric effects relating to wind and temperature gradients can cause bending of sound waves and can influence changes in sound levels at large distances. These effects can either increase or decrease sound levels, depending on the orientation of the source and receptor and the nature of the wind and temperature gradient. Because these effects are normally short-term, it is generally not practical to include them in sound propagation calculations. Understanding these effects, however, can help explain variations that occur between calculated and measured sound levels.

Guidelines For Interpreting Sound Levels

Various federal, state, and local agencies have developed guidelines for evaluating land use compatibility under different sound-level ranges. A summary of federal and state guidelines follows.

Federal Agency Guidelines: The federal Noise Control Act of 1972 (Public Law 92-574) established a requirement that all federal agencies administer their programs to promote an environment free of noise that jeopardizes public health or welfare. EPA was given the responsibility for:

- providing information to the public regarding identifiable effects of noise on public health or welfare,

- publishing information on the levels of environmental noise that will protect the public health and welfare with an adequate margin of safety,
- coordinating federal research and activities related to noise control, and
- establishing federal noise emission standards for selected products distributed in interstate commerce.

The federal Noise Control Act also directed that all federal agencies comply with applicable federal, state, interstate, and local noise control regulations.

Although EPA was given major public information and federal agency coordination roles, each federal agency retains authority to adopt noise regulations pertaining to agency programs. EPA can require other federal agencies to justify their noise regulations in terms of the federal Noise Control Act policy requirements. The Occupational Safety and Health Administration retains primary authority for setting workplace noise exposure standards. The Federal Aviation Administration retains primary jurisdiction over aircraft noise standards, and the Federal Highway Administration (FHWA) retains primary jurisdiction over highway noise standards.

In 1974, in response to the requirements of the federal Noise Control Act, EPA identified indoor and outdoor noise limits to protect public health and welfare (communication disruption, sleep disturbance, and hearing damage). Outdoor L_{dn} limits of 55 dB and indoor L_{dn} limits of 45 dB are identified as desirable to protect against speech interference and sleep disturbance for residential, educational, and health care areas. Sound-level criteria to protect against hearing damage in commercial and industrial areas are identified as 24-hour L_{eq} values of 70 dB (both outdoors and indoors).

The FHWA has adopted criteria for evaluating noise impacts associated with federally funded highway projects and for determining whether these impacts are sufficient to justify funding noise mitigation actions (47 FR 131:29653-29656, July 8, 1982). The FHWA noise abatement criteria are based on peak hourly L_{eq} sound levels, not L_{dn} or 24-hour L_{eq} values. The peak 1-hour L_{eq} criteria for residential, educational, and health care facilities are 67 dB outdoors and 52 dB indoors. The peak 1-hour L_{eq} criterion for commercial and industrial areas is 72 dB (outdoors).

The U.S. Department of Housing and Urban Development has established guidelines for evaluating noise impacts on residential projects seeking financial support under various grant programs (44 FR 135:40860-40866, January 23, 1979). Sites are generally considered acceptable for residential use if they are exposed to outdoor L_{dn} values of 65 dB or less. Sites are considered "normally unacceptable" if they are exposed to outdoor L_{dn} values of 65-75 dB. Sites are considered unacceptable if they are exposed to outdoor L_{dn} values above 75 dB.

State Agency Guidelines: In 1987, the California Department of Health Services published guidelines for the noise elements of local general plans. These guidelines include a sound level/land use compatibility chart that categorizes various outdoor L_{dn} ranges into up to four compatibility categories (normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable) by land use. For many land uses, the chart shows overlapping L_{dn} ranges for two or more compatibility categories.

The noise element guidelines chart identifies the normally acceptable range for low-density residential uses as less than 60 dB and the conditionally acceptable range as 55-70 dB. The normally acceptable range for high-density residential uses is identified as L_{dn} values below 65 dB, and the conditionally acceptable range is identified as 60-70 dB. For educational and medical facilities, L_{dn} values below 70 dB are considered normally acceptable and L_{dn} values of 60-70 dB are considered conditionally acceptable. For office and commercial land uses, L_{dn} values below 70 dB are considered normally acceptable and L_{dn} values of 67.5-77.5 are categorized as conditionally acceptable.

These overlapping L_{dn} ranges are intended to indicate that local conditions (existing sound levels and community attitudes toward dominant sound sources) should be considered in evaluating land use compatibility at specific locations.

The California Department of Housing and Community Development has adopted noise insulation performance standards for new hotels, motels, and dwellings other than detached single-family structures (24 CCR T25-28). These standards require that "interior CNELs with windows closed, attributable to exterior sources, shall not exceed an annual CNEL of 45 dB in any habitable room".

Caltrans uses the FHWA criteria as the basis for evaluating noise impacts from highway projects.

4.6. SAFETY ELEMENT

Goal: To prevent or minimize loss of human life and personal injury, damage to property, and economic and social disruption potentially resulting from potential seismic occurrences and geologic hazards.

State Law requires a Safety Element to outline policies and programs which will protect the Fort Ord Planning Area communities from both natural and human induced disasters. The Safety Element considers the following:

- Seismic and Geologic Hazards (4.6.1)
- Fire, Flood, and Emergency Management (4.6.2)
- Hazardous and Toxic Materials and Sites (4.6.3)

4.6.1 Seismic and Geologic Hazards

4.6.1.1 Summary of Existing Conditions

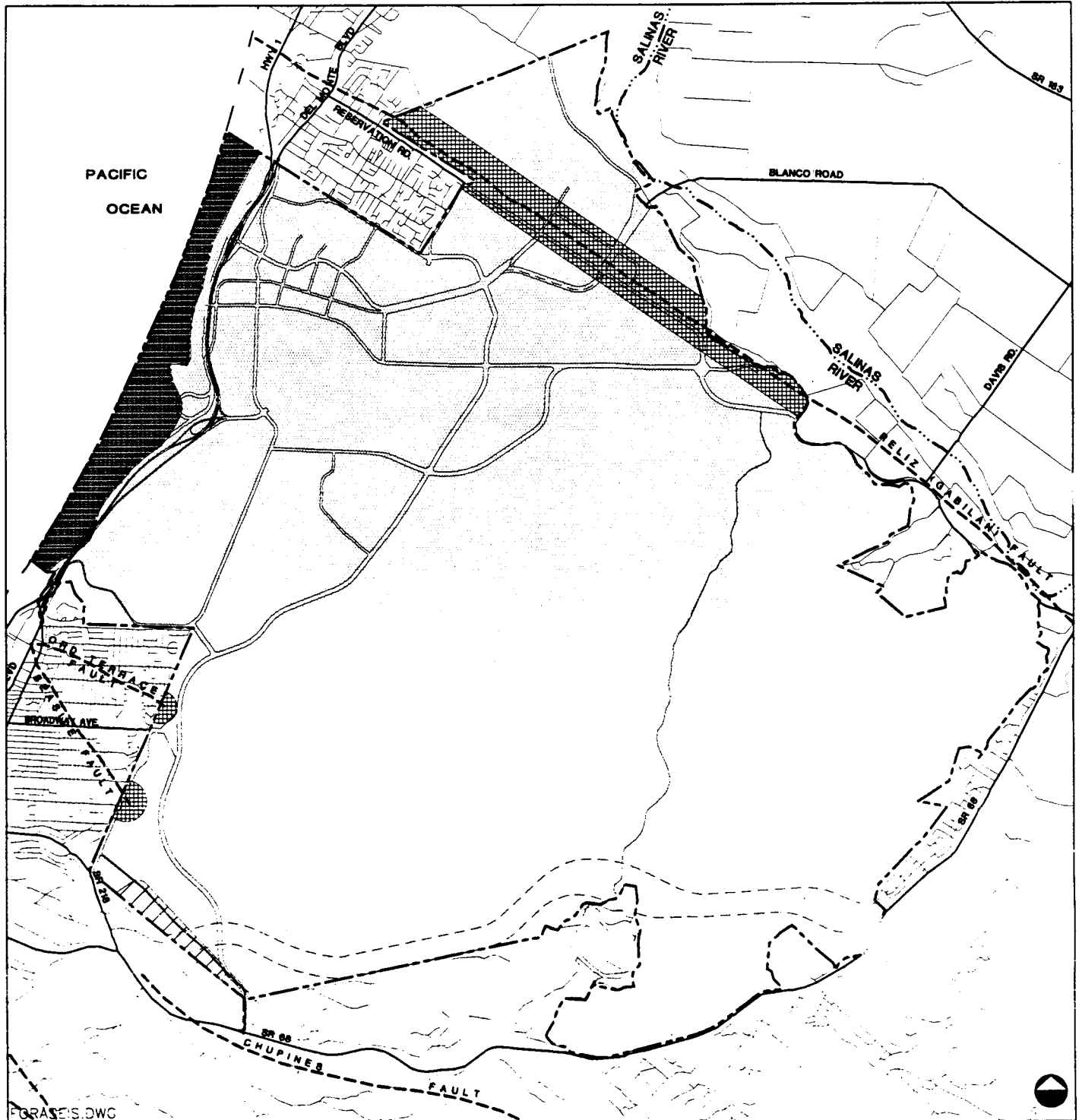
Following is a general description of seismic and geologic hazards at the former Fort Ord. A more detailed description of these conditions is included in the documents:

- Soils Baseline Study of Fort Ord, California (U. S. Army Corps of Engineers, Sacramento District 1992),
- Other Physical Attributes Baseline Study of Fort Ord, California, (U.S. Army Corps of Engineers, Sacramento District 1992),
- Volume I of the Final Environmental Impact Statement (FEIS), Section 4.3.6 on Fort Ord Disposal and Reuse (U. S. Army Corps of Engineers, Sacramento District 1993.), and
- Draft Supplemental Environmental Impact Statement (SEIS), Fort Ord Disposal and Reuse, (U. S. Army Corps of Engineers, Sacramento District December 1995).

Seismic and Geologic Hazards

The Monterey Bay area, including the former Fort Ord, is located within the San Andreas fault system, a zone of shearing caused by the relative vertical and horizontal motions of the North American and Pacific plates along fault lines.

Several inferred or concealed earthquake faults including the Reliz or Gabilam, Chupines, Ord Terrace, and Seaside faults, either cross or are adjacent to the former Fort Ord (See Figure 4.6-1 "Seismic Hazards" for an illustration of area fault lines). The first fault has possibly been active in the last 0.7 million years, and the latter three fault is have possibly been active in the last 1.6 million years. None show activity in the last 10,000 years, but the potential cannot be ruled out. The San Andreas fault, historically active in the last 200 years, is located within 25 miles of the former Fort Ord.



SOURCE: Jones & Stokes, 1995; Reimer Associates, (Re-projected), 1995; Monterey Co., 1995; EDAW, 1996.

LEGEND:

----- Potentially Active Seismic Fault Lines

SOURCE: Monterey County Seismic Safety Element, Oct. 1981 (Burkland & Assoc., 1975);
EIS Baseline Studies (U.S. Army Corp of Engineers, Sacramento Dist., 1992);
Geological Hazard Study (John Kingsley, 1994);
Preliminary Geologic Hazards Investigation (Weber & Assoc., 1992)

Ground Shaking Potential

SOURCE: Monterey County Seismic Safety Element, Oct. 1981 (Burkland & Assoc., 1975)



LOW



HIGH



MODERATELY HIGH



VERY HIGH

DRAFT
FIGURE 4.6-1

SEISMIC HAZARDS

The Palo Colorado-San Gregorio fault, 14 miles southwest of the former Fort Ord, and the Monterey Bay fault zone, directly offshore of Fort Ord, both show evidence of recent earthquake activity. The Monterey Bay fault zone extends seaward of the Ord Terrace, Seaside, and Chupines faults. The maximum credible earthquake magnitude is greater than 6 for the Monterey Bay fault zone, greater than 7 for the Palo-Colorado-San Gregorio fault, and greater than 8 for the San Andreas.

Since the 1989 Loma Pietra earthquake, probability of a large earthquake of magnitude 7 or greater occurring in the San Francisco Bay area within the next 30 years is estimated to be approximately 67 percent. Expected ground-shaking for the Monterey Bay region either from a 7 or 8 magnitude earthquakes in the San Francisco or Monterey Bay areas would be significant.

The seismic hazards resulting from earthquakes are of two type, primary and secondary. Primary hazards include ground shaking and ground ruptures. Secondary hazards are those induced by primary hazards and include ground failure such as cracking and slope failures (landslides), liquefaction, and tsunamis (tidal waves) produced by off-shore earthquakes.

Figure 4.6-1 shows that most of the land area of the former Fort Ord is subject to moderately high ground shaking, although some areas are subject to higher potential. The Coastal beaches area of the Former Fort Ord has a very high ground-shaking potential, and areas of the base that overlie potentially active faults have high potential.

The potential of earthquake damage from seismic activity in the Fort Ord area is moderate to very high, with the highest potential in the coastal dune zone, due to ground shaking and tsunamis, and in the eastern zone (mostly in Monterey County) of the former Fort Ord due to ground failure and landslides from highly unstable soil formations and limitations.

Only minor earthquake damage was sustained at Fort Ord in the Loma Pietra earthquake of 1989. Cracks appeared in the concrete between Stilwell Hall and the dune cliffs because of the unstable condition of the cliffs, and a few cracks occurred in the Silas B. Hays Army Community Hospital because of ground shaking.

Approximately 8,000 buildings exist on the former Fort Ord. Most were built before modern seismic safety provisions were incorporated into California building codes and Department of the Army technical manuals.

Critical Facilities

Seismic safety provisions of California building codes focus on buildings

that receive concentrated public use, civic and emergency facilities, or house sensitive uses, such as schools and hospitals. Hazardous material storage sites area also considered sensitive facilities. Schools on the former Fort Ord are owned and operated by the Monterey Peninsula Unified School District on land leased from the federal government and are required to be in compliance with current building codes relating to seismic safety. The former Silas B. Hays Army Community Hospital, which was completed in 1971, would require extensive modifications to comply with local and state seismic safety building codes required of in-patient health-care facilities.

Geologic hazards relative to soil limitations and topography which could result in erosion, slope instability, and landslides conditions are discussed further in the Conservation Element.

4.6.1.2 Objectives

Objective A: Protect and ensure public safety by regulating and directing new construction (location, type, and density) of public and private projects, and critical and sensitive facilities away from areas where seismic and geologic hazards are considered likely predicable so as to reduce the hazards and risks from seismic and geologic occurrences.

The purpose of this objective is to consider the risk to human safety and property from seismic and geologic hazards when determining the location and intensity of development and the conditions under which they may occur. This includes critical and sensitive facilities such major roadways, power lines, hospitals, fire and police stations, public works centers, or sites containing or storing hazardous materials. This will ensure that structural damage and harm to persons within the urbanized portion of the former Fort Ord are protected against seismic and geologic occurrences.

Objective B: Protect and ensure public safety by inventorying and regulating renovation of existing structures, including critical or sensitive facilities, at Fort Ord to current construction standards .

The purpose of this objective is to ensure that in the event of extreme seismic shaking existing buildings, including masonry and critical or sensitive facilities will have been renovated to current construction standards to prevent or minimize loss of life, injury, or property damage.

Objective C: Protect, ensure, and promote public safety through public education regarding earthquake preparedness and post-earthquake recovery practices .

The purpose of this objective to better educate and prepare the general public for protection before, during and after an earthquake or geologic occurrence.

4.6.1.3 Policies and Programs

City of Marina

The following objectives, policies and programs are consistent with the existing City of Marina General Plan - Seismic Safety Element, which is herein incorporated by reference. The City of Marina has also adopted to incorporate by reference the Monterey County Seismic Safety Element under state law provisions in Section 65302(f) of the Government Code.

Objective A: Protect and ensure public safety by regulating and directing new construction (location, type, and density) of public and private projects, and critical and sensitive facilities away from areas where seismic and geologic hazards are considered likely predictable so as to reduce the hazards and risks from seismic and geologic occurrences.

Seismic and Geologic Hazards Policy A-1: The City shall develop standards and guidelines and require their use in new construction to provide the greatest possible protection for human life and property in areas where there is a high risk of seismic or geologic occurrence.

Program A-1.1: The City shall regularly update and make available descriptions and mapping of seismic and geologic hazard zones and associated risk factors for each, including feasible and effective engineering and design techniques that address the seismic and geologic hazard zone characteristics of the former Fort Ord. Seismic and geology hazard zones should include areas and risk factors associated with ground-shaking, ground rupture, ground failure and landslides susceptibility, liquefaction and tsunamis.

Program A-1.2: The City shall establish setback requirements for new construction, including critical and sensitive facilities, for each seismic hazard zone with a minimum of 200 feet setback to a maximum of one quarter (1/4) mile setback from an active seismic fault. Critical and sensitive buildings include all public or private buildings essential to the health and safety of the general public, hospitals, fire and police stations, public works centers, high occupancy structures, schools, or sites containing or storing hazardous materials.

Seismic and Geologic Hazards Policy A-2: The City shall use the development review process to ensure that potential seismic or geologic hazards are evaluated and mitigated prior to construction of new projects.

Program A-2.1: The City shall require geotechnical reports and seismic safety plans when development projects or area plans are proposed within zones that involve high or very high seismic risk. Each plan shall be prepared by a certified geotechnical engineer and shall be subject to the approval of the Planning Director for the City of Marina.

Program A-2.2: Through site monitoring, the City shall ensure that all measures included in the project's geotechnical and seismic safety plans are properly implemented and a report shall be filed and on public record prepared by the Planning Director and/or Building Inspector confirming such.

Program A-2.3: The City shall continue to update and enforce the Uniform Building Code to minimize seismic hazards impacts from resulting from earthquake induced effects such as ground shaking, ground rupture, liquefaction, and or soils problems.

Seismic and Geologic Hazards Policy A-3: The City shall designate areas with severe seismic hazard risk as open space or similar use if adequate measures cannot be taken to ensure the structural stability of habitual buildings and ensure the public safety.

Program A-3.1: As appropriate, the City should amend its General Plan and zoning maps to designate areas with severe seismic hazard risk as open space if not other measures are available to mitigate potential impacts.

Objective B: Promote public safety by inventorying and regulating renovation of existing structures, including critical or sensitive facilities at the former Fort Ord to current seismic safety standards.

Seismic and Geologic Hazards Policy B-1: The City shall develop an inventory of critical and sensitive buildings and structures on the former Fort Ord, including all public or private buildings essential to the health and safety of the general public, hospitals, fire and police stations, public works centers, high occupancy structures, school, or sites containing or storing hazardous materials.

Program B-1.1: The City shall evaluate the ability of critical and sensitive buildings to maintain structural integrity as defined by the Uniform Building Code (UBC) in the event of a 6.0 magnitude or greater earth-

quake. The Public Works Director shall inventory those existing facilities determined to be unable to maintain structural integrity, and make recommendations for modifications and a schedule for compliance with the UBC. The City shall implement these recommendations in accordance with the schedule.

Objective C: Protect, ensure, and promote public safety through public education regarding earthquake preparedness and post-earthquake recovery practices.

Seismic and Geologic Hazards Policy C-1: The City shall, in cooperation with other appropriate agencies, create a program of public education for earthquakes which includes guidelines for retrofitting of existing structures for earthquake protection, safety procedures during an earthquake, necessary survival material, community resources identification, and procedures after an earthquake.

Program C-1.1: The City shall prepare and/or make available at City Hall libraries and other public places, information and educational materials regarding earthquake preparedness.

City of Seaside

The following objectives, policies and programs are consistent with the existing City of Seaside General Plan - Seismic Safety Element, which is herein incorporated by reference.

Objective A: Protect and ensure public safety by regulating and directing new construction (location, type, and density) of public and private projects, and critical and sensitive facilities away from areas where seismic and geologic hazards are considered likely predictable so as to reduce the hazards and risks from seismic and geologic occurrences.

Seismic and Geologic Hazards Policy A-1: The City of Seaside shall develop standards and guidelines and require their use in new construction to provide the greatest possible protection for human life and property in areas where there is a high risk of seismic or geologic occurrence.

Program A-1.1: The City shall regularly update and make available descriptions and mapping of seismic and geologic hazard zones and associated risk factors for each, including feasible and effective engineering and design techniques that address the seismic and geologic hazard zone characteristics of land under its jurisdiction at the former Fort Ord. Seismic and geology hazard zones should include areas and risk factors

associated with ground-shaking, ground rupture, ground failure and landslides susceptibility, liquefaction and tsunamis.

Program A-1.2: The City shall establish setback requirements for new construction, including critical and sensitive facilities, for each seismic hazard zone with a minimum of 200 feet setback to a maximum of one quarter (1/4) mile setback from an active seismic fault. Critical and sensitive buildings include all public or private buildings essential to the health and safety of the general public, hospitals, fire and police stations, public works centers, high occupancy structures, schools, or sites containing or storing hazardous materials.

Seismic and Geologic Hazards Policy A-2: The City shall use the development review process to ensure that potential seismic or geologic hazards are evaluated and mitigated prior to construction of new projects.

Program A-2.1: The City shall require geotechnical reports and seismic safety plans when development projects or other area plans are proposed within zones that involve high or very high seismic risk. Each plan shall be prepared by a certified geotechnical engineer and shall be subject to the approval of the Planning Director for the City of Seaside.

Program A-2.2: Through site monitoring, the City shall ensure that all measures included in the project's geotechnical and seismic safety plans are properly implemented and a report shall be filed and on public record prepared by the Planning Director and/or Building Inspector confirming such.

Program A-2.3: The City shall continue to update and enforce the Uniform Building Code to minimize seismic hazards impacts from resulting from earthquake induced effects such as ground shaking, ground rupture, liquefaction, and or soils problems.

Seismic and Geologic Hazards Policy A-3: The City shall designate areas with severe seismic hazard risk as open space or similar use if adequate measures cannot be taken to ensure the structural stability of habitual buildings and ensure the public safety.

Program A-3.1: As appropriate, the City should amend its General Plan and zoning maps to designate areas with severe seismic hazard risk as open space if not other measures are available to mitigate potential impacts.

Objective B: Promote public safety by inventorying and regulating renovation of existing structures, including critical or sensitive facilities at the former Fort Ord to current seismic safety standards.

Seismic and Geologic Hazards Policy B-1: The City shall develop an inventory of critical and sensitive buildings and structures on the former Fort Ord, including all public or private buildings essential to the health and safety of the general public, hospitals, fire and police stations, public works centers, high occupancy structures, school, or sites containing or storing hazardous materials.

Program B-1.1: The City shall evaluate the ability of critical and sensitive buildings to maintain structural integrity as defined by the Uniform Building Code (UBC) in the event of a 6.0 magnitude or greater earthquake. The Public Works Director shall inventory those existing facilities determined to be unable to maintain structural integrity, and make recommendations for modifications and a schedule for compliance with the UBC. The City shall implement these recommendations in accordance with the schedule.

Objective C: Protect, ensure, and promote public safety through public education regarding earthquake preparedness and post-earthquake recovery practices.

Seismic and Geologic Hazards Policy C-1: The City shall, in cooperation with other appropriate agencies, create a program of public education for earthquakes which includes guidelines for retrofitting of existing structures for earthquake protection, safety procedures during an earthquake, necessary survival material, community resources identification, and procedures after an earthquake.

Program C-1.1: The City shall prepare and/or make available at City Hall libraries and other public places, information and educational materials regarding earthquake preparedness.

Monterey County

The following objectives, policies and programs are consistent with the existing County of Monterey General Plan - Seismic Safety Element (1982), and the Monterey Peninsula Area Plan (1994) which is herein incorporated by reference.

Objective A: Protect and ensure public safety by regulating and directing new construction (location, type, and density) of public and private projects, and critical and sensitive facilities away from areas where seismic and geologic

hazards are considered likely predictable so as to reduce the hazards and risks from seismic and geologic occurrences.

Seismic and Geologic Hazards Policy A-1: The County shall develop standards and guidelines and require their use in new construction to provide the greatest possible protection for human life and property in areas where there is a high risk of seismic or geologic occurrence.

Program A-1.1: The County shall regularly update and make available descriptions and mapping of seismic and geologic hazard zones and associated risk factors for each, including feasible and effective engineering and design techniques that address the seismic and geologic hazard zone characteristics of the former Fort Ord. Seismic and geology hazard zones should include areas and risk factors associated with ground shaking, ground rupture, ground failure and landslides susceptibility, liquefaction and tsunamis.

Program A-1.2: The County shall establish setback requirements for new construction, including critical and sensitive facilities, for each seismic hazard zone with a minimum of 200 feet setback to a maximum of one quarter (1/4) mile setback from an active seismic fault. Critical and sensitive buildings include all public or private buildings essential to the health and safety of the general public, hospitals, fire and police stations, public works centers, high occupancy structures, school, or sites containing or storing hazardous materials.

Seismic and Geologic Hazards Policy A-2: The County shall use the development review process to ensure that potential seismic or geologic hazards are evaluated and mitigated prior to construction of new projects.

Program A-2.1: The County shall require geotechnical reports and seismic safety plans when development projects or area plans are proposed within zones that involve high or very high seismic risk. Each plan shall be prepared by a certified geotechnical engineer and shall be subject to the approval of the Planning Director for the County of Monterey.

Program A-2.2: Through site monitoring, the County shall ensure that all measures included in the project's geotechnical and seismic safety plans are properly implemented and a report shall be filed and on public record prepared by the Planning Director and/or Building Inspector, confirming such.

Program A-2.3: The County shall continue to updated and enforce the Uniform Building Code to minimize seismic hazards impacts from resulting

from earthquake induced effects such as ground shaking, ground rupture, liquefaction, and or soils problems.

Seismic and Geologic Hazards Policy A-3: The County shall designate areas with severe seismic hazard risk as open space or similar use if adequate measures cannot be taken to ensure the structural stability of habitual buildings and ensure the public safety.

Program A-3.1: The County shall require construction project proponents to prepare and implement geotechnical reports and seismic safety plans for projects that involve high or moderate seismic risk. Each plan shall be prepared by a certified geotechnical engineer and shall be subject to the approval of the Planning Director for the County of Monterey.

Objective B: Promote public safety by inventorying and regulating renovation of existing structures, including critical or sensitive facilities at the former Fort Ord to current seismic safety standards.

Seismic and Geologic Hazards Policy B-1: The County shall develop an inventory of critical and sensitive buildings and structures on the former Fort Ord, including all public or private buildings essential to the health and safety of the general public, hospitals, fire and police stations, public works centers, high occupancy structures, school, or sites containing or storing hazardous materials.

Program B-1.1: The County shall evaluate the ability of critical and sensitive buildings to maintain structural integrity as defined by the Uniform Building Code (UCB) in the event of a 6.0 magnitude or greater earthquake. The Public Works Director shall inventory those existing facilities determined to be unable to maintain structural integrity, and make recommendations for modifications and a schedule for compliance with the UBC. The County shall implement these recommendations in accordance with the schedule.

Objective C: Protect, ensure, and promote public safety through public education regarding earthquake preparedness and post-earthquake recovery practices.

Seismic and Geologic Hazards Policy C-1: The County shall, in cooperation with other appropriate agencies, create a program of public education for earthquakes which includes guidelines for retrofitting of existing structures for earthquake protection, safety procedures during an earthquake, necessary survival material, community resources identification, and procedures after an earthquake.

Program C-1.1: The County shall prepare and/or make available at County libraries and other public places, information and educational materials regarding earthquake preparedness.

4.6.2 Fire, Flood, and Emergency Management

4.6.2.1 Summary of Existing Conditions

Goal: To prevent or minimize loss of human life and personal injury, damage to property, and economic and social disruption potentially resulting from fire, flooding, or other natural disasters.

Following is a general description of fire, flood, and Emergency Management hazards at the former Fort Ord. A more detailed description of these conditions is included in the following documents:

- Volume I of the Final Environmental Impact Statement (FEIS), Section 4.3.6 on Fort Ord Disposal and Reuse (U. S. Army Corps of Engineers, Sacramento District 1993), and
- Draft Supplemental Environmental Impact Statement (SEIS), Fort Ord Disposal and Reuse (U. S. Army Corps of Engineers, Sacramento District December 1995).

Fire Hazards

Fire hazards exist at the former Fort Ord primarily as wildfire potential in open space and habitat areas. These areas contain grassland with many steeper areas containing brushland and wooded slopes (See Figure 4.6-2 "Fire and Flood Hazards and Evacuation Routes" for location of fire hazard areas). These occur in the eastern half of the Fort Ord Planning area, mostly in Monterey County's unincorporated area. The State of California Department of Forestry rates these areas in Monterey County as extreme wildfire hazard areas. This rating is based on slope characteristics, climate, fuel loading and water availability.

Although the Fort Ord Reuse Plan concentrates most of the new development in already urbanized areas of the former Fort Ord (Seaside and Marina), future long-term development in Monterey County or in other jurisdictions, via land transfer and annexation, may occur in more rural areas where fire danger is highest.

Fire protection services for these high fire danger areas are provided by the U. S. Navy under an interservice support agreement with the Army until land transfers occur for the Army to the jurisdictions. An interagency automatic mutual aid agreement exists with the Salinas Rural Fire Protection District for fire suppression. Fort Ord property and former base structures are under the Navy interservice support agreement.

Flood Hazards

Flood hazards within the Fort Ord Reuse Plan area are localized north along the Salinas River Bluff within Monterey County. Recent storms in

Age Group	Percentage
18-24	5500
25-34	4500
35-44	3500
45-54	2500
55-64	1500
65-74	1000
75-84	800
85-94	600
95-104	400

 Fire Hazard

**FIRE AND FLOOD HAZARDS
AND EVACUATION ROUTES**
Attachment D, p. 879 of 1882

1995 flooded portions of these areas impacting both agricultural land and some residential properties. Flood danger from reservoir ruptures within the Salinas Valley watershed (San Antonio or Nacimiento Reservoirs) could cause swelling of the Salinas River and could create a flood condition in the areas described above.

(See Figure 4.6-2 "Fire and Flood Hazards and Evacuation Routes" for location of flood hazard areas).

Emergency Management

Emergency management includes those facilities, personnel, and activities concerned with the ability to deal with disasters such as earthquake, fire, flood, or other natural crisis situations. The Fort Ord communities emergency management preparedness primarily concerns mobility - being able to respond to emergencies with the fullest extent of their resources. This means providing emergency supplies and equipment in the most effective manner possible. Emergency management programs include: transportation networks, evacuation routes, and emergency management team organization among of the cities of Marina and Seaside, and the County of Monterey, as well as those of the surrounding communities:

In the event of wildfire emergencies, the Fort Ord communities benefit from a U. S. Army agreement for fire protection with the U. S. Navy and a mutual aid agreement with the Salinas Rural Fire Protection District.

The former Silas B. Hays Army Community Hospital is now closed and other medical facilities at the former Fort Ord are restricted to POM Annex personnel. Medical emergency support is provided by local community clinics, hospitals, and emergency response service providers in the cities of Seaside, Monterey, Marina, and Salinas.

Existing road networks on the former Fort Ord are sufficient for current emergency uses; however, as the Reuse Plan is implemented, many street and emergency access design patterns will need to be upgraded to meet current standards, as represented by the Monterey County standards for emergency road access preparedness.

4.6.2.2 Objectives

Objective A: Protect public safety by minimizing the risk from fire hazards especially wildfire in grassland and wooded areas in the Fort Ord region.

Objective B: Protect public safety by minimizing the risk from flooding and develop policies and implementation programs which will protect people from flooding.

Objective C: Protect the public safety through effective and efficient emergency management preparedness.

4.6.2.3 Fire, Flood, and Emergency Management Policies and Programs

City of Marina

The following objectives, policies and programs are consistent with the existing City of Marina General Plan - Safety Element, which is herein incorporated by reference.

Objective A: Protect public safety by minimizing the risk from fire hazards especially wildfire in grassland and wooded areas in the Fort Ord region.

Fire, Flood, and Emergency Management Policy A-1: The City of Marina shall incorporate sections the Greater Monterey Peninsula Area Plan - Safety Element relative to wildfire management for areas which the City plans to annex and which pose high or extreme fire danger.

Fire, Flood, and Emergency Management Policy A-2: The City shall reduce fire hazard risks to an acceptable level by inventorying and assigning risk levels for wildfire hazards and regulating the type, density, location, and/or design and construction of new developments, both public and private.

Program A-2.1: The City shall incorporate the recommendations of the City Fire Department for all residential, commercial, industrial, and public works projects to be constructed in high fire hazard areas before a building permit can be issued. Such recommendations shall be in conformity with the current applicable Uniform Building Code Fire Hazards Policies. These recommendations should include standards of road widths, road access, building materials, distances around structures, and other standards for compliance with the UCB Fire Hazards Policies.

Fire, Flood, and Emergency Management Policy A-3: The City shall provide fire suppression water system guidelines and implementation plans for existing and acquired former Fort Ord lands equal to those recommended in the Fort Ord Infrastructure Study (FORIS Section Table 4.1.8) for fire protection water volumes, system distribution upgrades, and emergency water storage.

Fire, Flood, and Emergency Management Policy A-4: The City shall develop in cooperation with other Fort Ord jurisdictions and the surrounding communities fire protection agencies, a fire management plan to ensure adequate staff levels, response time, and fire suppression operations in

high fire hazard areas of the former Fort Ord. The fire management plan shall also include a fire “fuel management program” in conjunction with the County of Monterey and the Bureau of Land Management.

Program A-4.1: The City shall develop with appropriate fire protection agencies, a mutual and/or automatic fire aid agreement to assure the most effective response.

Program A-4.2: The City shall develop a public education program on fire hazards and citizen responsibility, including printed material, workshops, or school programs, especially alerting the public to wildfire dangers, evacuation routes, fire suppression methods, and fuel management including methods to reduce fire hazards such as bush clearing, roof materials, plant selection, and emergency water storage guidelines.

Fire, Flood, and Emergency Management Policy A-5: The City shall evaluate the need for additional fire station and fire suppression facilities and manpower within areas of the former Fort Ord which the City plans to annex in order to provide acceptable fire/emergency response time.

Objective B: Protect public safety by minimizing the risk from flooding and develop policies and implementation programs which will protect people from flooding.

Fire, Flood, and Emergency Management Policy B-1: The City shall identify areas within the former Fort Ord that may be subject to 100-year flooding in the Salinas River Bluffs area and restrict construction of habitable building structures in this area.

Objective C: Promote public safety through effective and efficient emergency management preparedness.

Fire, Flood, and Emergency Management Policy C-1: The City shall develop an emergency preparedness and management plan, in conjunction with the City of Seaside, the County of Monterey, and appropriate fire, medical, and law enforcement agencies.

Program C-1.1: The City shall identify city-emergency evacuation routes and emergency response staging areas with those of the City of Seaside and the County of Monterey, and shall adopt the Fort Ord Evacuation Routes Map (See Figure 4.6-2) as part of the city’s emergency response plans.

Program C-1.2: The City shall establish a community education program to train volunteers to assist police, fire, and civil defense personnel during and after a major earthquake, fire, or flood.

Program C-1.3: The City shall identify a “critical facilities” inventory, and in conjunction with appropriate emergency and disaster agencies, establish guidelines for operations of such facilities during an emergency.

City of Seaside

The following objectives, policies and programs are consistent with the existing City of Seaside General Plan - Safety Element, which is herein incorporated by reference.

Objective A: Protect public safety by minimizing the risk from fire hazards especially wildfire in grassland and wooded areas in the Fort Ord region.

Fire, Flood, and Emergency Management Policy A-1: The City shall reduce fire hazard risks to an acceptable level by inventorying and assigning risk levels for wildfire hazards and regulating the type, density, location, and/or design and construction of new developments, both public and private.

Program A-1.1: The City shall incorporate the recommendations of the City Fire Department for all residential, commercial, industrial, and public works projects to be constructed in high fire hazard areas before a building permit can be issued. Such recommendations shall be in conformity with the current applicable Uniform Building Code Fire Hazards Policies. These recommendations should include standards of road widths, road access, building materials, distances around structures, and other standards for compliance with the UCB Fire Hazards Policies.

Fire, Flood, and Emergency Management Policy A-2: The City shall provide fire suppression water system guidelines and implementation plans for existing and acquired former Fort Ord lands equal to those recommended in the Fort Ord Infrastructure Study (FORIS Section Table 4.1.8) for fire protection water volumes, system distribution upgrades, and emergency water storage.

Fire, Flood, and Emergency Management Policy A-3: The City shall develop in cooperation with other Fort Ord jurisdictions and the surrounding communities fire protection agencies, a fire management plan to ensure adequate staff levels, response time, and fire suppression operations in high fire hazard areas of the former Fort Ord. The fire management plan shall also include a fire “fuel management program” in conjunction with the County of Monterey and the Bureau of Land Management.

Program A-3.1: The City shall develop, with appropriate fire protection agencies, a mutual and/or automatic fire aid agreement to assure the most effective response.

Program A-3.2: The City shall develop a public education program on fire hazards and citizen responsibility, including printed material, workshops, or school programs, especially alerting the public to wildfire dangers, evacuation routes, fire suppression methods, and fuel management including methods to reduce fire hazards such as bush clearing, roof materials, plant selection, and emergency water storage guidelines.

Fire, Flood, and Emergency Management Policy A-4: The City shall evaluate the need for additional fire station and fire suppression facilities and manpower within areas of the former Fort Ord which the City plans to annex in order to provide acceptable fire/emergency response time.

Objective B: Protect public safety by minimizing the risk from flooding and develop policies and implementation programs which will protect people from flooding.

Fire, Flood, and Emergency Management Policy B-1: The City shall identify areas within the former Fort Ord that may be subject to 100-year flooding and restrict construction of habitable building structures in this area.

Objective C: Promote public safety through effective and efficient emergency management preparedness.

Fire, Flood, and Emergency Management Policy C-1: The City shall develop an emergency preparedness and management plan, in conjunction with the City of Marina, the County of Monterey, and appropriate fire, medical, and law enforcement agencies.

Program C-1.1: The City shall identify city emergency evacuation routes and emergency response staging areas with those of the City of Marina and the County of Monterey, and shall adopt the Fort Ord Evacuation Routes Map (See Figure 4.6-2) as part of the city's emergency response plans.

Program C-1.2: The City shall establish a community education program to train volunteers to assist police, fire, and civil defense personnel during and after a major earthquake, fire, or flood.

Program C-1.3: The City shall identify a “critical facilities” inventory, and in conjunction with appropriate emergency and disaster agencies, establish guidelines for operations of such facilities during an emergency.

County of Monterey

The following objectives, policies and programs are consistent with the existing County of Monterey Greater Monterey Peninsula Area Plan - Safety Element, which is herein incorporated by reference.

Objective A: Protect public safety by minimizing the risk from fire hazards especially wildfire in grassland and wooded areas in the Fort Ord region.

Fire, Flood, and Emergency Management Policy A-1: The County shall reduce fire hazard risks to an acceptable level by inventorying and assigning risk levels for wildfire hazards and regulating the type, density, location, and/or design and construction of new developments, both public and private.

Program A-1.1: The County shall incorporate the recommendations of the Salinas Rural Protection Fire District for all residential, commercial, industrial, and public works projects to be constructed at the former Fort Ord, in high fire hazard areas before a building permit can be issued. Such recommendations shall be in conformity with the current applicable Uniform Building Code Fire Hazards Policies. These recommendations should include standards of road widths, road access, building materials, distances around structures, and other standards for compliance with the UCB Fire Hazards Policies.

Fire, Flood, and Emergency Management Policy A-2: The County shall provide fire suppression water system guidelines and implementation plans for existing and acquired former Fort Ord lands equal to or greater than those recommended in the Fort Ord Infrastructure Study (FORIS Section Table 4.1.8) for fire protection water volumes, system distribution upgrades, and emergency water storage.

Fire, Flood, and Emergency Management Policy A-3: The County shall develop in cooperation with other Fort Ord jurisdictions and the surrounding communities fire protection agencies, a fire management plan to ensure adequate staff levels, response time, and fire suppression operations in high fire hazard areas of the former Fort Ord. The fire management plan shall also include a fire “fuel management program” in conjunction with the Bureau of Land Management.

Program A-3.1: The County shall develop, with appropriate fire protection agencies, a mutual and/or automatic fire aid agreement to assure the most effective response.

Program A-3.2: The County shall develop a public education program on fire hazards and citizen responsibility, including printed material, workshops, or school programs, especially alerting the public to wildfire dangers, evacuation routes, fire suppression methods, and fuel management including methods to reduce fire hazards such as bush clearing, roof materials, plant selection, and emergency water storage guidelines.

Fire, Flood, and Emergency Management Policy A-4: The County shall evaluate the need for additional fire station and fire suppression facilities and manpower within areas of the former Fort Ord which the County plans to develop in order to provide acceptable fire/emergency response time.

Objective B: Protect public safety by minimizing the risk from flooding and develop policies and implementation programs which will protect people from flooding.

Fire, Flood, and Emergency Management Policy B-1: The County shall identify areas within the former Fort Ord that may be subject to 100-year flooding in the Salinas River Bluffs area and restrict construction of habitable building structures in this area.

Objective C: Promote public safety through effective and efficient emergency management preparedness.

Fire, Flood, and Emergency Management Policy C-1: The County shall develop an emergency preparedness and management plan, in conjunction with the City of Marina, City of Seaside, and appropriate fire, medical, and law enforcement agencies.

Program C-1.1: The County shall identify city emergency evacuation routes and emergency response staging areas with those of the City of Marina, the City of Seaside, and shall adopt the Fort Ord Evacuation Routes Map (See Figure 4.6-2) as part of the city's emergency response plans.

Program C-1.2: The County shall establish a community education program to train volunteers to assist police, fire, and civil defense personnel during and after a major earthquake, fire, or flood.

Program C-1.3: The County shall identify a "critical facilities" inventory, and in conjunction with appropriate emergency and disaster agencies, establish guidelines for operations of such facilities during an emergency.

4.6.3 Hazardous and Toxic Materials Safety

4.6.3.1 Summary of Existing Conditions

Goal: To prevent or minimize loss of human life and personal injury, damage to property, and economic and social disruption potentially resulting from hazardous and toxic materials.

Hazardous and toxic waste site remediation at the former Fort Ord falls into two major categories: 1) hazardous and toxic waste sites (including buildings, landfills, storage facilities, and open air sites, and 2) ordnance and explosives (including unexploded ordnance) at various firing ranges.

The following is a general description of hazardous and toxic materials, and ordnance and explosives hazards at the former Fort Ord. A more detailed description of these conditions is included in the following documents, including references to existing U. S. Army documents relevant to assessments and plans for live ordnance and explosives:

- Volume I of the Final Environmental Impact Statement (FEIS), Section 4.3.6 on Fort Ord Disposal and Reuse (U. S. Army Corps of Engineers, Sacramento District 1993.),
- Draft Supplemental Environmental Impact Statement (SEIS), Fort Ord Disposal and Reuse (U. S. Army Corps of Engineers, Sacramento District, December 1995).

Hazardous and Toxic Waste Sites

Fort Ord was added to the February 21, 1990 "Superfund" National Priorities List of Hazardous Waste Sites. The identification, remediation, and disposal of hazardous waste associated with the Superfund cleanup process of Fort Ord takes place under the Federal Facilities Agreement (FFA). The Army is responsible for conducting the Superfund cleanup process, and EPA is the lead agency for regulatory enforcement and oversight of Superfund activities. The Army is also required to submit findings to the California EPA.

Significant progress is occurring in the Army's process of remediation. A remedial investigation/feasibility study (RI/FS) has been approved by the regulatory agency signatories to the federal facilities agreement. This agreement provides for identification and remediation action and criteria for the eventual certifying of the lands as clean or protective of human health and environment.

The federal facilities agreement, as well as the remedial action record of decision (RA-ROD) identify the Army's responsibility for long-term monitoring and cleanup. They will serve as a key document for the Fort Ord communities action in acquiring Public and Economic Benefit Conveyance land at Fort Ord as well as a timeframe and set of criteria for measuring the suitability of land for development and reuse.

The RA-ROD is a compilation of remedial action plans for the hazardous and toxic sites on the former Fort Ord. See Figure 4.6-3 for an illustration of areas of hazardous and toxic waste sites. The RA-ROD also defines the clean-up levels and the estimated time to remediation. These sites are discussed fully in the RI/FS and remedial action ROD and are more completely discussed in the Final EIS and the Supplemental EIS. The Army is also responsible for characterizing and removing unexploded ordnance. This cleanup process involves historical record reviews, site characterization, surface clearance, and possible subsurface clearance of unexploded ordnance.

Hazardous and toxic waste materials (HTW) and sites at the former Fort Ord consist of a wide variety of materials including: industrial chemicals, petrochemicals, domestic and industrial wastes (landfills), asbestos and lead paint in buildings, above- and underground storage units, and ordnance and explosives, including unexploded ordnance.

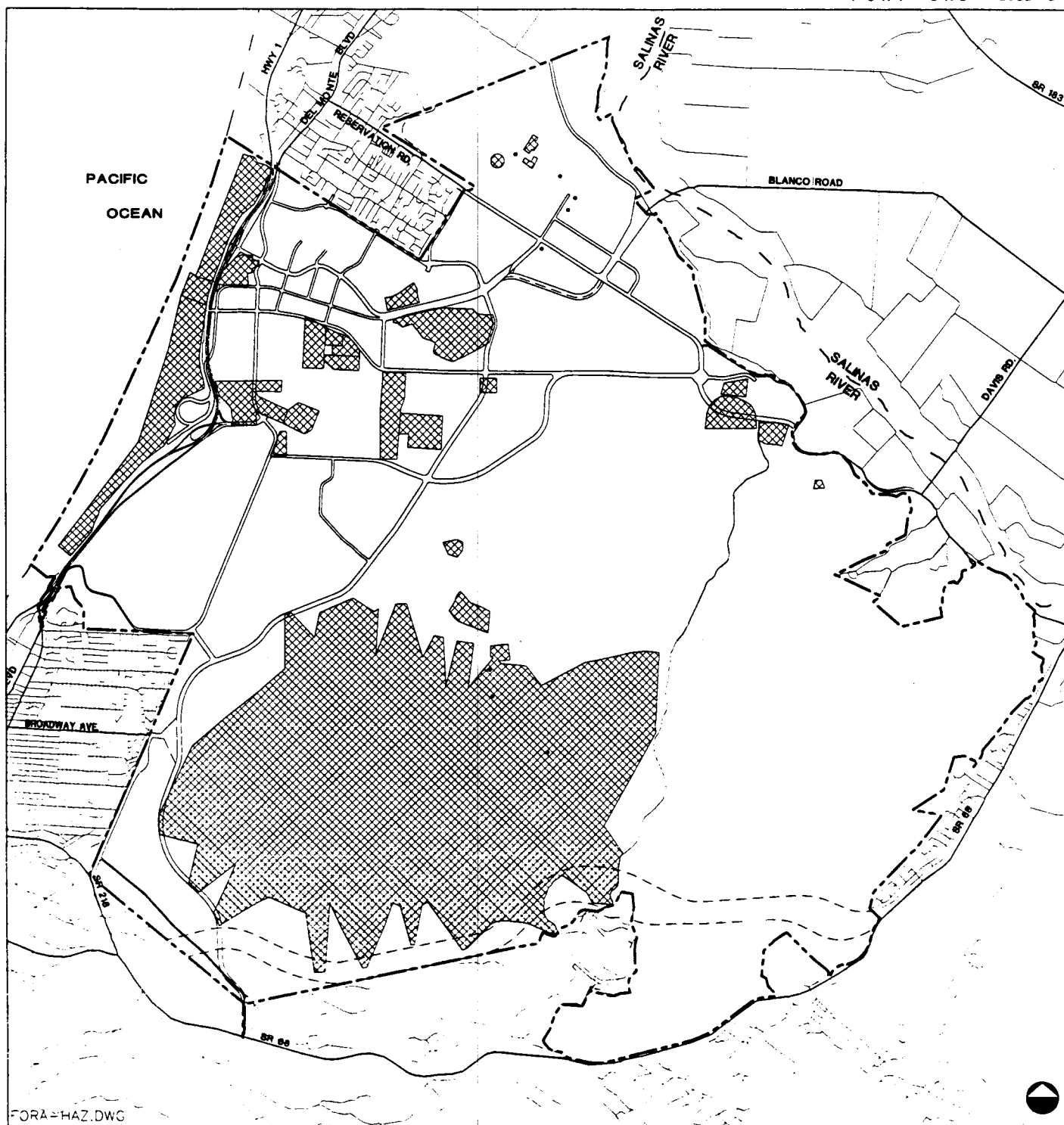
Ordnance and Explosives

Ordnance and explosives (OE), including the sub-set of unexploded ordnance (UXO) are composed of: bombs, artillery, mortar, rocket and small arms ammunition, mines, demolition charges, pyrotechnics, grenades, high explosives and propellants.

Most of OE material is in the inland rainfire ranges. This area consists of the 8,000-acre inland range area which includes unexploded ordnance. Underground wastes, which could result from leaching of surface residue from these OE, have also been evaluated as part of the installation-wide RI/FS.

The highest density of unexploded ordnance and spent ammunition is expected in the central portion of the inland range area. Lower densities of unexploded ordnance are expected in the outer portions of the inland range area and in the training areas to the north and east of the inland range area. Coastal beach firing ranges are also included in the classification of lower density OE and UXO.

Identification of these sites is detailed in the Ordnance and Explosive Waste and Archive Search Report (ASR) and cleanup of the sites is detailed in the remedial action ROD. In addition, the Army and the Bureau of Land Management have completed the Site Use Management Plan for



SOURCE: Jones & Stokes, 1995; Reimer Associates, (Re-projected), 1995; Monterey Co., 1995; Harding Lawson Associates, 1995; EDAW, 1996.

LEGEND:



Hazardous and Toxic Waste Sites

DRAFT
FIGURE 4.6-3
**HAZARDOUS AND TOXIC
WASTE SITES (JUNE 1995)**

Land Transfer and Reuse of the various OE ranges. The site use plan is characterized by four levels which represent current expectations for future public use after the sites are remediated to the fullest extent possible: 1) U- unrestricted to public, 2) UB- unrestricted to BLM personnel only, 3) LA-limited access for specific uses for as limited pedestrian and nonmotorized access and emergency/maintenance vehicles, and 4) RA-restricted/administrative for areas with high-impact OE and is off-limits to the general public. The restricted areas will be fenced and access is severely limited, providing only for BLM training exercises, fire suppression, and habitat monitoring. These areas contain a high density of OE/UXO and these areas are not expected to be cleared unless new technology allows for cost-effective clearance.

Future Use of Hazardous Materials

There is potential for the use of hazardous materials by CSUMB educational labs and by the UCMBEST Center in educational settings, research, and potential manufacturing processes. Also, hazardous materials may be utilized in the light industrial areas designated at the former Fort Ord.

Objective C: Ensure public safety in the future handling of hazardous materials on land at the former Fort Ord.

The potential exists that current and future uses at the former Fort Ord will generate the use of hazardous materials. The safe handling and disposal of these materials must be planned for and ensured by land use jurisdictions.

4.6.3.2 Objectives

Objective A: Ensure the timely and complete compliance by the U. S. Army with the Remedial Investigation/Feasibility Study and associated remedial action ROD as part of the land transfer process.

Because Fort Ord is on the National Priorities List as a Superfund site, the base closure hazardous material clearance process for various sites must be investigated, characterized, and remediated before disposal and before land is transferred. The Army's document of record for hazardous material and site remediation is the remedial action ROD (RA-ROD). This document contains plans for engineering, level of clearance, cost analysis, community education, and site maintenance and emergency response plans.

Objective B: Protect and ensure public safety during the remediation of hazardous and toxic materials sites on Fort Ord including clearance, treatment, transport, disposal, and/or closure of such sites containing ordnance

and explosives, landfills, above and below ground storage facilities, and buildings with asbestos and/or lead base paint.

Remediation of hazardous materials sites on the former Fort Ord will be an long-term process for many of the sites, while land transfer is occurring for many Fort Ord properties. The public should be aware of hazardous sites and the process of remediation. The information contained in the RA-ROD should be included in transfer documents to alert property recipients of the potential for remediation and OE presence, including the level of public access to these sites. Reuse of these areas may be restricted by property deed covenants and restrictions.

4.6.3.3 Hazardous and Toxic Materials Safety Policies and Programs

City of Marina

The existing City of Marina General Plan - Safety Element, is herein incorporated by reference and is included, where policies are appropriated, as part of the policies and programs of this Safety Element.

Objective A: Ensure the timely and complete compliance by the U. S. Army with the Remedial Investigation/Feasibility Study and associated remedial action ROD as part of the land transfer process.

Hazardous and Toxic Materials Safety Policy A-1: The City shall monitor and report to the public all progress made on the RA-ROD.

Program A-1.1: The City shall make timely reviews of the RA-ROD implementation progress and maintain a public record of property locations which contain hazardous material, including a timetable for and the extent of remediation to be expected.

Program A-1.2: The City shall make timely reviews of the Army's RA-ROD implementation progress and report to the public the Army's compliance with all of the federal Environmental Protection Agency's rules and regulations governing munitions waste remediation including treatment, storage, transportation, and disposal.

Objective B: Protect and ensure public safety during the remediation of hazardous and toxic materials sites on the former Fort Ord including clearance, treatment, transport, disposal, and/or closure of such sites containing ordnance and explosives, landfills, above and below ground storage facilities, and buildings with asbestos and/or lead base paint.

Hazardous and Toxic Materials Safety Policy B-1: The City shall monitor implementation procedures of the RA-ROD and work cooperatively with the U. S. Army and all contractors to ensure safe and effective removal and disposal of hazardous materials, ensure compliance with all applicable regulations and hazardous materials and provide for the protection of the public during remediation activities.

Program B-1.1: The City shall develop and make available a list of the locations and timeframe for remediation of buildings scheduled for renovation which contain asbestos and/or lead base paint.

Program B-1.2: The City shall ensure public safety for asbestos and/or lead paint removal by reviewing remediation plans and determining that such remediation is being conducted by licensed and certified asbestos abatement and building demolition contractors.

Program B-1.3: The City shall develop and make available a list of the locations and timeframe for remediation of those site containing ordnance and explosive (OE) and shall work cooperatively with responsible agencies, including the Bureau of Land Management, in notification, monitoring, and review of administrative covenants for the reuse or closure of such OE sites.

Program B-1.4: The City shall require, by resolution, permits from all hazardous remediation contractors for the transport of hazardous material, including ordnance and explosives, through City streets. The permit will require disclosure of the type, volume, risk factor, transport routes and any other such information deemed necessary by the City for protection of the public safety.

Hazardous and Toxic Materials Safety Policy B-2: The City shall monitor implementation procedures of the RA-ROD and work cooperatively with the U. S. Army and all contractors and future users/operators of landfill or hazardous materials storage sites at the former Fort Ord.

Program B-2.1: The City shall develop and make available a list of the locations and timeframe for remediation of landfill or hazardous materials storage sites, including closure and postclosure activities.

Program B-2.2: The City shall review and make public its review of administrative covenants on remediation of landfills or hazardous materials storage to ensure that landfill closure or hazardous materials storage and restoration activities are complete and in compliance with all applicable regulations, that liability responsibilities are identified to entities intend-

ing to use the landfill, and that such uses are consistent with the administrative covenants and all post closure activities.

Hazardous and Toxic Materials Safety Policy B-3: The City shall follow all applicable procedures and regulations for the Marina Municipal Airport (formerly Fritzsche Airfield) underground and above ground storage tanks, maintenance inventory and documentation of hazardous material and dispose of hazardous waste at properly certified facilities.

Objective C: Ensure public safety in the future handling of hazardous materials on land at the former Fort Ord.

Hazardous and Toxic Materials Safety Policy C-1: The City of Marina shall require hazardous materials management and disposal plans for any future projects involving the use of hazardous materials.

Program C-1.1: The City of Marina shall review the use of hazardous materials as a part of environmental review and/or include as a condition of project approval a hazardous materials management and disposal plan, subject to review by the County Environmental Health Department.

City of Seaside

The existing City of Seaside General Plan - Public Safety Element, is herein incorporated by reference and is include, where policies are appropriated, as part of the policies and programs of this Safety Element.

Objective A: Ensure the timely and complete compliance by the U. S. Army with the Remedial Investigation/Feasibility Study and associated remedial action ROD as part of the land transfer process.

Hazardous and Toxic Materials Safety Policy A-1: The City shall monitor and report to the public all progress made on the RA-ROD.

Program A-1.1: The City shall perform timely reviews of the RA-ROD implementation progress and maintain a public record of property locations which contain hazardous material, including a timetable for and the extent of remediation to be expected.

Program A-1.2: The City shall perform timely reviews of the Army's RA-ROD implementation progress and report to the public the Army's compliance with all of the federal Environmental Protection Agency's rules and regulations governing munitions waste remediation including treatment, storage, transportation, and disposal.

Objective B: Protect and ensure public safety during the remediation of hazardous and toxic materials sites on the former Fort Ord including clearance, treatment, transport, disposal, and/or closure of such sites containing ordnance and explosives, landfills, above and below ground storage facilities, and buildings with asbestos and/or lead base paint.

Hazardous and Toxic Materials Safety Policy B-1: The City shall monitor implementation procedures of the RA-ROD and work cooperatively with the U. S. Army and all contractors to ensure safe and effective removal and disposal of hazardous materials, ensure compliance with all applicable regulations and hazardous materials, and provide for the protection of the public during remediation activities.

Program B-1.1: The City shall develop and make available a list of the locations and timeframe for remediation of buildings scheduled for renovation which contain asbestos and/or lead base paint.

Program B-1.2: The City shall ensure public safety for asbestos and/or lead paint removal by reviewing remediation plans and determining that such remediation is being conducted by licensed and certified asbestos abatement and building demolition contractors.

Program B-1.3: The City shall develop and make available a list of the locations and timeframe for remediation of those site containing ordnance and explosive (OE) and shall work cooperatively with responsible agencies, including the Bureau of Land Management, in notification, monitoring, and review of administrative covenants for the reuse or closure of such OE sites .

Program B-1.4: The City shall require, by resolution, permits from all hazardous remediation contractors for the transport of hazardous material, including ordnance and explosives, through City streets. The permit will require disclosure of the type, volume, risk factor, transport routes and any other such information deemed necessary by the City for protection of the public safety.

Hazardous and Toxic Materials Safety Policy B-2: The City shall monitor implementation procedures of the RA-ROD and work cooperatively with the U. S. Army and all contractors and future users/operators of landfill or hazardous materials storage sites at the former Fort Ord.

Program B-2.1: The City shall develop and make available a list of the locations and timeframe for remediation of landfill or hazardous materials storage sites, including closure and postclosure activities.

Program B-2.2: The City shall review and make public its review of administrative covenants on remediation of landfills or hazardous materials storage to ensure that hazardous materials storage remediation activities are complete and in compliance with all applicable regulations, that liability responsibilities are identified to entities intending to use these landfills, and that such uses are consistent with the administrative covenants and all post closure activities.

Objective C: Ensure public safety in the future handling of hazardous materials on land at the former Fort Ord.

Hazardous and Toxic Materials Safety Policy C-1: The City of Seaside shall require hazardous materials management and disposal plans for any future projects involving the use of hazardous materials.

Program C-1.1: The City of Seaside shall review the use of hazardous materials as a part of environmental review and/or include as a condition of project approval a hazardous management and disposal plan, subject to review by the County Environmental Health Department.

County of Monterey

The existing County of Monterey General Plan and Greater Monterey Peninsula Area Plan - relative to Miscellaneous Hazards, is herein incorporated by reference and is include, where policies are appropriated, as part of the policies and programs of this Safety Element.

Objective A: Ensure the timely and complete compliance by the U. S. Army with the Remedial Investigation/Feasibility Study and associated remedial action ROD as part of the land transfer process.

Hazardous and Toxic Materials Safety Policy A-1: The County shall monitor and report to the public all progress made on the RA-ROD.

Program A-1.1: The County shall perform timely reviews of the RA-ROD implementation progress and maintain a public record of property locations which contain hazardous material, including a timetable for and the extent of remediation to be expected.

Program A-1.2: The County shall perform timely reviews of the Army's RA-ROD implementation progress and report to the public the Army's compliance with all of the federal Environmental Protection Agency's rules and regulations governing munitions waste remediation including treatment, storage, transportation, and disposal.

Objective B: Protect and ensure public safety during the remediation of hazardous and toxic materials sites on the former Fort Ord including clearance, treatment, transport, disposal, and/or closure of such sites containing ordnance and explosives, landfills, above and below ground storage facilities, and buildings with asbestos and/or lead base paint.

Hazardous and Toxic Materials Safety Policy B-1: The County shall monitor implementation procedures of the RA-ROD and work cooperatively with the U. S. Army and all contractors to ensure safe and effective removal and disposal of hazardous materials, ensure compliance with all applicable regulations and hazardous materials, and provide for the protection of the public during remediation activities.

Program B-1.1: The County shall develop and make available a list of the locations and timeframe for remediation of buildings scheduled for renovation which contain asbestos and/or lead base paint.

Program B-1.2: The County shall ensure public safety for asbestos and/or lead paint removal by reviewing remediation plans and determining that such remediation is being conducted by licensed and certified asbestos abatement and building demolition contractors.

Program B-1.3: The County shall develop and make available a list of the locations and timeframe for remediation of those site containing ordnance and explosive (OE) and shall work cooperatively with responsible agencies, including the Bureau of Land Management, in notification, monitoring, and review of administrative covenants for the reuse or closure of such OE sites .

Program B-1.4: The County shall require, by resolution, permits from all hazardous remediation contractors for the transport of hazardous material, including ordnance and explosives, through County streets. The permit will require disclosure of the type, volume, risk factor, transport routes and any other such information deemed necessary by the County for protection of the public safety.

Hazardous and Toxic Materials Safety Policy B-2: The County shall monitor implementation procedures of the RA-ROD and work cooperatively with the U. S. Army and all contractors and future users/operators of landfill or hazardous materials storage sites at the former Fort Ord.

Program B-2.1: The County shall develop and make available a list of the locations and timeframe for remediation of landfills or hazardous materials storage sites, including closure and postclosure activities.

Program B-2.2: The County shall review and make public its review of administrative covenants on remediation of landfills or hazardous materials storage to ensure that remediation activities related to landfill closure and hazardous materials storage are complete and in compliance with all applicable regulations, that liability responsibilities are identified to entities intending to use these landfills, and that such uses are consistent with the administrative covenants and all post closure activities.

Objective C: Ensure public safety in the future handling of hazardous materials on land at the former Fort Ord.

Hazardous and Toxic Materials Safety Policy C-1: The County of Monterey shall require hazardous materials management and disposal plans for any future projects involving the use of hazardous materials.

Program C-1.1: The County of Monterey shall review the use of hazardous materials as a part of environmental review and/or include as a condition of project approval a hazardous materials management and disposal plan, subject to review by the County Environmental Health Department.

Appendix A:

2/21/96 Draft HMP Implementing/Management Agreement

HMP IMPLEMENTING/MANAGEMENT AGREEMENT

This IMPLEMENTING/MANAGEMENT AGREEMENT ("Agreement") is entered into as of the _____ day of _____, 199-, by and among the UNITED STATES FISH AND WILDLIFE SERVICE ("USFWS"), the UNITED STATES BUREAU OF LAND MANAGEMENT ("BLM"), both Agencies of the Department of the Interior of the United States of America, the CALIFORNIA DEPARTMENT OF FISH AND GAME ("CDFG"), the CALIFORNIA DEPARTMENT OF PARKS AND RECREATION ("CDPR"), both Subdivisions of the Resources Agency of the State of California, the FORT ORD REUSE AUTHORITY ("FORA") and its member agencies, the UNIVERSITY OF CALIFORNIA ("UC") and the CALIFORNIA STATE UNIVERSITY ("CSU") and other PARTICIPATING ENTITIES to this Agreement collectively called the "Parties."

AGREEMENT

Based upon the recitals, definitions, mutual covenants and obligations, and other provisions set forth below, and other valuable consideration, the Parties agree as follows:

1.0 RECITALS

1.1 Fort Ord, California is a former United States military base in Monterey County that was closed pursuant to the Defense Base Closure and Realignment Act of 1990. It comprises a land area of approximately 28,000 acres in the territory of three general purpose agencies of government, the City of Seaside, the City of Marina and the County of Monterey.

1.2 Because the U.S. Department of the Army's ("Army") closure and disposal of Fort Ord is considered a major federal action potentially affecting several species listed as threatened or endangered under the federal Endangered Species Act ("ESA") (16 U.S.C. §§ 1531-1544), the Army consulted with the USFWS under Section 7 of the ESA.

1.3 As a result of Section 7 Consultation between the Army and the USFWS, the USFWS issued a biological opinion finding that no jeopardy to federally listed Smith's blue butterfly, western snowy plover, and sand gilia would result from closure, disposal, and reuse of Fort Ord provided that a habitat management plan that minimized the loss of individuals and habitat of these species be developed and implemented. In the biological opinion, the USFWS also made the conservation recommendation that the Army consider all proposed and candidate species for federal listing in the habitat management plan.

1.4 With input from federal, state, local and private agencies and organizations concerned with the natural resources and reuse of Fort Ord, the Army developed the *Installation-Wide Multispecies Habitat Management Plan for Fort Ord, California* ("HMP") for the disposal and reuse of the base. The HMP describes a cooperative federal, state, and local program of

conservation for plant and animal species and habitats of concern known to occur at Fort Ord as listed in Exhibit A of this Agreement ("HMP Resources").

1.5 The species and habitats of concern, which include federally listed species, state listed species, unlisted species and habitats of concern, are found in or may use or inhabit portions of Fort Ord and as a consequence, base reuse and future urban growth may result in a diminution of habitat and a "taking" of individuals of these HMP Resources incidental to the normal course of urban development.

1.6 The HMP establishes a long-term program for the protection, enhancement and management of all HMP Resources with a goal of no net loss of HMP populations while acknowledging and defining an allowable loss of such resources through the land development process. The HMP establishes the conditions under which the disposal of Fort Ord lands to public and private entities for reuse and development may be accomplished in a manner that is compatible with adequate preservation of HMP Resources to assure their sustainability at Fort Ord in perpetuity.

1.7 The HMP is intended to establish a regional conservation program for the HMP Resources and to thereby obviate the need for review of individual projects by the USFWS and CDFG and for project-specific mitigation measures to protect the HMP Resources. Consequently, successful implementation of the HMP requires cooperation among all recipients of land within the HMP Planning Area which is all the land area within the boundaries of the former Fort Ord military installation (Exhibit B).

1.8 The HMP will be implemented by the Parties to meet the requirements of the ESA, the California Endangered Species Act ("CESA"), the California Native Plant Protection Act ("CNPPA"), the Natural Communities Conservation Planning Act of 1991 ("NCCP Act"), the National Environmental Policy Act ("NEPA") and the California Environmental Quality Act ("CEQA") for HMP Resources. The HMP together with this Agreement establish the conditions under which the Parties, for the benefit of themselves and of public and private landowners and other development project proponents within the HMP Planning Area will receive from the USFWS and the CDFG certain long-term permits and authorizations to allow for the taking of HMP Resources incidental to development and other lawful land uses.

1.9 All HMP Species addressed in the HMP are included in the state and federal take authorizations to provide certainty that permitted activities may proceed in the event unlisted HMP Species become listed pursuant to ESA or CESA.

1.10 This Agreement defines the respective rights and obligations of the Parties and identified beneficiaries of this Agreement with respect to the implementation of the HMP. Specifically, this Agreement will:

A. Ensure implementation of the conservation measures outlined in the HMP;

B. Contractually bind each Party to fulfill and faithfully perform the obligations, responsibilities, and tasks assigned to it pursuant to the terms of the HMP and this Agreement; and,

C. Provide remedies and recourse should any Party fail to perform its obligations, responsibilities, and tasks as set forth in the HMP and this Agreement.

1.11 This Agreement is based on the following facts:

A. FORA is a public corporation of the State of California and is authorized to prepare, adopt, finance, and implement a plan for the future use and development of the territory occupied by the Fort Ord military base in Monterey County. The Plan includes a conservation element that provides for the preservation, development, use and management of habitat of or for exceptional flora or fauna. Pursuant to the provisions commencing with Section 67650 of the Government Code, the governing board of FORA is also authorized to enter into agreements and contracts to determine the conservation of property or to mitigate the impacts of the reuse of Fort Ord on rare and endangered species of flora and fauna including arrangements for the long-term management, biological monitoring, and financing.

B. The County of Monterey, a legal subdivision of the State of California vested with corporate powers, and the Cities of Monterey, Del Rey Oaks, Marina, and Seaside, each a municipal corporation located within the County of Monterey, are authorized to enter into this Agreement pursuant to statutes and the Constitution of the State of California, including without limitation of Article 11 thereof, authorizing them to regulate the use of land, approve open space and conservation easements, create assessment districts, enact conservation and open space elements for general plans, preserve natural resources, including plants and wildlife, and exercise general planning and zoning powers, and enter into contracts and take other actions to conserve wildlife and plant resources and reconcile such concerns with economic development. See Government Code Sections 50060.5, 51205, 51070, 50575, 65302, 65560, 65864.

C. The California Department of Parks and Recreation (CDPR) is a subdivision of the California Resources Agency responsible for acquiring, preserving, developing, and managing the natural, cultural and recreational resources in the State Park System. Under the provisions of Section 5003 of the Public Resources Code, CDPR is mandated to protect, develop, and interpret the property under its jurisdiction. Properties include the administration and management of state reserves and natural preserves that have distinct or unique features such as rare and endangered plant and animal species and their supporting ecosystems.

D. The University of California (UC) is a public trust governed by the Board of Regents (Regents). Under the provisions of Article 9 of the Constitution of the State of California, and Section 92000 of the Education Code, the Regents have full power of organization and government, including the authority to take and hold property by purchase, donation, or gift for the benefit of the University or incidental to its benefit. Under the Bylaws and Standing Orders passed by the Board of Regents, the Natural Reserve System was established to provide for the acquisition of lands that provide for research and teaching opportunities.

E. California State University (CSU) is a public trust governed by a Board of Trustees (Board). Under the provisions of section 89000, et seq. of the Education Code, the Board may accept gifts, including property, enter into agreements, acquire easements, or purchase interest in real property. Education Code section 81600 also provides for the control and management of lands under the control of CSU.

F. The Bureau of Land Management (BLM) is a subdivision of the U.S. Department of Interior. Under the provisions of the Federal Land Policy Management Act of 1976, (43 U.S.C. section 1712-1784) ("FLPMA") the Bureau is responsible for and authorized to acquire, develop, and maintain federal public lands for compatible recreational and resource uses, including the management of fish and wildlife habitat. Under the provisions of FLPMA the Bureau of Land Management is also empowered to provide for the enforcement of regulations that implement management, use, and protection of federal lands.

G. The California Department of Fish and Game (CDFG) is a subdivision of the California Resources Agency authorized and empowered by the State of California to enforce the terms of the California Endangered Species Act, California Fish and Game Code Sections 2050-2098, and to issue management authorizations to allow the take of endangered, threatened and other sensitive species pursuant to the terms of section 2081 and 2835 of the California Fish and Game Code). CDFG is also a trustee agency pursuant to the California Environmental Quality Act (Cal. Public Resources Code §§21000 - 21177), as amended.

H. The United States Fish and Wildlife Service (USFWS) is a subdivision of the U.S. Department of Interior authorized and empowered by Congress to enforce the terms of the Endangered Species Act, 16 U.S.C. section 1531 et seq. (ESA) and to issue permits to allow the incidental take of endangered and threatened species pursuant to the terms of Section 10 of the ESA. The Service is authorized to enter into this Agreement pursuant to the ESA, Fish and Wildlife Coordination Act, 16 U.S.C. Section 661 et seq., and the Fish and Wildlife Act of 1956, 16 U.S.C. section 742f.

1.12 The Parties enter into this Agreement in a spirit of cooperation and mutual understanding of the value and importance of the resource conservation and protection measures

in the HMP and this Agreement and of each Participating Entity's need for certain assurances in planning for reuse and development within the HMP Planning Area. All Parties to this Agreement acknowledge the common goals of resource protection and economic reuse and development of Fort Ord, recognize that these goals are not mutually exclusive and commit to work together to achieve these goals for as long as this Agreement remains in effect.

2.0 DEFINITIONS

The following terms as used in this Agreement shall have the meanings set forth below:

2.1 "Agreement" means this HMP Implementing/Management Agreement.

2.2 "Baseline Studies" means those vegetation and wildlife surveys conducted by the Army at Fort Ord to support its NEPA and ESA obligations relative to base closure, disposal and reuse.

2.2 "BLM" is the U.S. Bureau of Land Management, an agency of the United States Department of the Interior.

2.3 "Caltrans" means the California Department of Transportation

2.4 "CDFG" means the California Department of Fish and Game, a subdivision of the California Resources Agency.

2.5 "CDPR" means the California Department of Parks and Recreation, a subdivision of the California Resources Agency.

2.6 "CEQA" means the California Environmental Quality Act (Cal. Public. Resources Code Sections 21000 - 21177), including all regulations promulgated pursuant to that Act.

2.7 "CESA" means the California Endangered Species Act (California Fish and Game Code Sections 2050 - 2098), including all regulations promulgated pursuant to that Act.

2.8 "CNPS" means the California Native Plant Society, a state-wide, non-profit organization concerned with California's native plant resources.

2.9 "Coordinated Resource Management Planning" or "CRMP" means a resource planning, problem solving and management program that deals with natural resources management in a given planning area. CRMP was recommended by the HMP and has been established as a practical means of coordinating base-wide resource management and planning at Fort Ord.

2.10 "CSU" means the California State University system.

2.11 "Effective Date" means the date when all of the Parties to this Agreement have signed this Agreement.

2.12 "ESA" means the federal Endangered Species Act (16 U.S.C. Sections 1531 - 1544), including all regulations promulgated pursuant to that Act.

2.13 "Fort Ord Reuse Authority" or "FORA" is the public corporation of the State of California that was established in May 1994, via Senate Bill 899 ("SB 899"), to prepare, adopt, finance, and implement plans for the Fort Ord land designated for transfer to the communities of Monterey County.

2.14 "Habitat Conservation Areas" means lands within the HMP Planning Area that are given priority for conservation and protection from development impacts because they support important habitat for HMP Resources.

2.15 "Habitat Corridors" means lands within the HMP Planning Area that maintain connections and ecological integrity between Conservation Areas.

2.16 "Habitat Management Plan" and "HMP" mean the Installation-Wide Multi-Species Habitat Management Plan for Fort Ord, California prepared by the United States Army and dated February, 1994.

2.17 "HMP Planning Area" consists of the land area within the boundaries of the former Fort Ord military base, as depicted on Exhibit B.

2.18 "HMP Resources" means the plant and animal species and rare natural communities listed in Exhibit A that are addressed by the HMP for purposes of their conservation, preservation, management, enhancement and protection.

2.19 "HMP Species" means the plant and animal species listed in Exhibit A attached to this Agreement, the Incidental Take/Management Take of which shall be authorized under Sections 7 and 10(a) of the ESA and/or a Management Authorization pursuant to CESA and/or the NCCP Act in accordance with this Agreement.

2.20 "Incidental Take" means the take of any HMP Species where such take is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity.

2.21 "Management Authorization" means the document issued by CDFG under CESA (specifically, California Fish and Game Code Sections 2081 and 2090) and/or the NCCP Act (specifically, California Fish and Game Code Sections 2825(c) or 2835), to allow the

Incidental Take/Management Take of a species listed under CESA as threatened or endangered, or of a species which is a candidate for such a listing, or of a species listed as an identified species under Section 2835.

2.22 "Management Take" means the Take of any HMP Species, where such take is for management purposes in accordance with the HMP, this Agreement and a related Management Authorization.

2.23 "Member Agency" means one of the voting members of FORA. Voting member agencies include the County of Monterey, the City of Carmel, the City of Del Rey Oaks, the City of Marina, the City of Sand City, the City of Monterey, the City of Pacific Grove, the City of Salinas and the City of Seaside.

2.24 "Natural Lands" means those lands within the HMP Planning Area that were undeveloped and that supported native plant communities and wildlife habitat at the time of base closure.

2.25 "NCCP Act" means the California Natural Communities Conservation Planning Act of 1991, enacted by Chapter 765 of the California statutes of 1991 (A.B. 2172) (codified in part at California Fish and Game Code Section 2800, et seq.).

2.26 "NCCP Plan" means an area-wide natural community conservation plan in accordance with the NCCP Act (California Fish and Game Code, §§2800-2840), as amended, including all regulations promulgated pursuant to that Act. NCCP Plans extend potential protection measures to a broad array of plant and animal species while allowing compatible land use and appropriate development and growth.

2.27 "NEPA" means the National Environmental Policy Act (42 U.S.C. §4321 et seq.), as amended, including all regulations promulgated pursuant to that Act.

2.28 "Participating Entity," "Party" and "Parties" means any of the agencies, institutions, local governments or other organizations which enter into this Agreement as signatories.

2.29 "Permittee" shall mean any Party to this Agreement which would otherwise require authorization from the USFWS and/or the CDFG for Take of HMP Species.

2.30 "Section 7 Consultation" means the consultation process required under Section 7 of the ESA, between a federal authorizing agency and the USFWS resulting in a biological opinion from the USFWS that determines the potential for jeopardy to the continued existence of a federally-listed species from a proposed federal or federally-funded action.

2.31 "Section 10(a)(1)(B) Permit" means the permit issued to a non-federal entity by the USFWS under Section 10(a)(1)(B) of the ESA (16 U.S.C. Section 1539(a)(1)(B)) to allow for Incidental Take.

2.32 "Take" and "Taking" mean to harass, harm, pursue, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct involving an HMP Species. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

2.33 "Take Authorization" means authorization for Take of HMP Species pursuant to Section 7 Consultation and/or issuance of a Section 10(a)(1)(B) Permit and/or a Management Authorization pursuant to CESA and/or the NCCP Act.

2.34 "UC" means the University of California system

2.35 "UC NRS" means the University of California Natural Reserve System, which operates as an independent branch of the Office of the President of the UC system and supports university-level teaching, research, and public service at UC-protected natural areas throughout California.

2.36 "Unforeseen Circumstances" refers generally to a significant adverse change, not foreseen or foreseeable by the Parties as of the Effective Date, in the populations of the HMP Species, or in the habitat or natural resources of lands preserved pursuant to the HMP and this Agreement, or in the anticipated impacts of future development in the HMP Planning Area, or other factors upon which the HMP is based. The actual existence and effect of "Unforeseen Circumstances" shall be governed by the more specific definition contained in Section 7.7 of this Agreement.

2.37 "USFWS" or "Service" means the United States Fish and Wildlife Service, an agency of the United States Department of the Interior.

3.0 HABITAT MANAGEMENT PLAN

The installation-wide multispecies habitat management plan for Fort Ord establishes the guidelines for the conservation and management of wildlife and plant species and habitats that largely depend on Fort Ord land for survival. The HMP was developed with input from federal, state, local and private agencies and organizations concerned with the natural resources and reuse of Fort Ord. Implementation of the HMP will assist in the orderly disposal and reuse of Fort Ord.

A general goal of the HMP is to promote preservation, enhancement and restoration of habitat and populations of HMP species while allowing implementation of a community-based reuse plan that promotes economic recovery after closure of Fort Ord. As an installation-wide plan, all land areas to be disposed of by the Army are addressed in the HMP and are considered in achieving HMP goals. However, management guidelines and specifications for reuse vary from parcel to parcel based on future plans for the parcel associated with the HMP and overall reuse plan.

The HMP addresses impacts resulting from predisposal, disposal, and reuse actions at Fort Ord via specific land use guidelines and area-specific restrictions for new land recipients. Some land areas planned for development have no restrictions or management guidelines required by the HMP. Other land areas will have development designated as the primary use, but the recipients will be obligated to implement certain management guidelines and/or preserve specific areas. Other parcels are designated as habitat preserves or habitat corridors and have specific management guidelines and restrictions on land development and uses.

Implementation of the HMP is intended to simplify future regulatory compliance by providing a basis for recipients of Fort Ord lands to obtain Take Authorizations with little or no additional mitigation. Also, because the HMP addresses several unlisted species, the document will serve as a prelisting conservation agreement between the USFWS, the CDFG and Parties to this Agreement.

The HMP and each of its provisions are intended to be, and by this reference are, incorporated fully herein. The terms of this Agreement and the terms of the HMP shall be interpreted to be supplementary to each other, but in the event of any direct contradiction between the terms of this Agreement and the HMP, the terms of this Agreement shall control.

Under the terms and conditions of this Agreement, the HMP will qualify as an HCP and will be considered suitable mitigation for HMP Resources. Compliance with the HMP and the terms of this Agreement will enable the USFWS to authorize take of HMP Species by Participating Entities as required. Also, because the HMP addresses several unlisted species, the HMP and this Agreement will preclude the need to develop additional mitigation measures should any of the HMP Species become federally listed as endangered or threatened after the Effective Date.

Under the terms and conditions of this Agreement, the HMP will qualify as an NCCP Plan, allowing the CDFG to issue Take Permits/Management Authorizations as appropriate to allow the Incidental Take and Management Take of endangered and threatened species within the HMP Planning Area. Because the HMP addresses several unlisted species, the HMP and this Agreement will also preclude the need to develop additional mitigation measures should any of the non-state-listed HMP species become listed as endangered or threatened by the State of California. Additionally, the CDFG will take into account the conservation measures set forth in the HMP when considering CEQA requirements for sensitive species and habitat types. The CDFG will consider the conservation program for the HMP species and their habitats in the

HMP as adequate mitigation for CEQA compliance for those natural resources during the implementation of land reuse and development planning at Fort Ord.

4.0 FEDERAL LEGAL AUTHORITY

The USFWS enters into this Agreement pursuant to the ESA. Section 9 of the ESA prohibits any taking of listed species. Anyone who engages in a take would be subject to prosecution under section 9 of the Act. An exception to the Federal prohibition against take of listed species may be authorized by the Service pursuant to Section 7 or through a Section 10(a) permit, as mandated in the ESA. If a project has federal involvement, authorization pursuant to section 7 can be obtained by the federal agency consulting with the USFWS on the project. Section 10(a) permits may be issued under section 10(a)(1)(A) of the ESA for research projects involving listed species and section 10(a)(1)(B) of the ESA for an area in which several projects will occur, for activities connected to a single project, or for takings as small as a single specimen when no federal connection to the project(s) exists.

Federal agencies have the responsibility to review their proposed activities and determine whether any threatened or endangered species will be affected. If a threatened or endangered species may be affected by a federal agency action, that agency has the responsibility of initiating formal consultation pursuant to Section 7 of the Act with the USFWS. Informal consultation may be used to exchange information and resolve conflicts with respect to threatened or endangered species prior to initiating formal consultation. During the consultation process, the USFWS would develop a biological opinion to determine if the project would jeopardize the continued existence of the species. If the project would do this, the USFWS would then recommend reasonable and prudent alternatives that would eliminate the jeopardy. If the project would not jeopardize the continued existence of the species, the USFWS would then develop reasonable and prudent measures that would minimize incidental take and authorizes a certain level of incidental take.

A federal agency is required to confer with the USFWS when the action is likely to jeopardize the continued existence of any proposed species. Conferences, which are informal discussions between the USFWS and the federal agency, are designed to identify and resolve potential conflicts between an action and proposed species at an early point in the decision-making process. USFWS makes recommendations, if any, on ways to minimize or avoid adverse effects of the action. These recommendations are advisory because the jeopardy prohibition of Section 7(a)(2) does not apply until the species is listed. If the proposed species is listed, the federal agency determines whether or not formal consultation is required. The conference process fulfills the need to alert federal agencies of possible steps that an agency might take at an early stage to adjust its actions to avoid jeopardizing a proposed species.

To qualify for the section 10(a)(1)(B) permit, the project proponent presents a habitat conservation plan (HCP) that shows how the impacts, including incidental take, on the listed

species would be minimized, what alternatives to take were considered, how the impacts on the species would be mitigated, and how implementation of the HCP program would be funded. The general purpose of an HCP is to minimize and mitigate, to the maximum extent practicable, the impacts of the proposed incidental take on the species. The Service must comply with the National Environmental Policy Act of 1969 (NEPA), as amended and the regulations of the Council on Environmental Quality regarding the issuance of permits and the development of HCPs. NEPA requires that the Service conduct an environmental analysis or review of the effect of any incidental take permit and accompanying conservation plan.

Sections 7(b)(4) and 7(o)(2) of the ESA do not apply to the incidental take of endangered or threatened plant species. Nevertheless, protection of listed plants is provided to the extent that the ESA requires a federal permit for the removal or possession of listed plants from areas under federal jurisdiction, or for any action that would remove, cut, dig up, damage, or destroy any such plant on any other area in knowing violation of any regulation of any State or in the course of any violation of a State criminal trespass law.

The Secretary, of the Interior's August 11, 1994 "Assurances Policy", attached hereto as Exhibit E, provides that the USFWS will not seek additional mitigation for newly listed species that requires the expenditure of money or land set asides from HCP proponents if those species were fully considered in the in the HCP. The Assurances Policy also assures plan proponents that if an approved HCP is implemented as proposed, the USFWS will not seek additional land or financial compensation if "unforeseen" or "extraordinary" circumstances should later arise with respect to either listed or unlisted species.

5.0 STATE LEGAL AUTHORITY

The CDFG enters into this Agreement as the state agency responsible for implementing the California Endangered Species Act (California Fish and Game Code §§2050 - 2098) as amended, the California Native Plant Protection Act (California Fish and Game Code §1900 et. seq.) and the California Natural Communities Conservation Planning Act (California Fish and Game Code §§2800 et seq.). CDFG also enters into this Agreement as a trustee agency pursuant to the California Environmental Quality Act (Cal. Public. Resources Code §§21000 - 21177), as amended.

CESA (California Fish and Game Code §2080) prohibits any Take of a state-listed endangered or threatened species. Exceptions to the state prohibition against Take of a listed species may be authorized by the CDFG pursuant to §2081, §2084, §2091, §2830, and §2835 of the Fish and Game Code.

CESA (California Fish and Game Code §2081 and §2084) authorizes the CDFG to issue permits or to enter into memoranda of understanding for the Management Take of any state-listed threatened or endangered species, or any candidates for such status. Sections 2090 and 2091 of

the Code expressly require state lead agencies to consult with CDFG to determine whether their proposed projects will jeopardize endangered or threatened species, and to determine and specify reasonable and prudent measures that are necessary and appropriate to minimize the adverse impacts of Incidental Take on such species, thereby allowing such Take for a state lead agency.

Section 2835 of the Fish and Game Code authorizes the CDFG to authorize the taking of any state-listed or candidate threatened or endangered species or any other plant or animal species whose conservation and management is adequately provided for in an NCCP plan.

Under CEQA, the CDFG is a "trustee agency" with jurisdiction by law over California's animals, designated rare or endangered plants, game refuges, ecological reserves, and other areas administered by the Department (CEQA Guidelines §15386). As such, the CDFG is required to consult with lead and responsible agencies through the CEQA process and shall provide, as available, the requisite biological expertise to review and comment upon environmental documents and impacts arising from project activities. CEQA lead agencies often rely on CDFG to assist in determining the significance of project impacts on rare, threatened and endangered species and other sensitive biological resources. Adequate mitigation, satisfactory to CDFG, for identified significant impacts on biological resources is typically required in order for a project to be approved by the CEQA lead agency.

6.0 LEGAL REQUIREMENTS

In order to fulfill the legal requirements that allow the USFWS and the CDFG to issue Take Permits/Management Authorizations for HMP Resources pursuant to the ESA, the CESA, and the NCCP Act, the HMP sets forth measures that are intended to ensure that any Take occurring within the HMP Planning Area will be incidental to the carrying out of otherwise lawful activities; that the impacts of the Take will, to the maximum extent practicable, be minimized and mitigated; and that the Take will not appreciably reduce the likelihood of the survival and recovery of HMP Resources in the wild.

The USFWS finds that the HMP as implemented pursuant to this Agreement does provide such measures, and that, since development of the HMP was a reasonable and prudent measure of the biological opinion for base closure, it does satisfy the legal requirements necessary for the USFWS to issue follow-on administrative Section 7 authorizations and Section 10(a) Permits as necessary. Likewise, the CDFG finds that the HMP satisfies the legal requirements necessary for it to issue Take Permits/Management Authorizations for HMP Resources. Furthermore, CDFG finds that the HMP as implemented pursuant to this Agreement will provide adequate mitigation to satisfy CEQA for impacts to HMP Resources that may result from planned development within the HMP Planning Area.

7.0 MUTUAL ASSURANCES

7.1 The primary purpose of this Agreement is to provide for the long-term reconciliation of base reuse and development within the HMP Planning Area with the conservation and protection of the HMP Resources. Based on and in consideration of this Agreement and the HMP, the Parties hereby agree, and USFWS and CDFG hereby assure FORA, its successors, member agencies and the other Participating Entities to this Agreement, including Third Party Beneficiaries, that:

A. Compliance with the terms of this Agreement and the HMP constitutes compliance with the provisions of the ESA, the CESA, the CNPPA and the NCCP, as well as the following California laws as they relate to the CDFG responsibilities for HMP Resources: CEQA, California Planning and Zoning Law and the Subdivision Map Act.

B. Implementation of this Agreement and the HMP will adequately conserve and protect the HMP Resources in the HMP Planning Area.

C. Except as otherwise required by law and barring Unforeseen Circumstances, no further mitigation, enhancement or compensation to provide for conservation or protection of HMP Resources will be required by USFWS or CDFG pursuant to the ESA, the CESA, the CNPPA or CEQA with respect to base reuse and new development permitted within the HMP Planning Area, providing that such reuse and new development conforms to the stipulations and guidelines set forth in the HMP and the terms and conditions of this Agreement.

D. The USFWS and the CDFG shall not seek additional mitigation for an HMP Resource for which, on the Effective Date, protection measures were deemed adequately addressed under the guidelines of the HMP and the terms of this Agreement, and the criteria for evaluating a successful and satisfactory conservation program for the species in question, as originally set forth in the HMP, have been or are being met.

E. If the USFWS and/or the CDFG subsequently determine that additional mitigation measures are necessary to provide for the conservation of an HMP Resource for which, on the Effective Date, protection measures were determined to be adequately addressed under the guidelines of the HMP and the terms of this Agreement, and the original criteria for evaluating a successful and satisfactory conservation program for the species in question have been or are being met, then the primary obligation for such additional mitigation shall not rest with the recipients of the Take Permits/Management Authorizations issued pursuant to the HMP and this Agreement.

F. The Parties to this Agreement acknowledge that Permittees participating in the policy and procedures set forth in the HMP may be subject to permit requirements of agencies not Parties to this Agreement. Except as otherwise required by law and barring any Unforeseen Circumstances, the Parties agree that participation in the policy and

procedures set forth in the HMP, as provided in this Agreement, shall constitute the full extent of mitigation required for Take of HMP Resources incidental to the otherwise lawful development of land within the HMP Planning Area. Except as provided in this Section, the USFWS and the CDFG agree that they will not seek to impose additional mitigation requirements directed specifically at the protection and conservation of HMP Resources on Permittees within the HMP Planning Area through any other agency approval process whether or not such agency is a party to this Agreement.

The intent of the foregoing provision is to preclude recommendations and requirements for additional mitigation measures directed at HMP Resources. The provision does not preclude recommendations or requirements directed at species and natural communities not addressed in the HMP or this Agreement.

7.2 The intent of the HMP is to provide permanent habitat conservation areas and habitat corridors to mitigate in advance any Take of HMP Resources incidental to development activities within the HMP Planning Area. Based on and in consideration of this Agreement and the HMP, the Parties hereby agree, and FORA, its successors, its member agencies, other Participating Entities in this Agreement, and any Third Party Beneficiaries hereby assure the USFWS and the CDFG that:

A. Reuse and development within the HMP Planning Area will not occur unless FORA, its successors, its member agencies, other Participating Entities in this Agreement, and any Third Party Beneficiaries establish and maintain sources of funding for the management and monitoring activities associated with implementation of the HMP under the terms and conditions of this Agreement;

B. FORA, its successors, its member agencies, other Participating Entities in this Agreement, and any Third Party Beneficiaries agree to establish and maintain plans, policies, procedures and programs to implement the HMP under the terms and conditions of this Agreement.

7.3 To the extent permitted by the CESA, the USFWS shall consider the implemented and/or scheduled implementation of the HMP and this Agreement in any future determination by the USFWS with regard to the listing of one or more of the HMP Resources (including federal proposed, candidate, or other non-federally listed species) as an endangered or threatened species pursuant to the ESA.

7.4 To the extent permitted by the CESA, the CDFG shall consider the implemented and/or scheduled implementation of the HMP and this Agreement in any future determinations and recommendations by the CDFG with regard to the listing of one or more of the non-state-listed HMP Resources as an endangered or threatened species pursuant to the CESA. Also, to the extent permitted by CEQA, the CDFG shall consider the implemented and/or scheduled

implementation of the HMP and this Agreement in any future determinations and recommendations by the CDFG with regard to CEQA compliance for HMP Resources.

7.5 In the event that one or more of the HMP Resources become listed after the Effective Date as endangered or threatened pursuant to the ESA, the HMP shall be considered adequate documentation to support application for appropriate Take Authorizations to allow for the Incidental Take of the newly listed species. After review and comment on the application for a Take Authorization, and a determination that all biological and procedural requirements have been met on the basis of the HMP and this Agreement, the USFWS shall issue, as soon as possible, the appropriate Take Authorization allowing the Incidental Take of the newly listed species.

7.6 In the event that one or more of the HMP Species become listed after the Effective Date as endangered or threatened or as a candidate endangered or threatened species pursuant to the CESA, the HMP and this Agreement shall be considered adequate documentation and no amendments to previously issued Take Authorizations will be required to allow for the Incidental and/or Management Take of the newly listed species.

7.7 For the purposes of this Agreement, a finding of Unforeseen Circumstances by the USFWS or CDFG shall be based on one or more of the following:

- (1) The impacts of base reuse and new land development activities on the HMP Resources in the HMP Planning Area are significantly worse than those anticipated in the HMP;
- (2) A species known from the HMP Planning Area that was not considered an HMP Resource is subsequently listed as threatened or endangered under the ESA, or as threatened or endangered, or as a candidate for such status under the CESA;
- (3) Information develops subsequent to the Effective Date which indicates that the implementation of Fort Ord reuse plans pursuant to the conservation program set forth in the HMP and this Agreement will jeopardize the continued existence of such species as described in scenario (2) above;
- (4) Information relevant to Fort Ord reuse plans and/or to other factors upon which the HMP are based, and that was not anticipated by the Parties as of the Effective Date, reveals (1), (2), and/or (3) above;
- (5) Fort Ord reuse planning is subsequently modified in a manner that was not anticipated in the HMP and causes an adverse effect on the HMP Resources.

A finding of Unforeseen Circumstances shall be governed by the "Assurances Policy" released by the Secretaries of the Interior and Commerce dated August 9, 1994, a copy of which is

attached hereto as Exhibit (), which further defines the factors to be considered in the determination of whether extraordinary circumstances exist such that a finding of "unforeseen circumstances" is warranted. At least sixty (60) days prior to making a finding of Unforeseen Circumstances, the USFWS and/or CDFG shall meet with the other Parties to this Agreement to discuss the proposed Unforeseen Circumstances finding and provide the other Parties with an opportunity to submit information to rebut the proposed finding.

8.0 IMPLEMENTATION RESPONSIBILITIES OF THE PARTIES

8.1 Parcel-by-parcel HMP implementation responsibilities for new recipients of disposed Fort Ord lands as anticipated in the HMP are summarized in Exhibit C.

8.2 In addition to the requirements listed in Exhibit C, all new Fort Ord land recipients with obligations specified by the HMP will:

A. Enter into separate memoranda of agreement (MOAs) with the Army prior to land transfer. The MOAs will define roles, obligations, authorities, responsibilities, liabilities, benefits, rights, and privileges of all the signatories. Appropriate HMP guidelines will be included in each MOA. Acceptance of land designated as conservation areas and/or habitat corridors (with appropriate covenants) and execution of the MOA binds those recipients to a commitment to manage the land for habitat purposes in perpetuity. The MOAs will contain a reversion clause that states that the land will be returned to the federal government should the land recipient fail to comply with MOA provisions and the HMP guidelines.

B. Submit to the USFWS and CDFG, through the Coordinated Resource Management Planning ("CRMP") program, a plan for implementation of both short-term and long-term habitat management and protection measures for all natural lands, including consideration of funding sources, legal mechanisms and a time table to provide for prompt implementation of HMP requirements along with the following actions to prevent degradation of habitat:

1. Control of off-road vehicle use in all undeveloped natural land areas.
2. Prevention of any unauthorized disturbance in all undeveloped natural land areas, but especially in designated conservation areas and habitat corridors.
3. Prevention of the spread of non-native, invasive species that may displace native habitat.

C. Monitor activities that affect all undeveloped natural lands, including, but not limited to conservation areas and habitat corridors as specified and assigned in the HMP and further described in Section 11 of this Agreement.

D. Restrict all development and associated activities to the specifications presented in the HMP and this Agreement.

E. Strive to minimize losses to HMP Resources to the extent feasible during all project planning, base reuse and development.

8.3 In addition to its HMP implementation responsibilities, as summarized in Section 8.2 above and in Exhibit C, the BLM will also:

A. Monitor the implementation of the HMP and the activities thereunder, including but not limited to, the management, operation and maintenance of the Habitat Conservation Areas and Corridors in order to insure compliance with the HMP and this Agreement.

B. Submit to the USFWS and CDFG an annual implementation monitoring report specifying the status of each HMP implementation action item and providing other information as described in Section 11.0 of this Agreement.

C. Initiate actions, in consultation with the USFWS and CDFG, for title reversion to the federal government should individual jurisdictions or other land recipients fail to implement the requirements of the HMP. Such actions shall not be initiated until after all other remedies as specified in Section 12.0 of this Agreement have failed to result in compliance, and until after consultation with the CRMP members has also failed to establish a satisfactory remedy.

D. Manage and oversee the CRMP program at Fort Ord and work within the CRMP program to encourage cooperative and collaborative implementation of the HMP. The BLM agrees to address all HMP implementation issues within the forum of the Fort Ord CRMP and to seek CRMP membership concurrence prior to initiating actions to implement specific HMP requirements.

E. Remain available on a cost-reimbursable or other mutually agreed upon basis to provide guidance and expertise to FORA and its member agencies and other recipients of undeveloped natural lands for the management of those lands in a manner consistent with the requirements and recommendations of the HMP and this Agreement.

8.4 In addition to its HMP implementation responsibilities, as summarized in Section 8.2 above and in Exhibit C, the University of California, mostly through the UC NRS, will:

A. Implement a directed program for the conservation of the sand gilia population on University lands in the vicinity of the former Fritzsche Army Airfield (now the Marina Municipal Airport). Conservation measures will include preservation and active management of key gilia habitat areas on UC NRS lands in conformance with the HMP and restoration of sand gilia habitat on an approximately seven (7) acre disturbed site south of the air field within UC NRS lands. The University of California will consult with the CDFG throughout the design and implementation of this program.

8.5 In addition to their HMP implementation responsibilities, as summarized in Section 8.2 above and in Exhibit C, FORA, its successors and each of its member agencies shall:

A. Maintain a continuing active role in the Fort Ord CRMP program through allocation of adequate staff and other resources to the program.

B. Coordinate monitoring and reporting as specific development proposals are being considered that may affect any HMP Resources to demonstrate how those development proposals conform with the requirements of the HMP and how remaining FORA implementation responsibilities will be or are being implemented, including consideration of funding sources, time tables and legal mechanisms.

C. Agree to enforce, through legally-binding mechanisms such as deed restrictions, transfer MOAs, development agreements or other similar means, all HMP management and compliance requirements associated with specific land areas as such areas are transferred to subsequent landowners.

9.0 FUNDING RESPONSIBILITIES OF THE PARTIES

9.1 Federal and state agencies and institutions and other entities acquiring lands with HMP requirements will be obligated to fund the costs of habitat management activities on those lands. Such agencies, institutions and other entities shall seek funding to implement their respective obligations pursuant to the HMP and this Agreement prior to implementing other projects associated with those lands.

9.2 If funding constraints prevent federal or state agencies, institutions or other entities from satisfactorily implementing the HMP, then this Agreement may be suspended and its Mutual Assurances (Section 7.0) may become null and void until such time as the USFWS and CDFG determine that HMP implementation is satisfactory. HMP implementation shall be considered satisfactory if actions specified under 8.2(B) have commenced along with annual documentation that habitat management, restoration and enhancement measures specified by the HMP and this Agreement are in progress.

9.3 FORA, its successors and each of its member agencies shall be responsible for implementing the HMP within their respective jurisdictions according to the requirements in the HMP and this Agreement. Each jurisdiction shall have the flexibility to develop its own funding mechanism, however the specific funding mechanism shall be subject to the review of the USFWS and CDFG.

9.4 Other direct recipients of lands with HMP management or compliance requirements, including non-profit organizations, special districts, schools and others shall be responsible for funding the costs of habitat management and compliance on those lands. Such entities shall have the flexibility to develop their own funding mechanisms, however the specific funding mechanism shall be subject to the approval of the USFWS and CDFG.

9.5 Any agency, institution, local government or authority, special district, school, non-profit organization, Third Party Beneficiary or any other recipient of Fort Ord lands with HMP requirements failing to implement the HMP as required by covenant, deed restriction, transfer MOA or other means shall be subject to reversion of said lands back to the federal government, and each such entity shall bear all costs incurred by any parties who successfully petition for the reversion of such lands.

10.0 ISSUANCE OF THE TAKE AUTHORIZATIONS

10.1 Findings - USFWS The USFWS has found that (a) the taking of HMP Resources in the HMP Planning Area will be incidental to the carrying out of otherwise lawful activities; (b) the HMP and this Agreement will, to the maximum extent practicable, minimize and mitigate the impacts of such incidental taking; (c) the funding responsibilities discussed herein will allow adequate funding for the HMP to be provided; (d) the taking of HMP Resources will not appreciably reduce the likelihood of the survival and recovery of the HMP Resources in the wild; (e) the HMP and this Agreement will satisfy and fulfill all measures required by the USFWS as being necessary or appropriate for the purposes of the HMP (including any measures determined by the Parties to be necessary to deal with Unforeseen Circumstances).

10.2 Issuance of Take Authorizations - USFWS

A. As a result of the findings specified in Section 10.1 above, the USFWS has issued a non-jeopardy biological opinion on the disposal and reuse of Fort Ord pursuant to Section 7 of the ESA authorizing the Incidental Take of federally-listed HMP Resources, subject to the terms of the HMP and this Agreement. Further consultation with federal agencies sponsoring activities within the HMP Planning Area that may be required pursuant to the ESA will rely on the previous biological opinion as long as those activities are consistent with the HMP and this Agreement.

B. The USFWS will issue, as necessary, administrative Section 10(a) Permits to FORA and its member agencies and the other Participating Entities in this Agreement, allowing for the Incidental Take of federally-listed HMP Resources in the HMP Planning Area as long as permitted activities are consistent with the HMP and this Agreement. The Take Authorizations will consider the HMP an HCP and will be effective for 50 years.

C. USFWS Take Authorizations issued pursuant to this Agreement will also allow the take of the non-federally listed HMP Resources should they become listed. Authorization for the take of any such species will become effective on the date that it is listed as endangered or threatened pursuant to the ESA.

10.3 Findings- CDFG The CDFG has found that the HMP and this Agreement satisfy all legal requirements necessary for the CDFG to issue a Take Permit/Management Authorization for HMP Species.

10.4 Issuance of Take Permit/Management Authorization As a result of the findings specified in Section 10.3, above, concurrent with the Effective Date the CDFG will issue a Take Permit/Management Authorization to FORA and its member agencies and other Participating Entities in this Agreement which authorizes the Incidental and/or Management Take of HMP Resources, subject to the terms of the HMP, this Agreement, and the Take Permit/Management Authorization. The Take Permit/Management Authorization will be effective for 50 years. The Take Permit/Management Authorization may be renewed absent a material breach of this Agreement or the HMP by any Party and absent any Unforeseen Circumstances.

11.0 MONITORING AND ANNUAL REPORTING

11.1 Three primary types of monitoring will be used to evaluate the successful implementation of the HMP: land use status monitoring, HMP compliance monitoring and biological monitoring.

A. Land Use Status Monitoring Each recipient of Fort Ord land with any natural lands identified by the baseline studies shall continuously monitor, within the geographic limits of its jurisdiction in the HMP Planning Area, the amount (in acres) and location of natural land (by habitat type) remaining undeveloped and the amount (in acres) and location of natural land (by habitat type) disturbed by development since the date of land transfer, for as long as this Agreement remains in effect. Results of such monitoring shall be presented to the BLM by November 1 of each year. The methods and format for land use status monitoring and reporting are attached as Exhibit().

B. HMP Compliance Monitoring Each recipient of Fort Ord land with HMP resource conservation and/or management requirements shall provide documentation to

the BLM demonstrating compliance with those requirements since the date of land transfer. Initial documentation shall be provided no later than November 1 of the year of transfer and shall continue to be provided on that date on an annual basis for the effective term of this Agreement. For natural land areas with partial or no HMP resource conservation or management requirements, but which remain undeveloped, recipients shall annually (by November 1) provide the BLM evidence of successful implementation of interim habitat protection measures as specified in Section 8.2(B) of this Agreement. The methods and format for HMP compliance monitoring are attached as Exhibit().

C. Biological Monitoring The Parties agree that biological monitoring to provide both qualitative and quantitative data on HMP Species and habitats, is necessary to assess the success of resource conservation efforts and compliance with the HMP. The Parties further agree that all recipients of lands with specific HMP resource conservation requirements should contribute to the biological monitoring effort so that the general quality and abundance of HMP Species and habitats compared to the baseline studies can be readily determined. Biological monitoring of HMP Resources will be conducted on an ongoing basis and coordinated through the CRMP Program. Two broad types of biological monitoring will occur:

1. Habitat Monitoring Recipients of lands with HMP resource conservation requirements shall report overall changes in habitat characteristics from the original baseline studies using aerial photographs and ground reconnaissance. Habitat quality shall be determined by gathering percent cover data for perennial plant species following the methods presented in Exhibit E or other methods approved through CRMP. Wildlife habitat values may be determined through directed field survey, but unless otherwise required by the HMP, wildlife habitat values may be assessed using previous baseline data and wildlife habitat relationship assumptions. Habitat abundance may be determined through ground measurements, aerial photographic interpretation, computerized base mapping systems or other means approved through CRMP. Reports shall be provided to the BLM a minimum of every five years from the date of land transfer. However, a catastrophic event (e.g. fire, landslide, other successional change) or active restoration activities will require annual reporting as species composition rapidly changes. Reports shall be submitted to the BLM by November 1 of the year of monitoring.

2. Species Monitoring Recipients of lands with HMP resource conservation requirements shall conduct annual, seasonally-timed monitoring for annual plants included on the List of HMP Resources (Exhibit A) at all known sites for populations of these species. Potentially suitable habitat for these species on such lands shall be evaluated for these species presence or absence periodically, but no less than once every three years. Monitoring and survey techniques for these annual plant species shall follow the methods presented in Exhibit E or other methods approved through CRMP. Data regarding the distribution and abundance of perennial plant species

included on the list of HMP Resources shall be provided through the habitat monitoring procedures discussed above in Section 11.1 (C) 1.

11.2 If monitoring indicates that any federal, state or local jurisdiction or other Party to this Agreement is failing to implement the plans and actions designated by the HMP and this Agreement, then the provisions for Take outlined in this document shall be void for that jurisdiction until such time as the failure to implement these actions has been rectified.

11.3 Annual Reporting The BLM, in cooperation with the CRMP program members, shall prepare and submit to the USFWS and the CDFG by March 1 of each year a single annual report which describes (a) the amount of natural lands (by habitat type) remaining undeveloped within the HMP Planning Area; (b) the amount of natural lands (by habitat type) disturbed by development within the HMP Planning Area; (c) the status of HMP resource conservation and habitat management activities for the HMP Planning Area; (d) the status of interim habitat protection measures on lands with only partial or no habitat management requirements; and (e) the results of biological monitoring activities for the previous year. Other information may be included in the annual report at the discretion of the BLM and the CRMP program members.

11.4 Annual Meeting The Fort Ord CRMP shall include in its annual January meeting each year a comprehensive review of the draft Annual Report described in Section 11.3 above for the purposes of evaluating the implementation of the HMP during the preceding year and the overall progress being made towards reaching the conservation goals of the HMP. While the BLM shall retain responsibility for the final content of the report, the report shall include a summary of the CRMP discussions with particular emphasis on any divergent viewpoints. Parties to this Agreement shall cooperatively seek to identify means to rectify any failure to implement the HMP.

The Fort Ord CRMP shall include in its May meeting each year a review of any USFWS and CDFG responses to the Annual Report. To the extent the USFWS and the CDFG determine that overall progress is not sufficient, the USFWS, the CDFG, and all other Parties to this Agreement shall work cooperatively through the CRMP program to develop specific proposals for correcting any HMP implementation deficiencies identified in the final Annual Report or the regulatory agency responses.

12.0 REMEDIES AND ENFORCEMENT

12.1 Remedies in General. Except as set forth below, each Party shall have all of the remedies available in equity (including specific performance and injunctive relief) and at law to enforce the terms of this Agreement and the relevant USFWS and CDFG Take Authorizations, and to seek remedies and compensation for any breach thereof, consistent with and subject to the following:

A. None of the Parties shall be liable in damages to the other Parties or to any other person or entity for any breach of this Agreement, any performance or failure to perform a mandatory or discretionary obligation imposed by this Agreement, or any other cause of action arising from this Agreement. Notwithstanding the foregoing, each Party shall retain whatever liability it would possess for its present and future acts or failure to act without existence of this Agreement. This provision shall not be interpreted to affect the authority and responsibility of the USFWS or the CDFG to invoke the penalties under the ESA or the CESA, or of other federal or state law, for violations of the ESA, the CESA, or the Take Authorizations issued pursuant to this Agreement.

B. The Parties acknowledge that the HMP Resources are unique and that their loss as natural resources would result in irreparable damage to the environment; and that therefore, injunctive and temporary relief may be appropriate in certain circumstances involving a breach of this Agreement.

12.2 Revocation of Take Authorizations

A. Suspension of Take Permits/Management Authorizations. In the event of any significant violation or breach of any issued Take Authorization or of this Agreement, the USFWS and/or the CDFG may suspend the Take Authorization of any signatory agency; provided, however, that except where the USFWS and/or the CDFG determine that emergency action is necessary to protect the HMP Resources, the USFWS and/or the CDFG will not suspend a Take Authorization without first: (1) requesting said violator to take appropriate remedial actions; and (2) providing said violator written notice of the facts or conduct which may warrant the suspension, followed by an opportunity for said violator to demonstrate why suspension is not warranted.

B. Reinstatement of Take Permits/Management Authorizations. In the event the USFWS and/or the CDFG suspends a Take Authorization issued pursuant to this Agreement, the USFWS and/or the CDFG shall confer as soon as possible, but no later than thirty (30) days after such suspension, with said violator about how the violation or breach that led to the suspension can be remedied. At the conclusion of any such conference, the USFWS and/or the CDFG shall determine the specific actions necessary to effectively redress the violation or breach. In making this determination, the USFWS and/or the CDFG shall consider the requirements of the ESA and/or the CESA, regulations issued thereunder, the conservation needs of the HMP Resources, the terms of the relevant Take Authorization and of this Agreement, and any comments or recommendations received during the conferring process. As soon as possible, but not later than thirty (30) days after the conference, the USFWS and/or the CDFG shall send said violator written notice of the actions necessary to effectively redress the violation or breach. Upon full performance of such necessary actions, the USFWS and/or the CDFG shall immediately reinstate the relevant Take Authorization. It is the intent of the Parties that in the event of any suspension of a Take Authorization issued pursuant to this

Agreement, all Parties shall act expeditiously and cooperatively to reinstate the Take Authorization.

C. Permit Revocation or Termination

1. The USFWS agrees that it will revoke or terminate a Take Authorization for any violation or breach of the terms and conditions of the authorization or of this Agreement only if the USFWS determines that: (a) such violation cannot be effectively redressed by other remedies or enforcement actions; and (b) revocation or termination is required to fulfill a responsibility of the USFWS under the ESA.
2. The CDFG agrees that it will revoke or terminate a Take Authorization of any individual signatory agency for violation or breach of the terms and conditions of the authorization or of this Agreement only if the CDFG determines that: (a) such violation cannot be effectively redressed by other remedies or enforcement actions; and (b) revocation or termination is required to fulfill a responsibility of the CDFG under the CESA, the NCCPA or the CNPPA.
3. The USFWS and the CDFG agree not to revoke or terminate a Take Authorization without first: (a) requesting said violator to take appropriate remedial action; and (b) providing said violator notice in writing of the facts or conduct which warrant the revocation or termination, and a reasonable opportunity, but not less than forty-five (45) days, to demonstrate or achieve compliance with the terms and conditions of the Take Authorization and this Agreement.

12.3 Severability Any violation of the Take Authorizations pursuant to this Agreement by a Permittee with respect to any one or more projects within the HMP Planning Area shall not adversely affect or be attributed to, nor shall it result in the loss or diminutions of any right, privilege or benefit under this Agreement of, any non-responsible Permittee.

13.0 THIRD PARTY BENEFICIARIES

This Agreement is for the sole benefit of the people of the State of California.

14.0 ENVIRONMENTAL REVIEW

14.1 Issuance of Take Authorizations by the USFWS to the FORA and its member agencies and the other Participating Entities in this Agreement are actions subject to NEPA review. However, the USFWS, as an agency with special expertise under NEPA and jurisdiction by law over federally-listed threatened and endangered species, has already reviewed the Army's final Environmental Impact Statement ("FEIS") and issued a non-jeopardy biological opinion for

the disposal and reuse of Fort Ord. Compliance with the HMP and this Agreement will enable the USFWS to prepare simplified "administrative" Environmental Assessments, incorporating by reference previous NEPA documentation as further Take Authorizations are required within the HMP Planning Area.

14.2 Implementation of the HMP is an action subject to CEQA review. Pursuant to CEQA, the CDFG will take into account the conservation measures set forth in the HMP and this Agreement when considering requirements for HMP Resources. The CDFG will consider the conservation program for HMP Resources in the HMP and this Agreement as adequate mitigation pursuant to CEQA for HMP Resources during base reuse planning, CEQA environmental review and development at Fort Ord.

15.0 COOPERATIVE EFFORT

In order that each of the legal requirements summarized in Section 6.0 of the Agreement are fulfilled, each of the Parties to this Agreement must perform certain specific tasks. The HMP thus describes a cooperative program by federal, state and local agencies to conserve the Covered Species and their habitats.

16.0 TERMS USED

Terms defined and utilized in the HMP, the ESA, the CESA, the CNPPA and the NCCP Act shall have the same meaning when utilized in this Agreement, except as specifically noted.

17.0 EFFECTIVE TERM OF AGREEMENT

17.1 This Agreement shall be immediately effective upon execution by the Parties.

17.2 The Take Authorizations issued by the USFWS to the Parties to this Agreement, including FORA, its successors, its member agencies and the other Participating Entities to this Agreement shall be effective for a period of 50 years.

17.3 The Take Authorizations issued by the CDFG to the Parties to this Agreement, including FORA, its successors, its member agencies and the other Participating Entities to this Agreement shall be effective for a period of 50 years.

17.4 This Agreement takes effect on the Effective Date, and shall remain in full force and effect for a period of 50 years, or until termination of the issued Take Authorizations, whichever occurs sooner.

17.5 Notwithstanding the stated term as herein set forth, the Parties agree and recognize that once HMP Resources have been taken and/or their habitat modified within the HMP Planning Area, such Take and/or habitat modification will be permanent. The Parties, therefore, agree that maintenance of compensation habitat and active management for the HMP Resources shall likewise be permanent and extend beyond the term of this Agreement.

18.0 AMENDMENTS

18.1 The USFWS may allow the HMP to be modified from time to time as a result of more site-specific planning within the HMP Planning Area, changes in land ownership or habitat management guidelines, findings of Unforeseen Circumstances or other reasons. Such modifications and their effects on this Agreement shall be documented by the USFWS in a letter to the Chair of the CRMP program which will, in turn, be distributed to the Parties to this Agreement. In the event that the modifications and/or their effects on this Agreement are unacceptable to any of the Parties, a letter so notifying the USFWS shall be prepared by the subject Party or Parties and submitted to the USFWS through the Chair of CRMP within 60 days of receipt of USFWS notification. The USFWS shall consider the merits of any position against HMP modification before rendering a final determination which shall be provided to the Chair of CRMP for distribution to the Parties.

18.2 Except as otherwise set forth herein, or in the event that the HMP is modified as described above in Section 18.1, this Agreement may be amended only with the written consent of each of the Parties.

18.3 Provided that provisions described in Sections 18.1 and 18.2 have been met, the list of HMP Resources, attached as Exhibit A, may be amended to exclude certain resources and/or include additional resources as new information becomes available concerning the population and distribution of such resources and the protection afforded such resources by the HMP and/or this Agreement.

19.0 MISCELLANEOUS PROVISIONS

19.1 No Partnership. Except as otherwise expressly set forth herein, neither this Agreement nor the HMP shall make or be deemed to make any Party to this Agreement the agent for or the partner of any other Party.

19.2 Successors and Assigns. This Agreement and each of its covenants and conditions shall be binding on and shall inure to the benefit of the Parties and their respective successors and assigns.

19.3 Notice. Any notice permitted or required by this Agreement shall be delivered personally to the persons set forth below and shall be deemed given five (5) days after deposit in

the United States mail, certified and postage prepaid, return receipt requested, and addressed as follows or at such other address as any Party may from time to time specify to the other Parties in writing:

United States Fish and Wildlife Service)
Assistant Regional Director
911 Northeast 11th Avenue
Portland, Oregon 97232-4181

United States Fish and Wildlife Service
Field Supervisor
2493 Portola Road, Suite B
Ventura, California 93003

Director, California Department of Fish and Game
1416 9th Street, 12th Floor
Sacramento, California 95814

Chair, Fort Ord Reuse Authority
100 12th Street, Building 2880
Marina, California 93933

19.4 Entire Agreement. This Agreement supersedes any and all other Agreements, either oral or in writing, among the Parties with respect to the subject matter hereof and contains all of the covenants and agreements among them with respect to said matters, and each Party acknowledges that no representation, inducement, promise, or agreement, oral or otherwise, has been made by the other Party or anyone acting on behalf of the other Party that is not embodied herein.

19.5 Attorneys' Fees. If any action at law or equity, including any action for declaratory relief, is brought to enforce or interpret the provisions of this Agreement, each Party to the litigation shall bear its own attorneys' fees and costs, provided that attorneys' fees and costs recoverable against the United States shall be governed by applicable Federal law.

19.6 Duplicate Originals. This Agreement may be executed in any number of duplicate originals. A complete original of this Agreement shall be maintained in the official records of each of the Parties.

IN WITNESS WHEREOF, THE PARTIES HERETO have executed this
Implementing/Management Agreement to be in effect as of the date last signed below.

By _____ Date _____
Regional Director
United States Fish and Wildlife Service
Portland, Oregon

By _____ Date _____
State Director
United States Bureau of Land Management
Sacramento, California

By _____ Date _____
Director
California Department of Fish and Game
Sacramento, California

By _____ Date _____
Director
California Department of Parks and Recreation
Sacramento, California

By _____ Date _____
Office of the President
University of California
Oakland, California

_____ Date _____
Office of the President
California State University
Long Beach, California

By _____ Date _____
Chair
Fort Ord Reuse Authority
Marina, California

By	_____	Date	_____
	[**County, City, or Participating Entity**]		
By	_____	Date	_____
	[**County, City, or Participating Entity **]		
By	_____	Date	_____
	[**County, City, or Participating Entity**]		
By	_____	Date	_____
	[**County, City, or Participating Entity**]		
By	_____	Date	_____
	[**County, City, or Participating Entity**]		
By	_____	Date	_____
	[**County, City, or Participating Entity **]		
By	_____	Date	_____
	[**County, City, or Participating Entity**]		
By	_____	Date	_____
	[**County, City, or Participating Entity**]		
By	_____	Date	_____
	[**County, City, or Participating Entity**]		

Exhibit A: HMP Resources

Common Name	Scientific Name	Status Federal/State/Other
Plants		
Sand gilia	<i>Gilia tenuiflora</i> ssp. <i>arenaria</i>	E/T/CNPS 1B
Monterey spineflower	<i>Chorizanthe pungens</i> var. <i>pungens</i>	T/--/CNPS 1B
Robust spineflower	<i>Chorizanthe robusta</i> var. <i>robusta</i>	PE/--/CNPS 1B
Seaside bird's-beak	<i>Cordylanthus rigidus</i> var. <i>littoralis</i>	C1/E/CNPS 1B
Toro manzanita	<i>Arctostaphylos montereyensis</i>	C2/--/CNPS 1B
Sandmat manzanita	<i>Arctostaphylos pumila</i>	C2/--/CNPS 1B
Monterey ceanothus	<i>Ceanothus rigidus</i>	C2/--/CNPS 4
Eastwood's ericameria	<i>Ericameria fasciculata</i>	C2/--/CNPS 1B
Coast wallflower	<i>Erysimum ammodophilum</i>	C2/--/CNPS 1B
Yadon's piperia	<i>Piperia yadoni</i>	C1/--/CNPS 1B
Hooker's manzanita	<i>Arctostaphylos hookeri</i>	--/--/CNPS 1B
Animals		
Smith's blue butterfly	<i>Euphilotes enoptes smithi</i>	E/--/--
California linderiella	<i>Linderiella occidentalis</i>	no status
California red-legged frog	<i>Rana aurora draytoni</i>	PE/CSC/--
California tiger salamander	<i>Ambystoma tigrinum californiense</i>	C1/CSC/--
California black legless lizard	<i>Anniella pulchra nigra</i>	PE/CSC/--
Western snowy plover	<i>Charadrius alexandrinus nivosus</i>	T/CSC/--
Monterey ornate shrew	<i>Sorex ornatus salarius</i>	C2/--/--
Rare Natural Communities		
Maritime chaparral		--/--/CEQA
Native coastal strand		--/--/CEQA
Dune scrub		--/--/CEQA

1. Status Explanations

Federal

E	=	listed as endangered under the federal Endangered Species Act
T	=	listed as threatened under the federal Endangered Species Act
PE	=	proposed for federal listing as endangered under the federal Endangered Species Act
C1	=	Category 1 candidate for federal listing. Category 1 includes species for which the USFWS has on file enough substantial information on biological vulnerability and threats to support proposals to list them.
C2	=	Category 2 candidate for federal listing. Category 2 includes species for which the USFWS has some biological information indicating that listing may be appropriate but for which further biological research and field study are usually needed to clarify the most appropriate status.
--	=	no designation

State

E	=	listed as endangered under the California Endangered Species Act
T	=	listed as threatened under the California Endangered Species Act
CSC	=	California Department of Fish and Game species of special concern
--	=	no designation

Other

CNPS 1B	=	California Native Plant Society list 1B: plants listed as rare, threatened or endangered in California and elsewhere
CNPS 4	=	California Native Plant Society list 4: plants of limited distribution in California - a watch list
CEQA	=	resources with no formal listing that are considered sensitive by CDFG through the CEQA review process
--	=	no designation

Exhibit C

HMP IMPLEMENTATION REQUIREMENTS

Responsible Party	Parcel	Species Present ¹	Permanent Conservation Areas	Habitat Management Requirements	Success Criteria	Additional Concerns
Army	FM1	1, 2, 4, 5, 7, 8, 9, 15+	None	Federal agency subject to review pursuant to Section 7 of the ESA for all future actions; Best management practices to protect existing natural resources	None	
Department of Justice	FM2	2, 4, 7, 17+	None	Federal agency subject to review pursuant to Section 7 of the ESA for all future actions; BLM to manage natural resources; Range fans will be determined and access restriction will be set in FR1 as necessary; Responsible for firebreaks and fire suppression for any fire in or originating from parcel	None	
FBI	FM3	2, 8, 15+, 17+	None	Federal agency subject to review pursuant to Section 7 of the ESA for all future actions; Best management practices to protect existing natural resources	None	May contract a qualified agency to manage parcel, subject to USFWS and CDFG approval
BLM	FR1	1, 2, 4, 5, 6, 7, 8, 9, 12, 13, 14, 15+, 16+, 17+	Maintain a Natural Resource Management Area (NRMA) within the inland range, including areas after UXO removal	Develop a burn plan to facilitate UXO removal and promote maritime chaparral and Covered Species habitat; Monitor recovery and succession of maritime chaparral; Study establishment, persistence, and habitat requirements of sand gilia, Monterey spineflower, and Seaside bird's beak; Develop management procedures for Covered Species; Enhance degraded maritime chaparral	Restored areas will be naturally regenerating maritime chaparral that become a functioning part of the entire managed habitat; Covered Species habitat value will be maintained at maximum value; Special effort to promote habitat for sand gilia, Monterey spineflower, and Seaside bird's-beak	
California 7th District Agriculture Association	SM8	5, 7, 8, 9, 15+	None	Site all structures behind firebreaks; Construct a barrier to prevent access to FR1, include emergency access gates with keys to BLM and other appropriate agencies; Minimize erosion by controlling storm runoff; Create interpretive display on natural resources	None	
California 7th District Agriculture Association	SM9	2, 3, 5, 7, 8, 15+	None	Same as SM8	None	

California State University	SM5	2, 5, 7, 8, 9, 15+, 17+	Preserve habitat where possible within and near development areas	Coordinate with UC NRS regarding foot, bike, and vehicle access to SR2, SR3, LR1, and LR2 parcels	None	
CalTrans	SR8	2, 5, 7, 8, 9, 15+	Preserve existing habitat	Preserve existing habitat patches consistent with future expansion, maintenance, etc.; Restore and/or enhance habitat wherever possible	None	
CalTrans with BLM and Monterey County	SR9	1, 2, 4, 5, 6, 7, 12+, 17+	BLM will conserve HMP habitats during SR 68 study	CalTrans will construct SR 68 with minimum impacts to natural habitats; No impact to vernal pools and their watersheds	None	Money not spent on SR 68 should be used for other mitigation projects within Fort Ord boundaries, subject to USFWS and CDFG approval
CDPR	SM6	2, 9	Preserve Covered Species and their habitats where possible	Minimize impacts to sand gilia, Smith's blue butterfly, and Western snowy plover; Design, site, and manage facilities to be sensitive to natural resources	None	If Asilomar-type Facility is developed, USFWS- and CDFG-approved mitigation measures are required
CDPR	SM7	None	None	Regulated access to parcel	None	Preferred public access options specified in HMP
CDPR	SN1	2, 15+	Preserve habitat where possible within and near development areas	None	None	
CDPR	SR5	1, 2, 9, 11+, 15+	Covered Species habitat restoration and preservation; Construct visitor service areas	Restore native dune vegetation and Covered Species habitat; Use minimum grading and guide railing for any trails constructed; Create interpretive signs; Restrict access to Smith's blue butterfly populations, sand gilia locations, medium to high density Monterey spineflower occurrences, and Western snowy plover breeding sites	Average yearly population size of 14-18,000 sand gilia and high density Monterey spineflower covering 375-475 acres; Restored dune habitat will cover about 70 acres, 250 acres should be restored within 7 years of land transfer	

CDPR	SR6	1, 2, 9, 11, 15, 16+	Covered Species habitat restoration and preservation; Pedestrian beach access provided	Restore native dune vegetation and Covered Species habitat in suitable areas; Create and site boardwalks with interpretive signs (with design and placement sensitive to Covered Species); Restricted access during Western snowy plover breeding	None	
City of Del Rey Oaks	LM4	2, 5, 7, 8, 15+	None	Control and prevent erosion and siltation within the ephemeral drainage	None	
City of Del Rey Oaks	LM6	2, 5, 7, 8	None	Control and prevent erosion and siltation within the ephemeral drainage; Construct firebreaks at NAE boundary; Construct a vehicle barrier to prevent access to NAE	None	
City of Marina	LM10	5, 15+	None	Use native vegetation for landscaping; Install a permanent interpretive display	None	
City of Marina	LM15	1, 2, 4, 5, 7, 8, 15+	None	Construct a barrier to prevent SR4 access; Construct firebreaks at boundary with SR4; Prevent drainage into SR4	None	
City of Marina	LM16	2, 5, 7, 8, 15+	None	Construct a barrier to prevent SR4 access; Construct firebreaks at boundary with SR4; Prevent drainage into SR4	None	
City of Marina	LM17	2, 15+, 17+	Preserve habitat where possible within and near development areas	Restrict development to area above the bluffs along the Salinas River	None	
City of Marina	LM18	1, 2, 15+, 17+	Preserve habitat where possible within and near development areas	Restrict development to area above the bluffs along the Salinas River	None	
City of Marina	LM19	1, 2, 5, 7, 8, 9, 15+, 17+	Preserve habitat where possible within and near development areas	Construct a barrier to prevent SR4 access; Construct firebreaks at boundary with SR4; Prevent drainage into SR4	None	
City of Marina	LM22	2, 5, 7, 15+	None	Construct a barrier to prevent SR4 access; Construct firebreaks at boundary with SR4; Prevent drainage into SR4	None	
City of Marina	LN3	2	None	None	None	May contract a qualified agency to manage
City of Marina	LR4	2, 13+, 17+	Preserve existing habitat	Maintain existing habitat values	None	parcel, subject to USFWS and CDFG approval

City of Marina	LR5	2, 15+	Preserve remaining habitat after construction of FAA facilities and proposed road	Construct barriers along access roads to prevent off-road vehicles from entering; Maintain existing habitat values	None	May contract a qualified agency to manage parcel, subject to USFWS and CDFG approval
City of Marina	LR6	1, 2, 5, 7, 8, 9, 10, 15+	Preserve Yadon's piperia population; Preserve other habitat where possible	Prohibit vehicle access and drainage flow into parcel	None	
City of Seaside	LM20	2, 5, 7, 8, 15+, 17+	Preserve habitat where possible within and near development areas	Construct a barrier to prevent FRI access; Construct firebreaks at boundary with FRI; Prevent drainage into FRI	None	
City of Seaside	LM21	5, 7, 8, 15+	None	Construct a barrier to prevent FRI access; Construct firebreaks at boundary with FRI; Prevent drainage into FRI	None	
Monterey County	LM1	2, 4, 6, 15+, 17+	Preserve habitat where possible within and near development areas	Construct a barrier to prevent LR2 and FRI access; Construct firebreaks at boundaries with LR2 and FRI; Prevent drainage into FRI; Prohibit interference with water flow or water quality to vernal pools in FRI	None	
Monterey County	LM2	2, 4, 5, 6, 7, 8, 15+, 17+	Preserve habitat where possible within and near development areas	Construct a barrier to prevent FRI access; Construct firebreaks at boundary with FRI; Prevent drainage into FRI; Before land is transferred, construct a permanent BLM approved firebreak around entire parcel perimeter	None	
Monterey County	LM3	2, 5, 7, 8, 15+	None	Control and prevent erosion and siltation within the ephemeral drainage	None	
Monterey County	LM5	2, 4, 5, 7, 8, 15+	None	Construct a barrier to prevent access to FRI, include emergency access gates with keys to BLM and other appropriate agencies; Construct firebreaks at boundaries with LM23 and FRI; Prevent drainage into FRI; Control and prevent erosion and siltation within the ephemeral drainage	None	
Monterey County; City of Seaside	LM7	1, 2, 5, 7, 8, 9, 11+, 14+, 15+	None	Construct a barrier to prevent access to FRI, include emergency access gates with keys to BLM and other appropriate agencies; Construct firebreaks at boundary with FRI; Prevent drainage into FRI	None	Compliance with Section 104 of the Clean Water Act required for wetland habitat area

Monterey County	LM8	2, 5, 15+, 17+	Preserve habitat where possible within and near development areas	Construct a barrier to prevent LR2 access; Construct firebreaks at boundary with LR2; Prevent drainage into LR2	None	
Monterey County	LM9	2, 17+	None	Use best management practices to minimize effects on LR2; Use native vegetation for landscaping; Install a permanent interpretive display	None	
Monterey County	LM11	2, 5, 7, 8, 15+	None	Use native vegetation for landscaping; Install a permanent interpretive display; Prevent and control erosion and siltation within the ephemeral drainage	None	
Monterey County	LR1	1, 2, 17+	Preserve existing habitat for the Covered Species	Maintain existing habitat values for the Covered Species, including small disturbed areas of sandy soil for sand gilia and Monterey spineflower; Maintain as a functional habitat corridor as specified	None	
Monterey County	LR2	2, 5, 17+	No Covered Species will be removed for development; Maintain existing habitat outside campground	Maintain as a functional habitat corridor; Develop a land management plan as specified (management will include monitoring, controlled burning, firebreak construction, vehicle access controls, erosion control, and regular patrols); Create interpretive signs as specified; If Monterey ornate shrews are present, prohibit firewood collection and leave tree trunks in place if tree cutting is necessary; Use only native species for landscaping; Coordinate management activities with the CDFG and the California Department of Forestry and Fire Protection	None	Future expansion is subject to USFWS and CDFG approval;
Monterey County	LR3	2, 4, 5, 6, 7, 8, 17+	Development will not exceed 200 acres and will have less than 30% slope; Impacts to the Covered Species will be minimized and all remaining natural habitat will be retained	Develop a land management plan as specified (management will include monitoring, controlled burning, firebreak construction, vehicle access controls, erosion control, and regular patrols); Limit development as much as possible to within existing East Garrison and Ammo Supply Point; Coordinate management activities with the CDFG and the California Department of Forestry and Fire Protection	None	May contract a qualified agency to manage, subject to USFWS and CDFG approval
Monterey County Parks	LM12	None	None	Maintain grass and take other measures as necessary to prevent erosion damage in FR1; Construct a firebreak inside perimeter of parcel to protect FR1; Post signs prohibiting off-road vehicle use; Inspect nearby stock pond for impacts after each public event	None	Take actions as necessary to prevent impacts to stock pond

Monterey County Parks	LM13	1, 4, 6, 7, 11, 14, 17+	Breeding pond that supports California linderella and California tiger salamander will be preserved	Maintain grass and take other measures as necessary to prevent erosion damage in FR1; Construct a firebreak inside perimeter of parcel to protect FR1; Post signs prohibiting off-road vehicle use; Inspect pond habitat for impacts after each public event	None	Take actions necessary to prevent impacts to breeding pond
Monterey County Parks	LM14	17+	None	Maintain grass and take other measures as necessary to prevent erosion damage in FR1; Construct a firebreak inside perimeter of parcel to protect FR1	None	Construct a vehicle barrier if off-road vehicles do enter FR1
Monterey Peninsula College	LN2	2, 5, 7	None, but area planned as an outdoor lab so habitat is likely to be preserved	None	None	
Monterey Peninsula Regional Parks	LR7	2, 3, 5, 7, 8	None, but Regional Parks District intends to preserve natural habitat	Allow CNPS access to existing plant reserve for research and other purposes	None	
Monterey Peninsula Unified School District	LM24	None	None	Best management practices will be used to minimize effects to the adjacent SR2 parcel	None	
Monterey Peninsula Unified School District	LN1	None	None	None	None	
Transportation Agency of Monterey County	LN4	1, 2, 4, 5, 7, 8, 9, 15+, 17+	None	None	None	
UC	SM1	2, 15+, 17+	Preserve habitat where possible within and near development areas	Use native vegetation for landscaping purposes and develop a landscaping plan that maintains a habitat corridor to the extent possible for Covered Species in the adjacent SR ("URA") parcels	None	
UC	SM2	1, 2, 5, 7, 9, 15+, 17+	Preserve habitat where possible within and near development areas	Use clustered development to avoid sand gilia and other Covered Species and their habitats; Use native vegetation for landscaping purposes and develop a landscaping plan that maintains a habitat corridor to the extent possible for Covered Species in the adjacent SR ("URA") parcels	None	
UC	SM3	1, 2, 4, 5, 7, 8, 9, 15+, 17+	Preserve habitat where possible within and near development areas	Same as SM2	None	
UC	SM4	1, 2, 5, 7, 15+, 17+	Preserve habitat where possible within and near development areas	Same as SM2	None	

UC	SR7	2, 5, 9, 11+, 15+	Preserve existing Smith's blue butterfly habitat	Restrict development to existing treatment plant and abandoned ponds; Prohibit disturbance to Smith's blue butterfly populations; Install a barrier to prevent vehicles from entering undeveloped areas; Establish comprehensive erosion control measures	None	
UC NRS	SR1	1, 2, 4, 5, 7, 8, 9, 15, 17+	Development (for teaching and research purposes) will not affect more than 1% of the total existing natural habitat	Actively manage natural resources, with an emphasis on maintaining viable species populations and natural communities; Conduct site-specific natural resource inventories and mapping, with emphasis on relevant Covered Species; Design and implement an on-going environmental monitoring program for abiotic and biotic components of parcel; Foster targeted research to address rare species and habitat management issues	None	Consultation with adjacent land owners proposing projects that may impact the Covered Species and/or their habitats on UC managed lands is a CEQA requirement
UC NRS	SR2	1, 2, 4, 5, 7, 8, 9, 15+, 17+	Same as SR1	Same as SR1	None	Same as SR1
UC NRS	SR3	1, 2, 5, 7, 9, 15+, 17+	Same as SR1, but no conservation measures necessary in landfill areas	Same as SR1	None	Army to coordinate completion of landfill mitigation
UC NRS	SR4	1, 2, 5, 7, 8, 15+	Same as SR1	Same as SR1; In addition, all artificially created landscape features will be removed and sand hill maritime chaparral will be restored in those areas	None	
The York School	LM23	2, 4, 5, 6, 7	Preserve habitat where possible within and near development areas	Construct firebreaks at boundary with FR1	None	
Army, Monterey County, City of Marina, City of Seaside, Monterey Peninsula Unified School District, City of Marina Community College, Monterey Peninsula Community College	LN5	1, 2, 4, 5, 6, 7, 8, 15+, 17+	Preserve habitat where possible within and near development areas	None	None	

Unknown at this time	LM25	None	None	Construct a barrier to prohibit vehicle access to coastal dune habitats within the SR6 parcel; Take measures to minimize erosion problems within parcel and nearby parcels	None
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Covered Species Addressed in the HMP:

Plants

- 1) Sand gilia
- 2) Monterey spineflower
- 3) Seaside bird's-beak
- 4) Toro manzanita
- 5) Sandmat manzanita
- 6) Hooker's manzanita
- 7) Monterey ceanothus
- 8) Eastwood's ericameria
- 9) Coast wallflower
- 10) Yaden's piperia

Animals

- 11) Smith's blue butterfly
- 12) California linderiella
- 13) California red-legged frog
- 14) California tiger salamander
- 15) California black legless lizard
- 16) Western snowy plover
- 17) Monterey ornate shrew

+ - Not detected, but the parcel contains potential habitat for this species

FORT ORD HABITAT MANAGEMENT PLAN
LAND USE STATUS MONITORING

POLYGON # _____

REPORTING YEAR _____

LEGAL JURISDICTION _____

TOTAL POLYGON ACRES _____

ACRES OF HABITAT IDENTIFIED IN ARMY EIS

Maritime Chaparral _____
Coastal Dunes _____
Native Coastal Strand _____
Coastal Shrub _____
Coastal Oak Woodland _____
Inland Oak Woodland _____
Oak Savanna _____
Annual Grassland _____
Valley Needlegrass Grassland _____
Blue Wildrye Grassland _____
Mixed Riparian Forest _____
Oak Riparian _____
Vernal Pool _____
Ponds & Freshwater Marsh _____

HABITATS AFFECTED BY DEVELOPMENT DURING PAST FEDERAL FISCAL YEAR
(acres) (October 1 to September 30)

Maritime Chaparral _____
Coastal Dunes _____
Native Coastal Strand _____
Coastal Shrub _____
Coastal Oak Woodland _____
Inland Oak Woodland _____
Oak Savanna _____
Annual Grassland _____
Valley Needlegrass Grassland _____
Blue Wildrye Grassland _____
Mixed Riparian Forest _____

Oak Riparian _____
Vernal Pool _____
Ponds & Freshwater Marsh _____

DEVELOPMENT PROJECTS AFFECTING HABITATS

Name

CEQA Compliance Document

Report shall be accompanied by a habitat map with overlay showing areas of development (this will be to a standard scale - maybe BLM could provide initial copy of map at appropriate scale?)

**FORT ORD HABITAT MANAGEMENT PLAN
HMP COMPLIANCE MONITORING**

POLYGON # _____

REPORTING YEAR _____

LEGAL JURISDICTION _____

TOTAL POLYGON ACRES _____

INTERIM MANAGEMENT ACTIONS TAKEN:**Control of Off-Road Vehicles:****Actions Taken:****Problems Identified:****Unauthorized Disturbances:****Actions Taken:****Problems Identified:****Invasive Species Control:****Actions Taken:****Problems Identified:****Name of Individual(s) Conducting Inspection of Property:****Dates of Inspections:**

HMP IMPLEMENTATION ACTIONS TAKEN:

(THIS PORTION OF THE FORM WILL BE INDIVIDUALLY PREPARED BY BLM
FOR EACH PARCEL - EACH FORM WILL LIST THE HMP IMPLEMENTATION
REQUIREMENTS FOR THAT PARCEL)

example: (Parcel LM-21)

Fire Break Construction:	Completed	YES	NO
Progress in last fiscal year:			

Vehicle Barrier Construction:	Completed	YES	NO
Progress in last fiscal year:			

Vehicle Barrier Maintenance:			
Progress in last fiscal year:			

Stormwater Runoff Control:	Completed	YES	NO
Progress in last fiscal year:			

Exhibit

HMP MONITORING REQUIREMENTS

Responsible Party	Parcel	Species Present	Monitoring Requirements
Army	FM1	1, 2, 4, 5, 7, 8, 9, 15+	None
Department of Justice	FM2	2, 4, 7, 17+	None
FBI	FM3	2, 8, 15+, 17+	None
BLM	FRI	1, 2, 4, 5, 6, 7, 8, 9, 12, 13, 14, 15+, 16+, 17+	Assist Army (during UXO clearance) with monitoring the recovery and succession of maritime chaparral over short and long term periods; Assist Army with study of the establishment, persistence, and habitat requirements of sand gilia, Monterey spineflower, and Seaside bird's-beak populations and habitat; Measure the success of maritime chaparral restoration as specified in the HMP; Monitor and test maritime chaparral enhancement techniques; Monitor all populations of Covered Species and conduct population viability studies when and where appropriate; Maintain records of the location, timing, intensity, and extent of fires (wild and controlled) and monitor post fire recovery and succession of maritime chaparral
California 7th District Agriculture Association	SM8	5, 7, 8, 9, 15+	None
California 7th District Agriculture Association	SM9	2, 3, 5, 7, 8, 15+	None
California State University	SM5	2, 5, 7, 8, 9, 15+, 17+	None
CalTrans	SR8	2, 5, 7, 8, 9, 15+	None
CalTrans with BLM and Monterey County	SR9	1, 2, 4, 5, 6, 7, 12+, 17+	None
CDPR	SM6	2, 9	None
CDPR	SM7	None	None
CDPR	SN1	2, 15+	None
CDPR	SR5	1, 2, 9, 11+, 15	Identify potential dune habitat restoration sites (recording the location, physical condition, and biological condition of each site); Monitor restoration success with specific monitoring of the establishment and persistence of sand gilia and Monterey spineflower populations; Data collected will be used to guide species and habitat management programs
CDPR	SR6	1, 2, 9, 11, 15, 16+	Same as SR5
City of Del Rey Oaks	LM4	2, 5, 7, 8, 15+	None
City of Del Rey Oaks	LM6	2, 5, 7, 8	None
City of Marina	LM10	5, 15+	None
City of Marina	LM15	1, 2, 4, 5, 7, 8, 15+	None
City of Marina	LM16	2, 5, 7, 8, 15+	None
City of Marina	LM17	2, 15+, 17+	None
City of Marina	LM18	1, 2, 15+, 17+	None

City of Marina	LM19	1, 2, 5, 7, 8, 9, 15+, 17+	None	
City of Marina	LM22	2, 5, 7, 15+	None	
City of Marina	LN3	2	None	
City of Marina	LR4	2, 13+, 17+	None	
City of Marina	LR5	2, 15+	None	
City of Marina	LR6	1, 2, 5, 7, 8, 9, 10, 15+	None	
City of Seaside	LM20	2, 5, 7, 8, 15+, 17+	None	
City of Seaside	LM21	5, 7, 8, 15+	None	
Monterey County	LM1	2, 4, 6, 15+, 17	None	
Monterey County	LM2	2, 4, 5, 6, 7, 8, 15+, 17+	None	
Monterey County	LM3	2, 5, 7, 8, 15+	None	
Monterey County	LM5	2, 4, 5, 7, 8, 15+	None	
Monterey County;	LM7	1, 2, 5, 7, 8, 9, 11+, 14+, 15+	None	
City of Seaside	LM8	2, 5, 15+, 17+	None	
Monterey County	LM9	2, 17+	None	
Monterey County	LM11	2, 5, 7, 8, 15+	None	
Monterey County	LR1	1, 2, 17+	None	
Monterey County	LR2	2, 5, 17+	Relevant Covered Species monitoring (as specified in the resources management plan to be developed and reviewed by the USFWS and the CDFG); Survey for Monterey ornate shrews, and if found, then management practices will be implemented to preserve known and potential habitats	
Monterey County	LR3	2, 4, 5, 6, 7, 8, 17+	Relevant Covered Species monitoring	
Monterey County Parks	LM12	None	None	
Monterey County Parks	LM13	1, 4, 6, 7, 11, 14, 17+	None	
Monterey County Parks	LM14	17+	None	
Monterey Peninsula College	LN2	2, 5, 7	None	
Monterey Peninsula Regional Parks	LR7	2, 3, 5, 7, 8	None	
Monterey Peninsula Unified School District	LM24	None	None	
Monterey Peninsula Unified School District	LN1	None	None	
Transportation Agency of Monterey County	LN4	1, 2, 4, 5, 7, 8, 9, 15+, 17+	None	
UC	SM1	2, 15+, 17+	None	
UC	SM2	1, 2, 5, 7, 9, 15+, 17+	None	

Exhibit

Monitoring Methods and Frequencies for HMP Covered Species (post baseline)

Species	Status/ Federal/State/Other	Methods	Output	Frequency	Timing	Spatial Application	Comments
Plants							
Sand gilia	E/T/CNPS 1B	Total counts: A. Along all open trails B. Wandering all open spaces	Numbers of individuals per parcel and number of populations (small, medium, and large)	Annual	Late March to early June	All actual or expected habitat in habitat conservation areas	Surveys are required prior to development on other parcels to assess expected losses
Monterey spineflower	T/--/CNPS 1B	Location of populations; Estimation of population sizes	Number and sizes of populations	Annual	Late March to early June		
Robust spineflower	PE/--/CNPS 1B	Location of populations; Estimation of population sizes	Number and sizes of populations	Annual	Late March to early June		
Seaside bird's-beak	C1/E/CNPS 1B	Location of populations; Estimation of population sizes	Number and sizes of populations	Annual	Late June to late August		
Toro manzanita	C2/--/CNPS 1B	A. Line intercept B. Coverage estimates by classes or point	Absolute Coverage	Five year intervals	NA		
Sandmat manzanita	C2/--/CNPS 1B	A. Line intercept B. Coverage estimates by classes or point	Absolute Coverage	Five year intervals	NA		
Monterey ceanothus	C2/--/CNPS 4	A. Line intercept B. Coverage estimates by classes or point	Absolute Coverage	Five year intervals	NA		
Eastwood's ericameria	C2/--/CNPS 1B	A. Line intercept B. Coverage estimates by classes or point	Absolute Coverage	Five year intervals	NA		
Coast wallflower	C2/--/CNPS 1B	Location of populations; Estimation of population sizes	Numbers of individuals per parcel	Annual	Early February to early June		
Yadon's piperia	C1/--/CNPS 1B	Location of populations; Estimation of population sizes	Number and sizes of populations	Annual	Mid June to late July		
Hooker's manzanita	--/--/CNPS 1B	A. Line intercept B. Coverage estimates by classes or point	Absolute Coverage	Five year intervals	NA		
Animals							
Smith's blue butterfly	E/--/--	Direct counts in selected areas		Annual			
California linderella	no status			Annual			

California red-legged frog	PE/CSC/--	Evening surveys with head lamps in selected, wet areas		Annual	Winter to late spring	Ponds suitable for breeding	Numbers will be indices based on calling males
Western snowy plover	T/CSC/--	Direct counts		Annual			
California black legless lizard	PE/CSC/--	A. Coverboards B. Manual searches	Number and color of individuals	A. Annual B. Five year intervals	March to June especially		
California tiger salamander	C1/CSC/--	Walking transects during late afternoon (standard)	Number seen per hour and per transect length	Annual	Breeding season (November to March?)		
Monterey ornate shrew	C2/--/--	Drop cans	Number per can-day	Five year intervals	Spring		Cans MUST be monitored at all times when open and checked every 3-4 hours

1. Status Explanations

Federal

E	=	listed as endangered under the federal Endangered Species Act
T	=	listed as threatened under the federal Endangered Species Act
PE	=	proposed for federal listing as endangered under the federal Endangered Species Act
C1	=	Category 1 candidate for federal listing. Category 1 includes species for which the USFWS has on file enough substantial information on biological vulnerability and threats to support proposals to list them.
C2	=	Category 2 candidate for federal listing. Category 2 includes species for which the USFWS has some biological information indicating that listing may be appropriate but for which further biological research and field study are usually needed to clarify the most appropriate status.
--	=	no designation

State

E	=	listed as endangered under the California Endangered Species Act
T	=	listed as threatened under the California Endangered Species Act
CSC	=	California Department of Fish and Game species of special concern
--	=	no designation

Other

CNPS IB	=	California Native Plant Society list 1B: plants listed as rare, threatened or endangered in California and elsewhere
CNPS 4	=	California Native Plant Society list 4: plants of limited distribution in California - a watch list
CEQA	=	resources with no formal listing that are considered sensitive by CDFG through the CEQA review process
--	=	no designation

UC	SM3	1, 2, 4, 5, 7, 8, 9, 15+, 17+	None	
UC	SM4	1, 2, 5, 7, 15+, 17+	None	
UC	SR7	2, 5, 9, 11+, 15	None	
UC NRS	SR1	1, 2, 4, 5, 7, 8, 9, 15, 17+	Detailed baseline inventory and mapping of relevant natural resources, with emphasis on Covered Species and their habitats; Design and implement a long-term biotic and abiotic environmental monitoring program (data will be used to guide species and habitat management programs); Adjacent land use monitoring pursuant to CEQA	
UC NRS	SR2	1, 2, 4, 5, 7, 8, 9, 15+, 17+	Same as SR1	
UC NRS	SR3	1, 2, 5, 7, 9, 15+, 17+	Same as SR1	
UC NRS	SR4	1, 2, 5, 7, 8, 15+	Same as SR1	
The York School	LM23	2, 4, 5, 6, 7	None	
Army, Monterey County, City of Marina, City of Seaside, Monterey Peninsula Unified School District, City of Marina Community College, Monterey Peninsula Community College	LN5	1, 2, 4, 5, 6, 7, 8, 15+, 17+	None	
Unknown at this time	LM25	None	None	

Covered Species Addressed in the HMP:

Plants

- 1) Sand gilia
- 2) Monterey spineflower
- 3) Seaside bird's-beak
- 4) Toro manzanita
- 5) Sandmat manzanita
- 6) Hooker's manzanita
- 7) Monterey ceanothus
- 8) Eastwood's ericameria
- 9) Coast wallflower
- 10) Yadon's piperia

Animals

- 11) Smith's blue butterfly
- 12) California linderiella
- 13) California red-legged frog
- 14) California tiger salamander
- 15) California black legless lizard
- 16) Western snowy plover
- 17) Monterey ormate shrew

+ - Not detected, but the parcel contains potential habitat for this species

08/09/94

APPENDIX A E

NO SURPRISES

ASSURING CERTAINTY FOR PRIVATE LANDOWNERS IN ENDANGERED SPECIES ACT HABITAT CONSERVATION PLANNING

"The Committee intends that the Secretary may utilize this provision [on HCPs] to approve conservation plans which provide long-term commitments regarding the conservation of listed as well as unlisted species and long-term assurances to the proponent of the conservation plan that the terms of the plan will be adhered to and that further mitigation requirements will only be imposed in accordance with the terms of the plan. In the event that an unlisted species addressed in an approved conservation plan is subsequently listed pursuant to the Act, no further mitigation requirements should be imposed if the conservation plan addressed the conservation of the species and its habitat as if the species were listed pursuant to the Act.

....

"It is also recognized that circumstances and information may change over time and that the original plan might need to be revised. To address this situation the Committee expects that any plan approved for a long-term permit will contain a procedure by which the parties will deal with unforeseen circumstances."

H. Rep. No. 835, 97th Cong., 2d Sess. 30-31 (1982)

PURPOSE:

The purpose of this policy is to provide assurances to non-federal landowners participating in Endangered Species Act Habitat Conservation Planning (HCP) that no additional land restrictions or financial compensation will be required for species adequately covered by a properly functioning HCP in light of unforeseen or extraordinary circumstances.

SUPPLEMENTARY INFORMATION:

The HCP process promotes endangered species conservation and habitat protection within the context of land use or development. Ideally, HCPs contribute to the long-term conservation of federally listed and unlisted species, while providing predictability and economic stability for non-federal landowners.

Species receive a variety of benefits under a properly functioning HCP. Private financial resources supplement limited federal funding, essential habitat areas are often preserved, and comprehensive conservation programs are developed and promptly implemented. Although landowners must ultimately demonstrate that a species has been covered adequately under an HCP, the major benefit from the HCP process from the perspective of the development community is certainty. In exchange for adherence to long-term conservation commitments, an HCP permittee is provided assurance that development may move forward despite the incidental taking of protected species.

Significant development projects often take many years to complete, therefore adequate assurances must be made to the financial and developmental communities that an HCP permit will remain valid for the life of the project. In authorizing the HCP process, Congress recognized that permits of 30 years or more may be necessary to trigger long-term private sector funding and land use commitments for species conservation. Congress also recognized that circumstances may change over time, generating pressure to reconsider the mitigation commitments in an HCP agreement. Often referred to as "unforeseen" or extraordinary circumstances, Congress intended that additional mitigation requirements not be imposed upon an HCP permittee who has fully implemented his or her conservation commitments except as may be provided for under the terms of the HCP itself.

POLICY:

In negotiating "unforeseen circumstances" provisions for HCPs, the FWS shall not require the commitment of additional land or financial compensation beyond the level of mitigation which was otherwise adequately provided for a species under the terms of a properly functioning HCP. Moreover, FWS shall not seek any other form of additional mitigation from an HCP permittee except under extraordinary circumstances.

A. General Assurances Provided to Landowners

- * If additional mitigation measures are subsequently deemed necessary to provide for the conservation of a species that was otherwise adequately covered under the terms of a properly functioning HCP, the primary obligation for such measures shall not rest with the HCP permittee.
- * FWS shall not seek additional mitigation for a species from an HCP permittee where the terms of a properly functioning HCP agreement were designed to provide an overall net benefit for that particular species and contained measurable criteria for the biological success of the HCP which have been or are being met.
- * If extraordinary circumstances warrant the requirement of additional mitigation from an HCP permittee who is in compliance with the HCP's obligations, such mitigation shall limit changes to the original terms of the HCP to the maximum extent possible and shall be limited to modifications within Conserved Habitat areas or to the HCP's operating conservation program for the affected species. Additional mitigation requirements shall not involve the payment of additional compensation or apply to parcels of land available for development under the original terms of the HCP without the consent of the HCP permittee.

B. Determination of Extraordinary Circumstances.

- * FWS shall have the burden of demonstrating that such extraordinary circumstances exist, using the best scientific and commercial data available. FWS findings must be clearly documented and based upon reliable technical information regarding the status and habitat requirements of the affected species.
- * In deciding whether any extraordinary circumstances exist which might warrant requiring additional mitigation from an HCP permittee, the FWS shall consider, but not be limited to, the following factors:
 - the size of the current range of the affected species
 - the percentage of range adversely affected by the HCP
 - the percentage of range conserved by the HCP
 - the ecological significance of that portion of the range affected by an HCP
 - the level of knowledge about the affected species and the degree of specificity of the species' conservation program under the HCP
 - whether the HCP was originally designed to provide an overall net benefit to the affected species and contained measurable criteria for assessing the biological success of the HCP
 - whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the affected species in the wild

C. ADDITIONAL CONSERVATION AUTHORITY

- * Nothing in this policy shall be construed to limit or constrain FWS or any other governmental agency from taking any additional actions at its own cost with respect to the conservation or enhancement of a species which is included under an HCP.

ROD	Record of Decision
RTP	Regional Transportation Plan
RWQCB	Central Coast Regional Water Quality Control Board
ROD	Record of Decision
SB	Senate Bill
SEIS	Draft Supplemental Environmental Impact Statement
SFD	Single Family Dwelling
SHPO	California State Historic Preservation Officer
SOV	Single Occupancy Vehicle
ST IP	State Transportation Improvement Program
SWPPP	Storm Water Pollution Prevention Plans
SWRCB	California State Water Resources Control Board
TAMC	Transportation Agency for Monterey County
TCE	Trichloroethene
TCM	Transportation Control Measures
TOD	Transit Oriented Design
TPD	Tons Per Day
UCMBEST	University of California Monterey Bay Science, Education, and Technology Center
UCB	Uniform Building Code
UCSC	University of California, Santa Cruz
USBLM	U.S. Bureau of Land Management
USFWS	United States Fish and Wildlife Service
UXO	Unexploded Ordnance
UCNRS	University of California Natural Reserve System
VOC	Volatile Organic Compounds
VMT	Vehicle Miles Traveled

Noise Element Acronyms

decibels (dB) (F-3)
 "A-weighted" decibel scale (dBA) (F-3)
 Equivalent sound levels (L_{eq}) (F-3)
 day-night average sound level (L_{dn}) (F-4)
 community noise equivalent level (CNEL) (F-4)
 percentile-exceeded sound level (L_x) (F-4)
 Federal Highway Administration (FHWA) (F-7)

FORD ORD REUSE PLAN

FORIS	Fort Ord Reuse Infrastructure Study
FTE	Full-Time Equivalent
GMPAP	Greater Monterey Peninsula Area Plan
HMP	Habitat Management Plan
HMX	Cyclotetramethylene tetranitramine
HTRW	Hazardous and Toxic Radiological Waste
LCP	Local Coastal Program
IDL	Infantry Division (Light)
LAFCO	Local Agency Formation Commission
L _{dn}	Day-Night Average Sound Level
LRA	Local Reuse Authority
MBUAPCD	Monterey Bay Unified Air Pollution Control District
MCEHD	Monterey County Environmental Health Department
MCFH	Million cubic feet per hour
MCWRA	Monterey County Water Resources Agency
MGD	Million Gallons per Day
MFD	Multiple Family Dwelling
MIRA	Monterey Institute for Research and Astronomy
MOA	Memoranda of Agreement
MOUT	Monterey Peninsula College's Military Operations Urban Terrain
MPUSD	Monterey Peninsula Unified School District
MRWPCA	Monterey Regional Water Pollution Control Agency
MW	Megawatts
NCCP	Natural Communities Conservation Planning Act of 1991
NDDB	Natural Diversity Data Base
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO _x	Nitrogen Oxides
NPS	Naval Postgraduate School
NRS	UC Natural Reserve System
NRC	Nuclear Regulatory Commission
NRHP	National Register of Historic Places
NRMA	Natural Resources Managed Area
OE	Stored or Unused Ordnance and Explosives
OEA	Office of Economic Adjustment
PBC	Public Benefit Conveyance
PFIP	Public Facilities Implementation Plan
PG&E	Pacific Gas and Electric Company
POM	Presidio of Monterey
POST	Police Officer Safety Training
PSP	Public Services Plan
PX	Post Exchange
RCRA	Resource Conservation and Recovery Act
RI/RS	Remedial Investigation/Feasibility Study

LIST OF ACRONYMS

ADA	Americans with Disabilities Act
AFY	Acre Feet per Year
AFB	Airforce Base
AMBAG	Association of Monterey Bay Area Governments
AQMP	Air Quality Management Plan
BLM	Bureau of Land Management
BRAC	Defense Base Closure and Realignment Act of 1990
CBP	Comprehensive Business Plan
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDPR	California Department of Parks and Recreation
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CIP	Capital Improvement Plan
CMP	Congestion Management Plan
CNEL	Community Noise Equivalent Level
CNPPA	California Native Plant Protection Act
CNPS	California Native Plant Society
CO	Carbon Monoxide
CRMP	Coordinate Resource Management and Planning Program
CSU	California State University
CSUMB	California State University Monterey Bay
dB	Decibels
DFAS	Defense Finance and Accounting Service
DLI	Defense Language Institute
DNL	Day-Night Average Sound Level
DOD	Department of Defense
DOL	Directorate of Logistics
DPR	California Department of Parks and Recreation
DTSC	Department of Toxic Substances Control
Du/Ac	Dwelling Units per Acre
EDC	Economic Development Conveyance
EDD	California Employment Development Department
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FFA	Federal Facility Agreement
FHL	Fort Hunter Liggett
FORG	Fort Ord Reuse Group
FORA	Fort Ord Reuse Authority

Document Preparers

EDAW, Inc.
753 Davis Street
San Francisco, CA 94111

EMC Planning Group Inc.
P.O. Box 414
Monterey, CA 93940

Angus McDonald & Associates
1950 Addison Street
Berkeley, CA 94704

The Ingram Group
P.O. Box 51661
Pacific Grove, CA 95818

JHK & Associates
2000 Powell Street Suite 1090
Emeryville, CA 94608

Reimer Associates
601 Gateway Blvd. #600
So. San Francisco, CA 94080

Sedwin Kotin Mouchly Group
3 Embarcadero Center Suite 1150
San Francisco, CA 94111

Zander Associates
150 Ford Way Suite 101
Novato, CA 94945

Before the Board of Supervisors in and for the
County of Monterey, State of California

Agreement # A-09555

Approve and authorize the Chair to sign a Memorandum of Understanding)
on behalf of the County with the Fort Ord Reuse Authority, the United States)
Army, the Bureau of Land Management, and Monterey Peninsula College for)
the proposed East Garrison/Parker Flats land use modifications.)

Upon motion of Supervisor Johnsen, seconded by Supervisor Potter, and
carried by those present, the Board of Supervisors hereby approves and authorizes the Chair to sign a
Memorandum of Understanding on behalf of the County with the Fort Ord Reuse Authority, the United
States Army, the Bureau of Land Management, and Monterey Peninsula College for the proposed East
Garrison/Parker Flats land use modifications.

PASSED AND ADOPTED this 23rd day of September, 2003, by the following vote, to-wit:

AYES: Supervisors Armenta, Calcagno, Lindley, Johnsen, Potter

NOES: None

ABSENT: None

I, Sally R. Reed, Clerk of the Board of Supervisors of the County of Monterey, State of California, hereby certify that the foregoing is a true copy of an original
order of said Board of Supervisors duly made and entered in the minutes thereof at page --- of Minute Book 71, on
9/23/03

Dated: September 23, 2003

SALLY R. REED, Clerk of the Board of Supervisors, County of Monterey, State of California

LF/AH

By

Deputy


Carrie Wilkinson

cc: Lydia Schumaker; Barbara Parker

MONTEREY COUNTY BOARD OF SUPERVISORS

MEETING: September 23, 2003	Consent	AGENDA NO.: 19.
SUBJECT: Approve and authorize the Chair to sign a Memorandum of Understanding on behalf of the County with the Fort Ord Reuse Authority, the United States Army, the Bureau of Land Management, and Monterey Peninsula College for the proposed East Garrison/Parker Flats land use modifications.		
DEPARTMENT: County Administrative Office - Environmental Resource Policy		

RECOMMENDATION

It is recommended that the Board of Supervisors approve and authorize the Chair to sign a Memorandum of Understanding (MOU) on behalf of the County with the Fort Ord Reuse Authority (FORA), the United States Army (Army), the Bureau of Land Management (BLM), and Monterey Peninsula College (MPC) for the proposed East Garrison/Parker Flats land use modifications.

SUMMARY

The proposed MOU clarifies the terms which will allow the East Garrison/Parker Flats land use modifications to occur. It also provides a record to document changes in the original Army/BLM MOU regarding the Fort Ord uses necessary to facilitate the East Garrison/Parker Flats exchange.

DISCUSSION

In order to resolve land use conflicts at the former Fort Ord, FORA, MPC, and the County entered into an agreement in October 2002 which provides for the relocation of MPC's proposed Public Safety Officer Training Facility from East Garrison to Parker Flats and the Military Operations/Urban Terrain (MOUT) Facility. In order to implement this relocation, existing agreements between the Army and BLM regarding Fort Ord activities and use of the MOUT Facility must be modified. These modifications are addressed in the MOU. The MOU also addresses various issues related to land and habitat management as well as safety along the proposed boundary of the MPC/BLM uses. Regarding the MOUT Facility, the MOU specifies that the Facility "will transfer to MPC concurrently with MPC relinquishing its Public Benefit Conveyance rights to lands at East Garrison."

The MOU provides that the County will relinquish to BLM public benefit conveyance Parcel L20.4 (Oil Can Road) in the vicinity of the Laguna Seca Recreation Area. The MOU provides for BLM's consideration of permitted use of the parcel by the County (overflow event parking). The MOU also contains an agreement by all parties to implement the "habitat swap" accepted by the U.S. Fish and Wildlife Service on May 28, 2002. The habitat swap will allow for expansion of the East Garrison development footprint in exchange for placing other lands at Parker Flats into habitat status.

OTHER AGENCY INVOLVEMENT

The MOU has been prepared through coordinated efforts of the staff of each signatory agency. Recently the MPC Board of Trustees authorized signature of the document by the President of MPC. County Counsel has reviewed and concurred with the MOU. The Parks Department has concurred with the relinquishment of the Oil Can Road parcel to BLM. A copy of the MOU is on file with the Clerk to the Board.

FINANCING

Approval of the MOU will have no direct impact on the general fund. The full extent of costs to implement the habitat swap are not known at this time, but are expected to be funded through the reimbursement process agreed to by the County and Woodman Development.



Nicholas Chiulos,
Principal Administrative Analyst

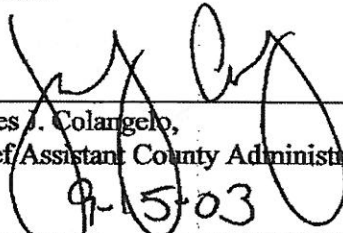
9-15-03

Date

Contact: Cathy Dozier (831) 755-5408

JC/NC:cmd

cc: Kirk Avery, MPC
Michael Houlemard, FORA
Eric Morgan, BLM
Karen Fisbeck, BRAC
Woodman Development
Brian Finegan
Michael Zander



James J. Colangelo,
Chief Assistant County Administrative Officer

Date

**MEMORANDUM OF UNDERSTANDING
CONCERNING THE PROPOSED EAST GARRISON/ PARKER FLATS
LAND-USE MODIFICATION**

Between the
**FORT ORD REUSE AUTHORITY
MONTEREY PENINSULA COLLEGE
COUNTY OF MONTEREY
U.S. BUREAU OF LAND MANAGEMENT
and
U.S. ARMY**

as
PARTIES TO THE AGREEMENT

This MEMORANDUM OF UNDERSTANDING (hereinafter referred to as "this MOU") is made and entered into between the BUREAU OF LAND MANAGEMENT (hereinafter referred to as "BLM"), DEPARTMENT OF THE ARMY (hereinafter referred to as "ARMY"), FORT ORD REUSE AUTHORITY (hereinafter referred to as "FORA"), the COUNTY OF MONTEREY (hereinafter referred to as "COUNTY"), and MONTEREY PENINSULA COLLEGE (hereinafter referred to as "MPC") (hereinafter referred to collectively as "the Parties").

BACKGROUND

To help resolve conflicting land-uses and conveyance requests (i.e. Public Benefit Conveyance requests versus Economic Development Conveyance requests), FORA and County jointly prepared a proposal entitled "Assessment, East Garrison - Parker Flats Land Use Modifications Fort Ord, California" (Revised May 2002) (hereinafter referred to as "the Assessment"). In addition to this document, FORA, County and MPC have entered into an agreement dated October 21, 2002, entitled "Agreement Regarding Public Safety Officer Training Facilities (hereinafter referred to as "the Agreement").

Under the "Assessment" and the "Agreement", BLM and Army are being asked to help resolve the various Parker Flats/East Garrison land-use issues by modifying conveyance requests approved under various memoranda of understanding and Statements of Concurrence. In March of 1995, BLM's California State Director and Army's Deputy Assistant Secretary approved a memorandum of understanding detailing the transfer to BLM of 15,086.58 acres of the former Fort Ord to be managed under the Installation-Wide Multi-species Habitat Management Plan (hereinafter referred to as "the Army/BLM MOU"). The Army/BLM MOU approves the transfer to BLM of the Military Operations Urban Terrain (hereinafter referred to as "the MOUT") facility (parcel F1.7.2), and all of the lands within parcel F1.9.1 and F1.4.2 near ranges 43-48. On August 24, 1993, the County Board of Supervisors adopted a unanimous resolution supporting BLM's request for land conveyance under a Statement of Concurrence. The conveyance request that was approved included the proposed transfer of the MOUT facility to BLM, as well as all of the lands within parcels F1.9.1 and F1.4.2.

The primary purpose of this MOU is to clarify the terms with which the various parties agree in order to allow various land-use modifications to take place. The secondary

purpose of this MOU is to provide a record which documents how the original Army/BLM MOU is modified by the Assessment and the Agreement.

WHEREAS, it is the intent of County, FORA and MPC to resolve competing land-use issues within the East Garrison and Parker Flats regions; and,

WHEREAS, to help resolve those conflicts, County, FORA and MPC propose to relocate a public safety officer training facility to the Parker Flats region from the East Garrison region; and

WHEREAS, MPC proposes to acquire and operate the former MOUT facility that is presently scheduled to be transferred to the BLM under the Army/BLM MOU; and

WHEREAS, MPC proposes to acquire and operate lands within Range 45 for training center development and use; and

WHEREAS, some of the land that MPC proposes to utilize within Range 45 is scheduled for transfer to BLM under the Army/BLM MOU; and

WHEREAS, Army will conduct remedial and removal actions that will enable the transfer of these properties to FORA and then to MPC and supports the resolution of the land use conflicts noted in the Agreement; and

WHEREAS, BLM has concerns with the feasibility of managing lands directly behind (and adjacent to) the proposed MPC firing range facility at Range 45 under the Installation-Wide Multi-species Habitat Management Plan; and

WHEREAS, the parties recognize that existing uses, as well as proposed uses, will and do create a certain amount of noise and potential hazard to adjacent habitat; and

WHEREAS, pursuant to the Assessment, County and FORA propose additional habitat areas to be added into the natural resources management area (hereinafter referred to as "the NRMA") in order to offset the net impact to plants and animals protected under the Installation-Wide Multi-species Habitat Management Plan.

NOW THEREFORE, in furtherance of the objectives set forth above, and in accordance with all terms, conditions, limitations and exceptions provided below and in all applicable guidelines, regulations, laws, and executive orders pertaining to future uses of the former Fort Ord, the parties agree as follows:

1. BLM withdraws its claim to the MOUT in favor of MPC through County and/or FORA under an existing Agreement between Army and FORA for property transfer. The MOUT will transfer to MPC concurrently with MPC relinquishing its Public Benefit Conveyance rights to lands at the East Garrison in accordance with the Agreement. The parcel referred to within this agreement corresponds to the modified polygon for the parcel F.1.7.2 MOUT facility as depicted in Figure 7 on page 15 of the "Assessment."

2. MPC agrees to operate the MOUT under the general terms and conditions set forth in the Agreement, including the provisions for use by the U.S. Military, the FBI, the Monterey County Sheriff's Department and BLM.

3. As part of its Remedial Action Program, Army agrees to construct a system of fuel breaks on parcel F1.7.2 and the Range 45 development area to protect surrounding lands from accidental fire starts, and agrees to coordinate with the BLM, County, FORA, MPC and the Salinas Rural Fire Protection District on the width and location of the said fuel breaks. Said fuel breaks may include existing roadbeds adjacent to or near the MOUT facility and Range 45 development area. The firebreaks shall thereafter be maintained by MPC.

4. In consideration of BLM relinquishing to MPC its interest in the land required for the extension of Range 45, MPC agrees to take title to the "baffle zones" on either side of Range 45 and to provide reasonable security measures, such as "no trespassing" signage, to prevent the public from entering the area. For the purposes of this agreement, the term "reasonable security measures" need not include fencing, although MPC shall have the right to install security fencing as it deems necessary or appropriate for security purposes. The approximate configuration of this "baffle zone" is shown in Figure 1 attached to this MOU, hereinafter referred to as "Range 45 Reserve".

5. FORA agrees to assume responsibility for habitat management detailed within the Habitat Management Plan for the Range 45 Reserve, including without limitation the "baffle zone" to the extent provided in Paragraph 15 of the Agreement.

6. In consideration of BLM relinquishing its interest in certain habitat areas and public open space recreation opportunities of the NRMA in order to facilitate the Agreement, County shall relinquish to BLM Public Benefit Conveyance Parcel L20.4 subject to the BLM's consideration of permitted use of the parcel by the Sports Car Racing Association of the Monterey Peninsula, and BLM agrees to consider management of other habitat areas identified in the Assessment to ensure that rare habitats are properly managed under the provisions of the Habitat Management Plan.

7. The parties acknowledge the potential for the operation of the firing ranges at the MOUT and Range 45 to raise concerns within the local community about noise. MPC agrees to implement feasible management practices in the operation of the MOUT facility and Range 45, consistent with their character and use as firing ranges, to mitigate noise disruption for the surrounding community. Management of the MOUT and Range 45 shall include coordination with BLM on techniques to mitigate noise production.

8. The parties acknowledge the potential for the operation of the MOUT to raise concerns within the local community about smoke. MPC agrees to communicate and coordinate with BLM and Salinas Rural Fire Protection District when considering the use and authorization of smoke devices at the MOUT. This communication and coordination should include notifying BLM and Salinas Rural Fire Protection District when smoke may be used in connection with training.

9. BLM, MPC, FORA, and County agree to coordinate utility and communications needs in this area of the former Fort Ord.

10. The parties acknowledge that the portion of Eucalyptus Road identified as Segment L20-18 will be closed, and that Eucalyptus Road will be re-routed around the easterly side of MPC's facilities within Polygons 19a, 21a, 21b and 21c. FORA, MPC and County agree to work with BLM regarding the re-routing of Eucalyptus Road to assure continued access to BLM's headquarters in Parker Flats and provisions for access to public parking for the BLM lands within the NRMA.

11. Subject to the provisions of this MOU, BLM and Army concur in the Agreement.

12. The parties agree to implement the conditions specified in pages C-1 through C-3 of the Assessment as those conditions were accepted by the U.S. Fish & Wildlife Service on May 28, 2002.

DEPARTMENT OF THE ARMY

By: _____
Its _____

Dated

BUREAU OF LAND MANAGEMENT

By: _____
Its _____

Dated

COUNTY OF MONTEREY

By: *Fernando Armas*
Its _____

Dated

FORT ORD REUSE AUTHORITY

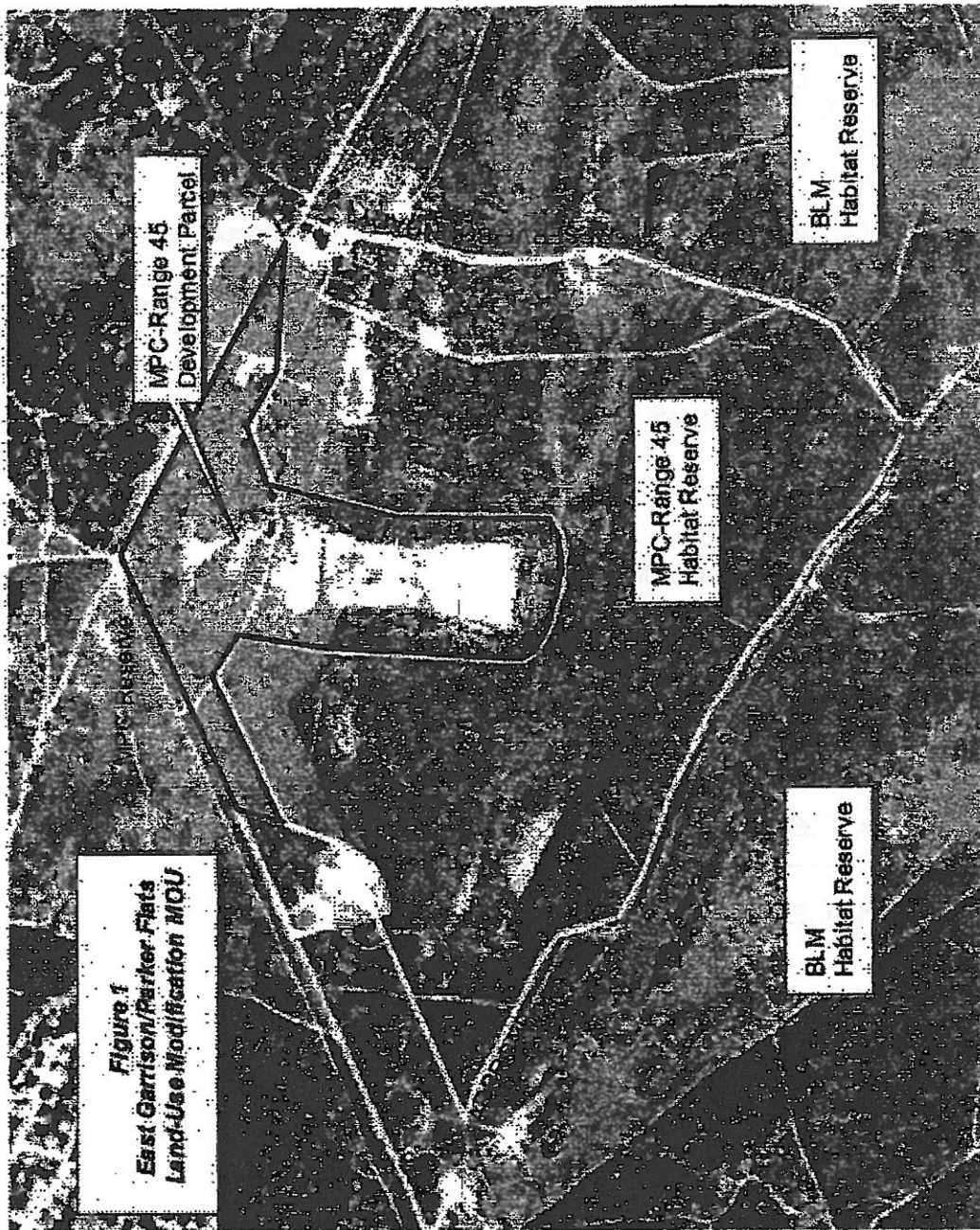
By: _____
Its _____

Dated

MONTEREY PENINSULA COLLEGE

By: _____
Its _____

Dated



November 25, 2002

**ASSESSMENT
EAST GARRISON – PARKER FLATS
LAND USE MODIFICATIONS
FORT ORD, CALIFORNIA**

Prepared for:
County of Monterey & Fort Ord Reuse Authority
Monterey County, California

Prepared by:
Zander Associates
150 Ford Way, Suite 101
Novato, California 94945

May 2002

Table of Contents

List of Tables and Figures	ii
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1.0 INTRODUCTION.....	1
2.0 BACKGROUND.....	1
2.1 The Habitat Management Plan (HMP)	1
2.2 The Fort Ord Base Reuse Plan	3
2.3 Land Conveyance.....	3
2.4 East Garrison Stakeholders	4
2.4.1 Monterey Peninsula College	4
2.4.2 The County of Monterey.....	4
3.0 PROPOSED MODIFICATIONS.....	5
3.1 Overview.....	5
3.2 East Garrison.....	5
3.2.1 Existing Conditions and Plans	5
3.2.2 Proposed East Garrison Land Uses	9
3.3 Parker Flats	9
3.3.1 Existing Conditions and Plans	9
3.3.2 Proposed Parker Flats Land Uses.....	11
3.4 Military Operations/Urban Terrain Facility (MOUT).....	11
3.4.1 Existing Conditions and Plans	11
3.4.2 Proposed MOUT Land Uses	14
4.0 ASSESSMENT	14
4.1 HMP Land Use Categories and Requirements.....	16
4.1.1 East Garrison.....	16
4.1.2 Parker Flats	17
4.1.3 MOUT	18
4.2 Habitat Acreage.....	18
4.2.1 East Garrison.....	18
4.2.2 Parker Flats	19
4.2.3 MOUT	21
4.3 HMP Species.....	21
4.3.1 East Garrison.....	21
4.3.2 Parker Flats	23
4.3.3 MOUT	25
5.0 CONCLUSIONS AND RECOMMENDATIONS	25

Appendices

Appendix A	HMP Species
Appendix B	Habitat & Species Assessment Tables & Maps
Appendix C	Conditions

List of Tables

Table 1	East Garrison Land Use Summary
Table 2	East Garrison Habitat Loss Summary
Table 3	Overall Habitat Losses/Gains
Table 4	Summary of Habitat and Species Losses/Gains

List of Figures

Figure 1	HMP Map
Figure 2	East Garrison, Parker Flats, and MOUT Facility Locations
Figure 3	Habitat Types at East Garrison
Figure 4	Proposed Development Footprint at East Garrison
Figure 5	Parker Flats Development Concept
Figure 6	MPC EVOC Facility and Firing Range with Listed Species Locations
Figure 7	Proposed Adjustments at MOUT Facility
Figure 8	HMP Buildout Alternative
Figure 9	MPC Boundary Adjustments in Relation to JSA Polygons, Parker Flats

1.0 INTRODUCTION

The Fort Ord Reuse Authority (FORA) and the County of Monterey (County) propose boundary changes and other modifications to the *Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord* (HMP). The modifications are intended to resolve land use conflicts stemming from a long history of ordnance and explosives use of certain land areas along with parallel and competing conveyance requests for surplus property at the former base. The modifications would accommodate proposed new uses in appropriate areas and would primarily affect lands designated for development and lands designated for development with reserve areas or restrictions on the HMP map (Figures S-1 and 4-1 and Attachment A to the HMP). To a lesser extent, the proposed changes would affect small areas of land designated as habitat reserve. The goals, objectives and overall intent of the HMP would not be altered and the protections afforded those species addressed in the HMP (HMP Species) would not be reduced as a result of the proposed modifications. On the contrary, an increase in the overall acreage of designated habitat reserve lands occupied by HMP Species would occur. In addition, the habitat corridor connections between designated reserve areas in the southerly half of the base and those in the northerly portion would be expanded and enhanced. The following report presents the background against which the modifications and boundary changes are proposed, describes the changes that would result from the proposal, analyzes the potential HMP consistency and biological resource implications of the changes, and provides conclusions and recommendations based on available data, coordination with interested parties, and best professional judgement.


2.0 BACKGROUND

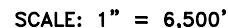
2.1 The Habitat Management Plan (HMP)

The Fort Ord HMP establishes a habitat conservation area and corridor system and parcel-specific land use categories and management requirements for all lands on the former base. The conservation areas, corridors and parcel-specific land use designations are illustrated on Figures S-1 and 4-1 and Attachment A of the HMP (reproduced here as Figure 1). Four general categories of parcel-specific land use are identified: habitat reserve, habitat corridor, development with reserve areas or restrictions, and development with no restrictions. Resource conservation and management requirements and responsible parties for each parcel or group of parcels with habitat designations are discussed in Chapter 4 of the HMP.

A general goal of the HMP is to promote preservation, enhancement and restoration of habitat while allowing implementation of a community-based reuse plan that supports economic recovery after closure of Fort Ord. The HMP assumes a reuse development scenario for the entire base that will result in the removal of up to 6,300 acres of existing vegetation and wildlife habitat. Losses to 18 special-status species (HMP Species) are also accounted for by the HMP (Appendix A). The establishment of approximately 16,000 acres of habitat reserves with about 400 additional acres of connecting habitat corridors is the primary measure to minimize the impacts of reuse on HMP Species. In addition, the HMP further conditions development on approximately 1,800 additional acres by requiring reserve areas or restrictions on those lands.

2) The E11b parcels do not reflect the public benefit conveyance still being coordinated by FORA, the County of Monterey, and Monterey Peninsula Regional College. A portion of these parcels will likely be transferred as public benefit conveyance transfers.

 Future Road Corridors
within Habitat Reserves, Habitat
Corridors, or Development with
Reserve Areas or Development
with Restrictions.



Generic land use designations have been assigned by the HMP to allow for broad flexibility in reuse of specific development parcels. Changes in specific use of development parcels within the range of uses described through the U. S. Department of the Army (Army) environmental review process do not require revisions to the HMP. Furthermore, polygon boundaries in development areas may be modified and development polygons may be subdivided or aggregated without necessitating modifications to the HMP. Other changes to the HMP may be allowed if the affected landowners and the U.S. Fish and Wildlife Service (Service) can agree that the overall goals and objectives of the HMP will not be compromised.

2.2 The Fort Ord Base Reuse Plan

The Fort Ord Base Reuse Plan (Base Reuse Plan), adopted by the FORA Board of Directors on June 13, 1997, serves as a general plan for the former base. The Base Reuse Plan was developed in concert with the HMP to avoid conflicts in general land use designations. Land uses approved in the Base Reuse Plan are: residential, multiple educational facilities, office and research parks, light industrial and business parks, commercial and retail businesses and a variety of visitor-serving uses such as lodging, golf courses, beach and community parks and equestrian facilities.

The Base Reuse Plan defines land uses for the 28,000 acres that comprise former Fort Ord. Consistent with the HMP, the Base Reuse Plan designates nearly 17,000 acres, or over 60 percent of the land on the former base as habitat reserve area. About 4,000 acres are planned for parks, open space, visitor serving, and public facility uses. Over 2,300 acres are designated for educational or research uses, about 2,000 acres for residential units and approximately 1,500 acres for business and retail uses. The remainder of the land will be needed for infrastructure/rights of way or will be retained by the Army.

Most of the areas proposed for development in the Base Reuse Plan are designated for development without restrictions in the HMP. However, some Base Reuse Plan development areas (e.g. future road corridors, the East Garrison Area) have HMP-related issues that will require coordination with the Service and other resource agencies prior to final siting and design of development.

2.3 Land Conveyance

Through the base closure process, federal agencies have first priority for receiving surplus military land. Thus, the Bureau of Land Management (BLM) has already received approximately 7,200 acres of designated habitat reserve lands which represent the first installment in the establishment of the Natural Resource Management Area (NRMA) that is a core component of the HMP. State and local government agencies as well as non-profit organizations that serve a specific public purpose are also eligible to receive property at no cost or at a discounted price through the Public Benefit Conveyance (PBC) process. The California Department of Parks and Recreation, the University of California and others either have or will receive both habitat reserve and development lands through this process. An additional conveyance mechanism known as the Economic Development Conveyance (EDC) process allows local reuse authorities (in this case FORA and, through FORA, its member agencies) to request property specifically for economic development purposes in conformance with an

approved land use plan. FORA (and its member agencies) can then hold the property and manage it over the long term or sell it and retain the proceeds to finance infrastructure and other improvements necessary to support future development. Most of the developable lands at former Fort Ord are being transferred through FORA to its member agencies for future sale using the EDC process. However, some PBC and other requests remain that create potential land use conflicts, especially in the East Garrison area of the former base.

2.4 East Garrison Stakeholders

A number of organizations have requested lands at East Garrison but the principal parties with valid conveyance requests are Monterey Peninsula College and the County of Monterey.

2.4.1 Monterey Peninsula College

Monterey Peninsula College (MPC) is seeking an area on former Fort Ord for development of law enforcement officer training facilities which include classrooms, firing ranges and an Emergency Vehicle Operations Center (EVOC). MPC estimates that about 86 acres would be required to develop an EVOC facility, classrooms and administrative offices, depending on the location, surrounding terrain and land uses. Firing ranges would also be necessary and could involve rehabilitation and reuse of former Army ranges. MPC has a U. S. Department of Education approved PBC request for lands in the East Garrison area for development of these law enforcement officer training facilities. However, because of land use conflicts with the other prospective uses for that area (see below), the Army, MPC, the County and FORA have worked together to identify potential areas elsewhere on the former base that could suit MPC's needs.

2.4.2 The County of Monterey

For the County, the East Garrison area represents one of two major reuse opportunities at the former base. The other area of focus for the County, generally referred to as Parker Flats, consists of some 1200 acres of undeveloped lands in the central part of the base. The development of housing has been the County's primary concept for its lands at Parker Flats with various other land uses and requests for land under the County's aegis considered at East Garrison. However, for a number of reasons, including the potential danger of locating housing in former ordnance training areas, the County has recently directed its emphasis toward the provision of work-force housing at East Garrison. With this shift in emphasis, the County also hopes to accommodate MPC and the other potential stakeholders, depending on their ability to pay for the land and to complete a project. These other potential stakeholders include:

- Arts Habitat with a request to occupy the historic structures in the central East Garrison area for a live/work fine arts-oriented community.
- Monterey Horse Park with a request for a world-class equestrian center hosting international events, possibly including the 2012 Olympic equestrian events.
- Esselen Indian Nation with a request for an area that would primarily be preserved in native habitat with allowance for construction of an interpretive center, museum and village site with small campsites or "circles" and two sweat lodges.
- Akicita Luta Intertribal Society with a request for a cultural and educational preserve area where various Native American activities (e.g. cultural events, pow wows) can be held.

3.0 PROPOSED MODIFICATIONS

3.1 Overview

To resolve the land use conflicts posed by competing requests in the East Garrison Area, and to meet the County's need for developing work-force housing at former Fort Ord, MPC, the County and FORA have generally agreed to an exchange of uses between the Parker Flats and East Garrison areas. Under the agreement, MPC would locate its law enforcement training center and EVOC facility at Parker Flats. MPC would reuse existing Range 45 just south of Parker Flats and also be granted management responsibility of the former Military Operations/Urban Terrain (MOUT) facility for use in cooperation with other law enforcement agencies. The County would pursue community-based residential development at East Garrison instead of Parker Flats and would accommodate other potential East Garrison stakeholders at both locations.

The County has entered into an Exclusive Negotiating Rights Agreement with a private developer (Woodman Development) for master planning and development of lands in both the Parker Flats and East Garrison areas. Woodman Development sponsored a weeklong design charrette at Fort Ord in early November 2001 to address the issues, opportunities and constraints associated with planning for both areas. The charrette brought together all the various and potential stakeholders and resulted in design concepts for East Garrison and Parker Flats that would accommodate most of the desired land uses proposed for each area. However, some elements of these concepts would require minor boundary adjustments and other modifications to existing plans, notably the HMP and, to a lesser extent, the Base Reuse Plan.

A draft assessment of the proposed modifications was produced in February 2002 and presented to various representatives of key agencies and elected officials during late February and March 2002. Because of its implications relative to the HMP, the assessment was presented to all levels of U.S. Fish and Wildlife Service staff including the Ventura Field Office, the California-Nevada Operations Office and the Headquarters Office in Washington D.C. Subsequent technical meetings were held with representatives of the Service, the California Department of Fish and Game (CDFG), the Army, BLM, FORA, the County and others in late March and early April 2002 to further review the proposed modifications and address outstanding biological resource issues. Based on this review process, the draft assessment was revised; boundary and other adjustments were made, the analysis was expanded, and conditions were added to provide assurances that no net loss in habitat values would result from the proposed modifications.

Following is a summary of the existing HMP and Base Reuse Plan designations at East Garrison, Parker Flats and the MOUT facility and proposed modifications that would occur in each of these areas based on the planning, design and review process described above.

3.2 East Garrison

3.2.1 Existing Conditions and Plans

The East Garrison area, as identified by both the Base Reuse Plan and the HMP (Base Reuse Plan polygon 11b, HMP polygon series E11b), comprises about 730 acres at the easterly edge of

former Fort Ord (Figure 2).¹ The area is the location of older barracks, a parade ground, various buildings and other former military facilities (Cantonment Area) separated from the central or main garrison at Fort Ord and connected to it by Inter-Garrison Road. Barloy Canyon Road follows a north-south alignment through the center of the polygon and serves as a connector road to the Laguna Seca raceway during events held there. The Army's former Ammunition Supply Point (ASP) is located at the southerly end of the East Garrison polygon along Barloy Canyon Road. The developed portions of the East Garrison polygon occupy approximately 153 acres with the remainder of the polygon in annual grasslands, oak woodland and maritime chaparral habitats (Table 1 and Figure 3). The polygon is located at a transition between oak woodland and maritime chaparral habitats.

TABLE 1: EAST GARRISON LAND USE SUMMARY

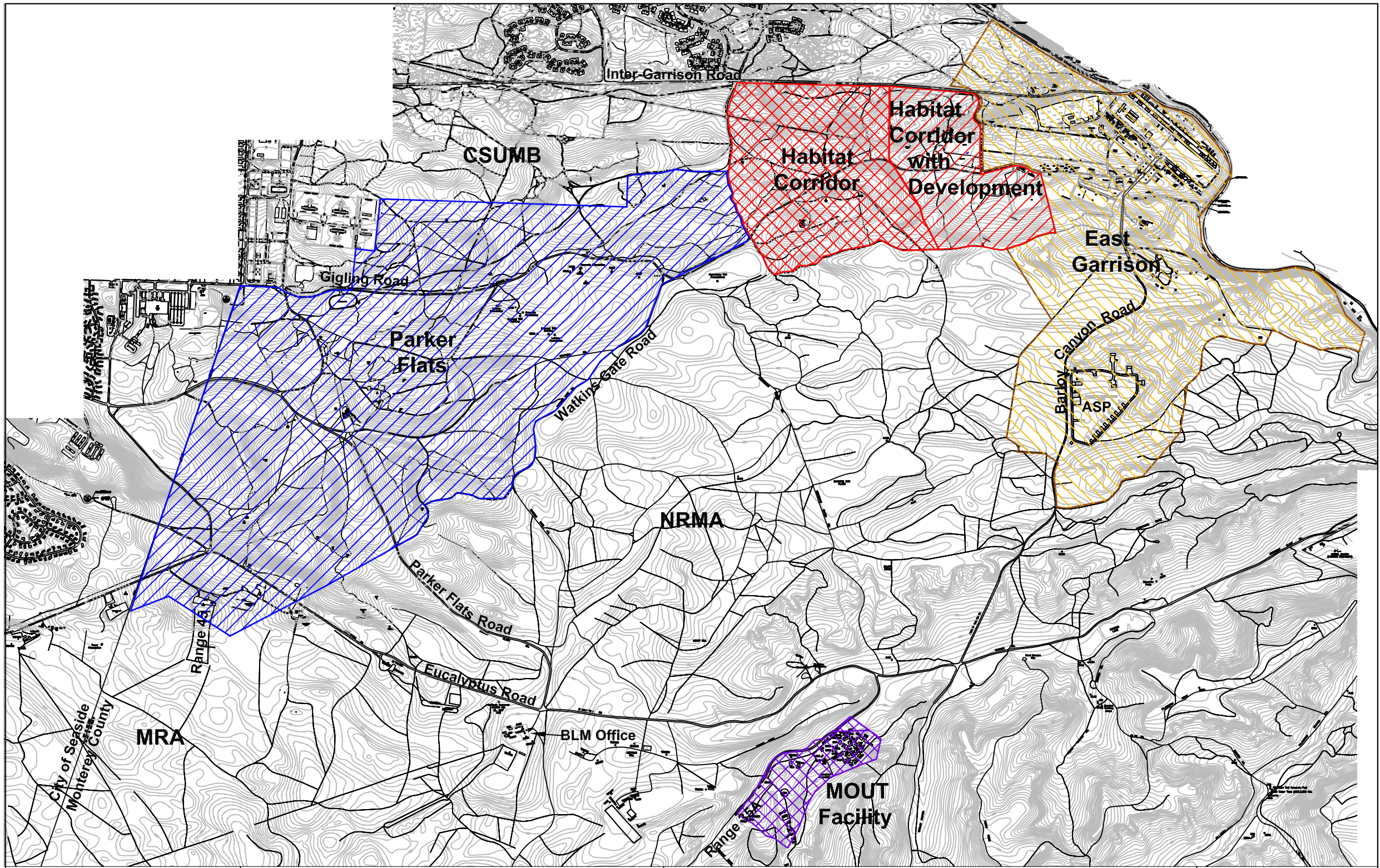
Existing Conditions (acres*)	HMP Assumptions (acres)	Proposed Modifications (acres)
Development	Development	Development
Cantonment Area 104	Allowable Development 200	HMP Allowable 241
Treatment Plant/Facilities 10	Treatment Plant/Facilities 10	Additional Proposed 210
ASP Facility 39	Future Road Corridor 31	
Total Development 153	Total Development 241	Total Development 451
Remaining Habitat	Remaining Habitat	Remaining Habitat
Maritime Chaparral 227	Maritime Chaparral n/d	Maritime Chaparral 212
Oak Woodlands 264	Oak Woodlands n/d	Oak Woodlands 51
Grasslands 86	Grasslands n/d	Grasslands 16
Total Habitat 577	Total Habitat 489	Total Habitat 279
Total Area 730	Total Area 730	Total Area 730

*Acreages for existing conditions are calculated using habitat survey polygons developed by Jones & Stokes Associates for the Army.

The HMP designates the East Garrison polygon as development with reserve areas or restrictions and allows for up to 200 acres of total development. Areas occupied by existing water tanks and a former sewage treatment plant (approximately 10 acres) and a proposed future road corridor through the area (comprising about 31 acres) may also be developed in addition to the 200 acres according to the HMP (Table 1 and Figure 3). The rest of the parcel is to be retained as natural habitat and managed as a habitat reserve. Recognizing the conflicting requests for the land, the HMP designates either the County or MPC as the parties responsible for ensuring that all HMP conservation and management guidelines are implemented on lands transferred to them. Siting for development at East Garrison is to be coordinated with the U.S. Fish and Wildlife Service.

The Base Reuse Plan designates East Garrison as a Planned Development Mixed-Use District. This designation is intended to encourage the development of pedestrian-oriented community centers that support a wide variety of commercial, residential, retail, professional services, cultural and entertainment activities. The Base Reuse Plan concept for East Garrison envisions

¹ Acreage calculations are approximate and may include separate road parcels and easements or other minor parcels within the boundaries of the larger East Garrison polygon. East Garrison as discussed herein does not include the East Garrison Reserve parcel as identified in the HMP (HMP polygon E11a).

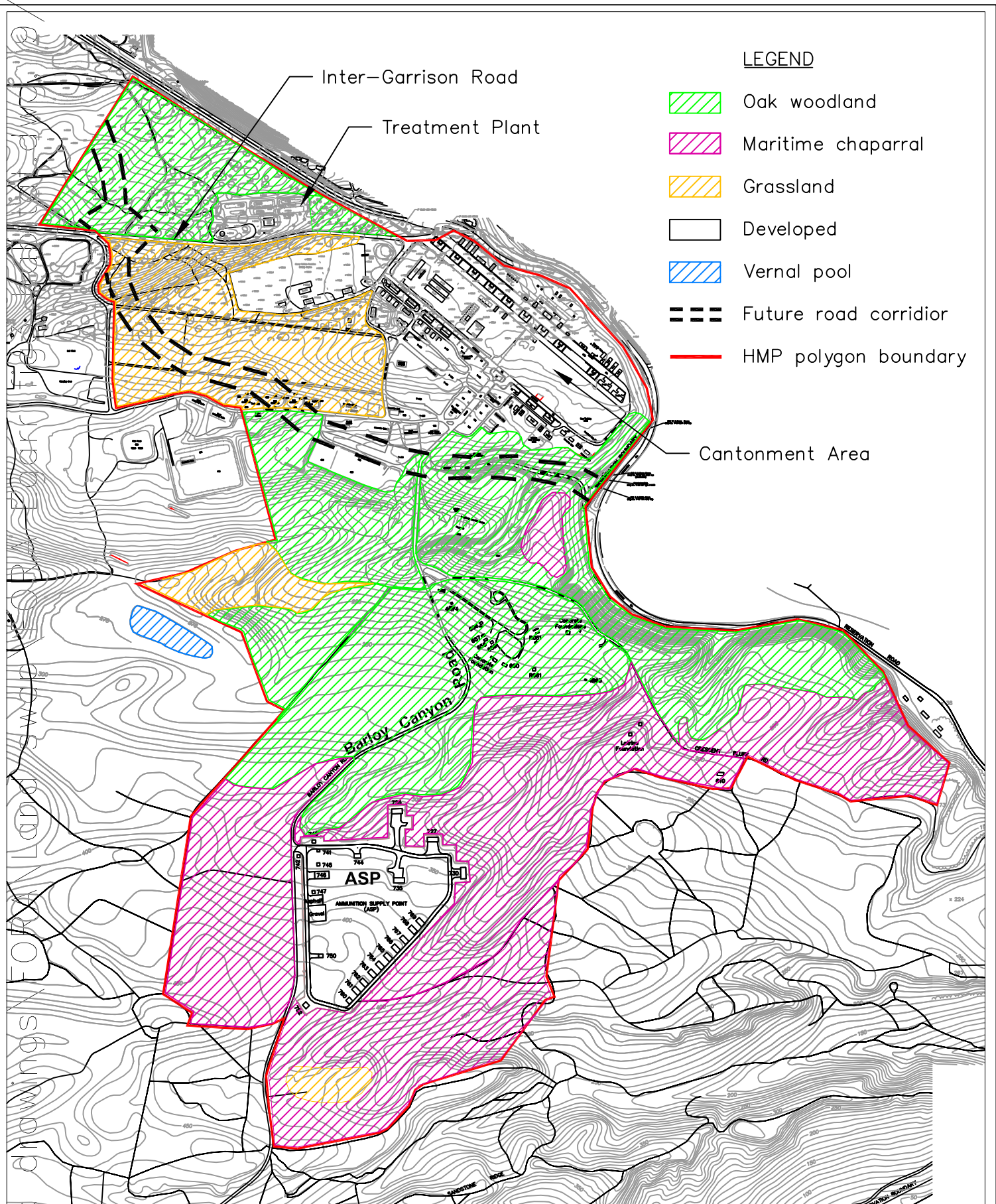



Scale: 1" = Approx. 2000'

Zander Associates
Environmental Consultants
150 Ford Way, Suite 101
Novato, CA 94945
(415) 897-8781

East Garrison, Parker Flats
and MOUT Facility Locations

Figure
2



LEGEND

- Oak woodland
- Maritime chaparral
- Grassland
- Developed
- Vernal pool
- Future road corridor
- HMP polygon boundary

central core village with adjacent office and commercial uses transitioning (e.g. with equestrian staging areas, trailheads) from developed areas to HMP-designated habitat reserve lands. The Base Reuse Plan also acknowledges the potential land use conflicts with the outstanding conveyance request from MPC for law enforcement officer training facilities at East Garrison.

3.2.2 Proposed East Garrison Land Uses

The modifications proposed for East Garrison would generally conform to the Base Reuse Plan by providing a mixed-use development plan with a central core village theme. The concept would accommodate the potential stakeholders identified previously with the exception of the MPC officer training and EVOC facility and the Monterey Horse Park, which would be located at Parker Flats (see below). To provide adequate area to meet the County's work-force housing and other needs (especially with all housing eliminated from Parker Flats - see below), separate, but linked development zones would be located along the Barloy Canyon Road corridor, maximizing effective use of the existing road connection, topography and the already developed ASP. As a result of the review process referenced above, the boundaries for the development footprint of the East Garrison polygon were adjusted and the development zones were connected to provide better definition between development and adjacent habitat areas. The combined footprint of the development zones, as adjusted, would total approximately 451 acres, which is about 210 acres more than the maximum development acreage allowed by the HMP (Table 1). However, the modifications at Parker Flats are intended to offset this acreage loss by establishing new designated habitat areas (see below). The proposed development footprint at East Garrison, as adjusted through discussions with resource agency personnel, is illustrated on Figure 4.

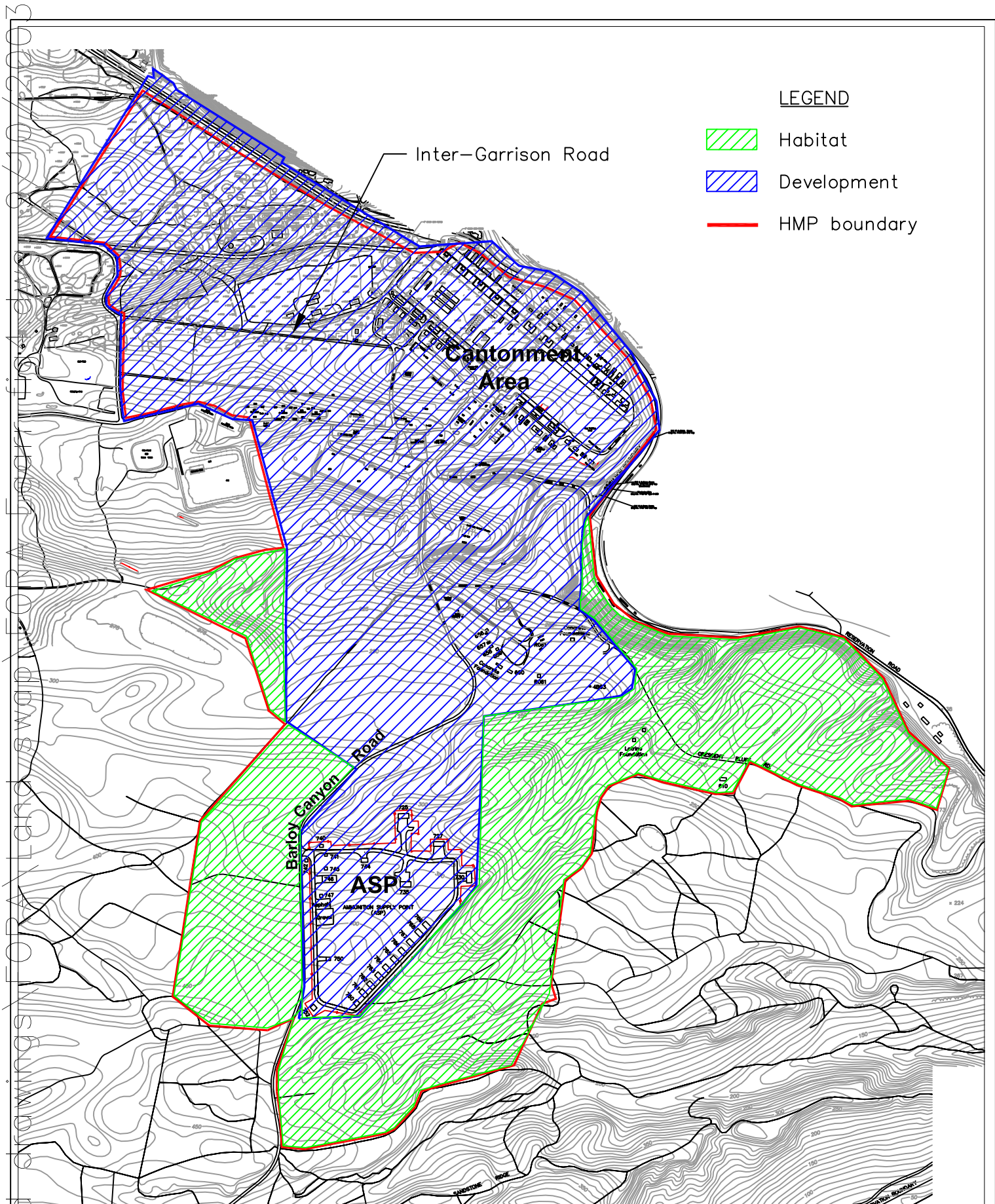
3.3 Parker Flats

3.3.1 Existing Conditions and Plans

The Parker Flats area is comprised of several HMP polygons (E19a series, E21a, E21b series, L23.2) and Base Reuse Plan polygons (19a and 21 a, b, c) that are all designated for development without restrictions.² The Parker Flats area occupies about 1200 acres in the central part of the former base generally bounded by Watkins Gate Road, the Multi-Range Area (MRA) and the NRMA on the south, Gigling Road and lands of California State University (CSUMB) on the north, the City of Seaside city limits on the west and the primary HMP-designated habitat corridor (HMP polygon L20.2.1) on the east (Figure 2). The area is largely undeveloped but the central portion has been used as a staging and training area for various military activities. Like East Garrison, the area lies at a transition between oak woodland and maritime chaparral habitats.

There are no HMP habitat conservation or management requirements on any of the lands in the Parker Flats polygons established by either the HMP or the Base Reuse Plan. However, because the area borders the NRMA, the designated development lands along the boundary have "borderland" requirements, which include development of fire breaks and vehicle access

² The only area of Parker Flats considered here that is not designated for development without restrictions is the relatively small (about 16-acre) range extension area associated with existing Range 45.



LEGEND

- Habitat
- Development
- HMP boundary

Inter-Garrison Road

Cantonment Area

Barlot Canyon Road

ASP

AMMUNITION SUPPLY POINT (ASP)



Scale: 1" = Approx. 1100'

Zander Associates
Environmental Consultants
150 Ford Way, Suite 101
Novato, CA 94945
(415) 897-8781

Proposed Development
Footprint at East Garrison

Figure
4

Attachment D, p. 977 of 1882 Page 10

limitations. In addition, a relatively small (± 15 -acre) parcel (HMP polygon L23.2) is a PBC transfer as a plant reserve and outdoor teaching facility for the MPC Biology Department.

The Base Reuse Plan designates the Parker Flats area primarily for low density residential, commercial, office and light industrial development. It also anticipates opportunities for equestrian center, hotel resort and golf course development in the area.

3.3.2 Proposed Parker Flats Land Uses

The modifications proposed for Parker Flats would change the Base Reuse Plan designations for the area by removing the residential, light industrial, golf course and other uses to accommodate the MPC officer training and EVOC facilities. Parker Flats would also provide areas for the Central Coast Veterans Cemetery, the Monterey Horse Park and other potential development (Figure 5). The MPC facilities would require minor adjustments to the existing HMP and Base Reuse Plan boundaries associated with Range 45 (HMP polygon E21b.3, Base Reuse Plan polygon 21b) to allow improvement and reuse of the existing range area (Figure 6). The line between HMP-designated development and habitat reserve areas, which currently bisects Range 45, would need to be extended to the south to accommodate the entire improved range area. The polygon boundaries would also be adjusted to balance species gains and losses and avoid recently identified populations of listed plants (see discussion below). This revised use concept for Parker Flats would reduce the development footprint originally envisioned for the area and resolve outstanding land use conflicts on properties at Fort Ord scheduled for transfer to the County. The revised use designations would also allow approximately 380 acres adjacent to the NRMA and primary habitat corridor area to be added to the existing habitat reserve areas. In addition, large areas within the Monterey Horse Park section of Parker Flats, notably a central oak woodland reserve area comprising about 70 acres would remain in native habitat. With development of appropriate resource conservation and management requirements and identification of suitable resource management entities, the new habitat reserve areas would provide greater than a 2:1 replacement ratio for the habitat acreage lost at East Garrison as a result of the proposed expanded development there.³ These new reserve areas would also expand and enhance the habitat corridor connections to reserve areas (UC Natural Reserve, CSUMB, Landfill) to the north. However, because much of the maritime chaparral in the new reserve areas has been mechanically cleared to remove unexploded ordnance in preparation for transfer and development, the existing habitat values and species diversity in those areas may have been compromised (see further discussion below).

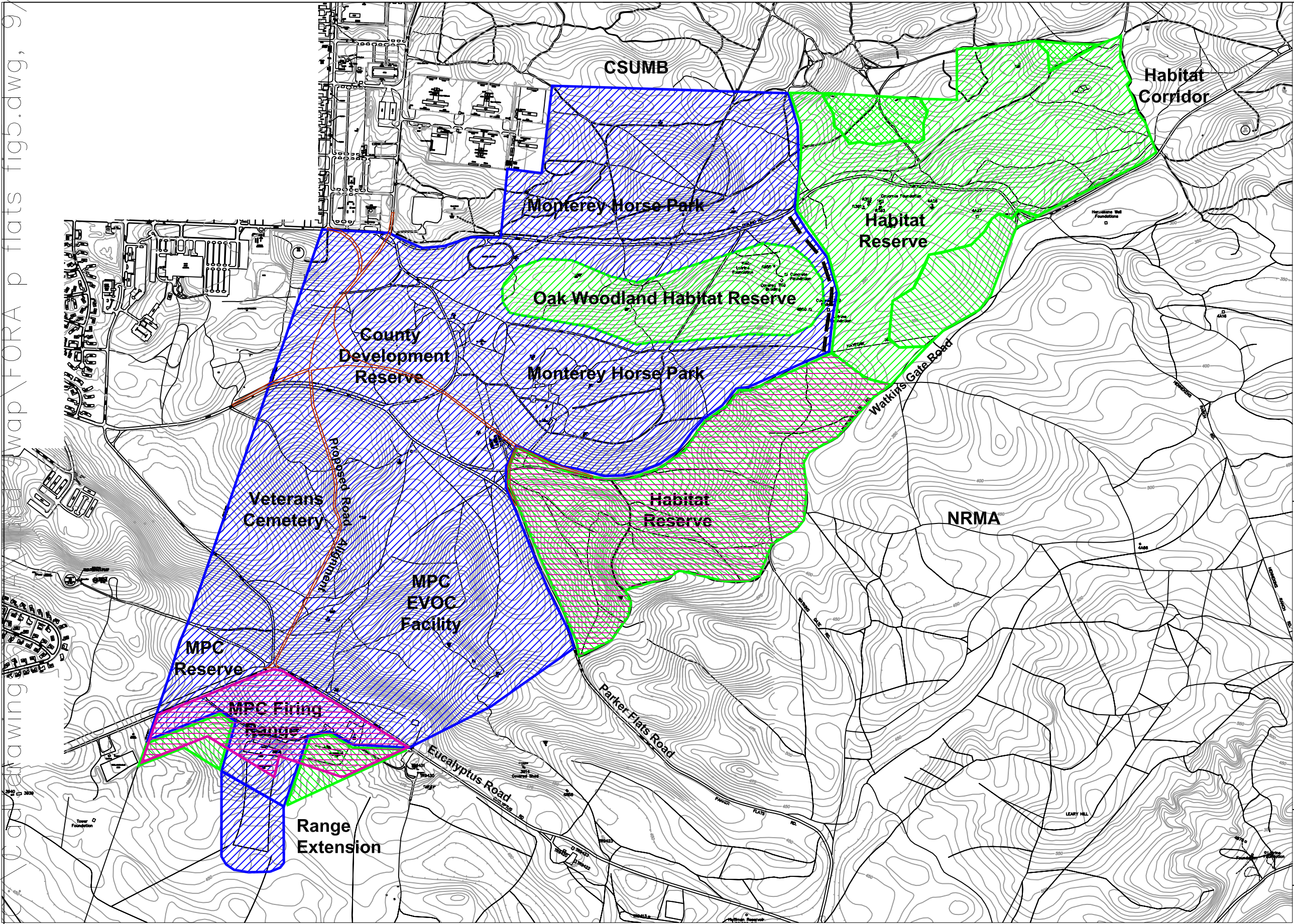
3.4 Military Operations/Urban Terrain Facility (MOUT)

3.4.1 Existing Conditions and Plans

The MOUT facility is located in a relatively isolated valley on an approximately 63-acre parcel (Base Reuse Plan polygon 26, HMP polygon F1.7.2) near the intersection of Eucalyptus Road and Barloy Canyon Road (Figures 1 and 2). The MOUT is a purpose-built mock village used by

³ Following the assumptions discussed above (see Table 1), approximately 210 acres of additional habitat beyond the allowances of the HMP would be lost at East Garrison because of the proposed modifications. Thus, $210 \times 2 = 420 < 450$.

C:\drawing\TA\parks\swap\FORA p flats fig5.dwg, 9/10/2006



Scale: 1" = Approx. 1200'

LEGEND

- Habitat Reserve areas:
- Oak woodland
- Maritime chaparral
- Grassland
- Development
- Designated development
- Extended development
- Areas mechanically cleared
- Proposed location of Horse Park cross country trail

Zander Associates
Environmental Consultants
150 Ford Way, Suite 101
Novato, CA 94945
(415) 897-8781

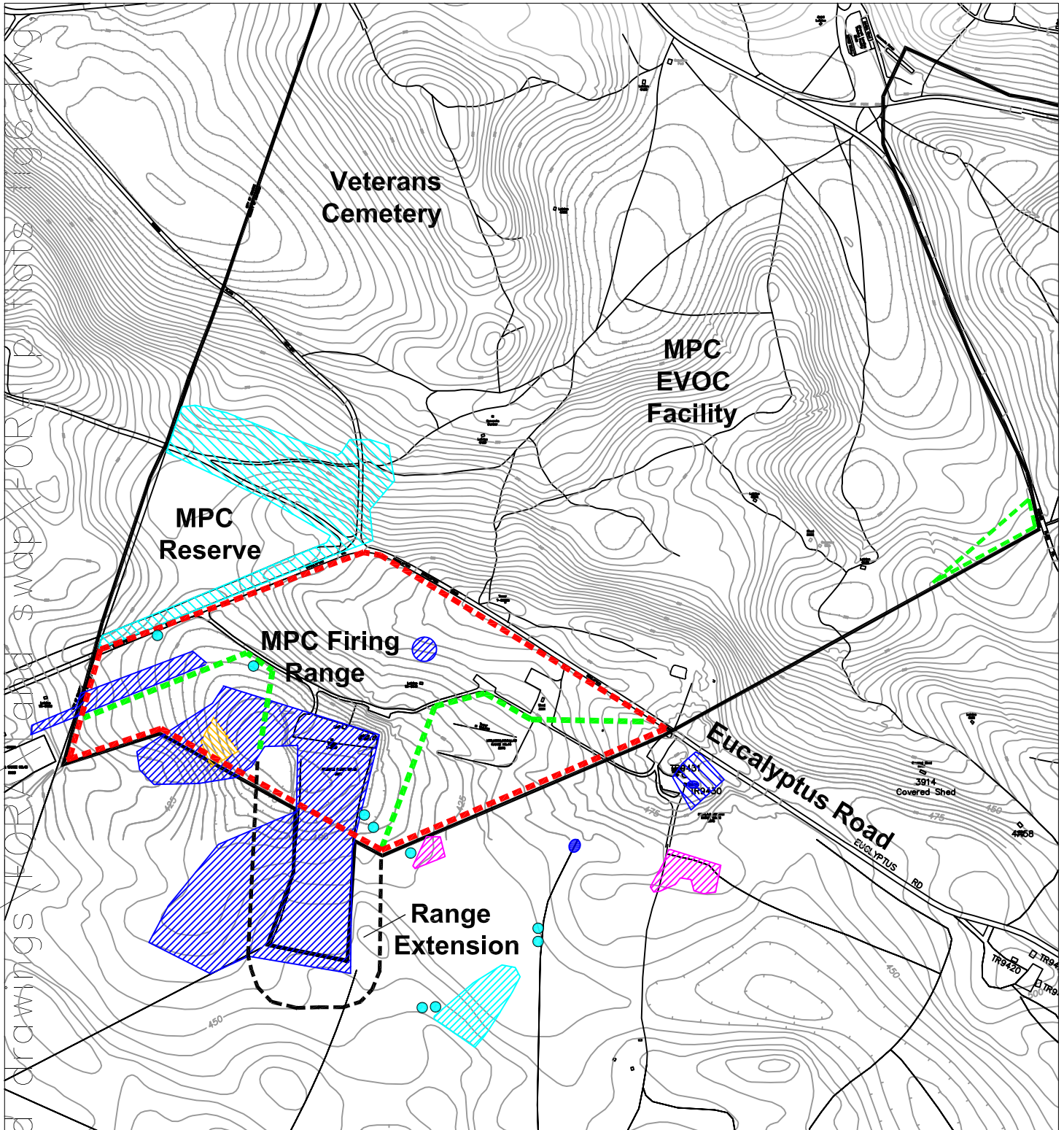
Parker Flats
Development Concept

Figure
5

LEGEND

- Bird's beak (1997–99 and 2000 HLA vegetation surveys)
- Monterey spineflower (1997–99 HLA vegetation surveys)
- Monterey spineflower–HD (2000 HLA vegetation survey)
- Monterey spineflower–MD (2000 HLA vegetation survey)

- Monterey spineflower–HD + sand gilia (2000 HLA vegetation survey)
- Sand gilia (2000 HLA vegetation survey)
- Sand gilia (2001 EMC vegetation survey)
- Development area redesignated as habitat
- Polygon E21b.3



Zander Associates
Environmental Consultants
150 Ford Way, Suite 101
Novato, CA 94945
(415) 897-8781

MPC EVOC Facility and Firing Range
with Listed Species Locations
(1997–2001 Surveys)

Figure
6

the military for urban warfare training. The facility continues to be used by the Federal Bureau of Investigation (FBI) and various other law enforcement agencies under a lease arrangement with the Army. The undeveloped slopes surrounding the MOUT facility support oak woodland and maritime chaparral habitats.

The HMP designates the MOUT polygon as development with no restrictions and allows for its continued use as a training facility through lease arrangements with BLM. The Base Reuse Plan also acknowledges its continued use.

3.4.2 *Proposed MOUT Land Uses*

With the proposed modifications, the MOUT would continue to be used for law enforcement training under the direction of MPC. No significant changes to the facility would occur but an adjustment to the HMP polygon boundary would be necessary to accommodate the full extent of existing Range 35A and generally secure the perimeter of the facility. The boundary would also be adjusted to add about 13½ acres of the polygon to the NRMA as habitat reserve since that area is not needed for the facility (Figure 7).

4.0 ASSESSMENT

The following analysis was completed to evaluate the effects of the proposed land use modifications at East Garrison, Parker Flats and the MOUT facility relative to the requirements of the HMP and its goals and objectives for preservation of biological resources. Three levels of analysis were completed for each area: consideration of changes that might be needed to HMP land use designations and requirements, assessment of habitat losses and gains, and assessment of HMP Species losses and gains. The analysis benefited from review by key resource agency personnel and has been modified in response to comments received during that review process. In particular, boundary considerations at East Garrison and the habitat value assumptions at Parker Flats have been revised to address issues raised through that review.

HMP land use designations and resource conservation and habitat management requirements for the East Garrison, Parker Flats and MOUT polygons were reviewed to evaluate consistency with the HMP. New information (e.g. more recent survey data for California tiger salamander not included in the HMP) and recommendations from key reviewing agencies, especially the Fish and Wildlife Service were also considered. Section 4.1 addresses the consistency of the proposed modifications with the HMP's land use categories and requirements.

To quantify losses and gains of the various habitat types and HMP Species, habitat and species mapping completed for the Army's *Flora and Fauna Baseline Study of Fort Ord, California* (1992) was used. More current mapping was available in limited areas (e.g. the Range 45 area) and that information was also considered as appropriate. Polygons (GIS-based), developed by Jones and Stokes Associates (JSA polygons) to map biological resources for the baseline studies, were overlaid (electronically) on the proposed land use maps for East Garrison, Parker Flats and the MOUT to determine the extent of the effects of the proposed modifications on each resource type and its associated species. Results of this gain/loss analysis are presented in Sections 4.2 and 4.3. Polygon maps and polygon-specific tabulations (effects on high, medium and low densities of each HMP Species) are presented in Appendix B.

LEGEND



Oak woodland



Maritime chaparral



Grassland



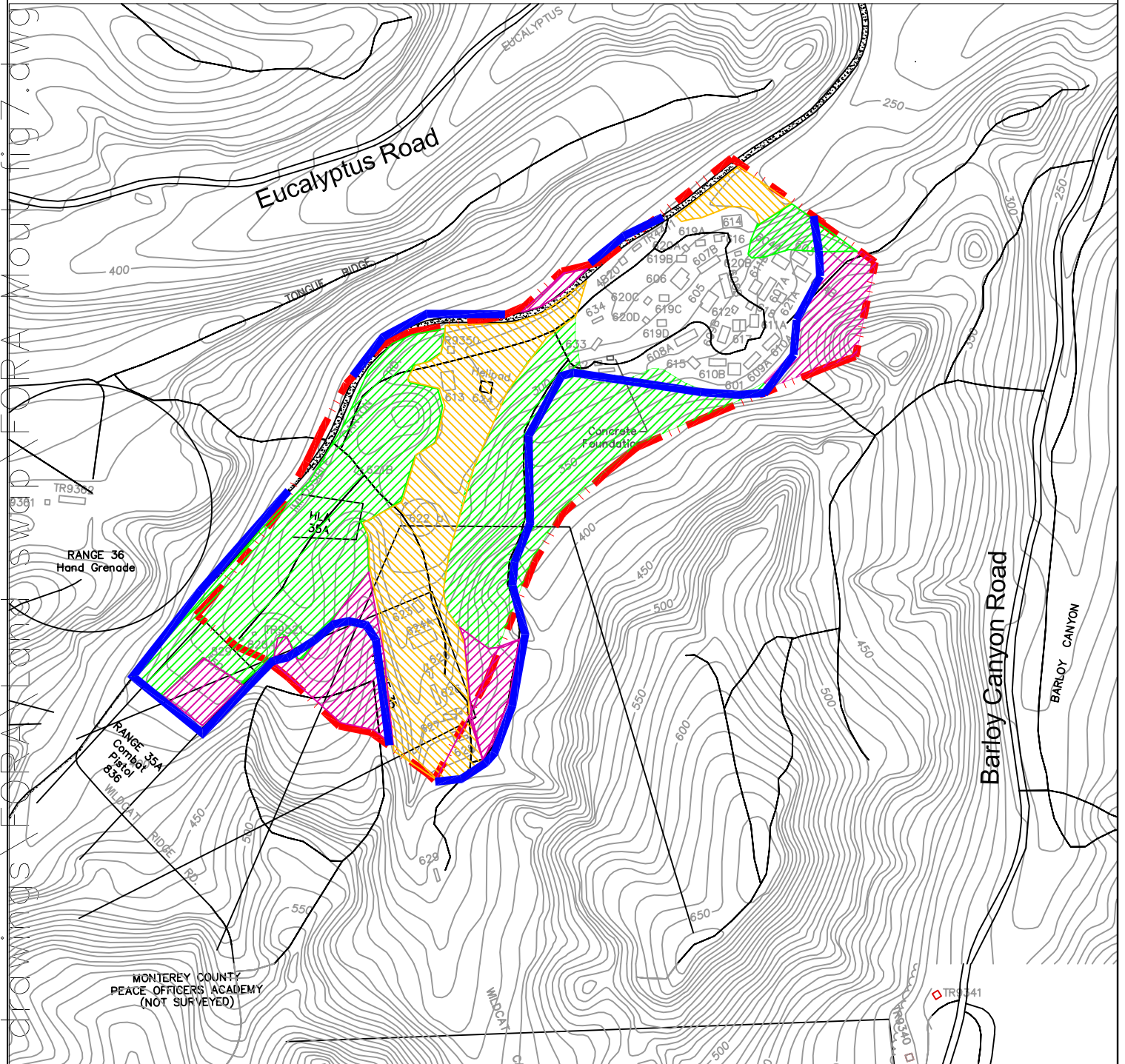
Developed



HMP polygon boundary



Proposed boundary adjustments



Scale: 1" =
Approx. 600'

Zander Associates
Environmental Consultants
150 Ford Way, Suite 101
Novato, CA 94945
(415) 897-8781

Proposed Adjustments
at MOUT Facility

Figure
7

4.1 HMP Land Use Categories and Requirements

4.1.1 East Garrison

The existing HMP land use designation for the East Garrison polygon is development with reserve areas or restrictions. The maximum development area allowed by the HMP is about 241 acres with the remainder of the polygon to be managed as habitat reserve (see Table 1). The proposed modifications would not change the HMP designation but would add about 210 acres to the allowable development area. This additional development acreage represents a modification to the HMP's resource conservation requirements for East Garrison and would need approval from the Fish and Wildlife Service. No development boundary is specified by the HMP, but coordination with the Service in siting development is required. The Service has already directed some boundary adjustments to the proposed development footprint at East Garrison through the review process described above. Increased setbacks from vernal pool habitat to the west of the East Garrison polygon, better defined (more manageable) boundaries between habitat and development, and clear connections between development zones have all been incorporated into the proposal through coordination with the Service and other resource agencies. The resulting development boundary (Figure 4) is intended to represent a "maximum allowable" footprint for the purposes of this assessment; the Service recognized that some further boundary adjustments could be made in the future if all parties agreed that the adjustments were superior (e.g. allowed for more effective border conditions within the development footprint such as firebreaks, fire management access and better habitat setbacks). Further boundary adjustments would be coordinated with the Service as site-specific planning for East Garrison proceeds. The ultimate alignment of the future road corridor providing access into the East Garrison area from the north would also be coordinated with the Service to avoid isolating habitat reserve lands. This coordination is consistent with the HMP and could be handled through the Fort Ord Coordinated Resource Management and Planning (CRMP) program as site-specific planning for East Garrison proceeds.

A new HMP resource conservation requirement would need to be added to protect California tiger salamanders (CTS) known to occur in the vernal pool located west of the East Garrison polygon (see Figure 3). The requirement would specify construction of a low wall or other suitable barrier to CTS migration along the development/reserve boundary to the east of the vernal pool when development occurs in that area. No changes would be necessary to the HMP's existing management requirements or parties identified as responsible for managing the remaining habitat areas at East Garrison. However, habitat management requirements (in addition to the fire management requirements noted above) will need to be considered in any boundary adjustments or other site-specific borderland planning.

Finally, use of the minor roads from East Garrison that pass through habitat reserves would also need to be considered through the CRMP program. Inter-Garrison Road and Reservation Road (via the future road corridor connection) are expected to be the primary travel routes servicing East Garrison, consistent with the assumptions used for the HMP. However, increased development of the area could increase use of minor roads such as Barloy Canyon Road to the south and Watkins Gate Road to the west, potentially affecting HMP Species. Barloy Canyon

Road provides access to Laguna Seca raceway during events but is otherwise gated to through traffic at Eucalyptus. These conditions are not expected to change as a result of the proposed modifications at East Garrison.⁴ Watkins Gate Road and Eucalyptus Road (via Barloy Canyon Road) connect East Garrison with Parker Flats. With the proposed modifications, Parker Flats would become less of a destination or source of traffic, almost certainly reducing travel on these connector roads below the levels that would have accompanied HMP buildout. While all parties recognize the potential effects on HMP Species of increased use of minor roads through habitat reserve areas, further road closures are not proposed here. However, FORA, the County, the Service and others have agreed to review the disposition and use of minor roads through the CRMP program, and to incorporate appropriate habitat protection measures into the Habitat Conservation Plan prepared through CRMP.

4.1.2 Parker Flats

The existing HMP land use designation for most of the Parker Flats area is development with no restrictions.⁵ The proposed modifications would require boundary adjustments to designate approximately 380 acres adjacent to BLM's NRMA and the central habitat corridor polygon (HMP polygon L20.2.1) as habitat reserve. Approximately 70 acres of oak woodlands within the proposed Monterey Horse Park area would also need to be designated as habitat reserve, or possibly, development with reserve areas or restrictions along with the rest of the Horse Park area (see below). Finally, the boundary between development and habitat areas around Range 45 (HMP polygon E21.b.3) would need to be adjusted to accommodate MPC's plans for reuse of that range, balance habitat losses and gains, and avoid known locations of certain listed species.

The existing borderland development requirements along the NRMA would need to move (and possibly be modified) in concert with the adjusted boundary lines. In addition, internal habitat boundary management agreements among habitat managers could be necessary, depending, in part, on the responsible management entities identified for the newly adjusted habitat areas. For example, through the review process noted above, BLM expressed a willingness to consider extending its management responsibility (and possibly ownership) to a well-defined boundary north of the existing NRMA boundary, but not necessarily to all newly adjusted habitat areas. In such a case, the County or another designated habitat manager would be responsible for enforcing borderland restrictions in developed areas adjacent to habitat reserve areas and coordinating internal habitat boundary issues with BLM. BLM also expressed concern about public access in proximity to live fire at Range 45 and suggested that MPC (or the County) may need to assume management responsibility (and enforce access restrictions) within a defined perimeter habitat reserve area surrounding the range. The 70 acre oak woodland preserve within the Horse Park area also poses particular boundary management issues because of its relatively large edge to area ratio and its setting within an active use area. Details of boundary requirements and suitable management entities for each component of the new habitat areas will need to be defined and coordinated with the Service and others through the CRMP program.

⁴ BLM manages the gate closure on Barloy Canyon Road and has considered moving the gate to the southern end of the East Garrison polygon when development occurs there.

⁵ The only area associated with the proposed modifications at Parker Flats not designated for development by the HMP is the small (approximately 16-acre) area associated with Range 45 that would be incorporated into the MPC plans through a minor boundary adjustment as noted in the discussion.

Resource conservation and management requirements, similar to those specified for the NRMA, would need to be developed for the newly adjusted habitat reserve areas. The areas would be managed to maintain and restore native habitat, especially maritime chaparral habitat. Because much of the maritime chaparral habitat (approximately 162 acres) in the Parker Flats area has been mechanically cleared in preparation for transfer, controlled burning, which is already a management requirement in the NRMA, would be critical for the restoration and maintenance of habitat values in these areas (see discussion below). Other management requirements associated with the NRMA (e.g. invasive weed control, erosion control, access control, monitoring) would also apply in these areas, with the exception of the 2% development allowance for the NRMA. While existing roads and trails through the habitat areas could remain, be realigned and used for recreational activities (e.g. equestrian trails/courses), no areas with natural vegetation would be converted to development-oriented uses in the new habitat areas. Any proposed trail or road realignments would be coordinated with the Service through the CRMP program. The oak woodland reserve in the Horse Park area (or possibly the adjacent oak woodlands and grasslands to the east) would include an allowance for a section of the proposed cross-country course. The course section would require two lanes, each approximately 75 feet wide. However, no buildings, grandstands, corrals, parking areas or other developments would be allowed in the habitat reserves. Requirements to minimize removal of native vegetation and maintain an aggressive weed control program over the entire Horse Park use area would be included as a development condition (through designation of the area as development with reserve or restrictions). A Natural Resources Management Plan would need to be prepared for all the newly adjusted habitat areas in coordination with BLM's planning efforts for the NRMA. Additional costs and funding for habitat management, beyond funds previously allocated, would need to be included in the planning.

4.1.3 MOUT

The existing HMP land use designation for the MOUT facility is development with no restrictions. The proposed modifications would require a boundary adjustment to designate approximately 13½ acres adjacent to the NRMA as habitat reserve. The boundary adjustment would also need to incorporate the existing part of Range 35A and other areas that are currently outside of designated development (totaling just under four acres) into the MOUT polygon to secure the perimeter of the facility and accommodate MPC's plans (Figure 7). BLM would need to agree to the boundary adjustments and to the management responsibilities associated with an addition to the NRMA.

4.2 Habitat Acreage

4.2.1 East Garrison

The East Garrison development footprint as proposed (Figure 4) would maximize use of existing developed areas but would also result in the loss of about 298 acres of habitat. About 213 acres of oak woodland, 15 acres of maritime chaparral and 70 acres of non-native grasslands would be lost in addition to the 153 acres of existing developed areas located in the Cantonment Area and the ASP (Table 2). Assuming that the HMP also anticipated maximum use of the Cantonment Area and ASP, approximately 88 acres of habitat loss would accompany buildout of East

Garrison as allowed by the HMP. Thus, the proposed modifications result in about 210 more acres of habitat loss than allowable HMP buildout. However, the impact of HMP buildout on specific habitat types was not quantified because no specific development plan (beyond the allowable 241 acres) was identified in the HMP. While some of that loss would be attributable to the designated future road corridor, which passes through grasslands and oak woodlands (Figure 3), the remaining habitat loss was not assigned in the HMP.

TABLE 2: EAST GARRISON HABITAT LOSS SUMMARY

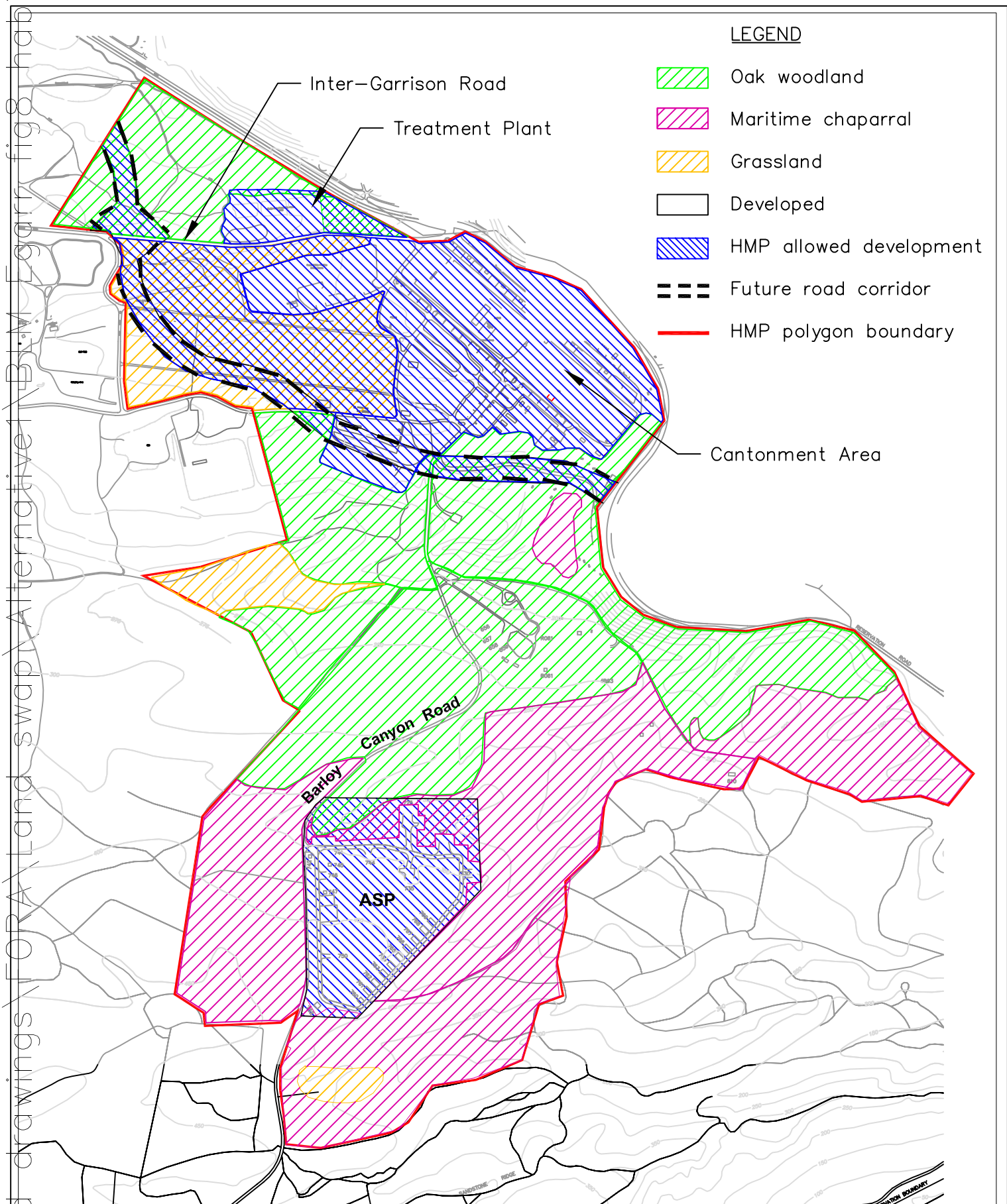
	Existing Development (acres)	Habitat (acres)				Total (acres)
		Maritime Chaparral	Oak Woodland	Grassland	Total	
Proposal	153	15	213	70	298	451
HMP Buildout	153	9	23	56	88	241
Difference	0	6	190	14	210	210

For the purposes of this assessment, we assume that allowable HMP buildout at East Garrison would be concentrated near the developed Cantonment Area and the ASP and that habitat losses would occur in adjacent areas. Expansion of the development footprint in these areas would take advantage of existing disturbance and minimize further encroachment into habitat areas. We further assume that the alignment and size of the future road corridor would remain as mapped in the HMP. Following these assumptions, relying on the principle of well-defined, manageable boundaries, and allocating the 88 developable habitat acres accordingly, we produced an HMP buildout alternative against which to compare the proposed modifications. Figure 8 illustrates the HMP buildout alternative and Table 2 provides a summary of its effects on HMP habitat types. Based on these assumptions, net losses of about 190 acres of oak woodland, 6 acres of maritime chaparral and 14 acres of grasslands beyond the HMP allowances would result from the proposed modifications at East Garrison. These losses would need to be replaced in kind for consistency with the HMP.

4.2.2 Parker Flats

Since all of Parker Flats (except for the small area associated with Range 45) is designated for development, the proposed reduction in the development footprint provides an opportunity for boundary adjustment and redesignation that could compensate for habitat acreage losses at East Garrison and result in a net gain in habitat reserve area adjacent to the NRMA. This new reserve area would also increase opportunities for habitat corridor connections through the CSUMB property to the landfill polygon (HMP polygon E8a.1) as well as expanding the existing corridor connection (HMP polygon L20.2.1) to the northern reserve areas along Reservation Road. The Parker Flats development footprint as proposed (Figure 4) would result in the preservation of about 249 acres of oak woodland, 196 acres of maritime chaparral and 18 acres of grassland habitats that were not anticipated for preservation in the HMP (Table 3). Subtracting the loss of about 16 acres of area mapped as maritime chaparral associated with the improvement and reuse of Range 45, the net gain in maritime chaparral habitat acreage at Parker Flats, beyond that

Cad drawings for a land swap Alternative B-M. Egar fig 8 nabi



LEGEND

- Oak woodland
- Maritime chaparral
- Grassland
- Developed
- HMP allowed development
- Future road corridor
- HMP polygon boundary

anticipated by the HMP, would be about 180 acres. Thus, total habitat available as credit at Parker Flats to offset the 210 acres of losses at East Garrison is about 447 acres (Table 3).

TABLE 3: OVERALL HABITAT LOSSES/GAINS

	Maritime Chaparral	Oak Woodland	Grassland	Total
East Garrison				
Loss	(5.6)	(189.9)	(14.5)	(210)
Parker Flats				
Gain	195.8	249.5	17.9	463.2
Loss	(16.1)	0	0	(16.1)
Net	179.7	249.5	17.9	447.1
MOUT				
Gain	5.2	8.2	0	13.4
Loss	(1.7)	(1.5)	(0.6)	(3.8)
Net	3.5	6.7	(0.6)	9.6
Overall Net	177.6	66.3	2.8	246.7

However, most of the maritime chaparral habitat in the newly adjusted reserve area (about 162 acres) has been mechanically cleared for ordnance and explosives removal prior to transfer (Figure 5). Consequently, while actual acreage of maritime habitat would increase, it may not currently support the habitat quality (as determined by diversity and densities of species) necessary to compensate for losses at East Garrison. Therefore, controlled burning and monitoring in the mechanically cleared chaparral habitat areas indicated on Figure 5 would need to be specified as priority HMP management requirements in an effort to recover full habitat value in those areas and realize full compensation credit for the proposed modifications (see further discussions below).

4.2.3 MOUT

The proposed boundary adjustments at the MOUT facility would result in an additional gain of approximately eight acres of oak woodland and five acres of maritime chaparral habitats along its southern boundary adjacent to the NRMA. The extension of the boundary to accommodate exiting Range 35A would result in loss of an approximately two-acre area mapped as both oak woodland and maritime chaparral (even though the area has been cleared and graded for range use). Other minor boundary adjustments along the perimeter of the MOUT would result in losses of maritime chaparral (about one acre) and grasslands (about half an acre), resulting in a net gain in overall habitat reserve acreage of about nine and one half acres at the MOUT.

4.3 HMP Species

4.3.1 East Garrison

One federally listed threatened plant, Monterey spineflower (*Chorizanthe pungens* var. *pungens*), has been mapped within the East Garrison polygon boundary defined by the HMP. No other federally or state listed species have been recorded in the polygon area. However, several other HMP species are known to occur in the East Garrison polygon according to the HMP (p. 4-50). They include Toro manzanita (*Arctostaphylos montereyensis*), sandmat manzanita (*A. pumila*),

Monterey ceanothus (*Ceanothus rigidus*), Eastwood's ericameria (*Ericameria fasciculata*) and Hooker's manzanita (*A. hookeri* ssp. *hookeri*). Potential habitat for the Monterey ornate shrew (*Sorex ornatus solarius*), based on the presence of oak woodlands, is also noted in the HMP. More recent surveys have also identified the presence of California tiger salamanders in the vernal pond to the west of the East Garrison polygon.

The effects of the proposed East Garrison land use footprint on acreage mapped for HMP Species are summarized on Table 4 with further detail provided in Appendix B. The extent of the impact was quantified based on comparison with the HMP buildout alternative discussed above (Figure 8). For the purposes of this assessment, we assume that all losses to acreage supporting HMP Species over and above the losses associated with the HMP buildout alternative will need to be offset by replacement (through reserve designation and appropriate management) of equal or greater acreage for these species.

TABLE 4: SUMMARY OF HABITAT AND SPECIES LOSSES/GAINS

HABITAT (acres)		HMP SPECIES ¹ (acres)							
		Armo	Chpu	Arpu	Erfa	Arho	Ceri	Gitea	Coril
East Garrison									
OW	(189.9) ²	(88.5)	(29.4)						
MC	(5.6)	(5.6)			(0.9)		(0.9)		
G	(14.5)		(3.2)	(3.2)					
NET	(210)	(94.1)	(32.6)	(3.2)	(0.9)		(0.9)		
Parker Flats									
OW	249.5		116.9						
MC	195.8 (16.1)	174.5	169.7 (16.1)	168.1 (16.1)	123.6 (16.1)	174.5	169.7 (16.1)	1.6	16.1 (16.1)
G	17.9		17.9						
NET	447.1	174.5	288.4	152	107.5	174.5	153.6	1.6	0
MOUT									
OW	(1.5) 8.2	(1.5) 8.2				(1.5) 7.0			
MC	(1.7) 5.2	(0.6) 5.2	(0.6) 2.6		(0.6)	(1.7) 2.6	(1.7) 5.2	(0.6)	
G	(0.6)								
NET	9.6	11.3	2.0		(0.6)	6.4	3.5	(0.6)	
TOTAL NET	OW = 66.3 MC = 177.6 G = 2.8	91.7	257.8	148.8	106	180.9	156.2	1.0	0

1. Definition of species acronyms: Armo (*Arctostaphylos montereyensis*), Chpu (*Chorizanthe pungens* var. *pungens*), Arpu (*Arctostaphylos pumila*), Erfa (*Ericameria fasciculata*), Arho (*Arctostaphylos hookeri* ssp. *hookeri*), Ceri (*Ceanothus rigidus*), Gitea (*Gilia tenuiflora* ssp. *arenaria*), Coril (*Cordylanthus rigidus* var. *littoralis*)

2. Parentheses indicate negative numbers or losses.

4.3.2 Parker Flats

Three federally and/or state listed plant species, Monterey spineflower, sand gilia (*Gilia tenuiflora* ssp. *arenaria*) and seaside bird's beak (*Cordylanthus rigidus* ssp. *littoralis*) have been recorded from the Parker Flats area. Monterey spineflower (mostly low densities) is relatively widespread throughout the area, while sand gilia and seaside bird's beak are limited to specific locations toward the southerly end of the area. In recent years, the Army and others have conducted focused surveys in selected areas of Parker Flats to update the record for these listed species. The results of these surveys are illustrated on Figure 6. Numerous other HMP Species are also known from Parker Flats. With the exception of losses associated with the boundary adjustment for Range 45 (see Table 2), all losses of HMP Species in Parker Flats were anticipated by the HMP.

The proposed improvements and reuse of Range 45 and associated boundary adjustments merit special consideration here. The Army's baseline studies identified a variety of HMP Species in a large, approximately 300-acre polygon (JSA polygon #735) that includes existing Range 45 and almost all of HMP polygon E21b.3 (Figure 9). While polygon E21b.3, containing a part of Range 45, is designated for development without restrictions, the remainder of the range is designated as habitat reserve. Consequently, Table 4 indicates that some losses of HMP Species at Parker Flats will result from the proposed range reuse. However, polygon boundaries have been adjusted to balance these losses by gains for all species (and species densities) recorded in the baseline studies. In addition, the subsequent focused plant surveys referenced above identified specific locations of Monterey spineflower, seaside bird's beak and sand gilia in the vicinity of Range 45. Spineflower, an aggressive colonizer of suitable disturbed areas, was mapped within and around the existing range footprint; small colonies of gilia and bird's beak were found in surrounding areas, including inside unrestricted development areas (Figure 6). MPC's proposal to improve and reuse the existing range in its same general footprint would preclude long-term sustainability of most HMP Species within the active range area.⁶ However, the polygon boundaries have also been adjusted to avoid these recently mapped locations of bird's beak and gilia so that these areas will be included in the adjacent NRMA.

As originally mapped, HMP Species distribution and densities in the additional acreage proposed as new habitat reserve could not only offset the acreage losses in East Garrison, but could result in a net gain for most HMP Species overall (Table 4). However, because the Army has already completed mechanical vegetation clearance to facilitate unexploded ordnance removal in much of the maritime chaparral area (about 162 acres) within the adjusted habitat reserve, habitat quality may be compromised. Especially for certain fire-dependent species such as Toro manzanita, sandmat manzanita and Monterey ceanothus, there may be differences between species distributions and densities as originally mapped for the baseline studies and current conditions. Further evaluation of HMP Species gains and losses assuming reduced and no (zero) values for certain HMP Species in mechanically cleared areas at Parker Flats were conducted at the direction of the Fish and Wildlife Service in an effort to quantify these differences (Appendix B). Net losses of several species, particularly Toro manzanita, would result with these reduced values. Consequently, controlled burning and monitoring in these chaparral habitat areas will be

⁶ Monterey spineflower and other species could persist even with use of the area as a firing range.

Species of Concern

Polygon 735:

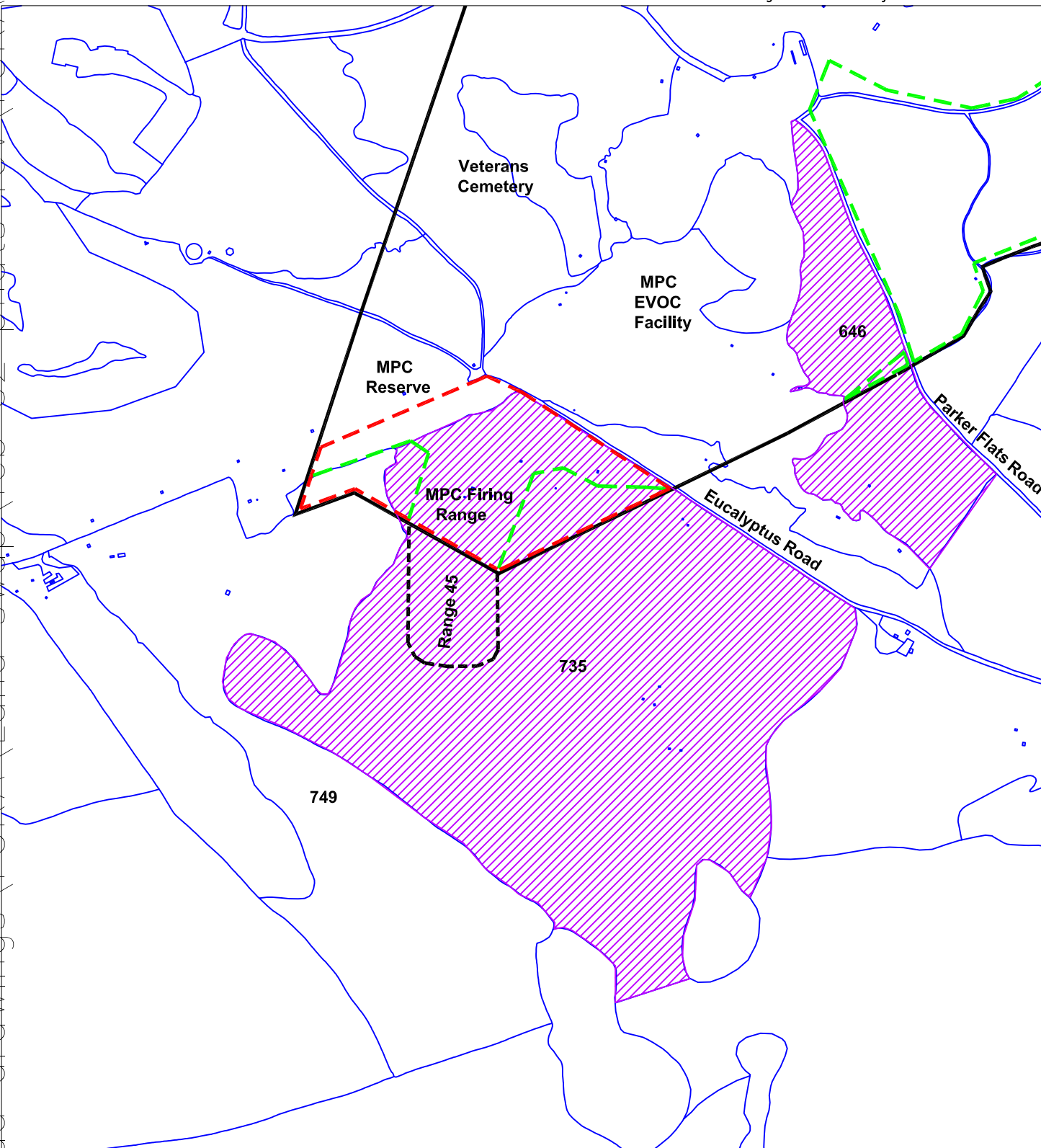
ARPU
CERI
CHPUP
CORIL
ERFA

Polygon 646:

ARHOH
ARMO
CERI
CHPUP
ERFA
GITEA

LEGEND

- 735 JSA polygons and numbers
- Habitat Reserve areas
- Polygon E21b.3
- Range extension area
- Planning area boundary



Scale: 1" =
Approx. 1100'

Zander Associates
Environmental Consultants
150 Ford Way, Suite 101
Novato, CA 94945
(415) 897-8781

MPC Boundary Adjustments
in Relation to JSA Polygons
at Parker Flats

Figure
9

required in a relatively short term (3-5 years) to assure continued habitat sustainability for these species and to realize full compensation credit for the proposed modifications.

FORA and the County recognize the need for prescribed burning in the chaparral areas at Parker Flats and would apply for a burn permit from the Monterey Bay Area Unified Air Pollution Control District within six months of a preferred burn date established by a professional fire specialist working through the CRMP program. Prior to burning (and no later than September 1, 2003), FORA and the County would quantitatively characterize the condition of the HMP Species in the mechanically cleared areas at Parker Flats to establish a pre-burn monitoring baseline for addressing success criteria and prescribed burn goals. Post-burn monitoring would be conducted following procedures and a schedule established in coordination with the designated fire specialist through the CRMP program. Success criteria, established in coordination with the CRMP program, would be used to determine whether restoration goals are met through the prescribed burn.

If FORA and the County are unable to perform the prescribed burn or if restoration goals are not met following a burn, certain contingency measures, coordinated through the CRMP program, could be undertaken such as habitat restoration of eroded, unused trails, roads or other degraded sites within habitat reserve lands. Alternatively, FORA and the County could decide to comply with the existing habitat conservation and management requirements of the executed HMP if development has not yet proceeded beyond the allowances of those requirements, effectively abandoning the proposed exchange of habitat areas for development areas (see Appendix C).

4.3.3 MOUT

The area in and around the MOUT polygon supports numerous HMP Species. The proposed boundary adjustments at the MOUT facility would result in both small losses and gains of habitat mapped as supporting these species (Table 2). The net result of the proposed modifications (which are primarily being done to rectify the inaccuracies of past, large-scale mapping error) would be a small gain for most HMP Species with the exception of two species (Eastwood's ericameria and sand gilia). These species are mapped as occurring in the range extension area following the same principles discussed above (i.e. relatively large polygons and large scale mapping effort for general planning purposes). Following the methodology used to calculate net losses and gains for other species (Table 4 and Appendix B), losses to both ericameria and gilia are offset by designating additional reserve areas at Parker Flats.⁷

5.0 CONCLUSIONS AND RECOMMENDATIONS

The proposed boundary adjustments and other modifications discussed herein could enable appropriate uses in appropriate areas at Fort Ord without compromising the overall goals and objectives of the HMP and the Base Reuse Plan. No material changes to the HMP or to the general HMP land use designations should be necessary. Rather, existing designations coupled

⁷ Low density sand gilia was recorded in both JSA polygon #646 at Parker Flats and JSA polygon #940 at the MOUT. Approximately 1.6 developable acres of polygon #646 will be dedicated as habitat to replace about 0.6 acres of loss in polygon #940 at the MOUT, an almost 3:1 replacement ratio (see Figures 8 & 9 and Appendix B).

with boundary adjustments in selected areas could accommodate the proposed modifications. However, depending on the preferred management entities for the newly adjusted habitat reserve areas (e.g. BLM, the County), revised ownership or polygon designations may be warranted. In addition, some redesignation (equivalent to “down-zoning”) in certain polygons (e.g. change from development to development with restrictions in the Monterey Horse Park area) would provide greater assurances for long-term habitat protection.

Approximately 210 acres of habitat and species losses could occur at East Garrison that were not contemplated by the HMP, but these could be offset by equivalent or better gains in kind at Parker Flats, assuming a controlled burn program is initiated in a timely manner (see above). On a habitat level, protected acreage for both oak woodland and maritime chaparral would increase within newly adjusted habitat reserve areas at Parker Flats comprising about 447 acres, 380 acres of which is directly adjacent to the NRMA. With implementation of habitat management and other measures discussed herein, especially with the use of prescribed fire as a management tool, there could be no net loss in HMP Species and potentially considerable gain in some species such as Monterey spinyflower, Hooker’s manzanita, sandmat manzanita and Monterey ceanothus. An expanded and enhanced corridor connection between the NRMA and reserve areas to the north would result and borderland areas along the NRMA would support compatible uses.

The HMP allows for changes within designated development parcels without the need for revisions to the HMP or formal consultation with the U.S. Fish and Wildlife Service. Other modifications can be (and have been) made with support and concurrence from the Army and the Service (HMP, p. 1-14 & Appendix C). For the proposed modifications presented herein to proceed, the Army and BLM will need to support them and the Service will need to determine that they are consistent with the goals and objectives of the HMP. The California Department of Fish and Game and other agencies and organizations with direct involvement or interest in habitat management at the former base, will also be key parties in the approval of this proposal.

Through the review process described in this report, various conditions that would allow the U.S. Fish and Wildlife Service and other agencies referenced above to support and approve these proposed modifications were discussed and ultimately agreed to in concept by FORA and County staff. Many of these conditions have already been discussed in this analysis. A complete listing of these conditions is attached as Appendix C. Based on this assessment and on initial coordination with resource agencies and other interested parties, FORA and the County would need to agree to these conditions for the proposed modifications to be approved. Doing so would provide the necessary assurances to the Service and others that no net loss of HMP Species or habitat would result from the proposed modifications.

APPENDIX A
HMP SPECIES

HMP SPECIES

Common Name	Scientific Name	Status ¹ Federal/State/Other
Plants		
Sand gilia	<i>Gilia tenuiflora</i> ssp. <i>arenaria</i>	E/T/CNPS 1B
Monterey spineflower	<i>Chorizanthe pungens</i> var. <i>pungens</i>	T/--/CNPS 1B
Robust spineflower	<i>Chorizanthe robusta</i> var. <i>robusta</i>	E/--/CNPS 4
Seaside bird's-beak	<i>Cordylanthus rigidus</i> var. <i>littoralis</i>	SC/E/CNPS 1B
Toro manzanita	<i>Arctostaphylos montereyensis</i>	SC/--/CNPS 1B
Sandmat manzanita	<i>Arctostaphylos pumila</i>	SC/--/CNPS 1B
Monterey ceanothus	<i>Ceanothus cuneatus</i> var. <i>rigidus</i>	SC/--/CNPS 4
Eastwood's ericameria	<i>Ericameria fasciculata</i>	SC/--/CNPS 1B
Coast wallflower	<i>Erysimum ammophilum</i>	SC/--/CNPS 1B
Yadon's piperia	<i>Piperia yadoni</i>	E/--/CNPS 1B
Hooker's manzanita	<i>Arctostaphylos hookeri</i>	--/--/CNPS 1B
Animals		
Smith's blue butterfly	<i>Euphilotes enoptes smithi</i>	E/--
California linderiella	<i>Linderiella occidentalis</i>	no status
California red-legged frog	<i>Rana aurora draytoni</i>	T/CSC
California tiger salamander	<i>Ambystoma tigrinum californiense</i>	C/CSC
California black legless lizard	<i>Anniella pulchra nigra</i>	--/CSC
Western snowy plover	<i>Charadrius alexandrinus nivosus</i>	T/CSC
Monterey ornate shrew	<i>Sorex ornatus salarius</i>	SC/--

1. Status Explanations**Federal**

- E = listed as endangered under the federal Endangered Species Act (ESA)
T = listed as threatened under the federal ESA
C = candidate for federal listing as threatened or endangered under the federal ESA
SC = Species of Concern are all former Category 1 and 2 candidate species that without additional conservation action are likely to become candidates for listing by the U.S. Fish and Wildlife Service under the federal ESA.

State

- E = listed as endangered under the California Endangered Species Act (CESA)
T = listed as threatened under the CESA
CSC = California Department of Fish and Game species of special concern

Other

- CNPS 1B = California Native Plant Society list 1B: plants listed as rare, threatened or endangered in California and elsewhere
CNPS 4 = California Native Plant Society list 4: plants of limited distribution in California - a watch list

APPENDIX B
DATA CALCULATIONS AND MAPS

DATA CALCULATIONS

Included in this appendix are the spreadsheets used to provide the acreage figures summarized in Table 4 of the text. Maps are also included that indicate the location and numbers of the polygons used for the *Army's Flora and Fauna Baseline Study of Fort Ord, California* (1992),—referred to as the Jones & Stokes (JSA) Polygons—in relationship to the proposed development boundaries for East Garrison, Parker Flats and the MOUT. JSA polygons (GIS-based) from the baseline studies, identifying each mapped resource type, were overlaid (electronically) on the proposed land use maps for East Garrison, Parker Flats and the MOUT to determine the effects of the proposed modifications on each type.

The spreadsheets in this appendix provide a polygon-specific tabulation of the effects on oak woodland, maritime chaparral and grassland habitats as well as the effects on high, medium and low densities for each HMP Species. Three separate cases are illustrated. Case 1 is the baseline condition, assuming that diversity and density of HMP Species remain as originally mapped by Jones & Stokes Associates for the Army. Case 2 shows reduced values for some HMP Species in mechanically cleared areas at Parker Flats based on brief site reconnaissance of those areas during March and April 2002. Case 3 is a worst case scenario that eliminates values for all HMP Species in mechanically cleared areas at Parker Flats.

The numbers of the polygons used for the baseline studies are shown in the left-hand column for each land use area. Acreage numbers for each polygon are assigned by habitat type. Finally, species densities for each polygon, as recorded by JSA for the Army, are indicated in columns under each HMP Species. For species-specific numbers, 1 = low density, 2 = medium density and 3 = high density. The numbers shown in red and in parentheses represent losses while the numbers in black are gains. Numbers that change as a result of the reduced (Case 2) or zero (Case 3) values assigned because of mechanical clearing are shown in blue and the polygon numbers representing the changed areas are highlighted.

The baseline case shows gains in all categories of all species and habitats except for a minor (1.5-acre) loss of medium density habitat for one species (*Ericameria fasciculata*). This apparent loss is well within the margin of error associated with the field sampling techniques and map scale limitations of the baseline studies and the analysis completed herein. Moreover, the apparent loss would be more than offset by a gain of 107 acres of low density habitat for the same species. However, net losses of HMP Species increase beyond the margin of error and map limitation factors in Cases 2 & 3, demonstrating the potential effects of mechanical clearing and the absence of prescribed burning. Accordingly, we have based our no net loss determination on an assumption that prescribed burning in mechanically cleared chaparral areas would occur in a timely manner.

East Garrison/Parker Flats/MOUT
Gain/Loss of Habitats and
Sensitive Plant Species
East Garrison Alternative 1
May, 2002

CASE 1
Baseline

East Garrison	JSA#	OW	MC	G	Density	ARMO	CHPUP	ARPU	ERFA	ARHOH	CERI	GITEA	CORIL	LEGEND
Develop	243	(29.4)					(1)							
	266	(1.1)												1= Low Density
	296			(11.3)										2= Medium Density
	353	(33.8)												3= High Density
	386	(37.1)												
	422		(4.7)			(1)								
	433			(3.2)			(1)	(1)						
	455	(78.9)				(1)								
	468	(9.6)				(1)								
	518		(0.9)			(2)			(2)		(2)			
TOTAL ACRES		(189.9)	(5.6)	(14.5)	1=	(93.2)	(32.6)	(3.2)						
TOTAL		(210.0)			2=	(0.9)			(0.9)		(0.9)			
Parker Flats	JSA#	OW	MC	G		ARMO	CHPUP	ARPU	ERFA	ARHOH	CERI	GITEA	CORIL	
Range 45	735		(16.1)				(2)	(3)	(1)		(3)		(1)	
	735		12.5				2	3	1		3		1	
	735		3.6				2	3	1		3		1	
	749		5.2				1	3	1		3			
Reserve	637		46.1			2	1	2		2	2			
	646		1.6			1	1		1	1	2	1		
	575		100.7			1	1	1	1	1	1			
	500		26.1			1				1				
	326			17.9				3						
	379	132.6												
	472	40.8					1							
	417	6.6						3						
Oak oval	472	31.5					1							
	519	38.0					1							
TOTAL ACRES		249.5	179.7	17.9	1=	128.4	263.9	100.7	107.5	128.4	100.7	1.6	(0.0)	
					2=	46.1		46.1		46.1	47.7			
		447.1			3=		24.5	5.2			5.2			
MOUT	JSA#	OW	MC	G		ARMO	CHPUP	ARPU	ERFA	ARHOH	CERI	GITEA	CORIL	
Reserve	850		2.6				3	1			2			
	841	1.2				1								
	879	7.0				2				1				
	932		2.6			2					3	1		
	891		(1.1)								(3)	(2)		
	902			(0.6)										
Range 35	906	(1.5)				(1)				(2)				
	940		(0.6)				(3)	(1)	(2)	(1)	(3)	(1)		
TOTAL ACRES		6.7	3.5	(0.6)	1=	(0.3)	2.0			6.4	2.6	(0.6)		
TOTAL		9.6			2=	9.6			(0.6)	(1.5)	1.5			
					3=	2.0				1.5	(0.6)			
Summary	Acres	OW	MC	G		ARMO	CHPUP	ARPU	ERFA	ARHOH	CERI	GITEA	CORIL	
	246.7	66.3	177.6	2.8	1=	34.9	233.3	97.5	107.5	134.8	103.3	1.0	0.0	
					2=	54.8	0.0	46.1	(1.5)	44.6	48.3			
	246.7				3=	2.0	24.5	5.2		1.5	4.6			

East Garrison/Parker Flats/MOUT
Gain/Loss of Habitats and
Sensitive Plant Species
East Garrison Alternative 1
Effect of Clearing at Parker Flats
Reduce Densities to 1 in Polygons 575, 637, 735, 749
May, 2002

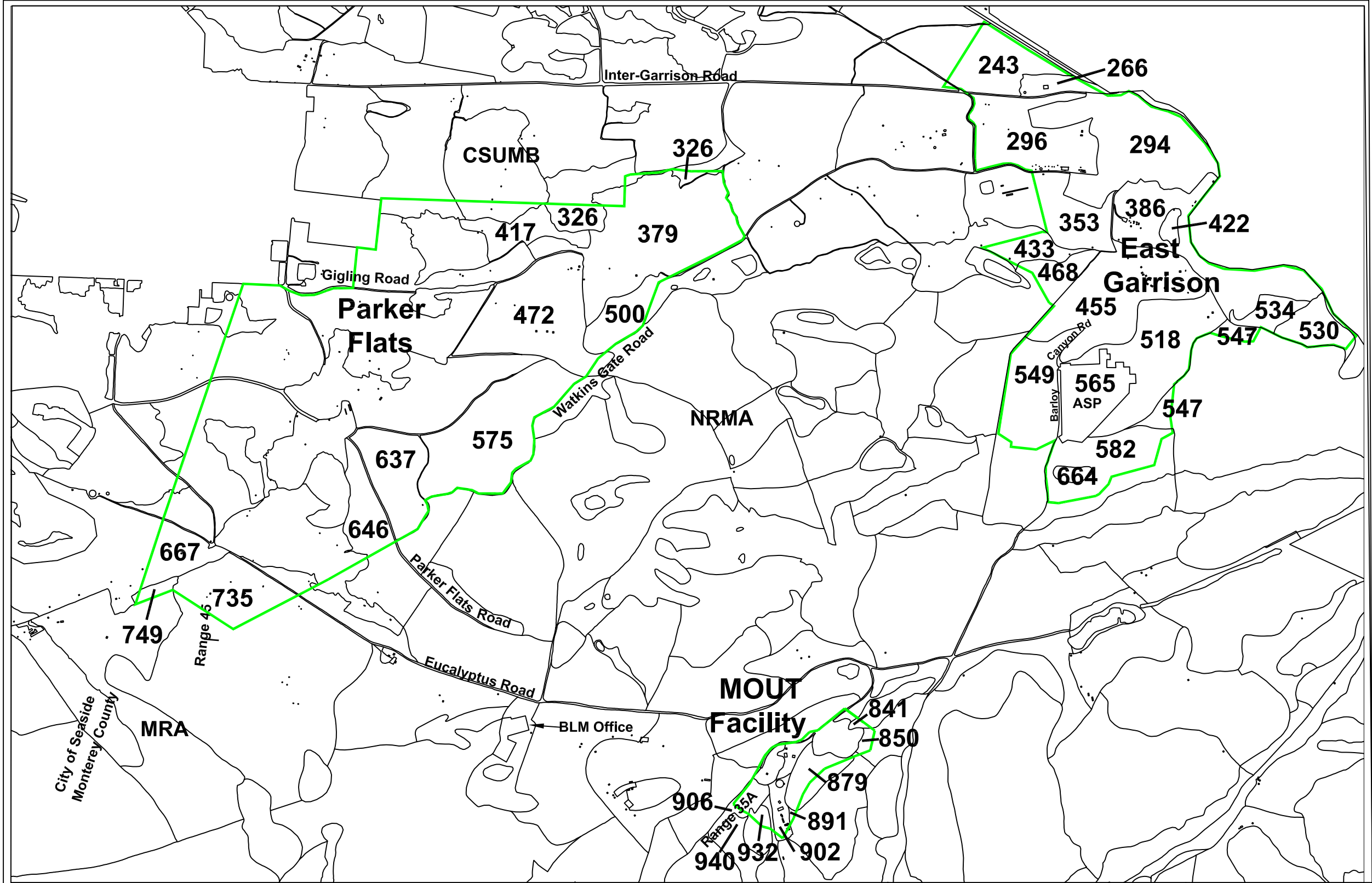
CASE 2
Effect of Clearing

East Garrison	JSA#	OW	MC	G		Density	ARMO	CHPUP	ARPU	ERFA	ARHOH	CERI	GITEA	CORIL		LEGEND
Develop	243	(29.4)						(1)								
	266	(1.1)														1= Low Density
	296			(11.3)												2= Medium Density
	353	(33.8)														3= High Density
	386	(37.1)														
	422		(4.7)				(1)									
	433			(3.2)				(1)	(1)							
	455	(78.9)					(1)									
	468	(9.6)					(1)									
	518		(0.9)				(2)			(2)		(2)				
TOTAL ACRES		(189.9)	(5.6)	(14.5)		1=	(93.2)	(32.6)	(3.2)							
TOTAL		(210.0)				2=	(0.9)			(0.9)		(0.9)				
Parker Flats	JSA#	OW	MC	G			ARMO	CHPUP	ARPU	ERFA	ARHOH	CERI	GITEA	CORIL		
Range 45	735		(16.1)					(2)	(3)	(1)		(3)		(1)		
	735		3.6					2	3	1		3		1		
	735		8.9					1	1	1		1		1		
	735		1.5					2	3	1		3		1		
	735		2.1					1	1	1		1		1		
	749		1.0					1	3	1		3				
	749		4.2					1	1	1		1				
Reserve	637		46.1					1	1		1	1				
	646		1.6			1	1	1		1	1	2	1			
	575		100.7			1	1		1	1	1	1				
	500		26.1			1					1					
	326			17.9				3								
	379	132.6														
	472	40.8						1								
	417	6.6						3								
Oak oval	472	31.5						1								
	519	38.0						1								
TOTAL ACRES		249.5	179.7	17.9		1=	128.4	274.9	162.0	107.5	174.5	162.0	1.6	0.0		
						2=		(11.0)				1.6				
TOTAL		447.1				3=		24.5	(10.0)			(10.0)				
MOUT	JSA#	OW	MC	G			ARMO	CHPUP	ARPU	ERFA	ARHOH	CERI	GITEA	CORIL		
Reserve	850		2.6					3	1			2				
	841	1.2				1										
	879	7.0					2				1					
	932		2.6				2					3	1			
	891		(1.1)								(3)	(2)				
	902			(0.6)												
Range 35	906	(1.5)					(1)				(2)					
	940		(0.6)					(3)	(1)	(2)	(1)		(3)	(1)		
TOTAL ACRES		6.7	3.5	(0.6)		1=	(0.3)	2.0			6.4	2.6	(0.6)			
TOTAL		9.6				2=	9.6			(0.6)	(1.5)	1.5				
						3=	2.0				1.5	(0.6)				
Summary	Acres	OW	MC	G			ARMO	CHPUP	ARPU	ERFA	ARHOH	CERI	GITEA	CORIL		
TOTAL ACRES	246.7	66.3	177.6	2.8		1=	34.9	244.3	158.8	107.5	180.9	164.6	1.0	0.0		
						2=	8.7	(11.0)		(1.5)	(1.5)	2.2				
	246.7					3=	2.0	24.5	(10.0)	0.0	1.5	(10.6)				

East Garrison/Parker Flats/MOUT
Gain/Loss of Habitats and
Sensitive Plant Species
East Garrison Alternative 1
Effect of Clearing at Parker Flats
Removal of all Species in Polygons 575, 637, 735, 749
May, 2002

CASE 3
Effect of Clearing

East Garrison JSA#	OW	MC	G	Density	ARMO	CHPUP	ARPU	ERFA	ARHOH	CERI	GITEA	CORIL	LEGEND
Develop	243	(29.4)				(1)							
	266	(1.1)											1= Low Density
	296		(11.3)										2= Medium Density
	353	(33.8)											3= High Density
	386	(37.1)											
	422	(4.7)			(1)								
	433		(3.2)			(1)	(1)						
	455	(78.9)			(1)								
	468	(9.6)			(1)								
	518	(0.9)			(2)			(2)		(2)			
TOTAL ACRES	(189.9)	(5.6)	(14.5)	1=	(93.2)	(32.6)	(3.2)						
TOTAL	(210.0)			2=	(0.9)			(0.9)		(0.9)			
PF JSA#	OW	MC	G		ARMO	CHPUP	ARPU	ERFA	ARHOH	CERI	GITEA	CORIL	
Range 45	735	(16.1)				(2)	(3)	(1)		(3)		(1)	
	735	3.6				2	3	1		3		1	
	735	8.9											
	735	1.5				2	3	1		3		1	
	735	2.1											
	749	1.0				1	3	1		3			
	749	4.2											
Reserve	637	46.1											
	646	1.6			1	1		1	1	2	1		
	575	100.7											
	500	26.1			1				1				
	326		17.9			3							
	379	132.6											
	472	40.8				1							
	417	6.6				3							
Oak oval	472	31.5				1							
	519	38.0				1							
TOTAL ACRES	249.5	179.7	17.9	1=	27.7	112.9		(8.4)	27.7		1.6	(11.0)	
				2=		(11.0)				1.6			
TOTAL	447.1			3=		24.5	(10.0)			(10.0)			
MOUT JSA#	OW	MC	G		ARMO	CHPUP	ARPU	ERFA	ARHOH	CERI	GITEA	CORIL	
Reserve	850	2.6				3	1			2			
	841	1.2			1								
	879	7.0			2				1				
	932	2.6			2					3	1		
	891	(1.1)							(3)	(2)			
	902		(0.6)										
Range 35	906	(1.5)			(1)				(2)				
	940	(0.6)			(3)	(1)		(2)	(1)	(3)	(1)		
TOTAL ACRES	6.7	3.5	(0.6)	1=	(0.3)	2.0			6.4	2.6	(0.6)		
TOTAL	9.6			2=	9.6			(0.6)	(1.5)	1.5			
				3=	2.0				1.5	(0.6)			
Summary Acres	OW	MC	G		ARMO	CHPUP	ARPU	ERFA	ARHOH	CERI	GITEA	CORIL	
246.7	66.3	177.6	2.8	1=	(65.8)	82.3	(3.2)	(8.4)	34.1	2.6	1.0	(11.0)	
				2=	8.7	(11.0)		(1.5)	(1.5)	2.2			
246.7				3=	2.0	24.5	(10.0)		1.5	(10.6)			



Scale: 1" = Approx. 2000'

Zander Associates
Environmental Consultants
150 Ford Way, Suite 101
Novato, CA 94945
(415) 897-8781

Jones & Stokes Polygon Locations at
East Garrison, Parker Flats and MOUT Facility

Figure
B-1

Attachment D, p. 1001 of 1882

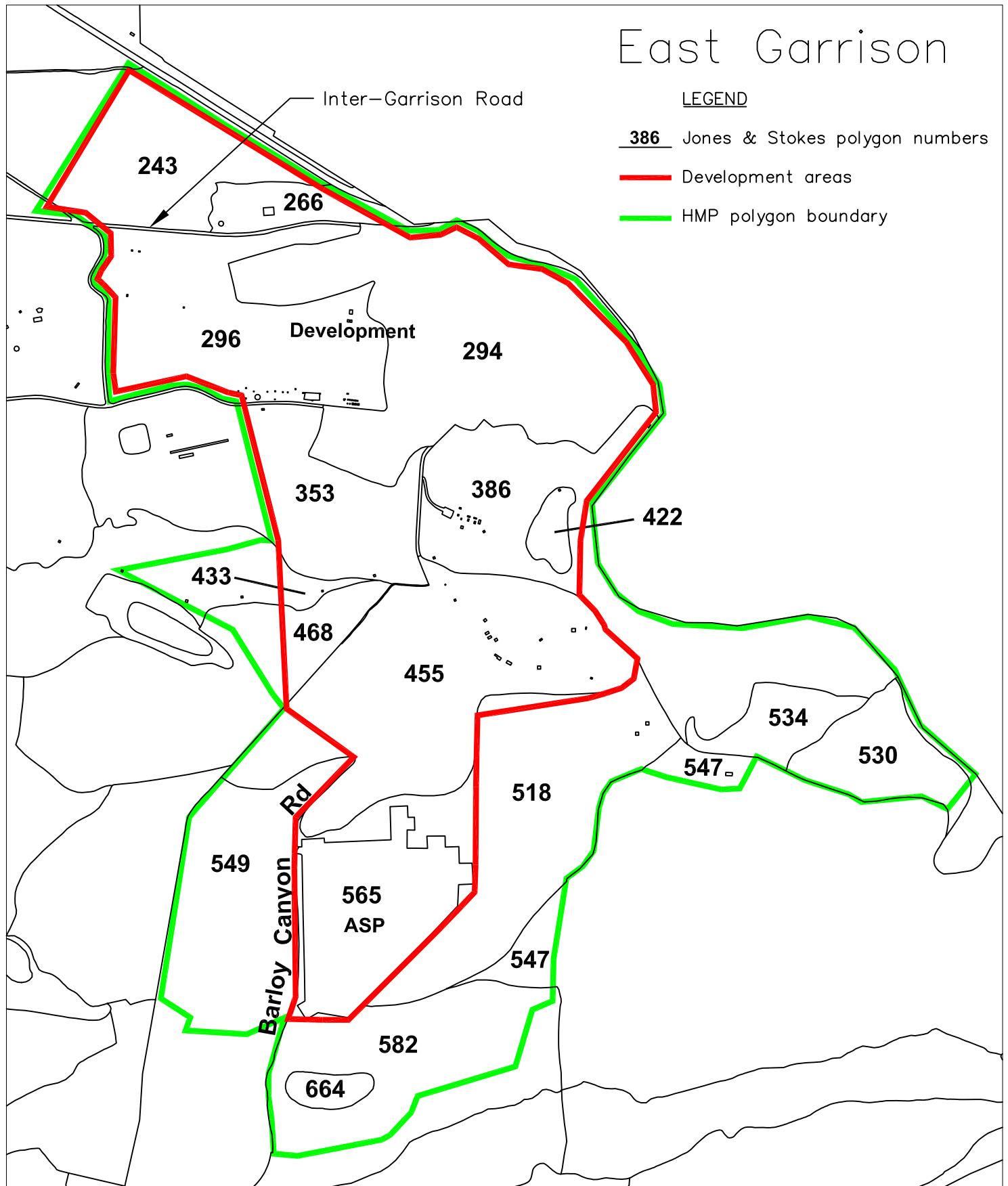
East Garrison

LEGEND

386 Jones & Stokes polygon numbers

— Development areas

— HMP polygon boundary



Scale: 1" =
Approx. 1100'

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Environmental Consultants
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Novato, CA 94945
(415) 897-8781

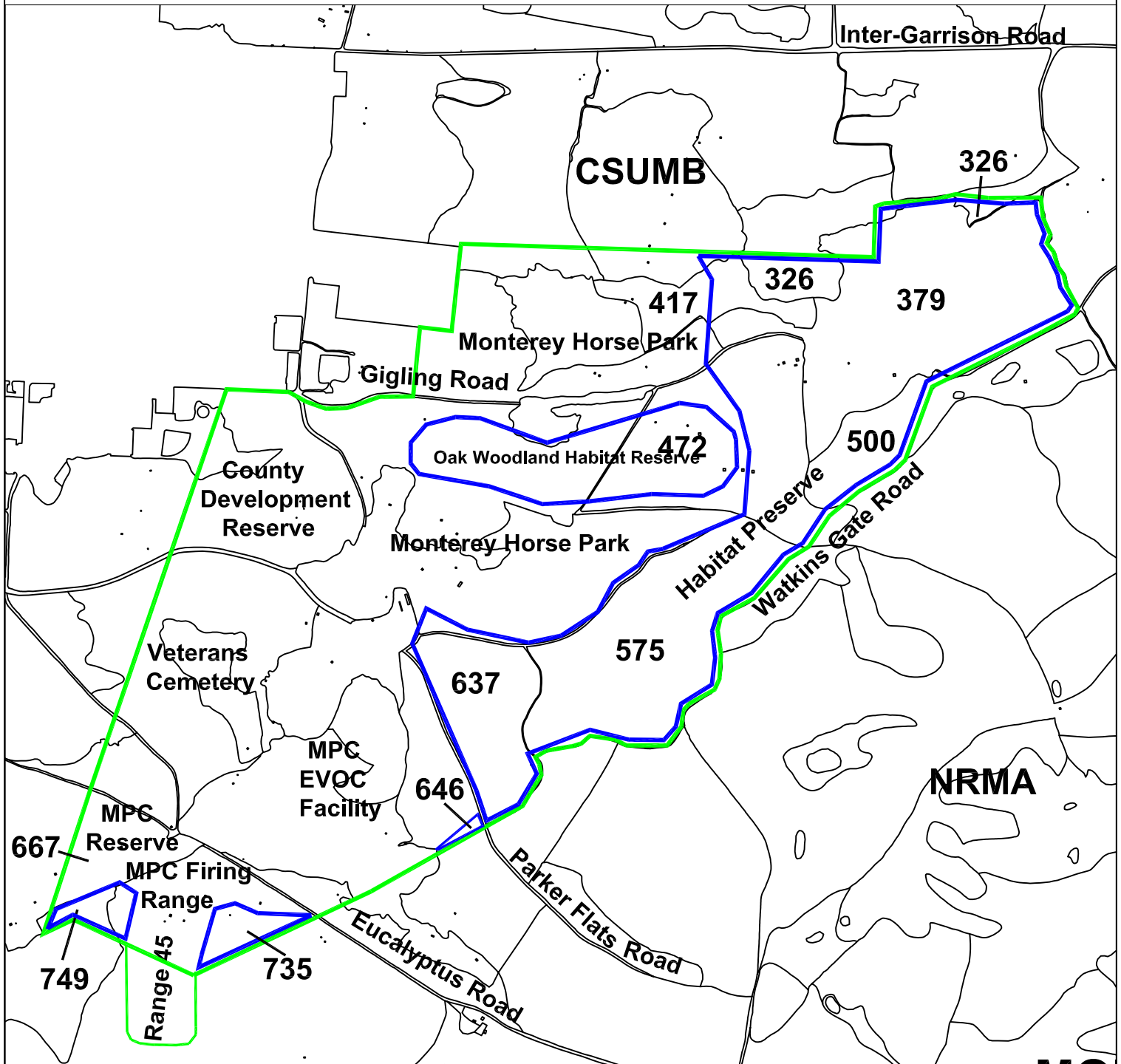
Proposed Development and
Jones & Stokes Polygon Locations
at East Garrison
Attachment D, p. 1002 of 1882

Figure
B-2

Parker Flats

LEGEND

- 637 Jones & Stokes polygon numbers
- Habitat Preserve areas
- Planning area boundary



Scale: 1" =
Approx. 1600'

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Environmental Consultants
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Novato, CA 94945
(415) 897-8781

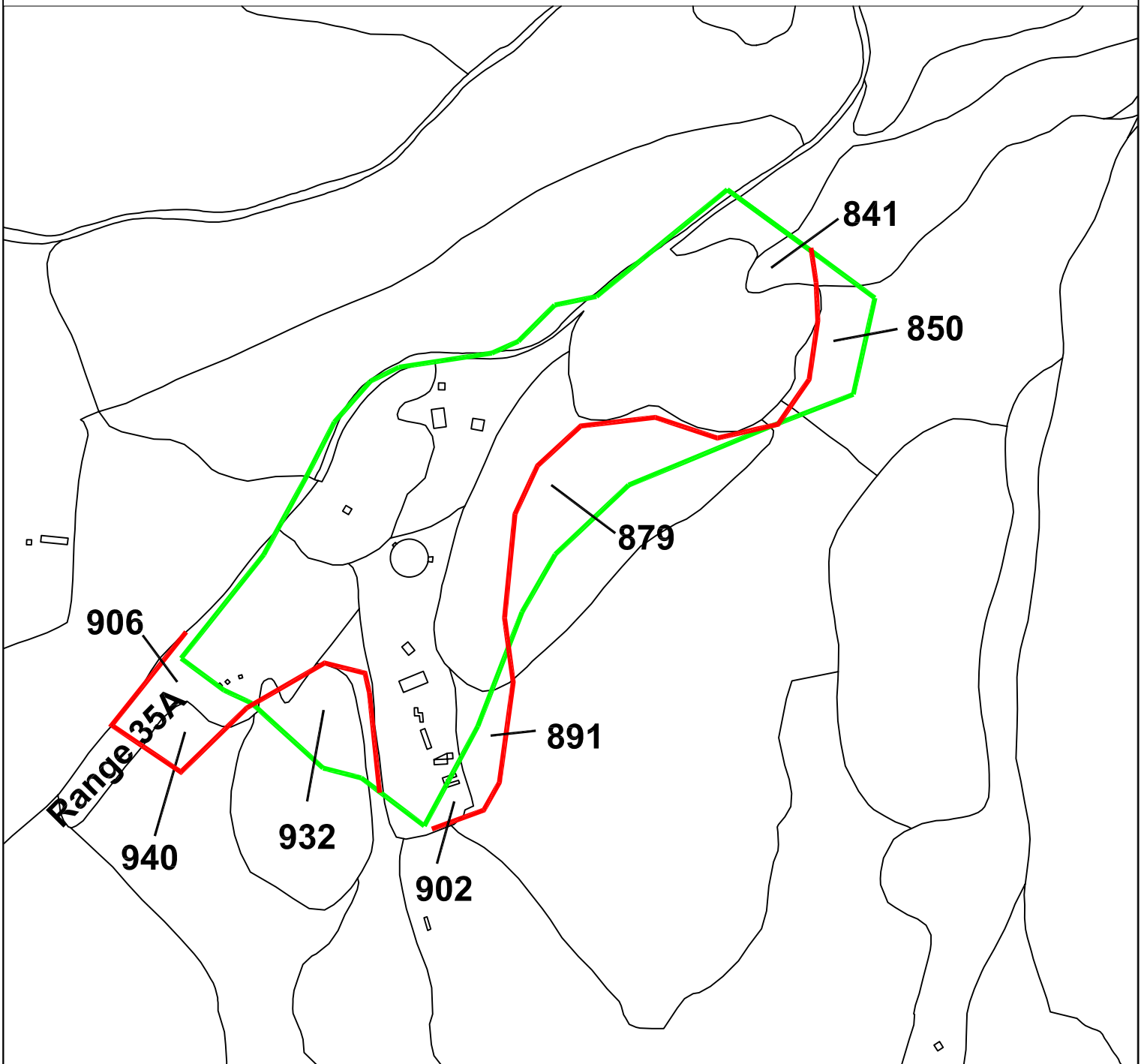
Jones & Stokes Polygon
and Habitat Preserve Locations
at Parker Flats

Figure
B-3

MOUT Facility

LEGEND

- 841** Jones & Stokes polygon numbers
- HMP polygon boundary
- Proposed boundary adjustment



Scale: 1" =
Approx. 600'

Zander Associates
Environmental Consultants
150 Ford Way, Suite 101
Novato, CA 94945
(415) 897-8781

Proposed Boundary Adjustments and
Jones & Stokes Polygon Locations
at MOUT Facility

Figure
B-4

Attachment D, p. 1004 of 1882

APPENDIX C
CONDITIONS

CONDITIONS

Based on this assessment and on initial coordination among resource agencies and other interested parties including staff of the U.S. Fish and Wildlife Service, U.S. Army, Bureau of Land Management, California Department of Fish and Game, Monterey Peninsula College, Fort Ord Reuse Authority and County of Monterey, the following conditions will provide the necessary assurances to the Service that the proposed modifications will not compromise the overall goals of the Fort Ord Habitat Management Plan or result in a net loss of HMP Species or habitat. The assessment presented in this report, along with signed agreement to these conditions and concurrence from the Service, shall be the basis for modifications to the April 1997 HMP and the Habitat Conservation Plan and Implementing Agreement currently in preparation through the Coordinated Resource Management Planning program at Fort Ord.

General

1. The County of Monterey shall sign the April 1997 HMP.
2. FORA, the County, BLM and MPC shall agree, through a Memorandum of Understanding or equivalent binding agreement, to the land use modifications at East Garrison, Parker Flats and the MOUT facility as described in this report.
3. FORA and the County shall revise the cost and funding estimates for habitat management, to include the additional costs associated with prescribed burning and monitoring in the new habitat areas at Parker Flats, in accordance with changed habitat management responsibilities resulting from the proposed modifications described in this report. Funds previously allocated for habitat management shall not be reallocated to accommodate new prescribed burning requirements.

East Garrison

1. Final development siting and boundary adjustments at East Garrison shall be coordinated with the Service, BLM and the CDFG based on a maximum development footprint, exclusive of existing roads, of 451 acres, approximating the limits of development illustrated on Figure 4 in this report. Borders between habitat areas and development areas shall be established to allow fire breaks, fire management access and adequate habitat setbacks, all of which shall occur within the developable footprint.
2. FORA and the County shall make all reasonable efforts to realign the HMP-designated *Future Road Corridor* (Figures 1, 3 and 8 of this report) linking Reservation Road with East Garrison to avoid isolating habitat reserve lands. If such realignment is not possible, the resulting isolated habitat reserve land acreage will be designated for development and developable land of comparable value and size, contiguous with other reserve lands shall be redesignated as habitat reserve.
3. FORA and the County recognize the potential impacts to California tiger salamander and other HMP Species that could result from increased use of minor roads leading out of East

Garrison into habitat reserve areas. The disposition and use of these roads shall be addressed through the CRMP program, and appropriate habitat protection measures shall be incorporated into the HCP prepared through CRMP.

4. A low wall or other suitable barrier to migration of California tiger salamanders shall be constructed along the development/reserve boundary to the east of the vernal pool illustrated on Figure 3 of this report when development occurs in that area. Such a barrier is intended to discourage movement of California tiger salamanders into developed areas, thereby reducing the potential for harm to the species.

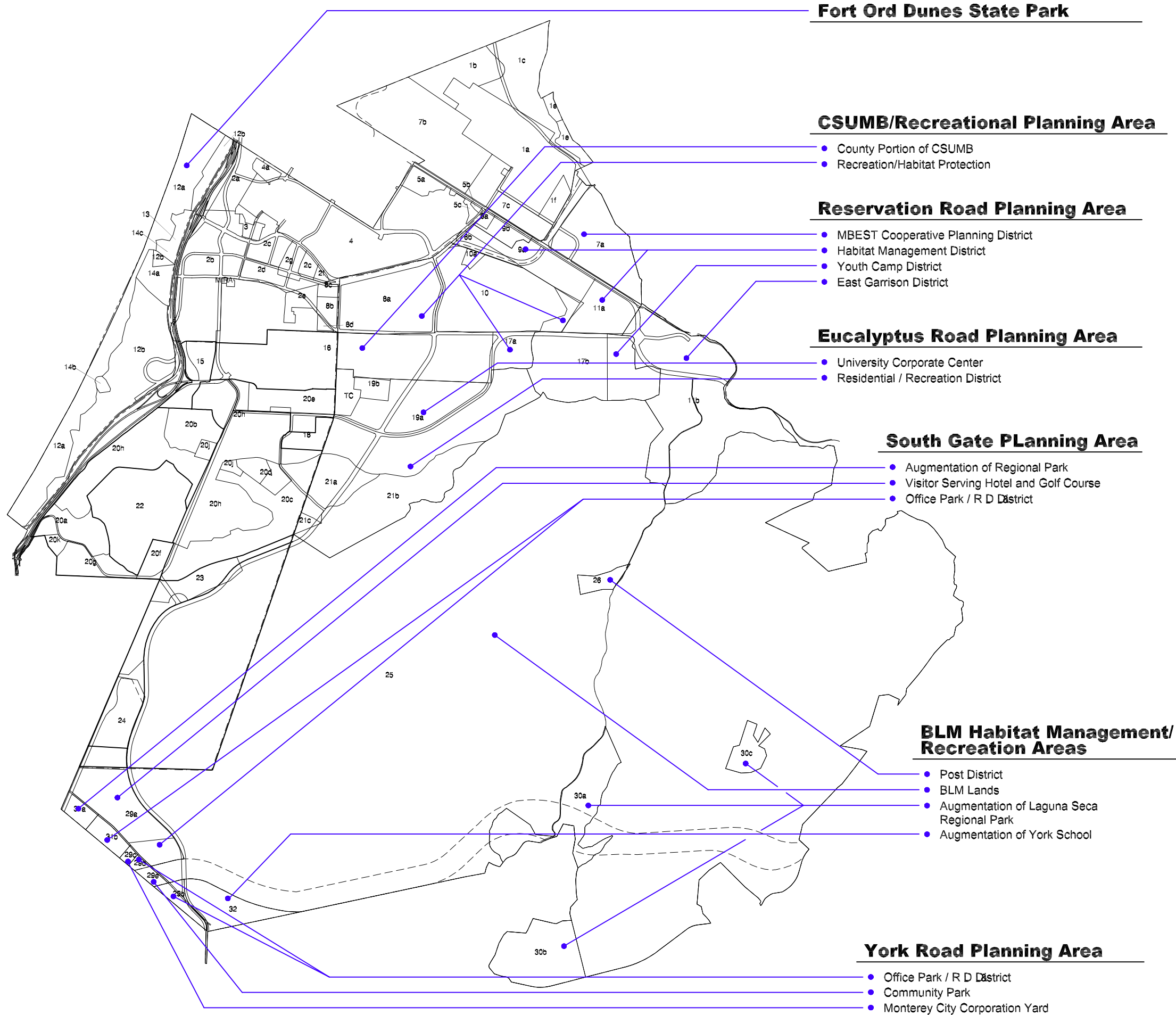
Parker Flats

1. Borderland requirements between the development and habitat reserve areas and suitable management entities for the new habitat reserve areas at Parker Flats shall be established in coordination with the Service, CDFG and BLM through the CRMP program.
2. BLM and MPC shall agree on an appropriate perimeter area around Range 45 that will provide for public safety and also allow for habitat protection and management. The party responsible for the management of this perimeter area shall also be identified.
3. The area proposed for use as the Monterey Horse Park, as illustrated on Figure 5 in this report, shall be designated as development with reserve area and restrictions with requirements to maintain an aggressive non-native plant species eradication program and preserve a 70-acre oak woodland habitat area approximating the boundaries of the Oak Woodland Habitat Reserve illustrated on Figure 5. An approximately 150-foot wide section of a proposed cross-country course shall be allowed through the eastern end of oak woodland reserve, or possibly through the oak woodlands and grasslands to the east of the Horse Park area, but shall be sited and designed to minimize vegetation removal and maintain wildlife movement corridors between habitat reserves. Any other trails and courses through habitat reserves shall use existing or realigned roads and trails. No buildings, grandstands, corrals, parking areas or other developments shall be allowed in designated habitat reserves. The siting and design of Horse Park trails and courses through habitat reserves shall be approved by the Service, CDFG and BLM through the CRMP program.
4. Habitat management requirements in the new habitat reserve areas shall be the same as those specified for the NRMA, except that there shall be no 2% development allowance in the new reserve areas. All parties recognize the need for the use of prescribed fire to restore habitat values in the mechanically cleared chaparral areas at Parker Flats shown on Figure 5 of this report.
5. The County and/or FORA shall submit an application for a prescribed burn in the mechanically cleared chaparral areas at Parker Flats within six months of the date determined by a designated burn specialist and the CRMP biological working group to be most beneficial for a burn (e.g. the site can carry a fire, smoke impacts would be minimized, species would still have restoration potential).

6. The County and/or FORA shall quantitatively characterize the condition of the HMP Species in the mechanically cleared areas by September 1, 2003 and prior to an actual burn of the area to adequately establish a pre-burn monitoring baseline to assist the CRMP in addressing success criteria and prescribed burn goals.
7. The County and/or FORA shall monitor the results of the prescribed burn in the mechanically cleared areas following procedures and a schedule established in coordination with a designated burn specialist and the CRMP biological working group. Success criteria established in coordination with the CRMP program shall be used to determine if habitat restoration goals are met through the prescribed burn.
8. If FORA and/or the County are unable to perform the prescribed burn or if restoration goals are not met following a burn, FORA and/or the County shall inform the Service, the Army, BLM, CDFG and others through the CRMP program that they shall either: 1.) Complete a series of habitat restoration projects on eroded, unused trails, roads or other degraded sites on other lands transferred or to be transferred as habitat reserve that support appropriate HMP Species; or 2.) Comply with existing resource conservation requirements of the executed HMP for East Garrison if development has not yet proceeded beyond the allowances of those requirements, effectively abandoning the proposed exchange of development acreage between Parker Flats and East Garrison, but retaining the modifications to Range 45 and the MOUT facility, including the establishment of new reserve lands adjacent to both areas as described in this report.

MOUT

1. BLM and MPC shall review the proposed boundary modifications at the MOUT facility described in this report and agree (through the MOU or equivalent binding agreement referenced above) that both habitat management and safe operation of the facility can be achieved with the proposed modifications.
2. BLM, MPC, FORA and the County shall agree on the ultimate disposition and management of the MOUT facility in accordance with the MOU or equivalent binding agreement referenced above.



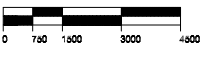
FORT ORD REUSE PLAN

Fort Ord Reuse Authority (FORA)

Land Planning	EDAW, Inc.
Market Analysis	EMC Planning Group, Inc.
Transportation Engineering	Sedway Kotin Mouchly Group
Civil Engineering	JHK and Associates
Fiscal Analysis	Reimer Associates
Habitat Planning	Angus McDonald Associates
Public Communications	Zander Associates
Community Development	The Ingram Group
	Resource Corps International

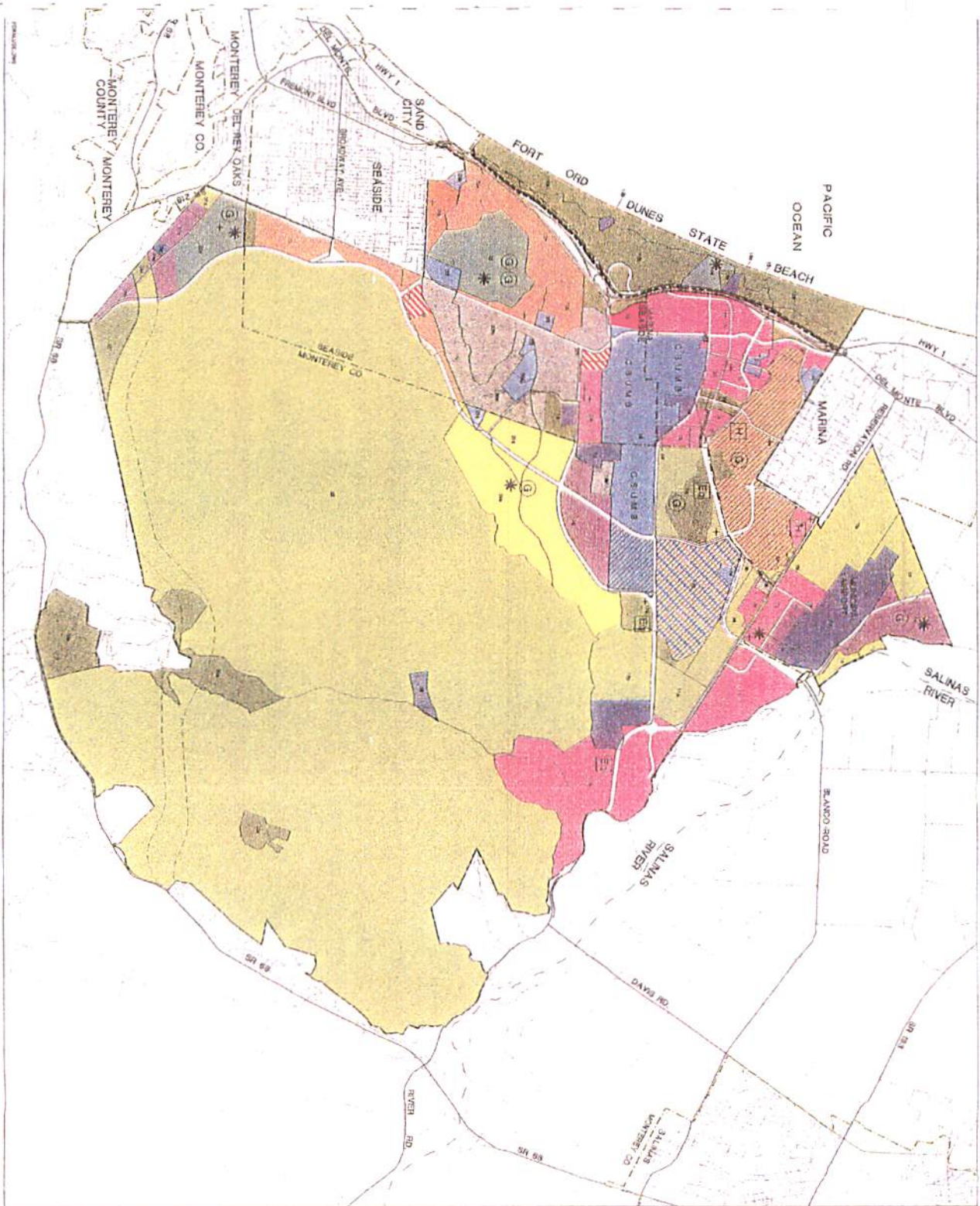
SHEET TITLE:

COUNTY PLANNING AREAS



SOURCE:
Jones & Stokes, 1995
Reimer Associates,
(Re-Projected), 1995
Monterey County, 1995
EDAW, Inc., 1996

FIGURE:
3.10-1



FORT ORD REUSE PLAN	
Fort Ord Reuse Authority (FORA)	
Land Planning	EDAW, Inc.
Market Analysis	EDAW Planning Group, Inc.
Transportation Engineering	Seaway Kohn Mouchy Group
Civil Engineering	J&K and Associates
Fiscal Analysis	Rimmer Associates
Health Planning	Angus MacDonald Associates
Public Communications	Zander Associates
Community Development	The Nigam Group
	Resource Corps International

LEGEND	
[Yellow Box]	9FD Low Density Residential
[Orange Box]	9FD Medium Density Residential
[Red Box]	9FD High Density Residential
[Pink Box]	Residential INF Opportunities
[Blue Box]	Planned Development Mixed Use District
[Green Box]	Business, Professional, Institutional
[Light Green Box]	Convenience Retail
[Dark Green Box]	Neighborhood Retail
[Red Box]	Regional Retail
[Grey Box]	Visitor Servicing
[Circle with G]	Golf Course Opportunity Site
[Star]	Hotel Opportunity Site
[Circle with E]	Equine Center Opportunity Site
[Green Box]	Open Space/Recreation
[Yellow Box]	Harbor Management
[Blue Box]	School/University
[Blue Box]	University Medium Density Residential
[Blue Box]	Alternative High School Sites
[Blue Box]	Public Facility/Recreational
[Blue Box]	Military Services

SHEET TITLE:	
DRAFT	
LAND USE CONCEPT:	
ULTIMATE DEVELOPMENT	
Scale: 1" = 1/2 Mile	North Arrow
DATE: Nov. 1994	Project: 3.3-1

Schedule of Real Property Inventory
SEASIDE

COE PARCEL	PARCEL NAME	ACREAGE	Army to FORA Deed Status or Date Recorded	FORA to Others (Status)	Transaction Worksheet No.
E15.1	ROW / retail	49.171	4-21-04, DACA05-9-02-587a	March 30, 2005	
E15.2	Open space	28.742	5-22-06, DCAC05-9-05-576	signed 12-13-06	
E18.1	Housing future	73.035			
E18.1.1	Veterans Cemetery- FOSET 5	99.950			
E18.1.1	Veterans Cemetery	100.0	ESCA		
E18.1.3	Housing future -FOSET 5	40.000			
E18.1.3	Housing future	40.0	ESCA		
E18.2.1	ROW / Gigling Road	4.130	2-16-06, DACA05-9-05-530	signed 12-13-06	
E18.3	ROW / Normandy - Parker Flats	6.226	2-16-06, DACA05-9-05-530	signed 12-13-06	
E18.4	Water Tank - FOSET 5	2.156	5-8-09, DACA05-9-07-507		
E18.4	Water Tank	2.2	ESCA		
E20b	Stillwell Housing	101.751	8-8-00, DACA05-9-00 -	Transferred, 8/8/2000	
E20c.1	Housing Future	70.690			
E20c.1.1.1	Housing future	82.870	7-10-09, DACA05-9-06-551	signed 7-28-09	
E20c.1.1.2	Housing future	105.569			
E20c.1.2	Cable TV area	0.270	2-16-06, DACA05-9-05-530	signed 12-13-06	
E20c.1.3	ROW / North South Road	10.389	7-10-09, DACA05-9-06-551	signed 7-28-09	
E20c.2	FOSET 5	33.197			
E20c.2	Housing Future	33.2	ESCA		
E20c.2.1	Housing future	25.361	5-22-06, DCAC05-9-05-576	signed 12-13-06	
E20c.2.2	Water Tanks / pumps	2.296	2-16-06, DACA05-9-05-530	signed 12-13-06	
E23.1	ROW / retail - FOSET 5	47.519	5-8-09, DACA05-9-07-507		
E23.1	ROW / retail	48.9	ESCA		
E23.2	ROW / Housing future Singe Family Dwelling medium - FOSET 5	75.545	5-8-09, DACA05-9-07-507		
E23.2	ROW / Housing future Singe Family Dwelling medium - FOSET 5	78.5	ESCA		
E24	ROW / Housing future Singe Family Dwelling medium - FOSET 5	198.212	5-8-09, DACA05-9-07-507		
E24	ROW / Housing future Singe Family Dwelling medium - FOSET 5	198.2	ESCA		
E34	ROW / Housing future Singe Family Dwelling medium - FOSET 5	97.073	5-8-09, DACA05-9-07-507		
E34	ROW / Housing future Singe Family Dwelling medium	97.1	ESCA		
E38	MPC - FOSET 5	17.70	5-8-09, DACA05-9-07-508		
E38	MPC Reserve	17.7	ESCA		
L19.2	Gym Shea / field / Surplus II	3.811	4-21-04, DACA05-9-02-587a	March 30, 2005	
L19.3	Multisport fields / Surplus II	1.230	4-21-04, DACA05-9-02-587a	March 30, 2005	
L19.4	Building 4418, 4450 / field / Surplus II	7.359	4-21-04, DACA05-9-02-587a	March 30, 2005	
L31	Development / mixed use / Surplus II	11.652	5-22-06, DCAC05-9-05-576	signed 12-13-06	
L32.4.1.1	Development mixed use / retail / Surplus II	37.354	12-15-04, DACA05-9-02-599	March 30, 2005	
L32.4.1.2	Development mixed use / retail / Surplus II	16.161	10-17-02, DACA05-9-605	March 30, 2005	
L37	Youth Hostel		8-17-08, DACA05-9-08-528		
L7.8	Building 4550 / Surplus II	0.318	12-15-04, DACA05-9-02-599	March 30, 2005	
L7.9	Building 4560 / Surplus II	0.295	12-15-04, DACA05-9-02-599	March 30, 2005	
S1.3.2	CSUMB - FOSET 5	332.840	5-8-09, DACA05-9-07-507		
S3.2.1	Park Visitor Centre	11.28			

**Schedule of Real Property Inventory
COUNTY**

COE PARCEL	PARCEL NAME	ACREAGE	Army to FORA Deed Status or Date Recorded	FORA to Others (Status)	Transaction Worksheet No.
E11a	Habitat management	154 638	6-13-06 DACA05-9-05-575	signed 8-24-06	
E11a.1	Inter-garrison road connector	7 300	10-18-06 DACA05-9-05-529	signed 11-27-06	
E11b.1	Development / mixed use ac limit	24 543	5-19-06 DACA05-9-02-593	signed 8-24-06	
E11b.2	Development / mixed use-ac limit	41 565	5-19-06 DACA05-9-02-593	signed 8-24-06	
E11b.3	sewer treatment facility / development mix	6 159	5-19-06 DACA05-9-02-593	signed 8-24-06	
E11b.4	Water Tank 147	0 109	5-19-06 DACA05-9-02-593	signed 8-24-06	
E11b.6.1	habitat reserve - FOSET 5	47 820			
E11b.6.1	Habitat Reserve	47.8	ESCA		
E11b.6.2	Development / mixed use-ac limit	129 308	6-13-06 DACA05-9-05-575	signed 8-24-06	
E11b.6.3	Habitat Reserve	8 380	7-10-09 DACA05-9-06-549	signed 10-12-09	
E11b.7.1.1					
E11b.7.1.1	Habitat Reserve	129.9	ESCA		
E11b.7.1.2			7-10-09 DACA05-9-06-549	signed 10-12-09	
E11b.7.2			7-10-09 DACA05-9-06-549	signed 10-12-09	
E11b.8	Development / mixed use ASP- FOSET 5	58 834			200.48
E11b.8	Development / mixed use ASP	67.7	ESCA		
E18.1.2	Veterans Cemetery - FOSET 5	77 960			
E18.1.2	Veterans Cemetery	78.0	ESCA		
E18.2.2	ROW / Gigling Road	0 070	10-18-06 DACA05-9-05-529	signed 11-27-06	
E19.5	MPC - FOSET 5	226 560	5-8-09 DACA05-9-07-506		
E19a.1	Housing Single Family Dwelling low density - FOSET 5	265 796			
E19a.1	County Development	71.4	ESCA		
E19a.2	Housing Single Family Dwelling low density - FOSET 5	218 441			
E19a.2	Habitat Reserve	72.5	ESCA		
E19a.3	Housing Single Family Dwelling low density - FOSET 5	209 323			
E19a.3	Horse Park	302.6	ESCA		
E19a.4	FOSET 5				
E19a.4	Habitat Reserve / County	372.3	ESCA		
E19a.5	MPC EVOC	226.6	ESCA		
E21a	Housing Single Family Dwelling low density	138 810			
E21b.1	Housing Single Family Dwelling low density	156 655			

**Schedule of Real Property Inventory
COUNTY**

COE PARCEL	PARCEL NAME	ACREAGE	Army to FORA Deed Status or Date Recorded	FORA to Others (Status)	Transaction Worksheet No.
E21b.2	Housing Single Family Dwelling low density	134.154			
E21b.3	MPC - FOSET 5	31.553	5-8-09 DACA05-9-07-508		
E21b.3	Housing Single Family Dwelling low density	58.599			
E21b.3	Housing Single Family Dwelling low density	31.6	ESCA		
E2e.2	ROW / Intergarrison Road	0.155	5-19-06 DACA05-9-02-593	signed 8-28-06	
E39	MPC - FOSET 5	161.74	5-8-09 DACA05-9-07-508		
E39	MPC Reserve	161.7	ESCA		
E4.6.2		16.440	6-13-06 DACA05-9-05-575	signed 8-24-06	
E4.7.2	Imjin Parkway - FOSET 5	3.99	5-8-09 DACA05-9-09-505		
E40	MPC - FOSET 5	25.32	5-8-09 DACA05-9-07-508		
E40	Range Extension	25.3	ESCA		
E41	MPC - FOSET 5	9.14	5-8-09 DACA05-9-07-508		
E41	MPC Habitat Reserve Wing	9.1	ESCA		
E42	MPC - FOSET 5	12.79	5-8-09 DACA05-9-07-508		
E42	MPC Habitat Reserve Wing	12.8	ESCA		
E8a.1.1	Landfill	228.796			
E8a.1.1.2	Landfill Shoe	85.303	6-13-06 DACA05-9-05-575	signed 5-18-07	
E8a.1.2	Landfill	21.420	5-19-06 DACA05-9-02-593	signed 8-24-06	
E8a.1.3	Landfill	2.585	5-19-06 DACA05-9-02-593	signed 8-24-06	
E8a.1.4	Landfill	30.322	5-19-06 DACA05-9-02-593	signed 5-18-07	
E8a.1.5	Landfill	20.920	5-19-06 DACA05-9-02-593	signed 5-18-07	
E8a.2	Landfill carrot	3.800			
F1.7.2	MPC - FOSET 5	51.25	5-8-09 DACA05-9-07-508		
F1.7.2	BLM Parcel H / MOUT	51.3	ESCA		
F7.1	Well 30 B	1.488	2001-10-26 00.00.00		
L2.2.2	Park and Ride 1	4.540	7-10-09 DACA05-9-06-556	signed 10-12-09	
L2.3	MST	24.22			
L2.4.1	MST	2.807			
L20.10.1.1	ROW / Reservation Road	16.977	5-19-06 DACA05-9-02-593	signed 8-28-06	
L20.10.1.2	ROW / Reservation Road	9.215	5-19-06 DACA05-9-02-593	signed 8-24-06	
L20.10.2	ROW / Reservation Road - north	5.211	5-19-06 DACA05-9-02-593	signed 8-24-06	
L20.10.3	ROW / Reservation Road - north	2.217	5-19-06 DACA05-9-02-593	signed 8-28-06	
L20.11.1	ROW / Blanco Road	31.193	2000-08-08 00.00.00		
L20.11.2	ROW / Blanco Road	7.673	2000-08-08 00.00.00		
L20.14.1.1	ROW / Intergarrison Road	8.423	6-13-06 DACA05-9-05-575	signed 7-24-06	

**Schedule of Real Property Inventory
COUNTY**

COE PARCEL	PARCEL NAME	ACREAGE	Army to FORA Deed Status or Date Recorded	FORA to Others (Status)	Transaction Worksheet No.
L20.14.1.2	ROW / Intergarrison Road	7.760	5-19-06 DACA05-9-02-593	signed 8-24-06	
L20.14.2	ROW / mid Intergarrison Road	3.227	6-13-06 DACA05-9-05-575	signed 7-24-06	
L20.15	Balloon Spur	20.047	6-13-06 DACA05-9-05-575	signed 12-13-06	
L20.16.1	Railroad Spur Intermodal warehouses	3.860			
L20.16.2	Railroad Spur Intermodal Transportation	10.550			
L20.16.3	Railroad Spur Intermodal Transportation 8th Street	0.140			
L20.17.1	Maintenance Center Building 4900	8.060			
L20.17.2	Maintenance Center Park	8.260			
L20.18	ROW / Eucalyptus Road - FOSET 5	7.238			
L20.18	ROW / Eucalyptus Road	7.2	ESCA		
L20.19.1	ROW / Barloy Canyon Road	10.243			
L20.19.1.1	FOSET 5				
L20.19.1.1	ROW / Barloy Canyon Road	6.4	ESCA		
L20.19.1.2	ROW/Barloy Canyon Road	3.260	7-10-09 DACA05-9-06-549	signed 10-12-09	
L20.19.2	ROW/Barloy Canyon Road	0.550	5-19-06 DACA05-9-02-593	signed 8-24-06	
L20.2.1	Travel Camp - FOSET 5	252.530			
L20.2.1	Travel Camp	252.7	ESCA		
L20.2.2	Travel Camp	115.770	7-10-09 DACA05-9-06-549	signed 10-12-09	
L20.2.3.1	Travel Camp	29.130	7-10-09 DACA05-9-06-549	signed 10-12-09	
L20.20	ROW / West Camp Road	2.251	5-19-06 DACA05-9-02-593	signed 8-24-06	
L20.21.1	ROW / Watkins Gate Road	2.577	5-19-06 DACA05-9-02-593	signed 8-24-06	
L20.21.2	ROW / Watkins Gate Road	1.838	5-19-06 DACA05-9-02-593	signed 8-24-06	
L20.22	ROW / Chapel Hill Road	2.409	5-19-06 DACA05-9-02-593	signed 8-24-06	
L20.3.1	Wolf Hill - FOSET 5	43.630			
L20.3.1	Wolf Hill	43.6	ESCA		
L20.3.2	ROW / Wolf Hill - FOSET 5	35.500			
L20.3.2	ROW / Wolf Hill	35.5	ESCA		
L20.5.1	Lookout Ridge - FOSET 5	131.360			
L20.5.1	Lookout Ridge	131.4	ESCA		
L20.5.2	ROW / Lookout Ridge - FOSET 5	54.530			
L20.5.2	ROW / Lookout Ridge	54.5	ESCA		
L20.5.3	Lookout Ridge - FOSET 5	9.690			
L20.5.3	Lookout Ridge	9.7	ESCA		

**Schedule of Real Property Inventory
COUNTY**

COE PARCEL	PARCEL NAME	ACREAGE	Army to FORA Deed Status or Date Recorded	FORA to Others (Status)	Transaction Worksheet No.
L20.5.4	South Boundary Park - part / part Turn 11 - FOSET 5	0.510			
L20.5.4	South Boundary Park - part / part Turn 11	0.5	ESCA		
L20.6	Laguna Seca Park	247.190	6-13-06, DACA05-9-05-575	signed 7-24-06	1522.634
L20.7.1	South Boundary Road - east	3.320	10-18-06, DACA05-9-05-529	signed 11-27-06	
L20.7.2	South Boundary Road - east	7.200	10-18-06, DACA05-9-05-529	signed 11-27-06	
L20.7.3	South Boundary Road - east	0.700	10-18-06, DACA05-9-05-529	signed 11-27-06	
L20.7.4	South Boundary Road - east	1.230	10-18-06, DACA05-9-05-529	signed 11-27-06	
L20.7.5	South Boundary Road - east	4.300	10-18-06, DACA05-9-05-529	signed 11-27-06	
L20.8	Barloy Canyon Road - south - FOSET 5	7.250			
L20.8	Barloy Canyon Road - south	7.3	ESCA		
L20.9	ROW / Reservation Road - south	18.923	5-19-06, DACA05-9-02-593	signed 8-28-06	
L23.2	MPC - FOSET 5	10.59	5-8-09, DACA05-9-07-506		
L23.2	Habitat / field study area	10.6	ESCA		
L23.3.1	Development / mixed use-ac limit	54.420	5-19-06, DACA05-9-02-593	signed 8-24-06	
L23.3.2.1	Development / mixed use-ac limit / historic district	85.349	5-19-06, DACA05-9-02-593	signed 8-24-06	
L23.3.2.2	Development / mixed use-ac limit	17.727	7-10-09, DACA05-9-06-549	signed 10-12-09	
L23.3.3	Development / mixed use-ac limit	36.449			
L23.3.3.1	Development / Mixed Use ac-limit	57.630	7-10-09, DACA05-9-06-549	signed 10-12-09	
L23.3.3.2	Development / Mixed Use ac-limit	31.620	7-10-09, DACA05-9-06-549	signed 10-12-09	
L3.2	York School	101.000	3-2-11, DACA05-9-06-558	FORA to County 4-18-11	
L32.1	Public facilities / institute / Surplus II - FOSET 5	2.966			
L32.1	Public facilities / institute / Surplus II	2.9	ESCA		
L32.4.2	ROW / development / mixed use / Surplus II	4.419	5-19-06, DACA05-9-02-593	signed 8-28-06	
L35.3	Travel Camp Pump	0.105	3-15-04, DACA05-9-02-596	signed 8-24-06	
L35.4	Travel Camp Tank	1.094	7-10-09, DACA05-9-06-554	signed 10-12-09	
L35.5	Water Tank F	0.917	12-8-05, DACA05-09-05-351	FORA signed Feb 2006	
L35.6	Skeet Field Tank	0.128	3-15-04, DACA05-9-02-596	signed 8-24-06	
L35.7	Lift Station # 96	0.098	3-15-04, DACA05-9-02-596	signed 8-24-06	
L35.8	Lift Station # 31	0.137	3-15-04, DACA05-9-02-596	signed 8-24-06	
L5.7	FOSET 5	73.436			
L5.7	Park - future	73.4	ESCA		
S1.3.2	Expansion Area 3B	332.8	ESCA		

Schedule of Real Property Inventory
COUNTY

COE PARCEL	PARCEL NAME	ACREAGE	Army to FORA Deed Status or Date Recorded	FORA to Others (Status)	Transaction Worksheet No.
S1.3.3	ROW / Intergarrison Road - part	9.265			
S4.1.4	Railroad Union Pacific / Hwy 1	0.41			

Unknown

From: Richard James [james@emcplanning.com]

Sent: Wednesday, May 02, 2012 3:18 PM

To: Jonathan Garcia

Cc: Darren McBain

Subject: Mapping data

Jonathan -

Thanks for the useful information on housing. Please send the additional information (commercial data, 1997 jobs report, and water allocations) as soon as you can as we need to have draft maps ready for internal review on Monday. I'm looking through the consistency determinations summary and will let you know if I need further information relating to any of them.

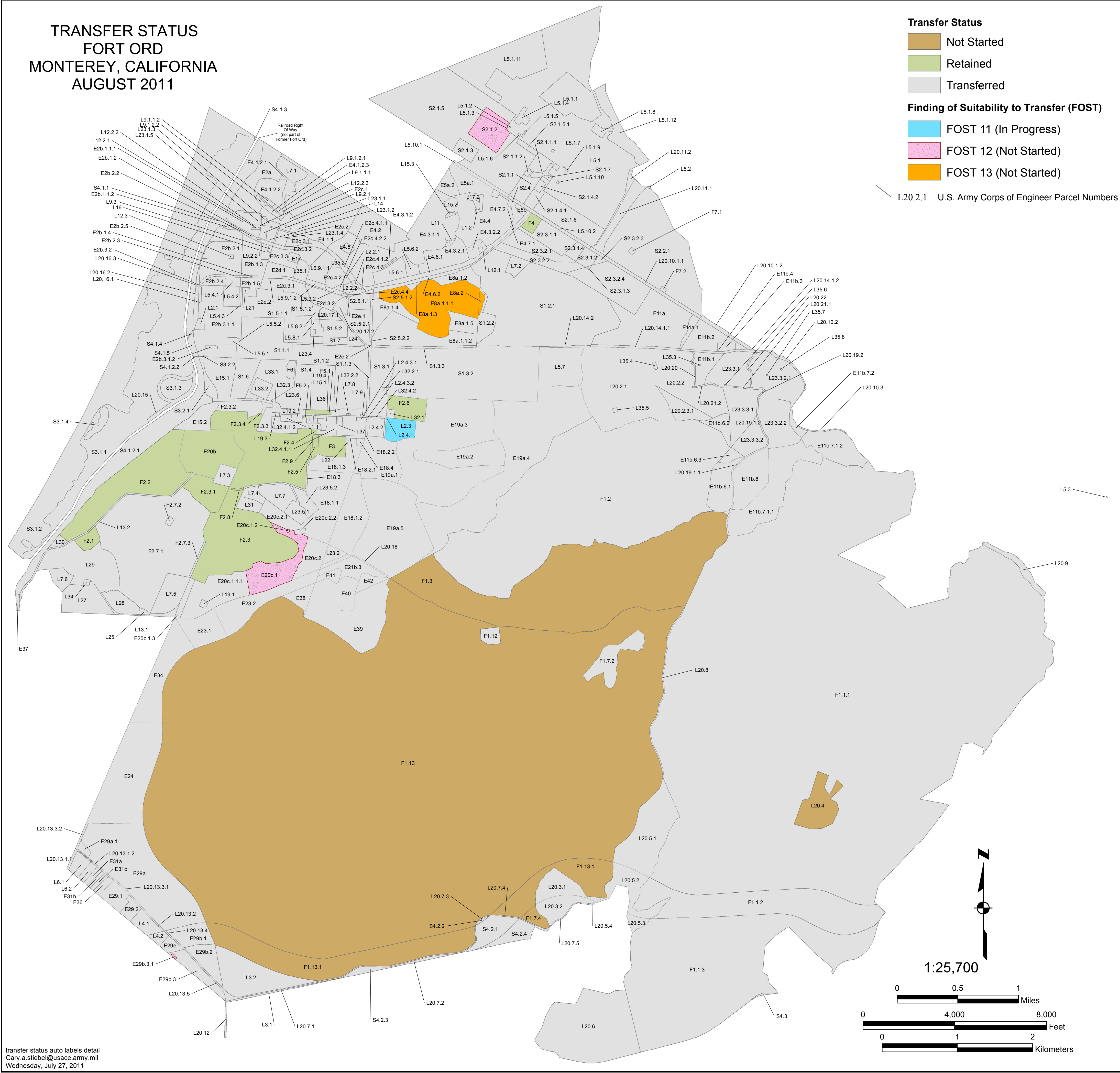
Richard

Richard James, AICP
Principal Planner
EMC Planning Group Inc.
301 Lighthouse Avenue, Suite C
Monterey, CA 93940

Phone: 831 649-1799 ext 206
FAX: 831 649-8399
EMC Cell 831 521-2323 (please try office phone first)

www.emcplanning.com

TRANSFER STATUS
FORT ORD
MONTEREY, CALIFORNIA
AUGUST 2011



Transfer Status

- Not Started
- Retained
- Transferred

Finding of Suitability to Transfer (FOST)

- FOST 11 (In Progress)
- FOST 12 (Not Started)
- FOST 13 (Not Started)

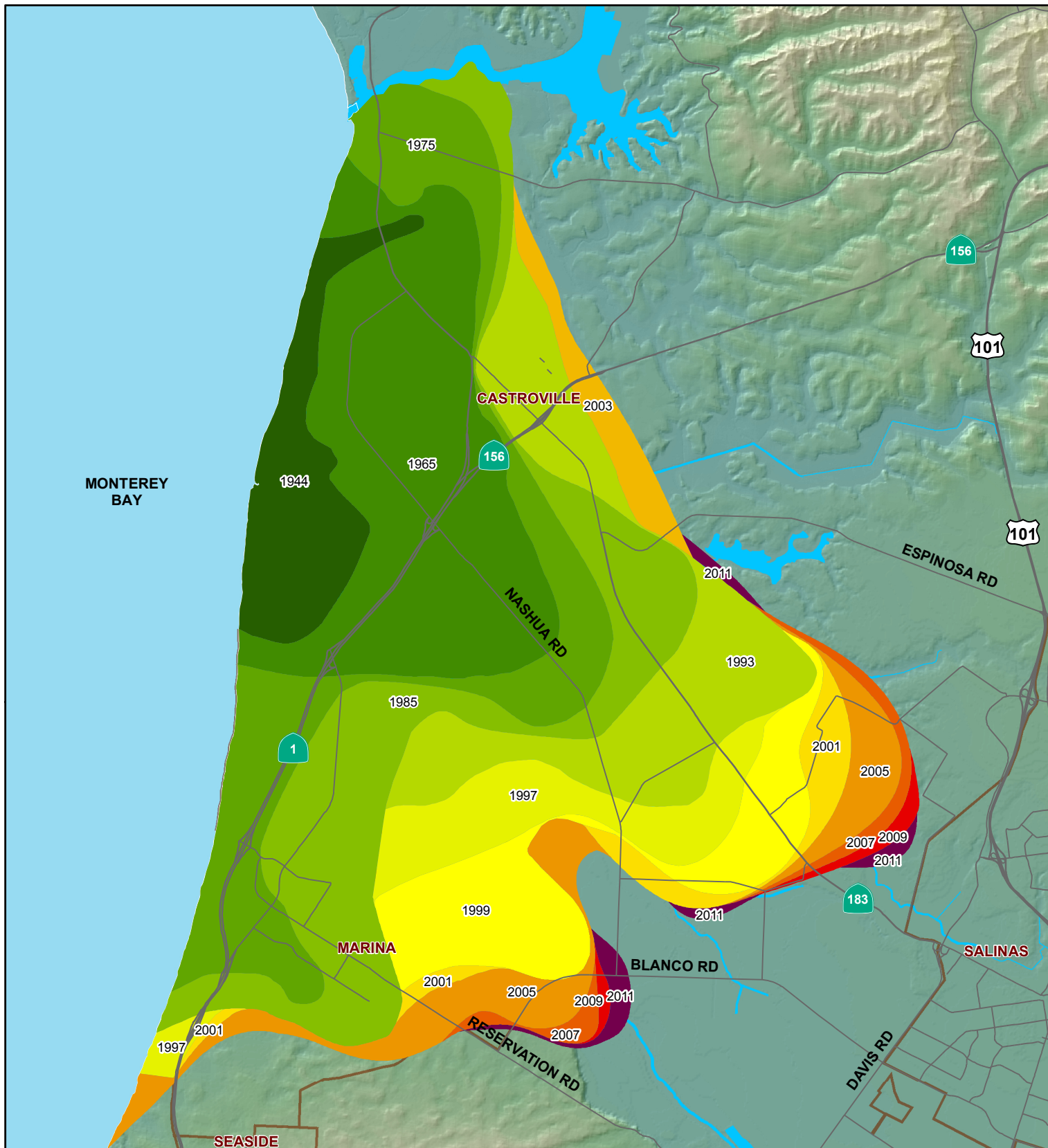
L20.2.1 U.S. Army Corps of Engineer Parcel Numbers

1:25,700

0 0.5 1 Miles

0 4,000 8,000 Feet

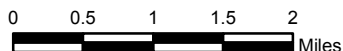
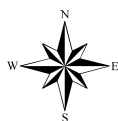
0 1 2 Kilometers



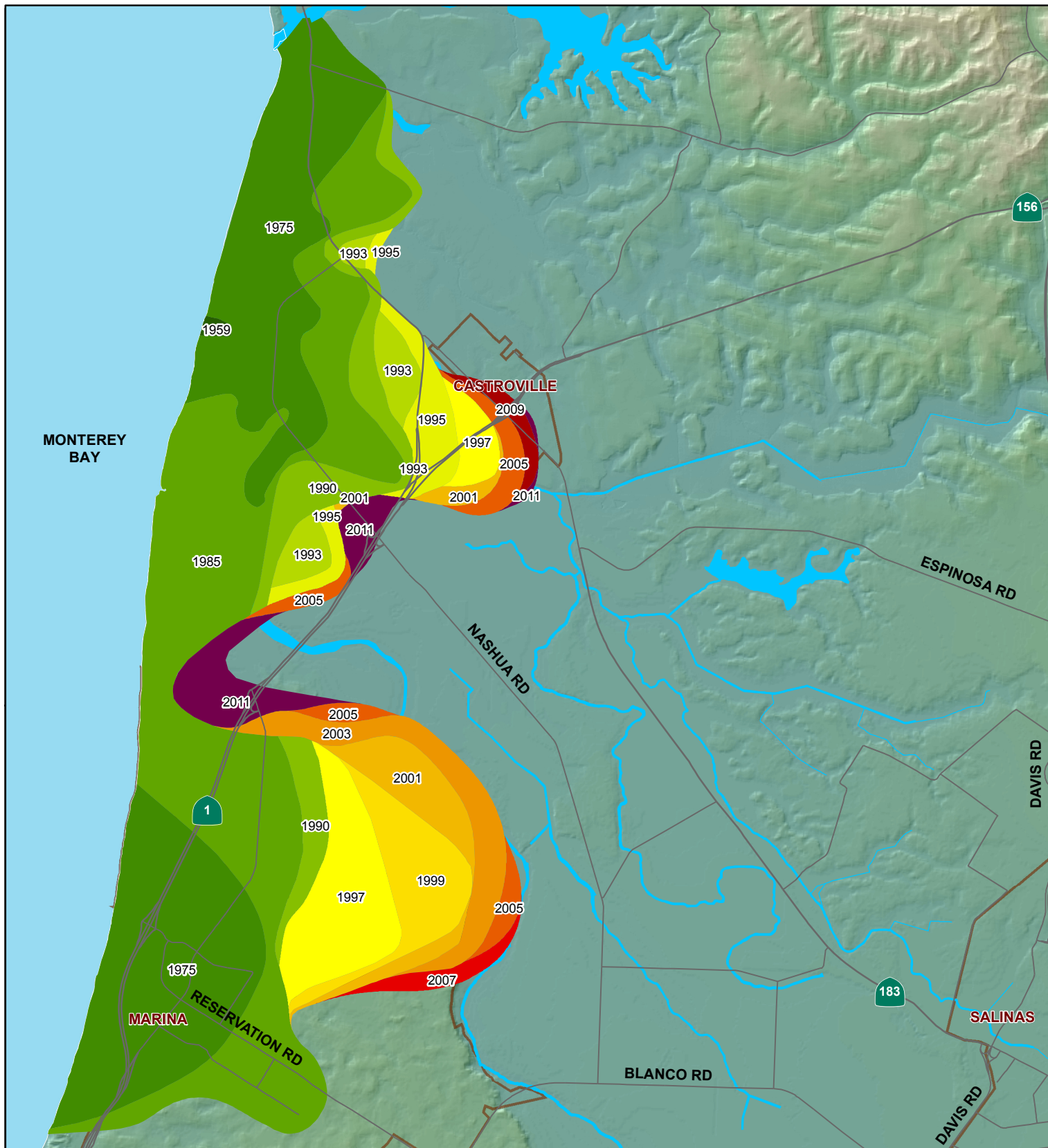
Legend

Seawater Intruded Areas By Year

1944	1997	2007
1965	1999	2009
1975	2001	2011
1985	2003	
1993	2005	
		Cities



Note: The scale and configuration of all information shown hereon are approximate and are not intended as a guide for survey or design work. Contour lines are drawn from best available data.



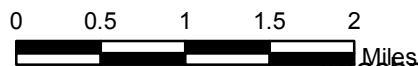
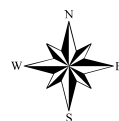
Historic Seawater Intrusion Map

Pressure 400-Foot Aquifer - 500 mg/L Chloride Areas

Legend

Seawater Intruded Areas By Year

1959	1995	2005
1975	1997	2007
1985	1999	2009
1990	2001	2011
1993	2003	Cities

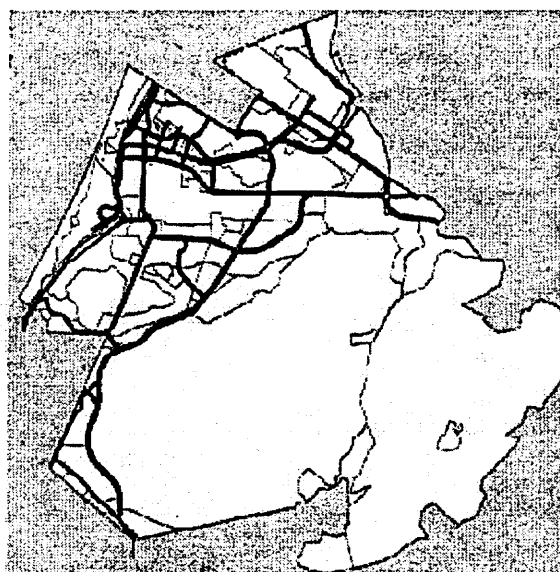


Note: The scale and configuration of all information shown hereon are approximate and are not intended as a guide for survey or design work. Contours lines are drawn from best available data.

Map Date: August 7, 2012

FORT ORD REUSE PLAN

Fort Ord Reuse Authority



March 1997

FINAL
**PROGRAM ENVIRONMENTAL
IMPACT REPORT**

VOLUME II - RESPONSE TO COMMENTS

EMC Planning Group, Inc.

Table of Contents

VOLUME 1

1.0	Introduction to Volume 1	1
1.1	Background and Purpose of the Final Program EIR	1
1.1.1	Introduction	1
1.1.2	Background to the Project	2
1.1.3	Background and Purpose of the Final Program EIR.....	2
1.1.4	Indexing the Army Documents.....	3
1.1.5	Baseline Determination	3
1.1.6	Intended Uses of the Program-Level Final EIR	3
1.2	Organization of the Final PEIR	5
1.2.1	Volume I	5
	Assumptions Used To Create the Chronological List of Comments	5
	How to Find a Particular Comment Letter	6
1.2.2	Volume II	7
	How to Find a Particular Response to Comment	7

Appendices

Appendix A	List of Commenters in Numerical Order
Appendix B	List of Commenters in Alphabetical Order

VOLUME 2

1.0	Introduction to Volume II	1
1.1	Organization of the Final EIR.....	1
1.1.1	Volume I	1
	How to Find a Particular Comment Letter	1
1.1.2	Volume II	1
	How to Find a Particular Response to Comment	2
2.0	Responses to Comments	3

3.0	References.....	433
3.1	Bibliography	433
3.2	Persons Contacted	434
3.3	Report Preparers	434

Appendices

Appendix C.....	Table of Comments
Appendix D	Assessment of Planning Baseline and Market Data Fort Ord Base Reuse Plan
Appendix E	Fort Ord Regional Transportation Study
Appendix F	The Land Use - Air Quality Linkage

1.0 Introduction to Volume II

1.1 Organization of the Final Program EIR

1.1.1 Volume I

The Final Program Environmental Impact Report (Final PEIR) consists of the following documents: Fort Ord Reuse Plan Final Program EIR (Volume I and Volume II) and the Draft Program EIR (incorporated herein by reference) and the comments.

Volume I of the Fort Ord Reuse Plan Final Program EIR contains the written comments received on the draft program Fort Ord Reuse Plan and EIR, written and oral comments submitted at public hearings held by the Fort Ord Reuse Authority (FORA) and member agencies. Volume II of the Fort Ord Reuse Plan Final Program EIR contains the responses to the comments.

The comments received have been arranged in chronological order by the date of transmittal referenced on the letter or by the date of the public hearing the comment was made. This organizational approach reflects the FORA's desire to treat each comment received in an equal manner. The response to comments contained in Volume II also reflects this order. An index listing the comments received in chronological and alphabetical order is also included in Volume 1 to assist the reader in making it easier to find a comment (Appendix A and B, respectively).

How to Find a Particular Comment Letter

To make a search for a particular comment located in Volume I easier for the reader, an alphabetized index of all comments is included in Appendix B of Volume I. This index is organized alphabetically based on the names of organizations, agencies and individuals who submitted oral or written comments. To find where in Volume I a particular comment is located, look up the comment number assigned to the commenter from the alphabetical list in Appendix B of Volume I and then look for this number in Volume I.

1.1.2 Volume II

Volume II contains the response to comments and changes to the Reuse Plan and the EIR, as well as new policy considerations for the FORA Board to consider. The policy considerations may or may not be decided by the FORA Board prior to adoption of the Reuse Plan. Volume II also contains the following appendices: Table of Comments; Assessment of Planning Baseline and Market Data Fort Ord Base Reuse Plan; Fort Ord Regional Transportation Study; and the Land Use - Air Quality Linkage.

How to Find a Particular Response to Comment

To make a search for a particular response to comment in Volume II easier the reader should obtain the comment number from the alphabetized index (contained in Appendix B of Volume I) and then refer to the response corresponding to the comment in Volume II.

2.0 Response to Comments

CEQA Guidelines section 15200 indicates that the purposes of the public review process include sharing expertise, disclosing agency analyses, checking for accuracy, detecting omissions, discovering public concerns, and soliciting counter proposals.

CEQA Guidelines section 15132(b) requires that the final environmental impact report contain a list of persons, organizations, and public agencies who have commented on the draft environmental impact report. These comments are located in Volume I of the Final PEIR. In addition, CEQA Guidelines section 15132(d) requires that the final environmental impact report contain the response to comments. These are contained in Volume II of the Final PEIR. Where required, revisions have been made to the text of the Draft EIR based on the responses to comments, which are contained in Volume II (CEQA Guidelines 15132(a). Any revisions are located immediately following the response. Deletions to the EIR text are shown with ~~strike-through~~ type. Additions to the EIR text are shown with underlined type. Changes to the Reuse Plan as a result of public and agency comments received are similarly made.

Because there are approximately 2,000 comments, a Table of Comments has been constructed to expedite review of the Final Program EIR document. Accompanying this volume is Appendix C which contains the "Table of Comments". The Table of Comments contains three columns of information. The first column represents the comment number. The second column indicates the gist of the comment. The third column represents the comment "subject". The Table of Comments is organized alphabetical by "subject" so the reader will have quick access to all comments of a similar nature. For the benefit of the reader, some comments are assigned multiple subjects (e.g., TRANSPORTATION / CEQA) to imply that there is more than one important issue conveyed by the commenter.

Objectivity

This Final Program EIR is a factual, objective public disclosure document that takes no position on the merits of the project, but instead provides information on which decisions about the project can be based. Thus, the findings of this EIR do not advocate a position "for" or "against" development. The EIR has been prepared according to the professional standards and practices of the EIR participant's individual disciplines and in conformance with the legal requirements and informational expectations of CEQA and its implementing guidelines. The preparers of this EIR are independent professionals under contract to the Fort Ord Reuse Authority.

Response to Letter 1

1-1. The commenter questions whether the description of the “vision” for Fort Ord described in Chapter 1 of the Context and Framework gives the impression that the CSUMB campus will be a focal point from which all other development will spread. The commenter refers to descriptions of the CSUMB campus as the “Town Center” with Fort Ord emerging as a “separate city” that does not fit in “seamlessly” into the existing community structure.

The CSUMB campus has been identified as one of several major existing assets and public commitments that underlie the “community-building strategies” in the plan. These are explicitly listed on page 3-151 and include: “1) provide a community that supports the emerging CSUMB campus; 2) build on the activity that is emerging at the new Marina Municipal Airport; 3) support the inherent opportunities at the UCMBEST Center to attract new technology-driven and research-based employers; 4) fully integrate the communities with the former Fort Ord with the regional recreation and open space resources managed by the State Parks and BLM; 5) take advantage of the proximity to State Highway 1 to create a gateway to the former Fort Ord; 6) utilize the two existing golf courses in Seaside; 7) integrate the existing housing stock into the surrounding communities; and 8) build on the continuing commitments by the DOD represented by the Defense Facility Accounting System (DFAS), and POM Annex and other elements of the military enclave.” The commenter has identified a central role for the CSUMB campus implicit throughout the plan but certainly not an exclusive role for the CSUMB campus. The vision described in the Plan Framework is built on the potential role of several educational institutions (principle 1), the landscape setting (principle 2), mixed-use villages (principle 3), neighborhoods (principle 4), and sustainability (principle 5).

Planning Areas and Districts are established in the Reuse Plan to facilitate the management of various spatial components of the plan. The “Town Center Planning Area” is a designated planning area within the City of Marina that is adjacent to the CSUMB Planning Area and includes the Del Monte Mixed Use District, the University Office Park/R & D District, the Marina Village District, and the Mixed Use Corporate Center District. The CSUMB campus is not within Marina’s Town Center Planning Area.

There are many aspects of the Reuse Plan that contribute to eliminating the historic boundaries of the military reservation and the adjacent Cities of Marina and Seaside. These strategies will promote the “seamless integration” of the reuse of Fort Ord into the surrounding communities. The strategies include: 1) interconnecting roadways such as California Street in Marina or Broadway in Seaside; 2) orienting residential neighborhoods such as the Seaside “Planned Residential Extension Districts” to the adjacent neighborhoods west of North-South Road; and 3) providing an integrated and continuous bicycle and trail network that connects the

open space resources of the former base with the existing surrounding neighborhoods.

1-2. The commenter questions whether the CSUMB campus will create a level of economic activity approximating that of the military departing the area since the students are only around for approximately 9 months (or 180 academic days).

The Campus enterprise is much larger than just the student population. The CSUMB campus will employ 3,000 when fully developed, with an estimated annual budget of approximately \$200 million (Vol. 1, Page 2-6). The campus includes a substantial housing resource for (1,253 existing units) for faculty, staff and upper-division and graduate students. It is anticipated that this housing could be occupied year-round. In addition, the campus plans to incorporate housing on the central campus area for students and has identified a goal of achieving a very high percentage of students living on the campus.

The estimate of average off-campus expenditure of \$1,000 annually per student (Volume I, Page 2-32) refers only to "convenience goods and entertainment" and does not reflect the total contribution of the local economy of the campus population.

1-3. The commenter would prefer to see the ethnicity breakdown for all cities on the peninsula rather than for just Marina, Seaside and Sand City.

The purpose of the socio-economic setting in the Framework Plan is to paint a broad brush picture of several characteristics and refers to background documents that can provide the information the commenter is looking for.

1-4 and 1-5. The commenter asks for clarification of whether the AMBAG population forecasts include student, POM Annex, and the rehabilitation of existing residential neighborhoods on the base.

The reader is referred to the revised language under changes to the Reuse Plan section below.

Changes to the Reuse Plan

Volume I, Context and Framework, Section 2.2.4 Demographic Forecasts.

Page 2-15: Amend the first full paragraph to read as follows:

Table 2.2-3 reflects AMBAG's forecasts for population growth in Monterey County ~~and does not include CSUMB students.~~

Page 2-15 to 2-16: Amend the last sentence in the last paragraph to read as follows:

During this period, an average of nearly 3,300 persons are expected to be added annually to the Peninsula's population. Approximately 84% of this growth is anticipated to be accommodated in Marina and Seaside, reflecting the redevelopment and reuse of the former Fort Ord property, including the student, faculty and staff forecasts for the new CSUMB campus at Fort Ord.

1-6. The commenter states that page 2-6 of the Reuse Plan is incorrect as it pertains to soldiers spending in the local community. See Response to comment 1-2.

1-7. The commenter asks where the "Town Center" is envisioned to be.

The "Marina Town Center" is a descriptive term used in the Reuse Plan to refer to a particular Planning Area on the north side of the CSUMB Campus. Because of the size and development capacity of this planning area, and because of the mixed use development permitted in the plan, this planning area has the potential to become larger in extent and developed to a greater intensity than other "village centers" identified in the Reuse Plan. Hence the descriptive term, "Marina Town Center."

1-8. The commenter asks how many village centers are in the plan and would like to know if there is an artist's depiction.

The location of the mixed use villages is diagrammatically illustrated in Volume I, Page 3-5, next to the description of Principle 3.

1-9. The commenter asks whether compact, identifiable development patterns (consistent with Peninsula Prototypes) with definable edges, entries and structure is incompatible with the objective of linking the development seamlessly into the existing communities.

The vision for the Reuse Plan reflects the strong edges created by the Habitat Management Plan and topographic or improvement features that have given rise to the planning area structure used to define and manage the development process. Design Principle 2 illustrates how gateways and scenic corridors can both identify different components of development at Fort Ord as well as provide those links that promote a seamless integration with the existing communities.

The Peninsula community prototypes that are characterized by mixed use development and reflect village-scale life are described in the discussion of urbanism of the Monterey Peninsula (Vol. 1, Pages 3-28 to 3-31).

1-10. The commenter asks for clarification on how the Highway 1 Scenic Corridor is defined.

Design Principle 6 introduces the Highway 1 Scenic Corridor as one of several areas of "regional urban design significance". The Reuse Plan requires that FORA adopt design guidelines for the following areas: 1) Highway One Scenic Corridor, 2) the freeway entrances to the former Fort Ord area from Highway One (12th Street Gate and the Main Gate areas) and from the east, 3) areas bordering the publicly accessible habitat conservation areas, 4) Major through roadways such as Reservation Road and Blanco Road, and 5) Other areas to be determined by FORA. Standards are to be established for road design, setbacks, building height, landscaping, signs, and other matters of visual importance (Vol. 1, Page 3-8). The design guidelines will be developed prior to the start of new development at Fort Ord.

General Development Character and Design Objectives are provided for each Planning Area in the Reuse Plan Context and Framework beginning on Page 3-97.

Between the 12th Street Gate and the Main Gate, the Scenic Highway One Corridor is typically 100 feet wide measured from the CalTrans ROW. (Vol. 1, Page 3-110. Page 3-122). For the New Golf Course Community District in Seaside, the development character and design objectives are identified but no specific corridor dimension is provided. (Vol. 1, Page 3-126)

Reuse Plan Volume II, Reuse Plan Elements, provide specific programs to implement the regional design objectives. These programs are found in the Recreational/Open Space Land Use Objectives for each of the three jurisdictions. Note: the reference to 500 feet could not be found in the document, nor could the reference to Program D-13.

1-11. The commenter would like to have Bostrom Park to be specifically mentioned as one of the existing residential neighborhoods throughout the Reuse Plan.

The Reuse Plan provides for the redevelopment of the Bostrom Park area and includes Bostrom Park in the New Golf Course Community Planning District that surrounds the two existing golf courses in Seaside.

1-12. The commenter requests clarification regarding how the Reuse Plan identifies the development areas for the City of Del Rey Oaks.

The Reuse Plan identifies Planning Areas within the County that are consistent with the proposed annexations for Del Rey Oaks and the City of Monterey. The South Gate Planning Area corresponds to the Del Rey Oaks proposed annexation area. The York Road Planning Area corresponds to the City of Monterey proposed annexation area (Vol. 1, Figure 3.10-1, and Table 3.10-1).

1-13. The commenter would like additional information on "edge". Refer to response to comments 1-7 through 1-10.

- 1-14. The commenter states that the South Gate Planning Area should be identified as Del Rey Oaks. Refer to response to comment 1-12
- 1-15. The commenter states that the reference to “seamless” appears to contradict other references in the Reuse Plan regarding “discernible and urban edges”. Refer to response to comments 1-7, through 1-10.
- 1-16. The commenter would like a reference to housing stock relative to the Sun Bay Apartments and Bostrom Park. Refer to response to comment 1-11
- 1-17. The commenter refers to text in the Administrative draft that has been subsequently changed in the draft Reuse Plan (Vol. 2, Page 4-35).
- 1-18. The commenter refers to text in the Administrative draft that has been subsequently changed in the draft Reuse Plan (Vol. 2, Page 4-94).
- 1-19. The commenter provides additional descriptive material regarding existing bicycle access to the Pacific Coast Bikeway. No response necessary.

Response to Letter 2

- 2-1. The commenter requests changes in the Reuse Plan to reflect the requests for conveyances for lands to serve the Monterey Salinas Transit (MST) facilities and a change in the text description in the Plan to designate the proposed Intermodal Center.

The Reuse Plan Land Use Concept depicts the combined MST Operations and Maintenance Facility and adjacent Park and Ride Facility with a “Public Facility” designation based on a footprint that has been subsequently refined. As public benefit conveyances are completed, FORA’s maps may be refined again to reflect completed surveys.

The proposed Multimodal Corridor is diagrammatically indicated on Figure 3.5-2 in the Reuse Plan and includes a letter “P” to indicate the general locations for Park and Ride Facilities to illustrate the functional relationships of the transit corridor rather than a specific land parcel. Figure 3.5-2 also designates “potential transit stations” that, though not presently included in MST’s conveyance requests, represent diagrammatically opportunities to provide increased levels of service in the long run. Transit services are also described in section 4.2.3 of the Reuse Plan and the multimodal corridor is illustrated diagrammatically in Figure 4.2-5.

Changes to the Reuse Plan

Volume II. Page 4-111: Amend the following sentences to read:

Based on further evaluation from the land use plan, a ~~more specific~~
alternative site has been recommended for further consideration at 8th Street.

This site would effectively support the mixed-use area as well as recreational travel to Fort Ord Dunes State Park.

Though no changes to the Reuse Plan and EIR graphics or tables will be included with the Reuse Plan and Final PEIR documents, a compilation of the requests from commenters for changes to graphics will be provided to FORA. It will then be the responsibility of FORA to provide the changes requested at a future date.

Response to Letter 3

3-1. The commenter expresses concern that the Public Service Plan in Appendix B of the Reuse Plan may overstate the revenues to the City of Marina.

The Public Service Plan reflects the estimate of revenue to the City prepared by the public financing consultant that is based on response from each fiscal entity included in the Reuse Plan.

Response to Letter 4

4-1. The commenter has submitted the same comments in comment letter 1 above.

Response to Letter 5

5-1. The commenter addresses an issue pertaining to the 45-day public review period originally established by FORA, which commenced on June 1, 1996 and ended on July 15, 1996. Based on the number of comments received regarding the public review period FORA responded by extending the review period to October 11, 1996. The total public review period was 133 days.

During the public review period three public hearings on the EIR were held. These hearings occurred on July 1, August 22 and October 7, 1996. The FORA Board also held monthly meetings which were advertised in a local newspaper with wide distribution. These meetings were open to the public and were available as a public forum for discourse pertaining to the Reuse Plan and EIR. FORA member cities also held public hearings on the Reuse Plan and the EIR. No "workshops" were conducted by FORA or FORA member cities.

Response to Letter 6

6-1. The commenter states that the Reuse Plan and EIR graphics and text reference "Fort Ord Dunes State Beach". This is incorrect and should read "Fort Ord Dunes State Park".

Changes to the EIR

Though no changes to the Reuse Plan and EIR graphics or tables will be included with the Reuse Plan and Final PEIR documents, a compilation of the requests from commenters for changes to graphics or tables will be provided to FORA. It will then be the responsibility of FORA to provide the changes requested at a future date after the certification of the EIR.

Page 4-10: Amend the second sentence in the last paragraph to read as follows:

In the Fort Ord Dunes State Park Planning Area, the *Draft Fort Ord Reuse Plan* proposes a 59-acre multi-use area, a 23-acre future desalination plant and 803 919 acres reserved for park and open space.

Changes to the Reuse Plan

Volume I and 2. Replace all references to "Fort Ord Dunes State Beach" with "Fort Ord Dunes State Park".

6-2. The commenter states the EIR reference to the State Park being 1001 acres shall be amended to read 885 acres instead. The reader is referred to the revised language under the Reuse Plan sections below.

Changes to the Reuse Plan

Though no changes to the Reuse Plan and EIR graphics or tables will be included with the Reuse Plan and Final PEIR documents, a compilation of the requests from commenters of requests for changes to graphics or tables will be provided to FORA separately. It will then be the responsibility of FORA to provide the changes requested at a future date after the certification of the EIR.

As it pertains to the Reuse Plan text, the following changes are proposed:

Volume I. Page 3-37:

Amend the first sentence in the last paragraph on page 3-37 to read as follows: Approximately ~~1000~~ 885 acres of the coastal zone land unit are pending public conveyance to the State of California Department of Parks and Recreation...

Volume I. Page 3-42:

Amend the acreage for Fort Ord Dunes State Park in Monterey County from 977 acres to 850 acres and adjust the total acreages accordingly.

Volume I. Page 3-85:

Amend the title "Fort Ord Dunes State Beach" to "Fort Ord Dunes State Park".

Amend the second sentence in the last paragraph on page 3-85 to read as follows: Approximately 885 acres, including 48 acres of sandy beach, 305 acres of coastal dunes, and 532 acres of disturbed habitat, 1,000 acres of land, will be affected.

Volume I, Page 3-129, Section 3.10.1 Fort Ord Dunes State Park Planning Area, Projected Land Uses:

Amend Open Space Land use as follows: 919 803 acres are reserved for park and open space which will be managed for habitat restoration and limited visitor-serving activities.

Volume I, Table 3.10.1, Monterey County Land Development Intensity Summary Table:

Amend Fort Ord Dunes State Park and open space from 919 acres to 803 acres and adjust the total acreages accordingly.

6-3. The commenter requests that the lead agency responsible for future construction of a sewage treatment plant work with the Department of Parks and Recreation. The commenter does not address the content of the Reuse Plan or PEIR. No response is necessary.

6-4. The commenter suggests an alternative location for the multi-agency visitor center and requests that affected jurisdictions pertaining to the center will work cooperatively with the Department of Parks and Recreation. The commenter does not address the content of the Reuse Plan or PEIR. No response is necessary.

6-5. The commenter states that a coastal road on the west side of Highway 1 is not proposed in the State Park plan for the beach area. The Reuse Plan and EIR does not indicate there being a coastal road. Changes to the Reuse Plan and PEIR are not necessary.

Response to Letter 7

7-1. The commenter addresses annexation procedures. The reference to Del Rey Oaks and Monterey having future jurisdiction on Fort Ord lands is included

in the Reuse Plan (page 4-17; Figure 4.1-4) and the EIR (page 3-10). Further discussion of annexation procedures currently underway between the County and local jurisdictions in the Reuse Plan and EIR is not necessary. The issue of excluding these two jurisdictions in the Reuse Plan at the level of detail requested in this comment was a decision by the FORA staff based on input from the County of Monterey.

7-2. The commenter refers to page IV-18 that is claimed to have a dramatic impact on the role and financial future of FORA. The revision and correction to the Draft Business Plan are incorporated into this response to comments document.

Numerous changes have been made in text portion of the Comprehensive Business Plan to be consistent with the final runs of the financial performance model.

Changes to The Reuse Plan

Business and Operations Plan. Page II-7 (Exhibit 3): For purposes of clarification, the following notes have been added to Exhibit 3, explaining why some of the numbers in that exhibit, which was produced as a part of the original market analysis, do not precisely conform to the numbers in the later land use plan:

"At the time that the market study was conducted, it was assumed that 1,522 existing units could be reused; subsequently, the Army determined that some units require demolition due to environmental concerns, for a net total of 1,300 units."

"The above figures reflect the conclusions of the SKMG market study. In the development of a land use plan, the real estate development projected to be captured from this demand potential differs slightly to take advantage of characteristics of probable development sites and for strategic reasons."

Page II-18: Replace second paragraph under "Implications for Marketability" with the following revised text:

"Secondly, certain key job generating uses would not be marketable if a pure 'nexus' approach to burden was utilized. For example, the infrastructure cost burden projected in the preliminary cost screens (PFIP p. 2-23) for light industry, business park and office/R&D uses is so high as to preclude early development."

Page II-20: Delete Exhibit 5.

Page III-6: Insert the following text as a new paragraph just after the current last paragraph:

"It should be noted that, as the market forecasts indicated in Exhibit 3 were applied to the realities of the land plan, projected demand does not precisely correspond with development projections on specific sites."

Page III-17: Delete next to last sentence in third paragraph:

~~It is SKMG's understanding that the Army intends to maintain ownership of the golf courses to provide preferred use by the Army, as a support function to the Presidio of Monterey Annex.~~

Page IV-17: Add the following language before the last sentence of the second paragraph under Introduction:

"Two sets of factors were used in the PFIP to allocate the cost of public improvements to land use categories. The factors in Section 2 of the PFIP were based strictly on the demand placed on facilities by each land use (i.e., they met the strict test of 'rational nexus'). However, as noted in CBP Section II, this pure nexus approach would likely preclude certain job-generating uses. Therefore, if these factors were adjusted to reduce the burden on commercial and industrial land uses, to encourage economic development. The cost allocation factors defined in Section 5 are the factors that will define the responsibility of private parties to pay a special tax that will finance public improvements."

Page IV-18: Change the estimated cash flow in the third line of the first paragraph from \$69.0 to \$70.4 million.

Page IV-18: In the second paragraph under 2. Summary Financial Results - Basewide Pro Forma, change \$249.2 to \$240.9, and add a new footnote to that figure as follows:

"The \$240.9 million consist of \$189.3 million basewide infrastructure (PFIP Table 1-10); \$16.0 million to complete Highway 156 (CBP recommendation); \$22.6 million for Parks/Recreation (PFIP Table 1-10); \$13.0 million for local facilities (PFIP, page 4-3)."

Page IV-18: In first paragraph under 3, Summary Financial Results - FORA Operations, change to \$18.9.

Page IV-18: Replace last two sentences in first paragraph under 3. Summary Financial Results - FORA Operations, with the following:

"FORA's primary anticipated sources of funding are \$10.1 million in member dues and federal grants and \$46.7 in net proceeds from land sales. The \$46.7 represents FORA's 50 percent share (per its legislation) and was calculated as follows:

	\$260.7 million Projected Land Sales
Less	\$120.0 for demolition
Less	\$ 30.0 for Facilities Management
Less	\$ 1.3 Marketing Incentives
Less	\$ 16.0 to complete Highway 156
Equals	\$ 93.4 x 50 percent
Equals	\$ 46.7 million

Page IV-18: Replace the second paragraph under 3. Summary Financial Results - FORA Operations, with the following:

"The total cost of FORA operations over the 20-year period is estimated at \$29.4 million (see Table 14 for detailed summary of first five years). This excludes the cost of Habitat Management, since the final responsibility has not yet been assigned. As a result, FORA is projected to generate a net surplus of approximately \$18.9 million over the 20-year period."

Pages IV-19-22: Replace with revised versions of Exhibits 9 and 10 (attached). Note that the revised Exhibit 9 summarized land sales proceeds by land use type, and that Exhibit 10 subtotals FORA Operations as a discrete item.

Page IV-23: Change next to last sentence in third paragraph to read:

"See Exhibits 11A and 11B for absorption by phase."

Page IV-24: Replace Exhibit 11 with Exhibits 11A and 11B (attached).

Page IV-2: Replace Exhibit 12 with revised Exhibit 12 (attached), which is now titled Net Land Value Assumptions, and which now contains a fifth note explaining how these number are derived for Exhibit 6.

Page IV-27: Revise Exhibit 13 (attached).

Page V-1: In the last sentence of the first paragraph under 1. Long-term Plan Viability, change \$49 million to \$50 million.

Page V-5: Revise Table 14 (attached).

Page V-6: In order to conform with the new Table 14, make the following changes to Estimated Budgets for Reuse Plan: Adoption Maintenance and Update:

Change \$175,000 to \$325,500; and
Change \$136,500 to \$286,500.

Page V-8: Delete first bullet at top of page, referring to Habitat Management, and delete the words "staff or contractual" in the Organizational/Staffing paragraph.

Page V-8: In order to conform with the new Table 14, change the estimated budget for CPI Conformance and Update from \$241,000 to \$390,500.

7-3. The commenter would like the information in various tables to include Del Rey Oaks. Del Rey Oaks is separately identified as South Gate Planning Area in the Reuse Plan tables.

7-4. The commenter requests a modification to figures in the Reuse Plan, and PEIR. There are no inconsistencies between the two figures identified by the commenter. The Reuse Plan maps including Figure 4.1-4 reflect refinements in the South Gate Planning and York Road Planning Areas in the County that correspond to the intended boundary between the HMP and the developed areas. The roadway alignment was adjusted to fit the new digitized aerial survey maps and reflect a consensus alignment to protect habitat resources and achieve roadway engineering standards. Figure 6.2-1 reflects a land use alternative prepared for the EIS by Jones & Stokes using an earlier base map. The polygon boundaries have been adjusted to reflect the physical boundaries utilized in the initial base reuse planning but adjusted to the new digitized base map.

7-5. The commenter states that maps he has submitted reflect only the currently proposed future Del Rey Oaks city boundary lines. The City reserves the right to request different boundaries in the future. Refer to response to comment 7-1.

Response to Letter 8

8-1. The commenter believes that the Army should be responsible for removal of lead paint from existing structures. The Reuse Plan has projected a cost of approximately \$120 million for the demolition and removal of structures containing lead paint and/or asbestos materials (Sedway Kotin Mouchly Group 1996). This cost projection is based on the engineering estimates of removal of structures prepared by Reimer and Associates in 1996 drawing on detailed building characterization supplied by the U.S. Army. Also, refer to response to comment 139-6 for additional information on lead and asbestos tainted structures.

8-2. The commenter implies that developers will not be able to absorb the cost of infrastructure plus demolition and disposing of toxic buildings. The cost has been factored into the reuse plan costs and are integral to the Business and Operations Plan.

**EXHIBIT 3
FORT ORD DEVELOPMENT AND ABSORPTION POTENTIAL
1996 - 2015**

Land Use	FAR/ DU/AC	1996 - 2000 Sq. Ft./Units	Acres	2001 - 2005 Sq. Ft./Units	Acres	2006 - 2010 Sq. Ft./Units	Acres	2011 - 2015 Sq. Ft./Units	Acres	Total 1996 - 2015 Sq. Ft./Units	Acres
Light Industrial/R&D/Office											
Light Industrial/Business Park	0.25 FAR	206,250	24	250,000	29	306,250	35	375,000	43	1,137,500	131
Office/R&D	0.25 FAR	300,000	28	382,000	35	488,000	45	624,000	57	1,794,000	165
Induced demand	0.25 FAR	0	0	250,000	23	300,000	29	375,000	34	925,000	86
Subtotal (Sq. Ft.)		506,250	52	882,000	87	1,094,250	109	1,374,000	134	3,856,500	382
Residential											
Reuse of Existing Units (1)		1,522	---	0	---	0	---	0	---	1,522	---
Reuse of Existing CSU Units		1,253	---	0	---	0	---	0	---	1,253	---
Detached											
Low Density	4 DU/AC	50	13	100	25	150	38	200	50	500	125
Medium Density	6 DU/AC	600	100	800	133	800	133	900	150	3,100	517
High Density	8 DU/AC	350	44	600	75	600	75	600	75	2,150	269
Attached											
Low Density	10 DU/AC	0	0	0	0	100	10	100	10	200	20
High Density	20 DU/AC	0	0	0	0	100	5	200	10	300	15
Subtotal (Units)		3,775	156	1,500	233	1,750	261	2,000	295	9,025	945
Retail											
Neighborhood/Community	25 FAR	191,000	18	99,000	9	114,000	10	131,000	12	535,000	49
Regional/Outlet	25 FAR	0	0	0	0	0	25	250,000	25	250,000	50
Subtotal (Sq. Ft.)		191,000	18	99,000	9	114,000	35	381,000	37	785,000	99
Lodging											
Conference Center	25 FAR	0	0	200	15	0	0	0	0	200	15
Resort/Hotel (Golf-Oriented)	50 FAR	300	10	0	0	300	10	200	8	800	28
Subtotal		300	10	200	15	300	10	200	8	1,000	43
Recreation											
Equestrian Center		0	0	---	15	0	0	0	0	---	1
Golf Course		0	0	0	0	---	160	---	160	---	32

(1 At the time that the market study was conducted, it was assumed that 1,522 existing units could be reused; subsequently, the Army determined that some units require demolition due to environmental concerns, for a net total of 1,300 units.

NOTE: The above figures reflect the conclusions of the SKMG market study. In the development of a land use plan, the real estate development projected to be captured from this demand potential differs slightly to take advantage of characteristics of probable development sites and for strategic reasons.

Sources: Sedway Kotin Mouchly Group.
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**EXHIBIT 9
BASE-WIDE PRO FORMA SUMMARY**

BASE-WIDE PRO FORMA SUMMARY	20Yr TOTAL	FY96/97	FY97/98	FY98/99	FY99/00	FY00/01	FY01/02	FY02/03	FY03/04	FY04/05	FY05/06
SOURCES OF FUNDS (\$000's)											
Land Sales @ 100%											
Industrial/Office/R&D	\$7,243	\$0	\$0	\$398	\$398	\$398	\$298	\$298	\$298	\$298	\$298
Retail	4,308	0	0	224	224	224	135	135	135	135	135
Lodging Rooms	16,371	0	0	0	0	3,367	0	0	0	0	5,384
Existing Units	9,893	0	1,261	1,261	1,261	1,261	910	910	910	910	910
Residential											
4 DU/AC Units	31,146	0	747	747	747	747	1,246	1,246	1,246	1,246	1,246
6 DU/AC Units	123,558	0	5,979	5,979	5,979	5,979	6,377	6,377	6,377	6,377	6,377
8 DU/AC Units	63,253	0	2,578	2,578	2,578	2,578	3,515	3,515	3,515	3,515	3,515
10 DU/AC Units	3,748	0	0	0	0	0	0	0	0	0	0
20 DU/AC Units	1,461	0	0	0	0	0	0	0	0	0	0
Subtotal Land Sales	\$260,667	\$0	\$10,565	\$11,187	\$11,187	\$14,554	\$12,482	\$12,482	\$12,482	\$12,482	\$17,866
Special Tax & Development Fees											
CSUMB	20,503	0	0	1,139	1,139	1,139	1,139	1,139	1,139	1,139	1,139
MBEST											
Base Wide	7,409	0	0	0	200	200	200	382	382	382	382
Local	1,411	0	0	0	38	38	38	73	73	73	73
FORA											
Base-Wide	117,366	0	3,919	6,128	6,128	8,054	5,314	5,314	5,314	5,314	7,240
Local	34,179	0	1,838	1,935	1,935	1,986	1,811	1,811	1,811	1,811	1,882
Property Tax Increment @ 0.000%	0	0	0	0	0	0	0	0	0	0	0
Federal & State Grants/Members Dues	10,132	5,735	365	224	224	224	224	224	224	224	224
Water & Sewer Reserves/Bond Financing	48,830	0	612	2,488	2,358	2,462	1,685	1,685	1,188	1,188	1,188
Total Cash Sources	\$500,487	5,735	17,299	23,101	23,208	28,666	22,893	23,109	22,612	22,612	29,973
USES OF FUNDS (\$000's)											
Infrastructure (Base-wide & Local)	\$240,893	\$560	\$2,595	\$17,128	\$9,884	\$16,507	\$10,745	\$10,745	\$11,178	\$11,178	\$5,823
EDA Infrastructure	5,230	5,230	0	0	0	0	0	0	0	0	0
Demolition Costs	120,000	0	0	24,000	0	0	24,000	0	0	24,000	0
FORA Operating Costs	29,400	1,486	1,536	1,497	1,447	1,447	1,466	1,466	1,466	1,466	1,466
Facilities Management/Maintenance	30,000	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Habitat Management Costs	3,260	163	163	163	163	163	163	163	163	163	163
Marketing Incentives	1,334	0	0	220	220	894	0	0	0	0	0
Total Cash Uses	\$430,117	8,939	5,794	44,608	13,214	20,510	37,874	13,874	14,306	14,306	8,951
Net Cash Flow	\$70,370	(3,204)	11,505	(21,407)	9,995	8,146	(14,981)	9,236	8,306	(16,694)	21,021
Cumulative Cash Flow		(3,204)	8,301	(13,108)	(3,111)	5,035	(9,946)	(711)	7,595	(8,099)	12,922
KEY FINANCIAL DATA (\$000's)											
Cumulative Private Investment		\$0	\$10,585	\$66,777	\$131,633	\$199,856	\$307,194	\$372,841	\$438,489	\$504,136	\$575,167
Debt Balances		0	0	0	0	0	0	0	0	0	0

SRMG

**EXHIBIT 9
BASE-WIDE PRO FORMA SUMMARY**

BASE-WIDE PRO FORMA SUMMARY	20Yr TOTAL	FY06/07	FY07/08	FY08/09	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15	FY15/16
SOURCES OF FUNDS (\$00's)											
Land Sales @ 100%											
Industrial/Office/R&D	\$7,243	\$386	\$386	\$386	\$386	\$386	\$525	\$525	\$525	\$525	\$525
Retail	4,308	90	90	90	90	90	503	503	503	503	503
Lodging Rooms	16,371	0	0	0	0	5,377	0	0	0	2,243	0
Existing Units	9,693	0	0	0	0	0	0	0	0	0	0
Residential											
4 DU/AC Units	31,145	1,894	1,894	1,894	1,894	1,894	2,492	2,492	2,492	2,492	2,492
6 DU/AC Units	123,658	6,377	6,377	6,377	6,377	6,377	7,174	7,174	7,174	7,174	7,174
8 DU/AC Units	63,253	3,514	3,514	3,514	3,514	3,514	3,559	3,559	3,559	3,559	3,559
10 DU/AC Units	3,746	375	375	375	375	375	375	375	375	375	375
20 DU/AC Units	1,451	145	145	145	145	145	145	145	145	145	145
Subtotal Land Sales	\$260,667	\$12,780	\$12,780	\$12,780	\$12,780	\$18,157	\$14,772	\$14,772	\$14,772	\$17,016	\$14,772
Special Tax & Development Fees											
CSUMB	20,503	1,139	1,139	1,139	1,139	1,139	1,139	1,139	1,139	1,139	1,139
MBEST											
Base-Wide	7,409	382	480	480	480	480	480	769	578	578	578
Local	1,411	73	91	91	91	91	91	147	110	110	110
FORA											
Base-Wide	117,356	4,818	4,818	4,818	4,818	6,102	7,595	7,595	7,595	8,878	7,595
Local	34,179	1,645	1,645	1,645	1,645	1,679	1,817	1,817	1,817	1,851	1,817
Property Tax Increment @ 0.000%	0	0	0	0	0	0	0	0	0	0	0
Federal & State Grants/Members Dues	10,132	224	224	224	224	224	224	224	224	224	224
Water & Sewer Reserves/Bond Financing	48,830	1,188	1,393	1,393	1,393	1,393	5,444	5,444	5,444	5,444	5,444
Total Cash Sources	\$500,487	22,248	22,570	22,570	22,570	29,264	31,562	31,907	31,679	35,240	31,679
USES OF FUNDS (\$00's)											
Infrastructure (Base-wide & Local)	\$240,893	\$3,638	\$18,961	\$18,961	\$18,961	\$18,961	\$13,014	\$13,014	\$13,014	\$13,014	\$13,014
EIA Infrastructure	6,230	0	0	0	0	0	0	0	0	0	0
Demolition Costs	120,000	0	24,000	0	0	24,000	0	0	0	0	0
FORA Operating Costs	29,400	1,466	1,466	1,466	1,466	1,466	1,466	1,466	1,466	1,466	1,466
Facilities Management/Maintenance	30,000	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Facilities Management Costs	3,260	163	163	163	163	163	163	163	163	163	163
Marketing Incentives	1,334	0	0	0	0	0	0	0	0	0	0
Total Cash Uses	\$430,117	6,766	46,090	22,090	22,090	46,090	16,143	16,143	16,143	16,143	16,143
Net Cash Flow	\$70,370	15,482	(23,520)	480	480	(16,826)	15,419	15,764	15,536	19,097	15,536
Cumulative Cash Flow		28,404	4,884	5,364	5,844	(10,982)	4,437	20,201	35,737	54,834	70,370
KEY FINANCIAL DATA (\$00's)											
Cumulative Private Investment		\$683,595	\$749,965	\$816,335	\$882,706	\$954,453	\$1,055,595	\$1,138,961	\$1,221,456	\$1,306,194	\$1,408,688
Debt Balances		0	0	0	0	0	0	0	0	0	0

SKMG

**EXHIBIT 10
FORA OPERATIONS PRO FORMA SUMMARY**

FORA PRO FORMA SUMMARY	20Yr TOTAL	FY06/07	FY07/08	FY08/09	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15	FY15/16
SOURCES OF FUNDS (000's)											
Land Sales @ 50% 1/	\$46,667	\$812	\$812	\$812	\$812	\$3,501	\$1,808	\$1,808	\$7,386	\$8,508	\$7,388
Property Tax Increment @ 0.000%	0	0	0	0	0	0	0	0	0	0	0
Federal & State Grants/Members Dues	10,132	224	224	224	224	224	224	224	224	224	224
Total Cash Sources	\$56,799	1,036	1,036	1,036	1,036	3,725	2,032	2,032	7,610	8,732	7,610
USES OF FUNDS (000's)											
EDA Infrastructure	6,230	0	0	0	0	0	0	0	0	0	0
FORA Operating Costs											
Plan Monitor/Update	6,833	287	287	287	287	287	287	287	287	287	287
CIP Planning/Programming	7,870	395	395	395	395	395	395	395	395	395	395
Marketing	7,760	385	385	385	385	385	385	385	385	385	385
Agency Mgmt/Gov't Liaison	6,227	314	314	314	314	314	314	314	314	314	314
Overhead	1,720	86	86	86	86	86	86	86	86	86	86
Subtotal FORA Operating Costs	29,400	1,466	1,466	1,466	1,466	1,466	1,466	1,466	1,466	1,466	1,466
Facility Management Costs	3,260	163	163	163	163	163	163	163	163	163	163
Total Cash Uses	\$37,890	1,629	1,629	1,629	1,629	1,629	1,629	1,629	1,629	1,629	1,629
Net Cash Flow	\$18,908	(593)	(593)	(593)	(593)	2,096	404	404	5,981	7,103	5,981
Cumulative Cash Flow		(1,282)	(1,876)	(2,468)	(3,060)	(965)	(561)	(168)	5,824	12,927	18,908

1/ Net of Base-wide demolition, Highway 156 reserve costs, property management and marketing incentives, the total of which is amortized at \$11 million per year from FY98/99 - FY2012/2013

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**EXHIBIT 10
FORA OPERATIONS PRO FORMA SUMMARY**

FORA PRO FORMA SUMMARY	20Yr TOTAL	FY96/97	FY97/98	FY98/99	FY99/00	FY00/01	FY01/02	FY02/03	FY03/04	FY04/05	FY05/06
SOURCES OF FUNDS (000's)											
Land Sales @ 50% 1/	\$46,667	\$0	\$5,282	\$16	\$16	\$1,699	\$663	\$663	\$663	\$663	\$3,355
Property Tax Increment @ 0.000%	0	0	0	0	0	0	0	0	0	0	0
Federal & State Grants/Members Dues	10,132	5,735	365	224	224	224	224	224	224	224	224
Total Cash Sources	\$56,798	5,735	5,647	240	240	1,923	887	887	887	887	3,579
USES OF FUNDS (000's)											
EDA Infrastructure	5,230	5,230	0	0	0	0	0	0	0	0	0
FORA Operating Costs											
Plan Monitor/Update	5,833	326	328	287	287	287	292	292	292	292	292
CIP Planning/Programming	7,870	391	391	391	391	391	395	395	395	395	395
Marketing	7,750	375	425	425	375	375	385	385	385	385	385
Agency Mgmt/Gov't Liaison	6,227	309	309	309	309	309	309	309	309	309	309
Overhead	1,720	86	86	86	86	86	86	86	86	86	86
Subtotal FORA Operating Costs	29,400	1,486	1,536	1,497	1,447	1,447	1,466	1,466	1,466	1,466	1,466
Habitat Management Costs	3,260	163	163	163	163	163	163	163	163	163	163
Total Cash Uses	\$37,990	6,879	1,699	1,660	1,610	1,610	1,629	1,629	1,629	1,629	1,629
Net Cash Flow	\$18,908	(1,144)	3,948	(1,420)	(1,370)	313	(742)	(742)	(742)	(742)	1,950
Cumulative Cash Flow		(1,144)	2,804	1,384	14	327	(415)	(1,157)	(1,898)	(2,640)	(690)

1/ Net of Base-wide demolition, Highway 156 reserve costs, property management and marketing incentives, the total of which, is amortized at \$11 million per year from FY98/99 - FY2012/2013.

**EXHIBIT 11A
ABSORPTION BY PHASE
(In Various Units)**

	1996-2000	2001-2005	2006-2010	2011-2015	Total
Industrial/Business Park (sq.ft.)	206,000	249,200	306,000	375,700	1,136,900
R&D/Office (sq.ft.)	297,000	636,800	787,200	1,002,700	2,722,800
Retail - Neighborhood/Convenience (sq.ft.)	149,800	149,800	119,800	141,600	561,000
Retail - Regional/Outlet (sq.ft.)	0	0	0	500,000	500,000
Hotels (rooms)	300	300	200	200	1,000
Residential - Existing (units)	800	500	0	0	1,300
Residential - 4 DU/acre (units)	50	100	150	200	500
Residential - 6 DU/acre (units)	600	800	800	900	3,100
Residential - 8 DU/acre (units)	352	600	600	608	2,160
Residential - 10 DU/acre (units)	0	0	100	100	200
Residential - 20 DU/acre (units)	0	0	100	100	200

**EXHIBIT 11B
ABSORPTION BY PHASE
(In Acres)**

	1996-2000	2001-2005	2006-2010	2011-2015	Total
Industrial/Business Park	29	34	44	60	166
R&D/Office	24	54	68	86	233
Retail - Neighborhood/ Convenience	15	15	10	12	52
Retail - Regional/Outlet	0	0	0	46	46
Hotels	9	15	15	6	45
Residential - Existing	254	159	0	0	413
Residential - 4 DU/acre	12	25	38	50	125
Residential - 6 DU/acre	100	133	134	150	517
Residential - 8 DU/acre	44	75	75	76	270
Residential - 10 DU/acre	0	0	10	10	20
Residential - 20 DU/acre	0	0	5	5	10

EXHIBIT 12 NET LAND VALUE ASSUMPTIONS FORT ORD						
Area By Use	Retail Land Value (\$/Acre)	Retail Value per Sq. Ft. (2)	On-Site Cost per Acre (3)	Base-Wide & Local Facilities Fees (\$/Acre) (4)	Wholesale Land Value per Acre	Net Realizable Value per Sq. Ft. (5)
Residential (1)						
Existing DU (2)	\$35,000	n.a.	n.a.	\$11,773	\$23,227	n.a.
4 DU / AC	300,000	\$6.89	\$0	50,932	249,068	\$5.72
6 DU / AC	315,000	7.23	0	75,696	239,304	5.49
8 DU / AC	335,000	7.69	0	100,464	234,536	5.38
10 DU / AC	295,000	6.77	0	107,600	187,400	4.30
20 DU / AC	295,000	6.77	0	149,820	145,180	3.33
Retail						
Convenience	348,480	8.00	75,000	227,770	45,710	1.05
Neighborhood	348,480	8.00	75,000	227,770	45,710	1.05
Regional / Outlet	348,480	8.00	76,500	227,770	44,210	1.01
Average			75,704	227,770	45,006	1.03
LI / BP & Office / R&D						
LI / BP	130,680	3.00	61,500	44,760	24,420	0.56
Office / R&D	163,350	3.75	70,500	62,938	29,912	0.69
Average			67,895	57,676	28,322	0.65
MBEST (3)	163,350	3.75	69,000	64,897	29,453	0.68
Lodging						
Hotel	631,620	14.50	75,000	197,670	358,950	8.24
Notes:						
(1) Land values indicated are for unfinished lots, net of on-site costs.						
(2) Existing dwelling units are valued on a per unit basis.						
(3) Reimer Associates estimates of developer required on-site improvement costs, 1/10/96.						
(4) Allocation of base-wide capital costs per Reimer Associates estimates, and local facilities fees per Angus McDonald & Associates.						
(5) Figures consistent with those in Section III Exhibit 6, less on-site and base-wide and local facilities fees.						
Sources: Angus McDonald & Associates; Reimer Associates; Sedway Kotin Mouchly Group.						
N:\WPDOCS\PROJECTS\29694\EXHIB12.WK4\DJR						07/17/96

EXHIBIT 13 PRELIMINARY FINANCIAL SUMMARY - FORT ORD REUSE PLAN 1996 - 2015	
Items	Sources of Funds (millions)
Land Sales (based on all cash sales)	\$260.7
One Time Mello Roos Special Tax	\$145.2
Local Development Fees	\$35.6
Water and Sewer Fees & Reserves	\$48.8
EDA Grant and Annual Dues	\$10.2
Total Sources:	\$500.5
	Uses of Funds (millions)
Basewide and Local Infrastructure (1)	\$240.9
EDA Projects	\$5.2
Demolition	\$120.0
FORA Operations	\$29.4
Facilities Management/Maintenance	\$30.0
Funding of Shortfall for Local Services	\$20.0
Miscellaneous, Other	\$4.6
Total Uses:	\$450.1
Net Total Funds (millions)	
Total Sources Minus Uses (millions):	\$50.4
Less: 10% Land Sales Contingency	(\$26.1)
Net Total Funds:	\$24.3
Notes: Sources: Sedway Kotin Mouchly Group. D:\FTORD\OVERHED4.WK4\VJM\	

(1) In addition to Basewide infrastructure costs of \$189.3 million, this includes: an extra \$16 million for Hwy 156, \$22.6 million for Parks/Recreation, and \$13 million for local facilities (police, fire, library, general).

Table 14
FORA OPERATING BUDGET

	20 YR. TOTAL	FY 96/97	FY 97/98	FY 98/99	FY 99/00	FY 00/01
PROGRAMS						
PLAN MONITOR/UPDATE		\$325,500	\$325,500	\$286,500	\$286,500	\$286,500
CIP PLANNING/PROGRAMMING		\$390,500	\$390,500	\$390,500	\$390,500	\$390,500
MARKETING		\$375,000	\$425,000	\$425,000	\$375,000	\$375,000
AGENCY MGT/GOV'T LIAISON		\$308,850	\$308,850	\$308,850	\$308,850	\$308,850
Subtotal	\$27,680,000	\$1,399,850	\$1,449,850	\$1,410,850	\$1,360,850	\$1,360,850
OVERHEAD						
OFFICE		\$36,000	\$36,000	\$36,000	\$36,000	\$36,000
SUPPLIES		\$40,000	\$40,000	\$40,000	\$40,000	\$40,000
OTHER		\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
Subtotal	\$1,720,000	\$86,000	\$86,000	\$86,000	\$86,000	\$86,000
TOTAL	\$29,400,000	\$1,485,850	\$1,535,850	\$1,496,850	\$1,446,850	\$1,446,850

8-3. The commenter states that FORA should negotiate with the Army to get the Army to clean up the toxic buildings. Refer to response to comment 8-1.

8-4. The commenter states that the pilot program to determine if toxic buildings can be recycled is preposterous. The commenter submits an opinion. The commenter does not address the content of the Reuse Plan or PEIR. No response is necessary.

8-5. The commenter is concerned with issues pertaining to water. The following discussion is provided to augment the existing discussion in the EIR.

Agreement No. A-06404/Resolution No. 93-387

By reasons of an Army agreement with the Monterey County Water Resources Agency (MCWRA)(Agreement No. A-06404/Resolution No. 93-387), a potable water supply of 6,600 acre feet per year (afy) is assured from the Salinas Valley Ground Water Basin for the period up to 2015. The source of this water is projected to be a combination of water derived from Fort Ord wells that tap into the 180-foot, 400-foot and 900-foot aquifers of Salinas Valley Ground Water Basin or other sources from within the MCWRA. Army's position under the agreement with MCWRA is expected to be assigned to FORA. The anticipated population for the year 2015 that will coincide with the 6,600 afy (5,610 afy with conservation efforts) is 37,370. Annual water use at Fort Ord was 5,634 acre feet in 1992, 3,971 acre feet in 1993, and 3,235 acre feet in 1994 (U.S. Army Corps of Engineers 1996).

The fundamental tenet of this contractual agreement is that the Fort Ord wells are part of the seawater intrusion problem and are also threatened by seawater intrusion. This situation necessitates future Fort Ord development obtaining water at a safe yield level from a combination of Fort Ord wells and potentially from MCWRA's inland wells. The 6,600 afy is the amount available through the Army/MCWRA agreement and is based on the peak water use that occurred at Fort Ord in 1984 (U.S. Army Corps of Engineers 1993). With a projected overall water conservation effort at Fort Ord of 15 percent implemented through the Reuse Plan, the total potable water requirement for the year 2015 would be anticipated to be 5,610 afy (Reimer 1996). Therefore, the 6,600 afy reflects an historical peak only, not the actual projected water use, which is based on an aggressive conservation effort promulgated by implementation of Monterey County's water conservation regulations (Ordinance number 3539).

The Fort Ord service areas have been officially included in Zones 2 and 2a of the MCWRA by previous agreement between MCWRA and the Army (Agreement No. A-06404; Resolution No. 93-387). Under that agreement, a total of 6,600 afy of potable water is made available for consumption within the Fort Ord boundary. This amount of water comes from wells which take water from the Salinas Groundwater Basin or from any imported water source delivered by the MCWRA to a point within the Fort Ord boundary. The MCWRA/Army agreement also stipulates that a maximum of 5,200 afy can be pumped from the 180 and/or 400 foot

aquifers while the additional 1,400 afy is to be obtained from the deeper 900 foot aquifer. An agreement between the City of Marina, MCWD and MCWRA makes available to Fort Ord lands the 1,400 afy from the 900 foot aquifer (Malcolm Crawford, public statement, October 7, 1996). The 5,200 afy threshold corresponds to the average water withdrawal from 1988 to 1992 (U.S. Army Corps of Engineers 1993) [note: the Supplemental Fort Ord Disposal and Reuse EIR (June 1996) states that the annual average water use between 1986 and 1989 was 5,100 afy]. The 6,600 afy excludes the water pumped from the Seaside Basin for the two existing golf courses (400 afy average). The

The surety of the 6,600 afy is based on the following: first, 5,200 afy water supply from current wells which must be augmented by a deeper well source from which an additional 1,400 afy can then be pumped under the existing agreement. The surety of the 1,400 afy appears to be absolute since Marina Coast Water District (MCWD) has wells into the deep aquifer proximate to the Fort Ord boundary which already exhibit yield sufficient to produce an additional 1,400 afy without resulting in saltwater intrusion. Consequently, either a new well, which is authorized by the MCWRA agreement, or a delivery agreement with MCWD can be expected to provide for water supplies up to the 6,600 afy agreed upon.

Second, there has been ongoing concern as to whether or not the State Water Resources Control Board will "adjudicate" the Salinas Groundwater Basin so as to limit well pumping in order to combat salt water intrusion. In this scenario, it is uncertain what amount of water Fort Ord would get vis-a-vis Agreement No. A-06404.

The first phase of the Castroville Agricultural water replacement program now under construction represents a local response to the seawater intrusion problem and the state's adjudication threat. If, or when, the additional step of limiting pumping from existing wells is mandated, then a percentage reduction in pumping rights is expected to be applied to all wells in the MCWRA jurisdiction.

Furthermore, the water supply issues between Fort Ord and the more southerly Monterey Peninsula are separate and distinct. The Peninsula's water supply program is the prerogative of the Monterey Peninsula Water Management district (and, of course, the voters of the District). Fort Ord depends upon the supply agreement with MCWRA as discussed in response to comment 8-5. The sources of water supply are geographically separated and independently controlled.

Safe Yield Water Supply

A safe yield (discussed in the Army's Final EIS. Volume I. Page 4-57) is that amount of water that can be pumped annually on a long-term basis without causing undesirable effects, the greatest of which in the Fort Ord area are excessive drawdown which precipitates seawater intrusion. A drawdown associated with well pumping creates a downhill gradient vis-a-vis the seawater. The seawater will then flow (through capillary action) inland and down gradient toward the wells. It

is such a situation that occurred over a period of years which precipitated the U.S. Army to relocate its wells further inland in 1986.

As stated in the Final EIS, the safe yield of potable water for future Fort Ord development may be less than the present total pumpage of 4,700 afy ("present" means 1991 average water use). A specific amount of water extraction below 4,700 afy that would result in there being no seawater intrusion or at least a stable level of seawater intrusion is not known at this time, due to the lack of current empirical data.

Safe yield, as it pertains to seawater intrusion, is subject to a variety of environmental factors, such as well water pumping rates, "cones of depression", drought, precipitation, rate of recharge, and other factors. Therefore, safe yield should not be construed as something that is static. A safe yield supply of water during a drought year would be expected to be a less than a safe yield during a year with heavy precipitation (assuming the groundwater basin is recharged relatively quickly). This is because during a drought year it would be expected that more water would be used. Furthermore, a safe yield water supply from Fort Ord wells may be different in 1991 than it would be in 1997. This is because the population at Fort Ord has dropped significantly since 1991, which has resulted in a significant reduction of water pumped from Fort Ord wells, and because there have been at least two years of heavy precipitation since 1991. At base closure, water use was approximately 4,700 afy. The current water use is approximately 1,700 afy from the Salinas Valley Groundwater Basin (based on 1.5 mgd water use)(Jim Bowles, pers. com. February 3, 1997). The implication is that the chloride (salt water) contour line between seawater and groundwater in the area of Fort Ord and Marina is potentially dynamic and may have moved further west since 1991. However, there is no empirical evidence that the contour line has moved in any direction. The most current chloride contour lines applicable to the Fort Ord and Marina area are based on 1983 data (Kathy Thomasburg, pers. com., January 6, 1997).

Limiting future development to a safe yield water supply without any regional approach to ameliorate seawater intrusion would require a significant reduction in well pumping along the entire Monterey County coastal area. This would result in massive economic impacts to farmers and would be expected to significantly reduce Fort Ord development opportunities and options. Of course, to not limit use of water to a safe yield level will also result in a similar outcome.

To address the seawater intrusion problem, the MCWRA is currently completing the construction phase of the Castroville Seawater Intrusion Project (CSIP), which would result in reclaimed water being transferred to the Salinas Valley Groundwater Basin via a number of recharge wells. This should start in 1997. In addition, the MCWRA is currently preparing an environmental document and basin management plan which addresses future water demand in the County and provide recharge water in the Castroville area to augment the effort to stop seawater intrusion. The MCWRA is considering water storage facilities and additional water lines to convey water to the seawater intrusion area. This includes the proposed surface storage reservoir for

reclaimed water at Armstrong Ranch or an Aquifer Storage and Recovery (ASR) Project that both the MCWRA and the Bureau of Reclamation are currently investigating. The Armstrong Ranch reservoir is projected to hold 3,000 acre-feet.

Future development on Fort Ord reflects the need to withdraw only an amount of water through Fort Ord wells which would result in a safe yield extraction from the Basin. For the purposes of this EIR, a "safe yield" water supply pertaining to Fort Ord is water extracted from the aquifers (180-foot, 400-foot and 900-foot) which will result in the 1997 chloride contour lines (not yet determined) remaining stable and not moving further inland relative to the 1997 conditions. To achieve this goal a Development and Resource Management Plan (DRMP) has been developed which requires monitoring of seawater in the Marina/Fort Ord area with monitoring wells.

Since the effectiveness of the CSIP has yet to be demonstrated, the observed rates of seawater intrusion were used to predict the life expectancy of the existing producing wells on Fort Ord. The FORIS report presents conclusions on the 180- and 400-foot aquifers based upon the Harding Lawson Associates studies which were conducted as part of the environmental assessment activity on the base in the early 1990's. The FORIS report states that for the 180-foot aquifer in the Fort Ord area the distance between the last observed location of seawater intrusion and the well field is approximately 6,500 feet. Assuming that the maintenance of the observed gradient rate of flow of the intrusion front is approximately 230 feet per year, the travel time for the seawater intrusion to the existing well field is about 30 years. This estimate of well life expectancy is based upon previously conducted studies. No more exact location of seawater intrusion in the 180 foot aquifer has been reported.

The FORIS report also states the groundwater flow direction in the 400-foot aquifer in the area of the Main Garrison, where seawater was last detected, is currently toward the northeast. Under predicted conditions, the seawater intrusion front within the 400-foot aquifer will not advance significantly toward the existing well field.

FORA would be required to participate in a Development and Resource Management Plan that relies on the MCWRA to restrict water use from the 180-, 400- and 900-foot aquifer through a monitoring program to assure that a hydrogeologically stable relationship between seawater and groundwater. For a discussion of the Development and Resource Management Plan (DRMP) as it pertains to an assured safe yield water supply, refer to response to comment public hearing comment 21-1.

Long-term Water Supply

Long term water supply for Fort Ord buildout above and beyond the 6,600 afy discussed above and in the EIR is projected to come to Fort Ord as either one of or a combination of the following: imported water, and/or desalination water and/or on- or off-site water storage.

The EIR erroneously states that the future water use requirement at buildout is 18,262 afy. This amount represents water requirements of the December 1994 Interim Reuse plan (Reimer 1996). The current Reuse Plan has been significantly reduced as to the amount of development and, as the result, the predicted water use at buildout is 13,500 afy, not 18,262. Of the 13,500 afy, 10,500 afy will be consumed as potable water while 3,000 afy is anticipated to be used for irrigation/industrial process purposes and is to be supplied from reuse water sources such as reclaimed water from the Marina Coast Water District (MCWD).

The revised build out water use figure prompted a second look at the anticipated Fort Ord buildout wastewater flows. The wastewater flows projected in the EIR for full buildout at Fort Ord has been verified and determined to be correct and a maximum flow assuming that all 13,500 afy is processed at the MRWPCA wastewater treatment plant. However, as noted above, only 10,500 afy would be used as potable water that would end up as flow into the treatment plant. The remaining water use (3,000 afy) is reclaimed water for use on golf courses, other turf, landscaping and industrial processes. Therefore, the actual amount of wastewater flow is projected to be less than the amount discussed in the EIR (9.8 mgd). The 9.8 mgd wastewater treatment plant capacity requirement projected for full buildout of Fort Ord represents approximately 80 percent of 13,500 afy.

Associated with the source of water for buildout of Fort Ord will be environmental impacts. The projected environmental impacts of these potential future water sources are discussed below.

Changes to the EIR

Page 4-42. Amend reference to "18,262 afy" in first sentence of second paragraph to read "13,500 afy".

Page 5-5. Amend reference to "18,262 afy" in first line on page to read "13,500 afy".

Page 4-42. Amend title at top of page to read as follows: Impact: Need for New Local Water Supplies (2015)

Page 4-44. Add the following discussion.

3. Impact: Need for new Local Water Supplies (Buildout)

A. Imported Water From Outside Monterey County

San Felipe Project

Description of Water Source

There is the potential that the San Felipe Project water could be obtained and piped to Monterey County from an existing 96-inch San Felipe Project water

line in San Benito County. This line would traverse agricultural land in San Benito County, and potentially traverse wetlands habitat in San Benito County and northern Monterey County. This source of water is discussed in concept only. It is not a project.

Environmental Considerations

If water were imported from the San Felipe Project, it is presumed that this would result in temporary construction related impacts to agricultural land and potentially to sensitive/endangered/threatened plant species that occur in wetlands habitat and other environments. The installation of pipelines would be the primary impact activity. Mitigation of this sort of activity would require re-establishing the agricultural operations and revegetation of disturbed areas. In some cases it may be required that a more extensive mitigation program be implemented in the case of impacts to endangered/threatened species (e.g., habitat replacement on a ratio prescribed by a federal or state agency). Also, because San Felipe Project water is used for agricultural purposes only, there would be an amount of agricultural land that would become fallow somewhere in the central California area that is currently served by San Felipe Project water. The acreage of agricultural land lost is unknown because it cannot be determined how much water could potentially be taken from this source. There is also the potential for growth inducement if the agricultural land taken out of cultivation is near an urban area. Another potential environmental impact requiring consideration includes potential impacts to archaeological resources.

B. Imported Water From the Salinas Valley

Groundwater

Description of water source

The discussion of the impacts of imported water require a general discussion of the potential impacts of water withdrawal and water conveyance. This analysis is relevant to the potential importation of water through new pipes between future MCWRA sources of water and Fort Ord. The discussion that ensues is derived from the Hydrogeology and Water Supply of Salinas Valley, A White Paper Prepared by the Salinas Valley Ground Water Basin Hydrology Conference on behalf of the Monterey County Water Resources Agency, June 1995.

Future Water Withdrawal From the Salinas Valley

Future water withdrawal from MCWRA sources is projected to impact the Salinas Valley ground water basin. The Salinas Valley is a 120 mile long.

broad, flat bottomed drainage that flows northwest towards Monterey Bay in central coastal California. The valley is filled with river alluvium up to several hundred feet thick.

This basin is commonly divided into four subareas for purposes of analysis: Pressure (includes part of Fort Ord and the area near the coast), East Side (includes the north half of the Salinas Valley between the coast and the Forebay subarea), Forebay and the Upper Valley (area farthest upstream). The alluvial deposits underlying the riverbed are deepest in the Forebay subarea and relatively shallow along the coast and at the southern end of the valley. The Upper Valley and Forebay subareas are unconfined and in direct hydraulic connection with the Salinas River. There are no barriers to the horizontal flow between these subareas, although aquifer characteristics decrease the rate of ground water flow in certain parts of the basin.

Ground water in the East Side consists of 74,000 acres and is primarily of unconfined aquifers that are recharged by runoff from the western slope of the Gabilan Range east of the project area, from groundwater underflow originating in the adjoining Forebay and Pressure areas, and to a lesser degree, percolation of rainfall and irrigation water. Water wells in the Salinas Valley range in depth from a few hundred feet to as much as 1,000 feet. Production rates in the range of 1,500 to 2,500 gallons per minute (GPM) are common.

The pressure area is composed primarily of confined and semi-confined aquifers separated by clay layers (aquitards) that limit the amount of vertical recharge. The Pressure area covers an approximately 91,000 acres between Gonzales and Monterey Bay. These deposits include at least three separate fresh water aquifers labeled the "180-foot", "400-foot" and "Deep Zone". Extensive groundwater pumping for agricultural, municipal and industrial uses has affected the groundwater supplies of the basin in terms of both quantity and quality. Annual pumping in excess of recharge has caused a gradual lowering of water tables and pressure heads. This "overdraft" condition is the primary cause of salt water intrusion into the Pressure subarea. Both the 180-foot and 400-foot aquifers are in contact with the salt water of Monterey Bay which has intruded inland causing agricultural and domestic water supply wells along the coast in the Pressure subarea to be abandoned.

The exact nature of the connection between the Deep zone and the ocean is unknown. Seawater intrusion has not been detected in Deep Zone wells, but there is no evidence indicating that the Deep Zone is not connected to the ocean. Lacking this evidence, it must be assumed that the Deep Zone, like the 180-foot and 400-foot aquifers above it, is connected to the ocean and vulnerable to seawater intrusion if ground water levels fall below sea level. Similarly, the aquitards between the 400-foot and the Deep Zone are subject

to leakage of degraded water downward to the Deep Zone as the water level is lowered.

The Upper Valley and Forebay areas are unconfined and in direct hydraulic connection with the Salinas River. The Upper Valley area covers an area of approximately 92,000 acres near the south end of Salinas Valley from Greenfield to Bradley. Primary ground water recharge to the Upper Valley area occurs from percolation in the channel of Salinas River.

The Forebay area from Gonzales to Greenfield consists of approximately 87,000 acres (including Arroyo Seco Cone) of unconsolidated alluvium. Principal recharge to the Forebay area is from percolation of water from Salinas River and Arroyo Seco Cone, and ground water outflow from the Upper Valley.

The Arroyo Seco Cone is located on the west side of southern Salinas Valley and is a part of the Forebay area. Arroyo Seco Cone receives recharge from percolation in channels of Arroyo Seco Cone may provide some opportunity for additional recharge.

Sources of Recharge in the Salinas Valley

Ground water recharge in the Salinas Valley is principally from infiltration from Salinas River, Arroyo Seco Cone, and, to a much lesser extent, from deep percolation of rainfall. Minor amounts are derived from infiltration from small streams and inflow from bedrock areas adjoining the basin. Deep percolation of applied irrigation water is the second largest component of the ground water budget, but because it represents recirculation of existing ground water rather than an inflow of "new" water, it is not considered a source of recharge for this discussion. Seawater intrusion is another source of inflow of the basin, but because it is not usable fresh water it is also excluded as a source of recharge.

Infiltration from the Salinas River and deep percolation of rainfall would occur under natural conditions, but both are increased by present water use patterns in the Valley. Ground water extraction increases the amount of infiltration from the river upstream of Salinas. Irrigation increases the amount of rainfall that percolates past the root zone by increasing antecedent soil moisture at the beginning of the rainy season. The low permeability of the Salinas Valley aquitard in the Pressure Area decreases but does not altogether eliminate deep percolation of rainfall and irrigation return flow directly to the 180-foot aquifer in the Pressure Area. Average annual amount of recharge in the entire Salinas Valley during 1970 to 1992 (most current information available) derived from various sources is 514,000.

Seawater Intrusion in the Salinas Valley

Analysis of water samples from wells in the Pressure Area has indicated that seawater has been intruding the aquifers for the last 60 years or so. The intrusion is in the 180- and 400-foot aquifers and has moved 6 miles inland in the 180-foot aquifer and 2 miles inland in the 400-foot aquifer, rendering wells in the intruded area unusable and decreasing usable basin storage. The Castroville Seawater Intrusion Project addresses, in part, the sea water intrusion problem. Additionally, measures must be taken, primarily the delivery of water from inland locations to the mouth of the Salinas Valley, in order to further hinder the encroachment of seawater up the Salinas Valley.

Seawater is another source of inflow into the basin. However, the chloride content of seawater makes it unusable. The average seawater intrusion totals about 17,000 afy. Combined with the average annual groundwater extraction, which is 20,000 afy more than total fresh water inflow, the valley wide water budget shows an average fresh water deficit of 37,000 afy.

Environmental Considerations

There are two potential environmental impacts associated with Salinas Valley water as a long-term water source option for Fort Ord. The projected environmental impacts are associated with the withdrawal of water from the Salinas Valley (surface or groundwater) and the impact of conveying the water to the users. Pertaining to impacts associated with conveyance are potential biological impacts, the loss of agricultural land, impacts to archaeological resources and growth inducement.

As it pertains to the long-term water source for Fort Ord development, it is assumed in this scenario that 10,500 afy would be taken from the Salinas Valley Ground Water Basin, either through existing Fort Ord wells or from wells located elsewhere in the Salinas Valley, and conveyed to Fort Ord via water pipes.

Withdrawal of 10,500 afy from an aquifer that is currently being pumped at a rate of 535,000 afy appears insignificant. However, the Salinas Valley Ground Water Basin is in deficit condition in the amount of 37,000 (20,000 afy from overdraft and 17,000 afy from seawater intrusion), with the greatest impact occurring in the Pressure and East Side Area of the Salinas Valley Ground Water Basin. The overdraft has precipitated a sea water intrusion condition that has been known since 1946 when the California Department of Water Resources conducted a study of the basin and provided recommendations to stave off seawater intrusion and reduce overdraft. A recent "White Paper" prepared for the MCWRA by a number of hydrologists reiterates the 1946 study and draws the same conclusions, which is that to solve the Salinas Valley seawater intrusion problem there must be redistribution of water from the inland areas to the mouth of the Salinas Valley where there is seawater intrusion.

The second impact pertains to conveying the water from the source to the users. It cannot be determined what the path of a water line would be so it cannot be determined exactly what the potential environmental impacts associated with construction activities will be. However, it should be assumed that there are potentially significant temporary adverse impacts to plant and wildlife species as a result of construction activities. Implementation of federally and state mandated plant and wildlife mitigations would adequately mitigate the potential impacts associated with pipeline construction activities off Fort Ord. Implementation of the HMP for construction activities on Fort Ord would adequately mitigate the potential impacts. Short term construction related impacts to agricultural land is not considered to be significant.

Archaeological impacts would need analysis as well as growth inducement. An increased water supply would both address seawater intrusion and future development.

The HMP describes a cooperative federal, state, and local program of conservation for plant and animal species and habitat of concern known to occur at Fort Ord. The HMP establishes a long-term program for the protection, enhancement and management of all HMP resources with a goal of no net loss of HMP populations while acknowledging and defining an allowable loss of such resources through the land development process. The HMP establishes the conditions under which the disposal of Fort Ord lands to public and private entities for reuse and development may be accomplished in a manner that is compatible with adequate preservation of HMP resources to assure their sustainability in perpetuity. Therefore, the HMP establishes performance standards for all future developments to implement and are assured to be implemented by local agencies and jurisdictions.

Off-site Storage in the Salinas Valley

Description of water source

Another source of new water that could be used to both hinder seawater intrusion and provide for future development in the County and at Fort Ord is the construction of water storage facilities in the Salinas Valley. Currently the MCWRA is investigating in greater detail two potential future water storage facilities, the Merritt Lake site and the Espinosa Lake site. A number of sites have been identified besides these two and are identified in a Technical Memorandum dated June 1996 prepared by Montgomery Watson for the MCWRA. A program EIR on the construction of these two storage facilities is currently being prepared and is anticipated to be available for public review by the end of 1977. At this time, the information provided in the discussion below is the only data available on the Merritt Lake and the Espinosa Lake sites.

Based on the Montgomery Watson report, the most feasible water storage facility appears to be the Merritt Lake site. Merritt Lake is approximately 1.5 miles southeast of Castroville and in the area bound by state Highway 101 to the east, State Highway 156 to the north and State Highway 1 to the west. The potential size of the Merritt Lake site would be up to 40,000 acre-feet.

The next most feasible water storage facility is the Espinosa Lake site. Espinosa Lake is approximately 2.5 miles southeast of Castroville. The existing lake is formed by a small man made dike which impounds a shallow pond which currently results in a wetland habitat. The potential size of the Espinosa Lake site would be approximately 20,000 acre-feet.

Environmental Considerations

Merritt Lake: The topographic, geologic and construction material situation appears to be favorable for construction of a dam and reservoir of the size and type needed. It appears that reservoir seepage would not be an issue at the Merritt Lake site. In addition to geo/hydro-technical issues, the loss of agricultural land will be an important issue (Montgomery Watson 1996).

Espinosa Lake: Issues associated with this project would include temporary loss of wetlands habitat, potential inundation of residences if the storage facility is larger than 10,000 acre-feet and geo/hydro-technical issues (ibid.).

Associated with either of these scenarios will be potential impacts associated with archaeological resources, wetlands, plant and wildlife resources and growth inducement impacts associated with increased water supply.

C. Desalination

Description of water source

Another source of water is desalination of seawater from the Monterey Bay. This water source would require a desalination plant in the dunes area where existing industrial structures are located or on the east side of Highway 1. These facilities would take sea water through intake pipes, process the sea water to extract potable non-salty water, and then dispose of brine through a separate set of pipes back to the Monterey Bay. There is an existing document titled Near-Term Desalination Project Final EIR (EIP 1992), prepared for the Monterey Peninsula Water Management District, which discusses the potential environmental impacts associated with a 3 MGD desalination plant at a Sand City site. This document is incorporated by reference. Refer to this document for a general discussion of the characteristics of a desalination plant. [Note: any future desalination plant on Fort Ord would require a separate environmental analysis, but some of the Sand City project information could be used].

Environmental Considerations

Impacts pertinent to desalination projects include impacts to aquatic plants and animals, terrestrial vegetation and wildlife, air quality, and others issues. In the Near-Term Desalination Project Final EIR, prepared for the Monterey Peninsula Water Management District (December 1992), for a proposed 3,000 afy desalination project, all impacts that were identified as potentially significant were reduced to a less than significant level through implementation of prescribed mitigations, except one, noise impacts. The short-term construction impacts would generate a level of noise that could not be reduced to a less than significant level. Growth inducement impacts associated with the increased water supply would also occur.

D. On-site Storage at Fort Ord

Description of Water Source

In the Technical Memorandum dated June 1996 prepared by Montgomery Watson for the MCWRA one Fort Ord water storage site is identified.

Environmental Considerations

This Fort Ord site considered in the technical memorandum has been eliminated from further consideration because, though the costs of a water storage facility in Barloy Canyon appears to be slightly lower than for the Merritt and Espinosa Lake sites (currently favored by the MCWRA), the foundation and embankment stability problems could not be overcome during seismic loading. Exacerbating this issue is the fact that Barloy Canyon is located within the Fort Ord Habitat Management Area, which would present significant environmental constraints. Though earlier considered a viable location for a large water storage facility, Fort Ord's geologic and environmental constraints make it one of the least desirable. Consequently, pending environmental analysis by the MCWRA for viable water storage projects precludes Fort Ord as an option (except in terms of alternatives analysis).

However, small cisterns could be incorporated in future developments that would be used to offset potable water use for landscaping. These cisterns would be located throughout the community and constructed simultaneous with new and/or remodeled structures. The impacts of this type of water storage would not be expected to present any significant environmental impact. However, it would reduce the need for groundwater resources used for landscaping, car washes, etc., thus would reduce seawater intrusion a small incremental amount. Potential recharge of groundwater resources through cisterns or small ponds is negligible and is not counted in net water use for Fort Ord.

Archeological resources would also have to be investigated associated with a Barloy Canyon project. The proposed project would not be expected to be growth inducing outside of the context of the water supply providing service to the project (i.e., Fort Ord reuse). Water would not be available for other off-base users.

Because a number of reasonable long-term water supply options exist and are discussed herein, including the siting of an on-site desalination plant assuming adoption of the policies, programs, and mitigations identified on page 4-43 of the Draft EIR, the increased demand for water would be considered a less than significant impact at the project level.

Response to Letter 9

9-1. The commenter notes that there is a multiplicity of agendas within FORA. The commenter does not address the content of the Reuse Plan or PEIR. No response is necessary.

9-2. The commenter asks for clarification of the demographic and employment overview summarized in the Comprehensive Business Plan and specifically requests background information for the employment projections. The discussion is summarized in Exhibit 2 distinguishing the Peninsula from Monterey County projected employment. The commenter is referred to the "Assessment of Planning Baseline and Market Data Fort Ord Base Reuse Plan," (SKMG 1995) for discussion of the information. This document is included in Appendix D.

9-3. The commenter asks for clarification of the absorption of the existing residential stock at Fort Ord. The Commenter is referred to response to comment 7-1 which provides a revised Exhibit 3 with additional footnotes that address the reuse of 1,522 existing units (only 1300 estimated to be remaining after demolition that addresses environmental concerns). Exhibit 3 is a aggregate of projected absorption. The Sun-Bay apartments (291) have been included in the Reuse Plan but they are presently occupied and do not represent an absorption potential for new growth. Bostrom Park units are assumed to be demolished because of the their uneconomic reuse potential. Replacement housing in the Bostrom Park location would come out of the overall absorption potential indicated in Exhibit 3.

The commenter asks why the 2015 scenario for housing does not total the absorption potential illustrated in Exhibit 3. The 2015 scenario distinguishes between non-market generated housing (supported by institutional activities) and market-generated housing. A closer look at the market-generated housing identified in the 2015 scenario illustrates some the Reuse Plans response to the absorption potential. The existing units in Marina have been reduced from 1522 (from exhibit 3) to 1,300 based on better information on the rehabilitation potential of these units. The 1,253 CSU units shown in exhibit 3 are not included in the 7,460 total. And the total number of units in the 2015 scenario is less than the market potential because the

scenario reserves water supplies for industrial/commercial development, based on planning policies.

The commenter suggests an alternative way to display the housing unit market projections and planning totals. No response necessary.

9-4. The commenter suggests funding for Hwy 156 shouldn't be the sole responsibility of FORA and a funding source should be identified for all transportation needs. The suggestion that Hwy 156 is not the full responsibility of FORA is born out in the nexus analysis (FORA's trip contribution is 11.7 %, but the link fails to meet the nexus criteria because of the large share of trips that cannot be captured by a development-related financing mechanism). The Comprehensive Business Plan assumes a nexus based contribution to transportation funding and suggests an internal financing mechanism by which FORA could contribute its fair share to the regional network. This is defined as the "Optimistic Financing" Scenario in the Circulation Element of the Reuse Plan and in the DEIR. Alternative financing arrangements are possible and FORA will not be adopting a particular financing approach when it adopts the Reuse Plan and certifies the EIR. The Comprehensive Business Plan lays out a "benchmark" analysis that indicates FORA can finance its fair share of improvements. The commenter is correct in identifying the need to finance the region's roadway requirements. TAMC is addressing the issue and has summarized its most recent nexus analysis and funding priorities in the "Fort Ord Regional Transportation Study" (JHK 1997).

9-5. The commenter disagrees on the marketing approach advanced by the real estate economist. Comment noted.

9-6. Commenter asks if the 500 foot wide strip designated as a "special design district" will affect the initial 12 acres of land projected for low-density single-family detached units in Seaside. The special design district is an overlay relating to the visual issues along the Highway One corridor. The overlay extends over a much larger area than the 12 acres identified in the "Early Marketing Action Plan."

9-7. Commenter refers to the numerous PBC requests for properties in the planning area identified as the University Village in Seaside. The Public Benefit Conveyances represent a wide range of land uses that are consistent with the mixed use designation for the University Village. The Reuse Plan illustrates one approach to creating accommodating a wide range of facilities and activities. See the Reuse Plan, Volume I, Page 3-15.

The commenter asks what the "financial impacts for services" (fiscal burden on the communities) will be if the majority of "Excess II" buildings and lands do eventually end up in the hands of the tax-exempt entities. The 2015 scenario allocates water and assumes the traffic generation from the public facilities identified in Tables 3.8-1, 3.9-1, and 3.10-1, Volume I of the Reuse Plan. The 2015 scenario utilizes the private market development to generate land sales and development fees sufficient to carry the cumulative burden of required capital costs and fiscal deficits.

9-8. The commenter asks how the 500 foot "special design district" (scenic corridor) will affect the regional retail opportunity site at the Main Gate along Highway One. The Reuse Plan identifies the regional interest in the visual impacts in this corridor and provides for FORA to adopt Design guidelines. The "Development Character and Design Guidelines" are located in Volume I, Page 3-122 of the Reuse Plan.

9-9. The commenter requests clarification of the ownership of the golf courses. The commenter is referred to response to comment 7-1.

9-10. The commenter refers to the screening process that will happen in the Seaside University Planning Area. The commenter is referred changes to the Comprehensive Business Plan text and tables identifies in response to comment 9-7.

9-11. The commenter requests clarification of the location of the "Planned Residential Extension Districts." The commenter is referred to Figure 3.9-1 in Volume I of the Reuse Plan.

9-12. The commenter expresses concern about the designation of a "special design district" (referred in the Reuse Plan as the Highway One Scenic Corridor) vis-a-vis future economic . The General Development Character and Design Objectives for each jurisdiction are necessary to mitigate potential visual impacts (regional and on-site). The General Development Character and Design Objectives requirements are not expected to negatively impact the development opportunities provided for in the Reuse Plan. The approach used in the Reuse Plan for mitigating visual impacts includes the following:

1. Adopting the Design Principles and Objectives for Reuse (Volume 1, Page 3-1 to 3-20);
2. Describing the "Development Character and Design Guidelines" for the individual planning areas (Section 3.7 Planning Areas and Districts, beginning on page 3-97); and
3. Subsequent to the adoption of the Reuse Plan, preparing Regional Urban Design Guidelines for the areas identified in Design Principal 6 as areas of regional importance for maintaining the scenic qualities of the Peninsula (e.g., the Highway One Corridor).

9-13. The commenter recommends that the financial information in the Comprehensive Business Plan be reviewed to substantiate the development model, projections and assumptions. The Comprehensive Business Plan was prepared to assist FORA in devising a viable and equitable financial plan for reuse and is based on many assumptions for which information is continuously improved. The Comprehensive Business Plan is not meant to be adopted as a financing limitation. In fact the Plan recommends strongly that other approaches, such as the use of redevelopment be explored. The Comprehensive Business Plan serves as a guide to indicate how FORA could establish fees, and finance the identified capital costs,

while respecting real estate marketing projections. The recommendations of the Comprehensive Business Plan will be under continuous review and refinement by FORA throughout the Reuse process. To clarify the role of the Comprehensive Business Plan and the Financing recommendations included in the Public Facilities Improvement Plan, the Reuse Plan will be amended.

Changes to the Reuse Plan

Volume I. Page 1-16, Summary, Business and Operations Plan Development Strategies, amend to add the following additional paragraph, as follows:

The Business and Operations Plan has been prepared for a twenty-year planning horizon (to the year 2015) which attempts to optimize financial performance in order to see whether, under optimal conditions, the identified program can be feasibly constructed in the market place.

The Comprehensive Business Plan (CBP) was prepared to assist FORA in devising a viable and equitable financing plan for reuse and is based on many assumptions for which information is continuously improved. The CBP serves as a guide to indicate how FORA could establish fees, and finance the identified capital costs, while respecting real estate market projections. The recommendations of the CMP and the financing tools recommended in the Public Facilities Improvement Plan (PFIP) is under review and refinement by FORA. Adoption of a financing plan and development fees will be separate actions taken by FORA subsequent to certification of the Final PEIR and adoption of the Reuse Plan.

The Business and Operations Plan is built from the following development strategies:

Volume I. Page 3-150, Add the following discussion after the first paragraph under the section titled - What Are The Development Strategies for the Business and Operations Plan?

The Comprehensive Business Plan (CBP) was prepared to assist FORA in devising a viable and equitable financing plan for reuse and is based on many assumptions for which information is continuously improved. The CBP serves as a guide to indicate how FORA could establish fees, and finance the identified capital costs, while respecting real estate market projections. The recommendations of the CMP and the financing tools recommended in the Public Facilities Improvement Plan (PFIP) is under review and refinement by FORA. Adoption of a financing plan and development fees will be separate actions taken by FORA subsequent to certification of the Final PEIR and adoption of the Reuse Plan.

The Business and Operations Plan is built from the following development strategies:

Appendix B. FORA Comprehensive Business Plan (CBP), page I-1, amend to add the following paragraph beneath the Title and before 1. Introduction and Statement of Purpose:

The Comprehensive Business Plan (CBP) was prepared to assist FORA in devising a viable and equitable financing plan for reuse and is based on many assumptions for which information is continuously improved. The CBP serves as a guide to indicate how FORA could establish fees, and finance the identified capital costs, while respecting real estate market projections. The recommendations of the CMP and the financing tools recommended in the Public Facilities Improvement Plan (PFIP) is under review and refinement by FORA. Adoption of a financing plan and development fees will be separate actions taken by FORA subsequent to certification of the Final PEIR and adoption of the Reuse Plan.

9-14. The commenter repeats the concern over the financing of Highway 156. The commenter is referred to response to comment 9-4.

9-15. The commenter requests that the residential development represented in the various portions of the Reuse Plan be consistent. The commenter confuses the Reuse Plan capacity limitations (which are a general plan land use designation), with the real estate market projections (which are a demand side picture through 2015), and the 2015 development scenario (which is a particular development program to simulate market responses, capital improvement requirements, and development policies in the Reuse Plan).

9-16. The commenter would like to know why will municipalities not be entitled to either payments in lieu of property taxes or franchise fees from system earnings. Since Proposition 218 passed in 1996, local jurisdictions cannot charge a fee unless it strictly reflects the cost associated with the fee.

9-17. The commenter states the burden of financing non-profit housing by the City of Marina needs to be addressed. The commenter addresses a political issue that cannot be resolved in the context of the Reuse Plan and the EIR. The issue pertaining to cities providing services to non-profits is a serious problem pertinent to the local jurisdictions affected and the non-profit organizations or public agencies involved. However, it is not an EIR or reuse plan issue.

9-18. Commenter notes explanations of impact fees, special taxes, cash flows, LOS, land value analyses, debt service, and capital costs, etc., are presented without embellishment. No response required.

9-19. Commenter compliments the diagram illustrating the breakdown of property tax distribution. No response required.

Response to Letter 10

10-1. Commenter reflects on the lack of meetings to accommodate public input. Refer to response to comment 5-1.

10-2. The commenter is concerned with the limited number of copies of the Reuse Plan and EIR available at public places. FORA provided one set of documents to each of the libraries on the Monterey Peninsula and Salinas for a period of 133 days. Considering the period of time for review, the single set at each library is considered to be adequate. For the Final PEIR, FORA will provide five sets at each library that it used as a repository for the Reuse Plan and Draft EIR.

10-3. The commenter is concerned about the York Road connection to the Highway 68 bypass. The connection to York Road at a future Highway 68 alternative route is intended to provide the mid-valley residents along the existing Highway 68 corridor an alternative route. A York Avenue connection to the by-pass will also reduce the number of vehicles that travel the full length of Highway 68.

10-4. The commenter discusses "real" jobs and Fort Ord becoming an "Orange County" or another "San Jose". The commenter does not address the content of the EIR. No response is necessary.

10-5. Comment refers to the public not being aware of the proposed project. The public was adequately notified of the Reuse Plan process and intent. Refer to response to comment 5-1.

Response to Letter 11

11-1. The commenter indicates that a rifle range is preferable at the East Garrison. The East Garrison's final configuration may include a rifle range, but this will be for the FORA Board to consider.

Policy Consideration

The Board should consider including a gun range in the East Garrison area.

Response to Letter 12

12-1. Comment states that the level of analysis required is extensive and requires more than a 45-day public review period. Refer to response to comment 5-1.

Response to Letter 13

13-1. Commenter discusses mosquito and/or vector control. CEQA mandates that significant environmental impacts be discussed. There is no indication from the comment that mosquito and vector control is a significant environmental issue. Therefore, no additional discussion is warranted.

[Start July 1, 1996 FORA public hearing comments]

Response to Public Hearing Comment 14

Comments 14 through 26 are from the July 1, 1996 Draft EIR public hearing and are herein referenced as "Response to Comment" instead of "Response to Letter".

14-1. Commenter requests an extended public review period. Refer to response to comment 5-1.

14-2. Commenter requests an extended public review period and workshops. Refer to response to comment 5-1.

14-3. Commenter suggests lower a lower density for residential units in Seaside. Refer to response to comment 28.

14-4. Commenter "lost his trailer home". The commenter does not address the content of the EIR. No response is necessary.

14-5. The commenter included a comment letter at the hearing. Refer to response to comment 30.

14-6. The commenter included a comment letter at the hearing. Refer to response to comment 31.

Response to Public Hearing Comment 15

15-1. Commenter is concerned with the water issue and how it will support development at Fort Ord. Refer to response to comment 8-5.

Response to Public Hearing Comment 16

16-1. Commenter discusses public hearings. Refer to response to comment 5-1. No public workshops were conducted in Salinas during the public review period.

16-2. Commenter requests a safe yield alternative be discussed in the EIR. Refer to response to comment 8-5.

16-3. Commenter questions the program level EIR approach. FORA prepared a Program EIR under CEQA Guidelines section 15168. A Program EIR can be prepared on a series of actions which can be characterized as one large project and are related geographically or as logical parts in the chain of contemplated actions. The use of a Program EIR under the circumstances is relevant to the preparation of the Reuse Plan because the Reuse Plan is a general development document. A Program EIR is more general in nature and typically covers a plan area and focuses on the environmental impacts of carrying out the policies and/or programs of the plan. It is inherently more general in its evaluation of environmental impacts because it reflects the general nature of a "plan". On the other hand, a Project EIR is prepared on a specific development project containing actions like a tentative subdivision map or a use permit.

A Staged EIR was not prepared because a Staged EIR is best suited to large capital projects that will require a number of discretionary approvals from government agencies and one of the approvals will occur several years before construction will begin. This type of EIR is appropriate for a specific project and not general plans. In this situation, the EIR is staged or phased over a number of years.

By using the program EIR the public as well as the FORA Board will be assured that adequate environmental review has been performed. Future environmental review will be subject to tiering relative to the EIR. Where information in the EIR is inadequate to adequately address a particular future project's impact, additional environmental analysis may be required. This determination will be made at the local jurisdiction level as required by CEQA Sections 15060 through 15065 and 15070 through 15075, as well as 150151, 15152 and 15153. In conclusion, additional environmental studies may be completed and subject to public scrutiny before development consistent with the reuse plan can occur at Fort Ord. Also, refer to the discussion in the EIR on future environmental review (section 1.3, page 1-3).

16-4. The commenter included a comment letter at the hearing. Refer to response to comment 32.

16-5. Comment regarding public review period. Refer to response to comment 5-1. Also, refer to Response to comment 33.

Response to Public Hearing Comment 17

17-1. Comment regarding public review period. Refer to response to comment 5-1.

17-2. The commenter requests that an "executive summary" be prepared. CEQA does not require the preparation of an "executive summary" in an EIR per se, however, a summary is required. Such a summary is included in the Draft EIR. As it pertains to a program EIR versus a staged EIR, Refer to response to comment 16-3.

Response to Public Hearing Comment 18

8-1. The commenter requests additional information on water. Refer to response to comment 8-5.

Response to Public Hearing Comment 19

19-1. Commenter wants to know what Fort Ord will be. The former military base will be sold and distributed to various federal, state and local entities for reuse. Portions will be in the jurisdictions that currently exist, which include Monterey County, Marina, Seaside, UC, CSUMB and the Presidio of Monterey Annex, etc. As established by Senate Bill (SB) 899, FORA is a governing body, formed to accomplish the transfer of the former military base. The basis of FORA's existence is discussed in the Draft EIR (page 1-1). FORA has a mandated life span of 20-years to the year 20014, or until 80 percent of redevelopment has occurred, which ever is first. As it pertains to allowing a vote of all the people regarding future use at Fort Ord, this would be a decision for the FORA Board to make.

Response to Public Hearing Comment 20

20-1. Comment regarding vacancy rate percentage used in the Comprehensive Business Plan. The vacancy rate referred to applies to the multiple family supply which reflects the short-run constraints in the market. The market projections for all housing types that could be captured at Fort Ord is 9,025 units, including reuse of 1,522 existing units and occupancy by CSUMB of another 1,253 units. The Reuse Plan therefore anticipates market support for 6,250 new units in that period. Refer to Exhibit 3 on page II-7 in Appendix B of the Reuse Plan.

Response to Public Hearing Comment 21

21-1. Comment refers to phasing of future development at Fort Ord as it pertains to transportation and water issues.

The Final PEIR identifies an additional mitigation measure to address the phasing of future development at Fort Ord to mitigate potential environmental impacts associated with: 1) traffic and circulation (section 4.7) addressing roadway capacity and capital resources to fund required improvements; 2) hydrology and water quality (section 4.5) including available water supply and seawater intrusion into the aquifer; and capital resources to fund required improvements. The additional mitigation measure is a Development and Resource Management Plan (DRMP) to establish programs and monitor development at Fort Ord to assure that it does not exceed resource constraints posed by transportation facilities and water supply. The

components of the DRMP include: 1) Management of transportation improvements, 2) Management of available water supply, 3) Provision of adequate public services, and 4) Capital Planning. The DRMP requires an annual report on the Development, Resource and Service Levels.

The Reuse plan will be amended to include the additional mitigation measures to provide a DRMP to implement the growth management approach and principles and incorporate the levels of service standards of the Draft Reuse Plan.

Volume I of the Reuse Plan will include a new section 3.11.5 titled FORA's DRMP.

Volume II of the Reuse Plan will include for the individual land use jurisdictions, additional programs for: Section 4.4 - "Public Services, Utilities and Water Supply," and for Section 4.7 - "Traffic and Circulation."

Changes to the EIR

Amend Section 4.4 - Public Services, Utilities and Water Supply

Page 4-43. Hydrology and Water Quality Program B-1.1. Amend this program to read as follows:

"The City/County, with assistance ~~input~~ from FORA, and the MCWRA ~~MPWMD~~, shall identify potential reservoir and water impoundment sites on the former Fort Ord and zone those areas for watershed use which would preclude urban development."

Page 4-43. Hydrology and Water Quality Program B-1.2. Amend this program to read as follows:

"The City/County shall work with FORA and the MCWRA ~~appropriate agencies~~ to determine the feasibility of developing additional water supply sources for the former Fort Ord, such as water importation ..."

Page 4-43. Hydrology and Water Quality Program B-1.3. Amend this policy to read as follows:

"The City/County, in conjunction with FORA, shall adopt and enforce ..."

Page 4-43. Hydrology and Water Quality Policy B-1. Add the following new program:

"Program B-1.4: The City/County shall continue to actively participate in and support the development of "reclaimed" water supply sources by the water purveyor and the MRWPCA to insure adequate water supplies for the former Fort Ord."

Page 4-43. Hydrology and Water Quality Policy B-1. Add the following new program:

"Program B-1.5: The City/County shall promote the use of on-site water collection, incorporating measures such as cisterns or other appropriate improvements to collect surface water for in-tract irrigation and other non-potable use."

Page 4-43. Hydrology and Water Quality Policy B-1. Add the following new program:

"Program B-1.6: The City/County shall work with FORA to assure the long-range water supply for the needs and plans for reuse of the former Fort Ord."

Page 4-43. Hydrology and Water Quality Policy B-1. Add the following new program:

"Program B-1.7: The City/County, in order to promote FORA's DRMP, shall provide FORA with an annual summary of the following: 1) the number of new residential units, based on building permits and approved residential projects, within its former Fort Ord boundaries and estimate, on the basis of the unit count, the current and projected population. The report shall distinguish units served by water from FORA's allocation and water from other available sources; 2) estimate of existing and projected jobs within its Fort Ord boundaries based on development projects that are on-going, completed, and approved; and, 3) approved projects to assist FORA's monitoring of water supply, use, quality, and yield."

Page 4-43. Add the following new mitigation:

"Mitigation: A Development and Resource Management Plan (DRMP) to establish programs and monitor development at Fort Ord to assure that it does not exceed resource constraints posed by transportation facilities and water supply shall be established by FORA."

Page 4-84. Add the following new mitigation:

"Mitigation: A Development and Resource Management Plan (DRMP) to establish programs and monitor development at Fort Ord to assure that it does not exceed resource constraints posed by transportation facilities and water supply shall be established by FORA."

Changes to the Reuse Plan

Volume I. Context and Framework. Section 3.11.4. Insert the following new section 3.11.5 and sequentially renumber existing section 3.11.5 to 3.11.6 and section 3.11.6 to 3.11.7:

3.11.5 FORA's Development and Resource Management Plan (DRMP)

3.11.5.1. Objectives of the DRMP

Reuse of the former Fort Ord will utilize the DRMP to restrain development to available resources and service constraints. The DRMP objectives are:

- Development on former Fort Ord lands will be limited by the availability of services;
- Service availability is measured by compliance with Level of Service standards;
- Services are limited by resource and financial constraints. Resource limitations describe holding capacity limitations. Financial limitations are expressed in the Capital Improvement Program (CIP), and its periodic updates, for Base Reuse; and
- Services will be extended to development on a first come first served basis, up to the financial and resource limitations.

3.11.5.2 Components of the DRMP

To adequately implement the approach and principles described in sections 3.11.1 through 3.11.4, FORA will establish programs and monitor the following components of the DRMP:

- Management of Transportation Improvements,
- Management of Water Supply;
- Provision of Public Services; and
- Capital Planning.

FORA shall provide an annual report on the Development, Resource and Service Levels.

3.11.5.3 Management of Transportation Improvements

The development of transportation improvements is more a financial constraint than a resource constraint. However, the funding of an adequate transportation system must be paired with measurement of current and future traffic congestion to insure compliance with Level of Service standards. Programs to implement this component of the DRMP include:

3.11.5.3 (a) Fair Share Financing Program. FORA shall fund its "Fair Share" of "on-site," "off-site," and "regional" roadway and transit capital improvements based on the nexus analysis of the TAMC regional transportation model. The nexus is described in the Public Facilities Improvement Plan, Volume 3 of the Reuse Plan, as amended from time to time. The nexus has been updated to reflect TAMC's

re-prioritizing of improvements in the network and is reported in the "Fort Ord Regional Transportation Study," prepared by TAMC, January 6, 1997.

3.11.5.3 (b) Reimbursement Programs for On-site and Off-site Improvements.

FORA will retain the flexibility to build roadway improvements to the "on-site" and "off-site" network, as described in the Reuse Plan to serve development activities at the former Fort Ord. FORA will participate in reimbursement programs to recover expenses beyond Fort Ord's fair share when alternative programs for financing roadway and transit improvements are established.

3.11.5.3 (c) Regional Improvements Program. FORA intends to participate in a regional transportation financing mechanism if adopted by TAMC, as provided in 3.11.5.3 (a). If not, FORA will collect and contribute Fort Ord's "Fair Share" to construction of a roadway arterial network in and around the former Fort Ord. FORA's participation in the regional improvements program constitutes mitigation of FORA's share of cumulative impacts.

3.11.5.3 (d) Monitoring Transportation Improvements. Monitoring of transportation improvements will prevent development from exceeding FORA's Level-of-Service Standards.

LAND USE JURISDICTION RESPONSIBILITY. Each Land Use Jurisdiction shall annually provide information to TAMC and FORA on approved projects and building permits with their jurisdiction (both on the former Fort Ord and outside the former base), including traffic model runs, traffic reports, and environmental documents.

FORA RESPONSIBILITY. FORA shall work with TAMC to monitor current and projected traffic service levels on links identified as "on-site" and "off-site" segments in the Reuse Plan.

TAMC RESPONSIBILITY. TAMC shall monitor current and projected traffic service levels on links identified as "on-site," "off-site," and "regional" segments in northern Monterey County that affect the Reuse of the former Fort Ord.

3.11.5.4 Management of Water Supply

Water supply is a central resource constraint for development of Fort Ord. Insuring that development does not exceed the available water supply and safe yield is a major component of the DRMP. The following measures ensure that development is managed within this resource constraint.

3.11.5.4 (a) Water Allocation Program. FORA has adopted a program for allocation of the existing potable water supply by jurisdiction. The allocation is summarized in Table 3.11-2. The allocation will provide the member agencies the necessary certainty of water supplies to responsibly manage development within each individual land use jurisdiction.

1) Implementation Procedures and Annual Report. FORA shall enter into an allocation agreement or agreements with the member agencies to implement the allocation program and define procedures to address:

(a) the exchanges of water allocations among member jurisdictions;

(b) an annual allocation of the strategic reserve;

(c) mechanisms to assure the jurisdictions remain within their allocation; and

(d) changes to the allocation resulting from changes in the availability of the total existing water supply to the former Fort Ord.

2) 5-Year Review. FORA and the member agencies shall review and, if necessary, revise the water allocation program at least every five years. This review process will be established in FORA's allocation agreement(s) with the member agencies.

3) Water Allocation Monitoring. The water allocation will be monitored at the time of project reviews.

LAND USE JURISDICTION RESPONSIBILITY. Development projects approved by each land use jurisdiction will require a finding by that land use jurisdiction that the project can be served with their jurisdictional water allocation or by water imported to the former Fort Ord from another available water source.

FORA RESPONSIBILITY. If projects approved by the land use jurisdictions cannot be served by water supplied by the FORA water purveyor from the jurisdiction's allocation or by water imported to the former Fort Ord from another available water source, the FORA Board will be required to determine that the project is Not Consistent with the Reuse Plan.

3.11.5.4 (b) Residential Development Program. To prevent using up scarce resource availability, overall residential development limitations must be put in place to save capacity for industrial/commercial land uses and to prevent residential development from outstripping the existing 6600 afy of potable water supply at the former Fort Ord. The land use jurisdictions shall manage and determine the use for their full water allocation. The Residential Development Program limits total residential development that is served by the FORA existing potable water supply, based on the planning projections detailed in Table 3.11-3:

1) Residential Population Limit. Based on the existing potable water supply of 6,600 afy, the total resident population limit at the former Fort Ord is estimated to be 37,370.

2) New Residential Unit Limit. Based on the existing potable water supply of 6,600 afy, the total new residential units within the former Fort Ord shall not exceed 6,160 so that when combined with replacement or occupancy of the 1,813

existing units the total residential units shall not exceed 7,973 (excluding CSUMB and POM Annex housing). FORA's DRMP does not attempt to allocate residential units to the land use jurisdictions.

3) Residential Unit and Population Monitoring. Residential units and population will be monitored to prevent residential development from exceeding available water supplies.

LAND USE JURISDICTION RESPONSIBILITY. Each land use jurisdiction shall annually report to FORA the number of new residential units, based on building permits and approved residential projects, within its former Fort Ord boundaries and estimate, on the basis of the unit count, the current and projected population. The report shall distinguish units served by water from FORA's allocation and water from other available sources.

FORA RESPONSIBILITY. FORA shall incorporate the report on the residential population and units in its annual report.

TABLE 3.11-2
Allocation of Existing Potable Water Supply
By Jurisdiction
(Based on FORA's April 12, 1996 Resolution)

<u>JURISDICTION</u>	<u>TOTAL WATER ALLOCATION (AFY)</u>	<u>NOTES</u>
<u>City of Seaside</u>	<u>710</u>	
<u>County/City of Del Rey Oaks</u>	<u>75</u>	<u>Plus reclaimed water for golf course</u>
<u>County/City of Monterey</u>	<u>65</u>	
<u>City of Marina</u>	<u>1,185</u>	
<u>Monterey County</u>	<u>545</u>	
<u>ARMY</u>	<u>1,410</u>	
<u>CSUMB</u>	<u>1,035</u>	<u>Plus reclaimed water for irrigation</u>
<u>UCMBEST</u>	<u>165</u>	<u>Plus reclaimed water for irrigation</u>
<u>County/State Parks and Recreation</u>	<u>45</u>	
<u>County/Marina Sphere Polygon 8a</u>	<u>50</u>	
<u>SUBTOTAL</u>	<u>5,285 AFY</u>	
<u>Line Loss (10%)</u>	<u>530</u>	
<u>FORA Strategic Reserve</u>		
<u>Encumbered Reserve:</u>		
<u>Army - 160 AFY¹</u>		
<u>CSUMB - 125 AFY¹</u>		
<u>Seaside - 230 AFY²</u>		
<u>Unencumbered - 270 AFY</u>	<u>785</u>	
<u>TOTAL</u>	<u>6,600 AFY</u>	

ENCUMBRANCES TO FORA'S STRATEGIC RESERVE:

¹ 160 AFY at the POM Annex and 125 AFY at CSUMB polygon 10 are available upon metering of existing dwelling units.

² 230 AFY loaned to Seaside is available to Seaside for golf course irrigation until reclaimed replacement water is provided.

TABLE 3.11-3
Projected Residential Development Through 2015
(Based on the Existing 6,600 AFY of Potable Water)

<u>CATEGORY</u>	<u>UNITS</u>	<u>OCCUPANCY</u>	<u>POPULATION</u>
<u>POM Annex</u>	<u>1,590</u>	<u>2.6/unit</u>	<u>4,134</u>
<u>CSUMB Housing¹</u>	<u>1,253</u>	<u>2.0/unit</u>	<u>2,506</u>
<u>New Housing²</u>	<u>6,160</u>	<u>2.6/unit</u>	<u>16,016</u>
<u>Existing Housing</u>	<u>1,813</u>	<u>2.6/unit</u>	<u>4,714</u>
<u>CSUMB on campus students³</u>	<u>NA</u>	<u>NA</u>	<u>10,000</u>
<u>TOTAL</u>	<u>10,816</u>	<u>=</u>	<u>37,370</u>

¹ Assumes that no students live in this housing. If students occupy this housing then the estimate for students living on campus would be reduced to avoid double counting.

² Single Room Occupancy Units (SRO's) shall be counted as .38 units based on a comparable water demand.

³ Assumes 80% of 2015 projections of 12,500 FTE.

3.11.5.4 (c) Industrial and Commercial Job Creation Programs. The replacement of the 18,000 jobs lost as a result of the closure of Fort Ord is a major goal of the Reuse Plan. Market studies for the Reuse Plan show that the market for industrial and commercial job creation is weak and will, in fact, be the principal limitation on non-residential development. When the estimated jobs within the former Fort Ord boundaries reaches 18,000, the Residential Development Program (3.11.5.4(b)) shall be eliminated. The following measures are designed to implement this DRMP component.

1) Priority Infrastructure Funding. The CIP shall provide priority funding for infrastructure to serve industrial and commercial development.

2) Development Tax Fee Burdens. The financial program shall implement tax and fee burdens that promote industrial and commercial uses. FORA will initiate appropriate proceedings for the implementation of development tax burdens to transfer some infrastructure costs from job-generating uses to residential development.

3) Job Creation Monitoring. Job creation monitoring will provide FORA with information necessary to monitor the effectiveness of the Residential Population and New Unit Limits.

LAND USE JURISDICTION RESPONSIBILITY. Each Land Use Jurisdiction shall prepare an annual estimate of existing and projected jobs within its Fort Ord boundaries based on development projects that are on-going, completed, and approved.

FORA RESPONSIBILITY. FORA shall incorporate the job creation reports into its annual report.

TABLE 3.11-4
Job Creation Projected Through 2015
(Based on 6,600 afy Water Supply)

<u>LAND USE CATEGORY</u>	<u>PERCENT BUILDOUT</u>	<u>EMPLOYEES</u>
<u>CSUMB</u>	<u>50%</u>	<u>1,600</u>
<u>POM Annex</u>	<u>100%</u>	<u>310</u>
<u>Industrial/Office/R&D</u>	<u>30%</u>	<u>11,350</u>
<u>Retail</u>	<u>60%</u>	<u>2,372</u>
<u>Hotel (Includes golf and other visitor-serving)</u>	<u>56%</u>	<u>1,155</u>
<u>Parks and Open Space (State Park, etc.)</u>	<u>100%</u>	<u>90</u>
<u>Public Facilities (Schools, MPC, including military)</u>	<u>99%</u>	<u>1,450</u>
<u>Habitat Management</u>	<u>100%</u>	<u>15</u>
<u>TOTAL</u>		<u>18,342</u>

3.11.5.4 (d) Water Supply Management and Augmentation Programs. The management of existing groundwater supplies, water conservation, and providing alternative sources of water supply are all necessary water management measures required to implement the objectives of the Reuse Plan. Development beyond the limits defined in the DRMP will be allowed only upon the augmentation of existing water supplies.

1) Protection of Yield and Quality of Water Supplies. Pumping from the on-site well-water supply for FORA has been shown to effect the extent of seawater intrusion into the shallow aquifers. FORA shall:

(a) participate in on-going water basin management planning;

(b) actively manage the water supply allocation so as to remain within the water resources available to the former Fort Ord under the auspices of the Responsible Regional Agency, the Monterey County Water Resources Agency (MCWRA);

(c) through the water purveyor, monitor chloride levels in the wells supplying the former Fort Ord in order to provide warning of salt water intrusion. If a detected upward trend in chloride levels results in exceeding potable water standards over a five year period, the FORA Board will be notified by the water purveyor in order to take corrective action.

(d) take measures to eliminate extraction of the former Fort Ord's water supply from the 180-foot shallow aquifer by encasing those wells through the shallow aquifer zone.

2) Water Use Efficiency Program. FORA shall establish water efficiency and on-site reuse policies governing development to achieve conservation objectives.

3) Reclaimed Water Source and Funding. FORA shall continue to actively participate in and support the development of reclaimed water supply sources by the water purveyor and the Monterey Regional Water Pollution Control Agency (MRWPCA) to insure adequate water supplies for the former Fort Ord. The CIP shall fund a reclaimed water program adequate for the full development of industrial and commercial land uses and golf course development.

4) On-Site Water Collection Program. FORA shall promote the use of on-site water collection, incorporating measures such as cisterns or other appropriate improvements to collect surface water for in-tract irrigation and other non-potable use.

5) Additional Potable Water Supplies Program. FORA may investigate and provide appropriate augmentation of the potable water supplies to:

(a) assure the long-range water supplies for the needs and plans for the planned uses at the former Fort Ord;

(b) assure the economic viability of the reuse financing measures; and

(c) promote the goals established for FORA in SB-899.

6) Monitoring of Water Supply, Use, Quality, and Yield. Water supply, use, quality, and yield shall be monitored to meet the DRMP objectives.

LAND USE JURISDICTION RESPONSIBILITY. Each land use jurisdiction shall provide FORA with an annual summary of approved projects.

FORA RESPONSIBILITY. FORA shall monitor the availability of potable and non-potable water and compare it with existing use. This monitoring is undertaken to insure that the water consumption at the former Fort Ord will not exceed the contracted, owned, or allocated water supply of FORA or its member agencies for use within the former Fort Ord boundaries.

FORA shall pursue partnerships with MRWPCA and other appropriate agencies to develop sources of reclaimed water available to the former Fort Ord.

WATER PURVEYOR RESPONSIBILITY. The water purveyor shall annually report to FORA on:

(a) the use of water by on-going and existing projects;

(b) consumption rates for potable and non-potable water for typical users; and

(c) chloride levels of the water withdrawn from the former Fort Ord's wells and, if necessary, recommended corrective actions.

MCWRA RESPONSIBILITY. MCWRA shall continue to manage the Salinas River Valley ground water aquifers on a basin-wide basis to ensure an available water supply to FORA.

3.11.5.5 Other Public Services

FORA has adopted service levels in the Reuse Plan for wastewater, habitat management and fire protection. FORA shall work with the land use jurisdictions and service providers to assure that development has sufficient public services to meet the adopted service levels.

1) Monitoring of Public Services. The availability of public services will be monitored at the time of project review.

LAND USE JURISDICTION RESPONSIBILITY. Development projects approved by each land use jurisdiction will require a finding by that land use jurisdiction that the project can be served with adequate public services for wastewater, habitat management, and fire protection consistent with FORA's Level-of-Service Standards.

FORA RESPONSIBILITY. If a project approved by a land use jurisdiction does not meet FORA's Level-of-Service Standards, the FORA Board will be required to determine that the project is Not Consistent with the Reuse Plan.

3.11.5.6 Capital Planning to Assure Financial Integrity

FORA's CIP is the principal mechanism for insuring adequate service levels within resource constraints.

1) Preparation of Annual Update. FORA shall annually update the CIP to reflect the proposed capital projects. The extension of infrastructure shall be made on a first-come-first-served basis consistent with funding capabilities and best engineering practices.

2) Monitoring of CIP Conformance.

LAND USE JURISDICTION RESPONSIBILITY. Each development approval by a land use jurisdiction for a project that will utilize infrastructure included in FORA's CIP will require a finding by that land use jurisdiction that the project is consistent with FORA's CIP or can be served by infrastructure provided to the project from outside the former Fort Ord boundaries.

FORA RESPONSIBILITY. If a project approved by a land use jurisdiction cannot be served by adequate infrastructure, the FORA Board will be required to determine that the project is Not Consistent with the Reuse Plan.

3.11.5.7 Annual Development, Resource and Service Level Report

Annual monitoring and reporting is a fundamental contributor to the effectiveness and public support for the DRMP. The report shall project demand for services from projected growth and recommend actions that FORA may take to remain within resource capacity or service level standards.

FORA RESPONSIBILITY. FORA shall prepare an annual report on the programs included in the DRMP on the following topics:

Transportation

Available Water Supply

- Water Allocation by Jurisdiction
- Residential Units and Population
- Industrial and Commercial Job Creation.
- Water Supply, Use, Quality, and Yield.

Other Public Services.

CIP.

Changes to the Reuse Plan

Volume II. Section 4.2.2 - Streets and Roads. 4.2.2.5 - Policies and Programs

Page 4-104. Amend Streets and Roads Policy A-1 to read as follows:

"FORA and each jurisdiction with lands at former Fort Ord shall coordinate with and assist TAMC in providing funding for an efficient regional transportation network to access former Fort Ord and implement FORA's Development and Resource Management Plan (DRMP)."

Page 4-104. Amend Streets and Roads Program A-1.1 to read as follows:

"Each jurisdiction, through FORA's DRMP, shall fund its "fair share" of "on-site," "off-site," and "regional" roadway improvements based on the nexus analysis of the TAMC regional transportation model. The nexus is described in the Public Facilities Improvement Plan, Volume 3 of the Reuse Plan, as amended from time to time. The nexus has been updated to reflect TAMC's re-prioritizing of improvements in the network and is reported in the "Fort Ord Regional Transportation Study," prepared by TAMC, January 6, 1997. FORA and each jurisdiction with lands at former Fort Ord shall provide a funding mechanism to pay for former Fort Ord's share of impact on the regional transportation system. "

Page 4-104. Amend Streets and Roads Program A-1.2 to read as follows:

"FORA will retain the flexibility to build roadway improvements to the "on-site" and "off-site" network, as described in the Reuse Plan to serve development activities at the former Fort Ord. FORA will participate in reimbursement programs to recover expenses beyond Fort Ord's fair share when alternative programs for financing roadway and transit improvements are established."

~~FORA and each jurisdiction with lands at former Fort Ord shall identify specific transportation issues that affect former Fort Ord and support and participate in regional and state planning efforts and funding programs to provide an efficient regional transportation effort to access former Fort Ord.~~

Page 4-104. Amend Streets and Roads Program A-1.3 to read as follows:

"Each jurisdiction, through FORA's DRMP, shall participate in a regional transportation financing mechanism if adopted by TAMC, as provided in 3.11.5.3 (a) the DRMP. If not, FORA will collect and contribute Fort Ord's "fair share" to construction of a roadway arterial network in and around the former Fort Ord. FORA's participation in the regional improvements program constitutes mitigation of FORA's share of cumulative impacts."

Page 4-104. Amend Streets and Roads Program A-1.4 to read as follows:

"In order for FORA to monitor the transportation improvements and to prevent development from exceeding FORA's level of service standards, each jurisdiction shall annually provide information to TAMC and FORA on approved projects and building permits with their jurisdiction (both on the former Fort Ord and outside the former base), including traffic model runs, traffic reports, and environmental documents."

Volume II. Section 4.4.2 - Hydrology and Water Quality. 4.4.2.3 - Policies and Programs

City of Marina

Page 4-162. Hydrology and Water Quality Program B-1.1. Amend this program to read as follows:

"The City/County, with assistance input from FORA, and the MCWRA MPWMD, shall identify potential reservoir and water impoundment sites on the former Fort Ord and zone those areas for watershed use which would preclude urban development."

Page 4-162. Hydrology and Water Quality Program B-1.2. Amend this program to read as follows:

"The City/County shall work with FORA and the MCWRA appropriate agencies to determine the feasibility of developing additional water supply sources for the former Fort Ord, such as water importation ..."

Page 4-162. Hydrology and Water Quality Program B-1.3. Amend this policy to read as follows:

"The City/County, in conjunction with FORA, shall adopt and enforce ..."

Page 4-162. Hydrology and Water Quality Policy B-1. Add the following new program:

"Program B-1.4: The City/County shall continue to actively participate in and support the development of "reclaimed" water supply sources by the water purveyor and the MRWPCA to insure adequate water supplies for the former Fort Ord."

Page 4-162. Hydrology and Water Quality Policy B-1. Add the following new program:

"Program B-1.5: The City/County shall promote the use of on-site water collection, incorporating measures such as cisterns or other appropriate improvements to collect surface water for in-tract irrigation and other non-potable use."

Page 4-162. Hydrology and Water Quality Policy B-1. Add the following new program:

"Program B-1.6: The City/County shall work with FORA to assure the long-range water supply for the needs and plans for reuse of the former Fort Ord."

Page 4-162. Hydrology and Water Quality Policy B-1. Add the following new program:

"Program B-1.7: The City/County, in order to promote FORA's DRMP, shall provide FORA with an annual summary of the following: 1) the number of new residential units, based on building permits and approved residential projects, within its former Fort Ord boundaries and estimate, on the basis of the unit count, the current and projected population. The report shall distinguish units served by water from FORA's allocation and water from other available sources; 2) estimate of existing and projected jobs within its Fort Ord boundaries based on development projects that are on-going, completed, and approved; and, 3) approved projects to assist FORA's monitoring of water supply, use, quality, and yield."

Volume II. Section 4.4.2 - Hydrology and Water Quality. 4.4.2.3 - Policies and Programs

City of Seaside

Program B-1.1: See description of this program under Marina above.

Program B-1.2: See description of this program under Marina above.

Program B-2.3: See description of this program under Marina above.

Program B-2.4: See description of this program under Marina above.

Program B-2.5: See description of this program under Marina above.

Program B-2.6: See description of this program under Marina above.

Program B-2.7: See description of this program under Marina above.

Volume II. Section 4.4.2 - Hydrology and Water Quality. 4.4.2.3 - Policies and Programs

Monterey County

Program B-1.1: See description of this program under Marina above.

Program B-1.2: See description of this program under Marina above.

Page 4-162. Hydrology and Water Quality Program B-1.3. Amend this policy to read as follows:

"The County, in conjunction with FORA, shall enforce its existing water conservation ordinance"

Program B-2.4: See description of this program under Marina above.

Program B-2.5: See description of this program under Marina above.

Program B-2.6: See description of this program under Marina above.

Program B-2.7: See description of this program under Marina above.

21-2. Commenter would like to know what population numbers should be used. Refer to Response to comment 1-4 and 1-5.

21-3. The commenter included a comment letter at the hearing. Refer to response to comment 34

21-4. The commenter included a comment letter at the hearing. Refer to response to comment 35

21-5. The commenter comments on the need for study sessions, an executive summary, additional copies in the local libraries, the EIR being too general, and taxpayers to be affected by costs of development. As it pertains to an "executive summary", refer to response to comment 17-2. As it pertains to additional copies at the libraries, FORA will provide five sets of the Final PEIR at each library that was used as a repository for the Reuse Plan and Draft EIR. As it pertains to the DEIR being too general in its discussion on transportation and water solutions, the comment is not specific enough to warrant a specific response. However, it is felt that FORA has adequately responded to the transportation and water issues in the Final EIR. As it pertains to taxpayers and how they are affected by future development costs, new development on Fort Ord will pay a fair share amount which reflects future Fort Ord impacts on transportation, water, sewer and drainage infrastructure. Existing residents outside of Fort Ord are not assessed any fees for redevelopment.

Response to Public Hearing Comment 22

22-1. The commenter is concerned with transportation infrastructure costs and sources of water. As it pertains to water issues, the reader is referred to response to comment 8-5.

As it pertains to transportation issues, FORA has developed a funding mechanism as a part of the Reuse Plan implementation to fund roadway improvements on a "fair share" basis that are impacted by Fort Ord development.

The Public Facilities Implementation Plan and the Comprehensive Business Plan discussed the funding of a number of regional roadways by Fort Ord development beyond Fort Ord's fair share. Subsequent to preparation and circulation of these reports in early 1996, TAMC prepared a revised regional transportation study (JHK 1997), which included a revised list of the regional transportation project and their phasing. The costs applicable to Fort Ord reuse impacts to on- and off-base roadways is approximately \$116.6 million of the total regional transportation costs of \$856.6 million. The fair share nexus is based on a revised nexus analysis contained in the Fort Ord Regional Transportation Study (JHK 1997).

This "fair share" basis is reflected in a fair share financing program for three categories of roadways contained in the Reuse Plan, the Draft EIR and the 1997 Fort Ord Regional Transportation Study. The Development and Resource Management Plan (DRMP) provides the financing programs. The categories of improvements to be financed include "on-site", "off-site" and "regional" roadways and transit capital improvements.

"On-site" roadways are those on Fort Ord. "Off-site" roadways are roadways in the immediate area of Fort Ord (e.g., Reservation Road, Blanco Road, etc. The PFIP contains the full list of "off-site" as well as "regional" roadways)(Note: Highway 218 has been transferred from an "off-site" category to a "regional" category). "Regional" roads are all state highways. Transit improvements consist of transit vehicle purchase and replacement and intermodal centers within Fort Ord. The DRMP discusses these roadways and transit improvements and how they are funded and implemented simultaneous to development.

The DRMP provides three programs for financing transportation improvements. These programs provide flexibility for FORA in mitigating transportation impacts in response to alternative financing approaches pursued by TAMC to address the north county long-range transportation requirements.

3.11.5.3 (a) Fair Share Financing Program. FORA shall fund its "Fair Share" of "on-site," "off-site," and "regional" roadway and transit capital improvements based on the nexus analysis of the TAMC regional transportation model. The nexus is described in the Public Facilities Improvement Plan, Volume 3 of the Reuse Plan, as amended from time to time. The nexus has been updated to reflect TAMC's re-prioritizing of improvements in the network and is reported in the "Fort Ord Regional Transportation Study," prepared by TAMC, January 6, 1997.

3.11.5.3 (b) Reimbursement Programs for On-site and Off-site Improvements. FORA will retain the flexibility to build roadway improvements to the "on-site," "off-site," and "regional" network, as described in the Reuse Plan to serve development activities at the former Fort Ord. FORA will participate in reimbursement programs to recover expenses beyond Fort Ord's fair share when alternative programs for financing roadway and transit improvements are established.

3.11.5.3 (c) Regional Improvements Program. FORA intends to participate in a regional transportation financing mechanism if adopted by TAMC, as provided in 3.11.5.3 (a) and (b). Until such a mechanism is established, FORA will collect and, at its discretion, may use Fort Ord's "Fair Share" for construction of a roadway arterial network in and around the former Fort Ord. FORA's participation in the regional improvements program constitutes mitigation of FORA's share of cumulative impacts.

Table 7-3 from the January 1997 Fort Ord Regional Transportation Study entitled 2015 Fort Ord Regional Transportation Study Preliminary Nexus Analysis Results, and included in response to comment 22-1, indicates the funding amount that future development at Fort Ord is responsible for. The reader is also referred to response to comment 21-1 for discussion of implementation, management and monitoring of transportation improvements through the DRMP. Also, refer to 154-2 for a discussion of the significant unavoidable impacts associated with transit O&M.

22-2. The commenter included a comment letter at the hearing. Refer to response to comment 37.

Response to Public Hearing Comment 23

23-1. The commenter states he is not in favor of hotel and golf development in Del Rey Oaks and intends to oppose this. The commenter does not address the content of the Reuse Plan or the PEIR. No response is necessary.

Response to Public Hearing Comment 24

24-1. Commenter is concerned with democratic participation, workshops and an executive summary. Public workshops were not provided for each issue and models were not developed for the Reuse Plan. As it pertains to public participation, the reader is referred to response to comment 5-1. A Summary is included in the Draft EIR.

Response to Public Hearing Comment 25

25-1. The commenter wants the FORA board to "think about the face of the community and leave it alone". The commenter does not address the content of the Reuse Plan or the PEIR. No response is necessary.

Table 7-3
2016 FORT ORD REGIONAL TRANSPORTATION STUDY
PRELIMINARY NEXUS ANALYSIS RESULTS

FACILITY	ESTIMATED COST	DEDICATED/EXPECTED FUNDING (1)		UNFUNDED COST ALLOCATION(2)		
		Amount	Source	Fort Ord Development	Impact Study Area Development	PUBLIC(3)
Regional Highway Projects						
Highway 1 - Hutton Canyon	\$38,000,000	\$38,000,000	STIP	\$0	\$0	\$0
Highway 1 - North of Castroville	\$80,000,000	\$0		\$0	\$0	\$80,000,000
Highway 1 - Seaside/Sand City	\$20,000,000	\$0		\$8,400,000	\$13,600,000	\$0
U.S. 101 - Prunedale Bypass	\$238,000,000	\$107,000,000	STIP	\$0	\$0	\$129,000,000
U.S. 101 Interchanges	\$63,000,000	\$0		\$0	\$0	\$63,000,000
Highway 68 - Bypass Freeway	\$177,000,000	\$0		\$18,054,000	\$138,768,000	\$20,178,000
Highway 156 Widening	\$50,000,000	\$0		\$0	\$0	\$50,000,000
Highway 183 Widening	\$59,000,000	\$0		\$0	\$58,050,000	\$2,950,000
Highway 218 - North-South to Hwy 68	\$3,590,000	\$0		\$1,629,850	\$1,960,140	\$0
Expected STIP County Minimum Funds (4)	\$0	\$56,000,000	STIP	\$0	\$0	(\$56,000,000)
SUBTOTAL	\$704,590,000	\$199,000,000		\$28,083,850	\$210,378,140	\$368,128,000
Off-Site Arterial Improvements						
Davis Road - Widening n/o Blanco	\$10,000,000	\$0		\$5,570,000	\$3,720,000	\$710,000
Davis Road - New bridge	\$5,000,000	\$0		\$2,030,000	\$2,970,000	\$0
Blanco Road - Widening and bridge	\$12,378,000	\$0		\$6,337,538	\$5,520,568	\$519,878
Reservation Road - Widening	\$12,654,400	\$0		\$9,058,973	\$3,431,417	\$184,010
Del Monte - Seaside/Monterey	\$10,000,000	\$0		\$3,420,000	\$3,480,000	\$3,120,000
Del Monte - Marina	\$5,578,300	\$0		\$4,488,822	\$1,087,379	\$0
California	\$2,460,000	\$0		\$687,500	\$1,162,500	\$600,000
Crescent	\$720,000	\$0		\$720,000	\$0	\$0
SUBTOTAL	\$68,798,700	\$0		\$32,332,831	\$21,181,864	\$8,113,888
On-Site Improvements						
Gateway and Misc Safety Improvements/Rehab	\$20,300,384	\$9,780,000	DCAG	\$10,520,384	\$0	\$0
Abrams	\$803,000	\$0		\$803,000	\$0	\$0
12th/Vinjin	\$9,085,000	\$0		\$4,532,500	\$4,532,500	\$0
Blanco/Vinjin Connector	\$4,080,000	\$0		\$4,080,000	\$0	\$0
8th Street	\$3,821,000	\$0		\$3,248,615	\$573,285	\$0
Inter-Garrison	\$4,480,000	\$0		\$3,808,000	\$672,000	\$0
Gigling	\$4,537,800	\$0		\$3,221,838	\$1,315,962	\$0
2nd Avenue	\$7,232,500	\$0		\$5,388,068	\$1,834,432	\$0
North-South Road	\$8,180,600	\$0		\$3,328,724	\$2,833,876	\$0
California	\$2,768,200	\$0		\$1,038,480	\$1,730,750	\$0
Saines Ave.	\$2,412,000	\$0		\$2,412,000	\$0	\$0
Eucalyptus Road	\$2,880,000	\$0		\$2,880,000	\$0	\$0
Eastside Road	\$8,020,000	\$0		\$4,358,480	\$1,661,520	\$0
SUBTOTAL	\$74,382,384	\$9,780,000		\$49,428,039	\$18,184,328	\$0
Transit Capital Improvements						
Transit Vehicle Purchase & Replacement	\$15,000,000	\$0		\$5,000,000	\$5,000,000	\$5,000,000
Intermodal Centers	\$3,600,000	\$0		\$3,600,000	\$0	\$0
SUBTOTAL	\$18,600,000	\$0		\$8,600,000	\$5,000,000	\$5,000,000
TOTAL CAPITAL COSTS/SHARES	\$856,551,084	\$208,780,000		\$116,644,830	\$251,884,349	\$279,241,888

- 1) Includes \$56 million in expected STIP funds not yet allocated. Does not include traffic impact fees already collected, that may be used for some of these projects.
- 2) Allocation of costs based on a "Nexus" assessment of individual improvements. Fort Ord and Impact Study Area Development shares based on relative contribution to traffic volume growth on subject facility.
- 3) "Public" includes share for existing congestion and portion of traffic growth attributable to trips outside the study area. (Note: in some instances where the percentage of trips with one or both ends are external to Fort Ord and the study area is significant, the Nexus requirement cannot be met and the full cost must be covered by non-development sources.)
- 4) Assume that STIP County Minimum funds will be allocated to highway improvements. Specific projects not yet specified.

**Table E-5
OFF-SITE REGIONAL FACILITIES LOS SUMMARY**

Roadway	Segment	Daily Volume/LOS		
		Existing (1993/94) Condition	Financially Constrained	Financially Unconstrained
State Highway 1	State Highway 68 to Del Monte Blvd (Seaside)	56,000/D	65,000/E	65,000/E
	Del Monte Blvd (Seaside) to State Highway 218	60,000/D	72,200/F	71,900/D
	State Highway 218 to Fremont Blvd	59,000/D	87,500/F	89,000/D
	Fremont Blvd to Main Gate	75,000/D	101,200/E	99,700/E
	Main Gate to 12th Street	65,000/C	80,200/D	79,700/D
	12th Street to S. Marina (Del Monte Blvd)	71,000/C	75,100/D	75,600/D
	S. Marina (Del Monte Blvd) to Reservation Road	35,500/C	48,400/D	48,900/D
	Reservation Road to N. Marina (Del Monte Blvd)	35,500/C	47,400/C	47,600/C
	N. Marina (Del Monte Blvd) to State Highway 156	37,500/C	53,800/D	52,800/D
	State Highway 156 to Santa Cruz County line	30,000/E	60,200/F	70,700/F
State Highway 68	State Highway 1 to State Highway 218	22,800/F	36,300/F	38,700/C
	State Highway 218 to San Benancio Road (Highway)	20,600/F	30,200/F	10,000/B
	State Highway 218 to San Benancio (Freeway Bypass)	N/A	N/A	21,900/B
	San Benancio Road to Reservation Road	25,000/B	36,000/C	34,600/C
	Reservation Road to E. Blanco Road	29,500/B	43,900/C	42,500/C
State Highway 156	Hwy 1 to 0.1 miles East of Castroville Blvd.	22,000/B	35,600/C	30,900/B
	0.1 miles East of Castroville Blvd. to US 101	25,000/E	26,500/E	35,500/C
State Highway 183	US 101 to Davis Road	29,500/E	37,900/F	38,900/F
	Davis Road to Espinosa Road	16,000/C	32,900/F	30,700/B
	Espinosa Road to State Highway 156	22,000/D	53,300/F	50,900/D
State Highway 218	State Highway 1 to Fremont Boulevard	14,000/D	19,700/D	22,600/D
	Fremont Boulevard to North-South Road	10,850/B	10,900/B	12,200/C
	North-South Road to Hwy 68	10,850/B	16,500/B	17,800/B

Response to Public Hearing Comment 26

26-1. The commenter does not want Fort Ord to be sold to the world. The commenter does not address the content of the Reuse Plan or the PEIR. No response is necessary.

26-2. The commenter is concerned with publicity of the Reuse Plan and EIR. One FORA public hearing was televised on the television channel used by the Monterey County Office of Education. Notices of all meetings were advertised in local newspapers. The commenter included a comment letter at the hearing. Refer to response to comment 38.

[End July 1, 1996 FORA public hearing comments]

Response to Letter 27

27-1. The commenter requests an extended public review period. Refer to response to comment 5-1.

27-2. The commenter requests that public workshops be conducted. FORA did not provide for such workshops. Also, Refer to response to comment 5-1.

27-3. The commenter is concerned with the alternatives discussed in the EIR. A full range of alternative reuse scenarios were developed and analyzed in the Army's FEIS and DSEIS. These include Alternatives 1 through 8 and their subalternatives. Alternatives 1, 2, 3 and 4 were not pursued as viable alternatives, and they have been eliminated from further consideration by the Army because of significant environmental impacts; therefore, they were not considered in the Draft EIR.

Also, the range of alternatives to be examined in the Draft EIR is governed by the rule of reason which requires that only those alternatives necessary to permit a reasoned choice need be addressed. The CEQA guidelines require that the number of alternatives analyzed be limited to those that would avoid or substantially lessen any of the significant effects of the project (Section 15126(d)(5)).

As it pertains to adding an additional alternative in the EIR which would be a Fort Ord Reuse Plan based on safe yield water use only, the Reuse Plan was written to reflect the constraints associated with the MCWRA delivering 6,600 afy (refer to Volume I, Table 3.11-1, which limits development to water that is available). Subsequently, the constraints to development vis-a-vis water supply has been further refined in the Development and Resource Management Plan (DRMP) introduced in response to comment 21-1. For additional information on the approach to the alternatives, refer to page 6-1 of the Draft EIR.

Response to Letter 28

28-1. The commenter has a preference for lower density development in the City of Seaside. No changes to the Reuse Plan and EIR are necessitated by this comment. However, this comment must be considered by the FORA board before it makes its decision on the Reuse Plan and PEIR.

Response to Letter 29

29-1. The commenter states that the trailer home he has been living in has been rented to someone else. The commenter does not address the content of the Reuse Plan or the PEIR. No response is necessary.

Response to Letter 30

30-1. The commenter is concerned about transportation and water issues. As it pertains to transportation issues, refer to Response to comment 21-1 (pertaining to phasing). As it pertains to water issues, Refer to response to comment 8-5 and 21-1 (pertaining to phasing).

30-2. Refer to the preceding response.

30-3. The commenter is concerned with the water issue. Refer to response to comment 8-5.

30-4. The commenter requests an extended public review period. Refer to response to comment 5-1.

30-5. The commenter requests that the Reuse Plan be subject to a public vote. The issue raised must be considered by the FORA Board before they make a final determination on the EIR and the Reuse Plan.

Response to Letter 31

31-1. The commenter states that Fort Ord is a major development. The commenter does not address the content of the EIR. No response is necessary.

31-2. The commenter states that the Reuse Plan should not be rushed in light of local cities and the county. The commenter does not address the content of the EIR. No response is necessary.

31-3. The commenter is concerned about the use of water 6,600 afy from the Seaside Basin and there is inadequate funding to pay for infrastructure costs. The

Seaside Valley Basin has been and will continue to be the source for irrigation water for the two existing Fort Ord golf courses only (400 afy). Refer to response to comment 8-5. As it pertains to funding, the Business and Operations Plan (Appendix B) of the Reuse Plan contains the estimated costs for infrastructure improvements and the anticipated per unit fair share payment to cover the infrastructure costs.

31-4. The commenter requests a scaled down plan. The commenter has stated an opinion on the proposed project. The comment is for the FORA Board to consider.

Response to Letter 32

32-1. The commenter is concerned with the clean up of toxic materials and unexploded ordnance. The removal of ordnance outside of the 8,000 acre Multi-Range area (MRA) is proceeding under time-critical removal actions in response to safety concerns and to expedite early reuse of Fort Ord. Non-time critical removal actions are planned for the MRA. Ordnance removal actions on Fort Ord are the responsibility of the Fort Ord Base Realignment and Closure Cleanup Team which includes the Army, U.S. Environmental Protection Agency (EPA) and the California EPA. Other toxic materials, such as lead based paints on old barracks buildings, are being handled by various state and/or federal agencies responsible for such toxic materials.

Lead and Asbestos in Buildings

As it pertains to lead and asbestos in buildings, FORA has completed a "Demolition Study" to adequately anticipate the costs of removing buildings that are contaminated with asbestos and lead (Reimer 1996). Refer to response to comment 8-1 for additional discussion on demolition.

Asbestos

Because Fort Ord was established in 1917 and a substantial amount of construction occurred from the 1940's to the 1960's, the majority of buildings on the installation are likely to contain some type of asbestos-containing material. The Army's policy is to remove and encapsulate friable asbestos, which is hazardous to human health; asbestos that is encapsulated or in good condition is not considered hazardous and will be left in place and its presence identified for the new owners or building managers.

The Army concluded an asbestos study of approximately 4,500 buildings at Fort Ord in 1993. The survey report included the location and condition of all material containing friable and non-friable asbestos in each building, and recommendations for remediation or maintenance requirements. The predominant forms of asbestos

identified include pipe insulation, floor tile, joint compound, wall board, and roofs throughout buildings constructed prior to 1978. Removal is ongoing.

A "friable" waste is one which can be reduced to a powder or dust under hand pressure when dry. It is subject to Title 22, Division 4, Chapter 30 of the California Code of Regulations (CCR). The management of this waste is subject to any requirements or restrictions which may be imposed by other regulatory agencies operating under separate authority. Asbestos is not presently regulated as hazardous waste under the Resource Conservation and Recovery Act (RCRA) and therefore, is considered to be a "non-RCRA" waste.

Lead Based Paint

Several buildings at Fort Ord also may contain lead-based paint or other lead contaminants. The Army conducted on site investigations, physical monitoring and risk assessments to identify lead sources and recommend abatement measures. Lead abatement and disposal activities are regulated by Section 408 of the Toxic Substances Control Act Title IV, as amended by the Housing and Community Development Act of 1992. Removal is ongoing.

Lead on the Beach

As it pertains to lead on the beach, 1,860 mg of lead is the standard prescribed by the Remedial Investigation/Feasibility Study (RI/FS) for beach use. The RI/FS is the document required per the Superfund. Both the U.S. EPA and the State of California Department of Toxic Substance Control have approved the 1,860 mg. The 1,000 and 400 mg are irrelevant to the beach use and pertain to lead disposal standards for landfills and lead based paint standards for housing, respectively (Gail Youngblood, pers. com., December 12, 1996).

Ordnance and Explosives (OE)

Information regarding OE is available in the Engineering Evaluation/Cost Analysis (EE/CA) - Phase I. This document, currently in draft form, and available at FORA offices, will be circulated for public comment in April 1997 (anticipated release date). This document details all Army activities pertaining to OE, chemicals, etc. found at Fort Ord. Due to the extensive amount of information in the EE/CA, the commenter is referred to that document for additional information.

In summary, the EE/CA contains a discussion of the areas on Fort Ord which have been identified by the Army to contain OE and areas that do not contain OE. Based on the EE/CA, there are sites which contain no OE (zero-density sites) and sites designated "low-density OE sites" and "moderate- to high-density OE sites". Low-density OE sites are those sites that have been characterized as having an OE density of less than one OE item per acre. Moderate- to high-density OE sites are those sites that have been characterized as having an OE density greater than one OE item per acre.

Each of these categories include subcategories (Groups I, II and III). Group I represents open space, Group II represents parks and recreation and Group III represents institutional/public/commercial/residential/agricultural, etc.

The EE/CA also provides "general recommendations" on how the Army will address the OE issue for each of the sites located with "low-density OE sites" and "moderate-high density OE sites". Furthermore, the EE/CA provides "site specific recommendations" for its zero-density, low-density and moderate- to high-density sites, and sites with insufficient data to make recommendations.

Following are the "general recommendations" contained in the draft EE/CA (number sequence reflects format contained in the draft EE/CA). These are base wide recommendations. The EE/CA also includes recommendations for individual OE sites. A total of 20 OE sites were considered for recommendations for future actions. These sites were organized into three density levels as discussed above: nine sites that were either sampled or subjected to a removal actions and determined to not contain OE, seven sites classified as low-density sites, and four sites classified as moderate- to high-density. An additional six sites were subjected to a risk evaluation, but geographic data and/or sampling coverage were not adequate to make recommendations for these sites (Earth Tech 1997).

Following each numbered recommendation below is a Policy Consideration note for the FORA Board to consider. It is recommended that the FORA board submit the Policy Consideration to the Army as a comment on the Draft EE/CA whereby the Army would consider amending its EE/CA to accommodate the Policy Consideration.

General Recommendations Included in the January 1997 EE/CA

6.1.2 Universally, all parcels disposed of by the Army at the former Fort Ord should carry in the deed a statement that all current and future recipients of Fort Ord property should be made aware that, for nearly 80 years the installation was used for a variety of military activities that involved OE, and that any area of the installation may potentially contain OE, and a warning to prospective future property owners should accompany any subsequent property disposal (i.e., the warning should "run with the land"). While deed restrictions are a useful notice device, a deed restriction is not necessarily a complete notice to all potential users of a parcel. The use of a deed restriction should often accompany the use of other notices, and security, safety, and educational efforts.

Policy Consideration

No policy recommended.

6.1.3 The installation or other reuse planning entity should continue to provide for public education activities such as educational materials, public meetings, public speaking engagements, and public announcements over the long

term. These activities should be coordinated through a central planning function in order to avoid redundancies, and to prevent conflicting information or misinformation from reaching the public.

Policy Consideration

In order for the EE/CA to be effective in reducing the risk associated with OE, FORA should communicate to the Army that they shall be responsible for funding the educational program in the context of labor costs and materials in perpetuity.

6.1.4 As part of the educational effort, the installation or other reuse planning entity should implement a program for the development and construction of display cases. These display cases should provide information sufficient to inform the public of the dangers of OE, the extent of known (i.e. confirmed) or suspected OE, OE sampling removal activities, and history of military operation at the installation. Display cases should be updated with new information on an as-appropriate basis. The display cases should be located in areas where people tend to congregate, including: school administrative facilities, visitors' centers, bus stops, and at proposed commercial facilities such as movie theaters and restaurants. These display cases would supplement those identified for site-specific locations. These activities should be coordinated through a central planning function in order to maximize the effectiveness of the display cases, avoid redundancies, and to prevent conflicting information or misinformation from reaching the public.

Policy Consideration

In order for the EE/CA to be effective in reducing risks associated with OE, FORA should communicate to the Army that the U.S. Government shall be responsible for funding, installation and the maintenance of all display cases.

6.1.5 Deed restriction should be placed upon any property lying within a known or suspected OE site that could potentially be excavated. These restrictions should note the depth to which OE has been removed from the site, the depth to which excavation is considered acceptable, and specify conditions for use of a UXO monitor during excavation activities. On properties that are transferred without deeds (i.e., federal-to-federal transfer[s]), conditions of use should be stipulated in transfer documents. These conditions are loosely referenced as deed restriction throughout this document.

Policy Consideration

No policy recommended.

6.1.6 Patrols by the federal police and /or BLM personnel should be continued to ensure that the public complies with BLM's policy of limiting access to roads and trails that are designated "open." Additionally, the patrolling personnel should actively monitor and document trespass into OE sites that have been signed /fenced

as off limits. Should it be determined that an individual site is being improperly accessed, the control being applied to the site should be reevaluated for effectiveness. For example, if individuals are accessing a site where perimeter warnings have been constructed, consideration should be given to supplementing perimeter signs with a perimeter fence. Additional supplemental measures could include increased patrols, more secure fencing, or additional educational efforts, as appropriate.

Policy Consideration

In order for the EE/CA to be effective in reducing risks associated with OE, FORA should communicate to the Army that they shall be responsible for funding, installation and the maintenance of all display cases.

6.1.7 The entire road and trail system on open space and parks and recreation portions of the installation should be scrutinized to preclude easy access into OE sites. Roads and trails that "dead-end" at sites known to contain OE should be closed at the intersection prior to the OE site. This would preclude a person inadvertently walking/riding into an OE site and would leave such person with no alternative other than to reverse their course or traverse the site.

Policy Consideration

In order for the EE/CA to be effective in reducing risks associated with OE, FORA should recommend to the Army that they shall be responsible for funding, installation and the maintenance of all signs in open space and park areas which contain OE.

6.1.8 A concern exists regarding the safety of employees accessing the site to perform duties associated with land management efforts on much of the installation. Filed personnel including biologists, archaeologists, wildland firefighters, and others who may have a need to access or excavate in areas away from existing roads, trails, or other public access areas in OE sites are subject to a higher probability of exposure than a general public that complies with land use regulations (i.e., by staying on designated trails and roads). Filed personnel should be fully apprised of the dangers of OE, receive safety briefings, and be escorted by UXO monitors whenever their work might involve activities that exceed the land use limitations placed on individual areas. For example, a wildland firefighter should not construct a fire line in open space areas in OE sites that have received a surface removal. In these instances, either a "let burn" policy should be developed, or individual crew leaders be accompanied by a UXO monitor upon initial attack and during fire-line construction.

Policy Consideration

No policy recommended.

Changes to the EIR

Page 4-56. Amend the last significance criteria to read as follows:

- "...potentially create an undue risk of death and/or injury to property and/or persons due to deliberate and/or accidental exposure to OE of upset (accidents) related to human or environmental health or safety.

Page 4-64. Amend the first sentence under impact #5 to read as follows:

Implementation of the proposed project would potentially expose people to unexploded ordnance in the long term, thus creating an undue risk of death and/or injury to property and/or persons due to deliberate and/or accidental exposure to OE of upset (accidents) related to human or environmental health or safety.

The Army has and is currently involved in finding and removing unexploded ordnance (OE). Following hazardous waste cleanup activities, health and safety risks would still exist from long-term exposure to OE. However, as stated in the Army's Engineering Evaluation/Cost Analysis (EE/CA), "any area of the installation may potentially contain OE" and the Army's recommendations contained in the EE/CA "are not intended to persuade individuals that any area is "safe" or "clean", rather, the recommendations are based solely on analysis of available information and on the professional judgment of the preparers" (Earth Tech 1997). This risk is due to physical and economic limitations associated with the Army not finding all the OE that has been buried at Fort Ord for up to 80 years.

The Army is currently removing OE from various sites it has identified through its archival searches and through interviews. However, this is the extent practical the Army can address the OE issue. The Army does not propose to systematically traverse the entire base with metal detectors to find every OE. The Army does, however, provide recommendations for specific sites and general recommendations for the remainder of the base to reduce risk. The recommendations are included in the EE/CA which will be circulated in April 1997. The Army does not state or imply that its removal activities will reduce the impact to a less than significant level.

The responsibility for OE search and removal is the Army's, not FORA's. FORA does not have the necessary means or resources to address the OE issue, nor does FORA have the means to mitigate the impact. FORA is dependent upon the Army to address OE in perpetuity. The Army acknowledges its responsibility in this regard (Earth Tech 1997).

Where necessary, the Army has cordoned off areas for future removal activities. Therefore, implementation of the proposed project could expose people to these risks where the inland training fire ranges were previously located (refer to Figure 4.6-4). For example, the highest density of

unexploded ordnance and spent ammunition is expected in the central portion of the inland range area. Lower densities of unexploded ordnance are expected in the outer portions of the inland range area and in the training areas to the north and east of the inland range area. These lands have been conveyed to the Bureau of Land Management for habitat management use, and they will be closed off to public access. Appropriate fencing and signage is expected to minimize the incidence of trespassing in areas (where there would otherwise be potential land use, conflicts, e.g.). closest to public access and residential land uses.

Unexploded ordnance on former Fort Ord property is recognized in this Draft EIR as a hazardous waste, and policies and programs that make reference to hazardous waste include unexploded ordnance. In addition, the following program for the Cities of Marina and Seaside and Monterey County specifically relates to unexploded ordnance:

Safety Element

(Hazardous and Toxic Materials Safety) Program B-1.3: The City/County shall develop and make available a list of the locations and time frame for remediation of those sites containing ordnance and explosive (OE) and shall work cooperatively with responsible agencies, including the Bureau of Land Management, in notification, monitoring, and review of administrative covenants for the reuse or closure of such OE sites.

Implementation of this program, though it reduces risk, will not would render this impact to a less than significant level. would render this impact less than significant. The following mitigations are added to reduce risks.

Mitigation: None required

a. All construction plans for projects in the City/County shall be reviewed by the Presidio of Monterey, Directorate of Environmental and Natural Resources Management (DENR), to determine if construction is planned within known or potential UXO areas. Construction crews and contractors must stop all work and contact the federal police when ordnance is found. The contractor must have an Army approved plan for UXO avoidance and the avoidance must be performed by a trained UXO specialist.

b. Before construction activities commence on any element of the proposed project, all supervisors and crews shall attend an Army sponsored UXO safety briefing. This briefing will identify the variety of UXO that are expected to exist on the installation and the actions to be taken if a suspicious item is discovered.

Changes to the Reuse Plan

Volume II. Page 4-275. Add the following two programs:

Program A-1.3: All construction plans for projects in the City/County shall be reviewed by the Presidio of Monterey, Directorate of Environmental and Natural Resources Management (DENR), to determine if construction is planned within known or potential OE areas. Construction crews and contractors must stop all work and contact the federal police when ordnance is found. The contractor must have an Army approved plan for OE avoidance and the avoidance must be performed by a trained OE specialist.

Program A-1.4: Before construction activities commence on any element of the proposed project, all supervisors and crews shall attend an Army sponsored OE safety briefing. This briefing will identify the variety of OE that are expected to exist on the installation and the actions to be taken if a suspicious item is discovered.

Response to Letter 33

33-1. The commenter requests an extended public review period. Refer to response to comment 5-1.

33-2. The commenter references a CEQA Section pertaining to the state being required to comment on the Army's cleanup plans. The comment is not pertinent to the Reuse Plan or the EIR. No response is necessary.

Response to Letter 34

34-1. The commenter states the various graphics in the Reuse Plan and EIR inconsistently reference 605 acres in the UC Natural Reserve System.

Vol. 1, page 3-36 of the Reuse Plan identifies the UCMBEST Center in Figure 3.2-5 and in the accompanying text on page 3-37 identifies "approximately 600 (acres) of these lands will be managed by the University's Natural Reserve System (NRS)..." The Reuse Plan and EIR documents show the 605 acres with the UC Natural Reserve System as part of the lands designated for Habitat Management. (See Figures 3.3-1 and 3.6-3.) The Reuse Plan identifies the University of California as one of the agencies with management responsibilities of the Habitat Management Lands. See Vol. 1, Page 3-89 2nd paragraph, fifth sentence.) Though no changes to the Reuse Plan and EIR graphics or tables will be included with the Reuse Plan and Final PEIR documents, a compilation of the requests from commenters for changes to graphics will be provided to FORA. It will then be the responsibility of FORA to provide the changes requested at a future date after the certification of the EIR.

34-2. The commenter states that there are some conflicts between the numbers used in the various documents. Though the comment is not specific, we hope that this matter has been adequately dealt with.

34-3. The commenter is concerned with infrastructure development financing. It is the intent of FORA to develop infrastructure at a pace that will adequately support new residential and industrial/commercial development. Refer to the Development and Resource Management Plan discussed in response to comment 21-1.

34-4. The commenter notes that the Reuse Plan does not identify the lands that would allow Research and Development on the parcel owned by the University of California (UC) between Imjin Road and Inter-Garrison Road.

The lands that have been conveyed to UC between Imjin Road and Inter-Garrison Road are designated in the land use map as a "Planned Development Mixed Use District." The UC parcel is a portion of the "University Office Park/R&D District" in the "Town Center Planning Area," identified in Table 3.8-1.

The adjacent polygon 8a, located within the County, is designated as habitat management in the Reuse Plan (See Figure 3.3-1). This polygon is located within the University Planning Area listed in Table 3.10-1. UC has been screened for the transfer of this land. When conveyed, the University could use a portion of this land in the southwest corner is an "opportunity site" for research and development activities. The Reuse Plan text should be amended to include the description of research and development activities to clarify this intended use of the land.

Changes to the Reuse Plan

Vol. 1. Page 3-134. Add the following language to Monterey County Recreational/Habitat District:

Opportunity Site. Approximately 50 acres located at the southwest corner of the former landfill site, adjacent to the Marina City limits and Inter-Garrison Road is suitable for office/R&D development by the University of California.

Response to Letter 35

35-1. The commenter requests that the Reuse Plan and EIR graphics exclude the 1,000 foot wide right-of-way for the Highway 68 by-pass. This must be responded to by the FORA board.

35-2. The connection to York Road at a future Highway 68 alternative route is intended to provide the mid-valley residents along the existing Highway 68 corridor an alternative route. A York Avenue route will also reduce the number of vehicles that travel the full length of Highway 68.

Response to Letter 36

36-1. The commenter requests an extended public review period. Refer to response to comment 5-1.

36-2. The commenter request that an "executive summary" be provided. There is no "executive summary" per se, however, the EIR does contain a "summary" which serves the same purpose.

36-3. The commenter is concerned with the cost of the EIR. The cost of the EIR is recognized by FORA, which is why copies were made available at a number of libraries.

36-4. The commenter would like a staged EIR be prepared. As it pertains to a program versus staged EIR, the reader is referred to Response to comment 17-2.

36-5. The commenter states the EIR is too general and lacks adequate details on infrastructure impacts and impacts of mitigation measures. The comment is too general to warrant a specific response, however, the Final Program EIR does provide the necessary level of detail to allow the decision makers to make an informed decision on the project. The Final EIR also provides a discussion of the secondary impacts associated with potential future roadway projects. Refer to response to comment 56-4.

36-6. The commenter is concerned about funding for infrastructure development on Fort Ord. Funding for infrastructure at Fort Ord will be obtained through development fees collected by FORA through the local jurisdictions. The Business and Operations Plan of the Reuse Plan identifies major issues critical to the successful implementation of redevelopment, such as the provision of adequate infrastructure, or of housing supply consistent with an employment center driven by educational and research institutions. Future development will be commensurate with future infrastructure development on Fort Ord.

Response to Letter 37

37-1. The commenter is concerned with uncontrolled access to state beaches. The California Department of Parks and Recreation's Plan for the beach park includes coastal access parking at the north and south border of the park and a through north-south recreational trail. This should adequately address the commenters concerns about controlled access.

Response to Letter 38

38-1. The commenter requests an extended public review period. Refer to response to comment 5-1.

Response to Letter 39

39-1. Comment is the same as comment letter 33. Refer to response to comment 33.

Response to Letter 40

40-1. The commenter is concerned about a future Highway 68 bypass. A Highway 68 bypass is reflected in the graphics contained in the Reuse Plan and the EIR. This bypass addresses a regional traffic demand whereby the existing Highway 68 is approaching its maximum capacity. Fort Ord development will impact both the existing Highway 68 and the by pass. Future development at Fort Ord will pay its fair share mitigation to these roadways based on a nexus analysis. Refer to response to comment 30-1 for additional information pertaining to transportation issues. The Highway 68 bypass was included in the TAMC traffic model's "optimistically financed scenario" and is included in the Habitat Management Plan.

Response to Letter 41

41-1. Commenter would like additional campgrounds in the inland area of Fort Ord. This is a matter for the FORA board to consider.

41-2. The commenter requests that consideration be given to on-site, land-based treatment of sewage. The sewage treatment provisions of the Reuse Plan envision treatment at the regional sewage treatment facility. This approach will permit the sewage effluent to be treated and enter the regional supply of reclaimed water to help address regional water management issues. The Reuse Plan provides for the use of reclaimed water at Fort Ord. On-site spay application of treated effluent is expected to be an integral part of the water resource management at Fort Ord.

Response to Letter 42

42-1. The commenter is against the proposed project. The comment is for the FORA board to consider.

Response to Letter 43

43-1. The commenter requests that the Reuse Plan result in no greater population than existed before closure of the military base.

The declaration of policy, Chapter 1 of law that establishes the Fort Ord Reuse Authority (SB 899), establishes four goals of the Authority Act: "1) To facilitate the transfer and reuse of the real and other property comprising the military reservation known as Fort Ord with all practical speed; 2) To minimize the disruption caused by the base's closure on the civilian economy and the people of the Monterey Bay area; 3) To provide for the reuse and development of the base area in ways that enhance the economy and quality of life of the Monterey Bay community; and 4) To maintain and protect the unique environmental resources of the area." (67651)

SB 899 was developed as a mechanism to allow cities directly impacted by base closure to create economic opportunities. These communities also have the option to provide for future population expansion and economic opportunities through development of the Reuse Plan or without a reuse plan, just as any other community is allowed to plan for its long-term future through a general plan. SB 899 does not specifically prohibit the reuse of Fort Ord to exceed the population that existed at Fort Ord in 1991 (i.e., approximately 31,000 people). In addition, SB 899 was not created with the intent to limit growth to a level commensurate with the economic activity that existed prior to the departure of the 7th Light Infantry Brigade. However, the FORA Board is required to consider the issue raised by the commenter.

43-2. The commenter is concerned about water resources. Refer to response to comment 8-5 and 21-1 for a growth management discussion.

Response to Letter 44

44-1. Commenter requests a 13-acre cemetery. It is the prerogative of each community to determine where a cemetery, if any, would be most appropriate. Monterey County recently endorsed its support of a veteran's group in their application for property to develop a national cemetery at Fort Ord. The veteran's group wants to create a veterans cemetery on a 156-acre site at Fort Ord which would overlap onto both the county's and the City of Seaside's jurisdictions.

The low density residential (nomenclature used in Reuse Plan is "SFD") land use category contained in Table 3.4-1 - *Permitted Range of Uses for Designated Land Uses* - (Context and Framework document (Volume I, page 3-50)), permitted range of uses will be amended to permit cemeteries. The reader is referred to the Changes to the Reuse Plan section below.

The area currently proposed for a future 156-acre cemetery could be the area bound on the east side by the future Eastside Road and bound on the south side by Polygon

21c and the future Eastside Road. On the west side the cemetery boundary cuts to the north past the most easterly boundary line of Polygon 20h and to the easterly boundary of Polygon 20d and then to the connector road between Giggling Road to the north and the future Eastside Road to the south, where the proposed cemetery boundary then follows this connector road to the north to the southwest corner of Polygon 16. The north side cemetery boundary then traverses along the south side of Polygon 16 to the east where, at the City of Seaside/Monterey County, the cemetery boundary drops to the southeast and diagonally across Polygon 21a and connects to the future Eastside Road.

A portion of the proposed cemetery location is within the proposed POM housing enclave in the city of Seaside's jurisdiction and a portion within Monterey County's proposed low density single-family residential area. If a cemetery were built, the impacts of the proposed cemetery must be considered in light of potential impacts associated with the proposed land uses the cemetery would displace. It is expected that the county would transfer the potential residential development lost as a result of a cemetery to another location within county jurisdiction. This is expected to occur in county Polygons 21a and 21b. The displacement of housing units in Seaside's jurisdictions could be off-set by increasing slightly the residential densities throughout Seaside's residential polygons.

The primary impacts associated with this proposed land use pertain to transportation and biological issues.

Biological impacts and the loss of sensitive species and habitats have been adequately addressed in the Habitat Management Plan (HMP). The HMP describes a cooperative federal, state, and local program of conservation for plant and animal species and habitat of concern known to occur at Fort Ord. The HMP establishes a long-term program for the protection, enhancement and management of all HMP resources with a goal of no net loss of HMP populations while acknowledging and defining an allowable loss of such resources through the land development process. The HMP establishes the conditions under which the disposal of Fort Ord lands to public and private entities for reuse and development may be accomplished in a manner that is compatible with adequate preservation of HMP resources to assure their sustainability in perpetuity. Therefore, the HMP establishes performance standards for all future developments to implement.

As it pertains to the transportation impacts associated with the cemetery, the cemetery will result in fewer traffic impacts than the traffic impacts that would otherwise have been associated with housing (Keith Higgins, pers. com., December 12, 1996). For example, based on the Trip Generation document of the Institute of Transportation Engineers (1991 edition), the highest average vehicle trip end generation rate per acre associated with a cemetery is 4.28 and occurs on Saturday. By comparison, low density residential units' average trip end is 10 per unit. Since there are projected to be up to 5 units per acre, the comparative impact, as measured on a per acre basis, will be much greater for residential uses than for a cemetery (4.28 per acre for a cemetery versus 50 per acre for low density residential).

The development of the cemetery will displace residential units and result in a higher concentration of residential units in the county's Polygons 21a and 21b. However, this is not expected to increase the level of impact on area roadways and will not change the conclusions of the modeled traffic scenarios used in the Reuse Plan and EIR, because the residential traffic, regardless of where it is located in the County jurisdiction of Fort Ord, will be using the same roadways.

The addition of a cemetery is not considered to be a significant change in the project description. Therefore, recirculation of the EIR will not be required. CEQA Guidelines Section 15088.5(a) states that new information in an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an affect (including a feasible project alternative). Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR.

"Significant new information" requiring recirculation include, for example, a disclosure showing that:

- a) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.
- b) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.
- c) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the significant environmental impacts of the project, but the project's proponents decline to adopt it.
- d) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

The addition of a cemetery is not considered to be a substantial environmental impact based on the above discussion. Therefore, the inclusion of as cemetery as a permitted use in the Fort Ord jurisdiction's residential land use categories is not considered to be a justification for recirculating the EIR.

Changes to the Reuse Plan

Volume I. Page 3-50. Table 3.4-1. Amend each of the residential land uses category "Permitted Range of Uses" to include the following: cemeteries.

Response to Letter 45

45-1. The comment is for the FORA board to consider. The comment is not pertinent to the Reuse Plan or the EIR. No response is necessary.

[Start July 11, 1996 Carmel City Council public hearing comments]

Response to Public Hearing Comment 46

46-1. The commenter is concerned about adequate impact analysis in the EIR. The nature of the comment is too broad to warrant a specific response. The comment is for the FORA board to consider.

46-2. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period. No public workshops were facilitated.

46-3. The commenter is concerned about future water and sewer infrastructure. Refer to response to comment 21-1 and Response to comment 8-5.

Response to Public Hearing Comment 47

47-1. The comment is addressed to the Carmel City Council and is not pertinent to the Reuse Plan or the EIR. No response is necessary.

Response to Public Hearing Comment 48

48-1. The comment is addressed to the Carmel City Council and is not pertinent to the Reuse Plan or the EIR. No response is necessary.

48-2. The commenter wants to know where the city demarcations will be. The city boundaries are shown in Figure 3.2-1 of the Draft EIR. However, it is expected that through future annexations, some city's boundaries will change. This is illustrated in Figure 3.6-1.

48-3. The commenter states that the Bureau of Land Management (BLM) should have bought the property adjacent to the view corridor. The BLM is currently the property owner of approximately 15,000 acres to the east of the proposed urban development area Fort Ord. It would not be sensible for BLM to own a strip of property along the "view corridor" (read: Highway 1) that contains structures for the purpose of creating "virgin territory".

48-4. The commenter discusses the number of CSUMB students. Based on Volume I of the Reuse Plan (p. 3-44), there are projected, at full buildout, to be 25,000

full-time equivalent students at CSUMB. The EIR (p. 2-8) states 20,000 of these would live on Fort Ord.

48-5. The commenter requests that an executive summary be prepared. There is a Summary provided in both the Reuse Plan and the Draft EIR. Overlay graphics were not provided by FORA. However, the graphics in the Reuse Plan documents and the EIR are adequate to convey the necessary information and are adequate for the decision makers to make an informed decision.

48-6. The commenter is concerned with the water issues. Refer to response to comment 8-5.

Response to Public Hearing Comment 49

49-1. The comment is addressed to the Carmel City Council and is not pertinent to the Reuse Plan or the EIR. No response is necessary.

Response to Public Hearing Comment 50

50-1. The comment is addressed to the Carmel City Council and is not pertinent to the Reuse Plan or the EIR. No response is necessary.

[End July 11, 1996 Carmel City Council public hearing comments]

Response to Letter 51

51-1. The commenter Water is a political issue as implied by the comment. Refer to response to comment 8-5.

51-2. The commenter states that the "No Project" alternative should be selected as the project. The comment is for the FORA board to consider. The comment is not pertinent to the Reuse Plan or the EIR. No response is necessary.

51-3. The commenter states that Fort Ord should not be accepted from the Army until water is available. The comment is for the FORA board to consider. The comment is not pertinent to the Reuse Plan or the EIR. No response is necessary.

[Start July 12, 1996 FORA public hearing comments]

Response to Public Hearing Comment 52

52-1. The commenter states that the EIR is loaded with assumptions and the people need the opportunity to ask where the assumptions lead. The nature of the comment is too general to warrant a response.

Response to Public Hearing Comment 53

53-1. The commenter states that AMBAG has concerns regarding the percentages used in the draft are not AMBAG numbers. The comment is not specific enough to allow a specific response.

Response to Public Hearing Comment 54

54-1. The commenter handed out a memorandum (Same as comment letter #33 and #39).

[End July 12, 1996 FORA public hearing comments]

Response to Letter 55

55-1. The commenter requests that a staged EIR be provided and that development should be based on a safe yield water source. There is no factual basis provided by the commenter or by CEQA Guidelines that would indicate that a Staged EIR would "limit water consumption to a safe yield". As it pertains to a safe yield, Refer to response to comment 8-5.

55-2. The commenter states that an enforceable mitigation will be sought whereby the program EIR will be required to be continually revised and certified every five years or more frequently.

There is no requirement in CEQA which states that a program EIR must be revised with such frequency. Currently, what is the generally acceptable method by many communities is to redo a general plan and its EIR approximately every 20 years. Some jurisdictions are compelled to redo a general plan and its EIR in much short time period because conditions change significantly enough in a community to make the existing general plan obsolete in a shorter period.

As currently required by CEQA a lead agency will prepare an environmental checklist to determine what is significant, potentially significant or not significant as it pertains to a particular project. Through this checklist process the lead agency staff person conducting the environmental checklist analysis must substantiate conclusions with pertinent facts from currently available documents (e.g., a general plan and its EIR, or other environmental documents that are current and relevant to a particular issue). This approach allows a jurisdiction to continuously return to existing documents as a source of information. If the source of information used by lead agency staff becomes outdated (for example, information pertaining to traffic will become outdated over time), then the proponent of a particular project may be required to fund a new traffic study. This would result in the decision makers having current and adequate information on which to base a decision. Therefore, it is up to the jurisdiction, through the CEQA environmental review process, to determine what additional information may be required. The public then has the opportunity to review the environmental checklist and any subsequent environmental documents such as initial studies and EIRs as well as new technical documents. As required by CEQA, the process is open to public review. Also, refer to the discussion in the EIR section (3.5) titled Redevelopment Planning for Former Fort Ord Properties in the EIR (page 3-9) where future environmental review is discussed.

55-3. The commenter states that SB 899 does not grant authority to FORA to induce growth beyond the population which existed at the time of base closure. Refer to response to comment 43-1.

As it pertains to the adequacy of the Growth Inducing Impact discussion in the EIR, the reader is referred to section 5.2 of the EIR commencing on page 5-10.

55-4. The commenter states that a "statement of overriding considerations" cannot be evoked by FORA because FORA is not mandated to exceed the population projections established by AMBAG's population projections or SB 899. As it pertains to AMBAG's population projections, the following discussion is submitted and is derived from AMBAG's 1994 *Regional Population and Employment Forecast*.

It is critical to the discussion of AMBAG's population projections to understand the projection's fundamental tenets. The population (and employment) totals used for the forecasts for the counties are based on regional, state and national economic and demographic trends, as well as historical data (AMBAG 1994). Major changes in these trends and other unique economic or natural events could result in differences between these forecasts and eventual reality. This information provides the common planning base for the Regional Air Quality Plan, Regional Transportation Plan and the Regional Water Quality Plan (ibid.).

As indicated in the EIR on page 5-11, Table 5.2-1, the AMBAG 2015 population projection for Fort Ord is 66,612 (of this 20,000 are students). The Reuse Plan forecast for Fort Ord for the year 2015 is 38,859 (of this 10,000 are students). Therefore, the Reuse Plan is consistent with the adopted forecast for the region. Furthermore, AMBAG's employment forecast (21,468) is above that of the Reuse

Plan's 2015 forecast (18,342). Therefore, the Reuse Plan is considered to be consistent with the adopted AMBAG forecast.

If the AMBAG forecasts are used to prepare or evaluate plans which have a regulatory purpose, two general rules should apply. First, the projections are estimates of future employment and population based on statewide economic trends. They are not statements of employment or population policy. If the population differs from the projections, the regulatory plans based on these forecasts should be amended to reflect the new employment and population realities. Second, the projections are more reliable at a regional and county level and appropriate for regulatory use only at that level (AMBAG 1994).

The AMBAG forecasts are desegregated to census tracts to facilitate the regional transportation planning process as mandated by the Federal Government and the State of California. This desegregation is based on historical trends, the availability of vacant land and land use policy as identified by city and county technical advisory committee members (*ibid.*). The forecasts are technical forecasts, which are prepared assuming adopted land use policy. The forecasts should be viewed as planning tools which show the long term result of those historical trends and existing policy. The forecasts do not represent an attempt by AMBAG to identify policy alternatives that might result in different distributions of population in the region. Thus, the desegregated forecasts should be viewed as a result of existing policy rather than as an instrument for the creation of policy. If differences develop over time between the forecasts and local land use policy, AMBAG believes the forecasts should be updated. AMBAG supports the regular update of the forecasts on a consistent schedule to account for changes in historical trends, vacant land inventories and land use policy at the local level. This approach applies to Fort Ord as well (*ibid.*).

It is important to note that the AMBAG Board of Directors asks that all users of the population forecasts include a statement in documents which use the forecasts that conveys to the reader that the forecasts, which are based on approved general plans, are prepared as planning tools and are not an exact prediction of the course of future events. Furthermore, past experience indicates that the forecasts are most reliable at the county level and less so for smaller areas like cities and census tracts (*ibid.*).

At the time of Fort Ord downsizing and the elapsed period since closure, population forecasting has been hindered as it pertains to Fort Ord. This is because of the following issues recognized by AMBAG:

- a. Schedule and cost of clean-up of hazards from toxic materials and unexploded ordnance;
- b. Uncertainty regarding the magnitude of the military uses which would remain at a downsized Fort Ord; and
- c. Uncertainty regarding the disposal of property within the existing base and ultimate reuse plans at the local level.

Resolution of these issues pertinent to Fort Ord by AMBAG could not be provided. However, it was necessary that the forecast process continue and Fort Ord reuse could not be ignored by AMBAG because to ignore Fort Ord from the forecasts would have resulted in the regional plans being understated by a large percentage. Therefore, in this light, AMBAG acknowledges the following:

- a. A completely updated set of population and employment forecasts be prepared for the region on an interim basis (i.e., the 1994 forecasts);
- b. The forecasts should be created in such a manner that new forecast data for Fort Ord reuse could be easily included; and
- c. The regional forecasts would be updated to include local Fort Ord reuse plans as soon as sufficient information data became available.

In conclusion, it should be recognized that no set of forecasts ever represents the last word on future change in the region. Rather, each forecast set is prepared by AMBAG to facilitate the regional transportation and air quality planning process. AMBAG develops forecasts that can be created using the data available at a particular point in time, keeping in mind that over time the data will change, necessitating the preparation of new forecasts. The preparation of new forecasts is not an indication of error in the previous forecasts sets. It is merely an acknowledgment that the world and the Monterey Bay region continue to change and that the region benefits from forecasts based on the most up-to-date data (ibid.).

As it pertains to a statement of overriding considerations, FORA will not have to evoke such tool as it pertains to population consistency because the population associated with the Fort Ord Reuse Plan is within the projection established by AMBAG, as discussed above. Furthermore, a statement of overriding consideration by FORA will not be required vis-a-vis SB 899 because SB 899 does not limit the population to that which existed in 1991.

However, FORA will be required to balance the benefits of the proposed project against its unavoidable environmental risks in determining whether to approve the project. If the benefits of the proposed project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered "acceptable" to FORA (CEQA Section 15093).

As stated in CEQA section 15091(a)(3) - *Findings*, FORA will be required to make findings on the basis of specific economic, social or other considerations which make infeasible the mitigation measures or project alternatives identified in the Final Program EIR. It will be up to FORA to determine exactly what findings to use.

In the comment, it is assumed that the commenter is also referring to the SB 899 goal identified in the EIR (page 3-2), which states "to minimize the disruption caused by the base's closure on the civilian economy and the people of the Monterey Bay area". This goal is construed by the commenter to mean that the Reuse Plan should only replace the previous population and its associated economic activity with a like

population and its associated economic activity. This goal is not interpreted by FORA to specifically limit reuse to such a level. However, the goal apparently is subject to interpretation which must be considered by the FORA Board.

55-5. The commenter is concerned with the water supply. Refer to response to comment 8-5.

55-6. The commenter wants to know where storm water would be impounded. Refer to response to comment 8-5.

55-7. The commenter would like to know where a desalination plant would be located and would like to know if depositing brine into the bay is allowed. The desalination plant would be located in Polygon 14c. It is uncertain if the disposal of highly concentrated brine water that is a byproduct of desalination would be allowed to be discharged to the Monterey Bay Sanctuary. At this time the issue has not been resolved and it is recognized as a significant environmental issue requiring reconciliation with federal and state agencies. Refer to desalination discussion in Response to comment 8-5.

55-8. The commenter has a concern with lead removal on the beaches. Refer to response to comment 32-1.

55-9. The commenter states that AMBAG pointed out that the proposed mitigations for the loss of cumulative water supply, traffic congestion and adverse impacts on the viewshed are inadequate. As it pertains to water, refer to response to comment 8-5. As it pertains to traffic impacts and viewshed impacts the EIR adequately addresses these issues. However, for additional information included as a response to other comments on the subject of transportation issues, refer to response to comment 22-1. For additional information included as a response to other comments on the subject of visual issues, refer to response to comment 89-9.

55-10. The commenter is concerned with the issue of unexploded ordnance. Refer to response to comment 32-1.

55-11. Commenter states that the EIR does not adequately discuss unexploded ordnance. Refer to response to comment 32-1.

55-12. Commenter states that the EIR must be consistent with local plans and the EIR should be withdrawn until after these revisions are adopted. The commenter is correct by stating that the EIR must be consistent with local plans. However, withdrawing the EIR from circulation is not necessary nor is it mandated by CEQA. The Reuse Plan is consistent with local plans vis-a-vis the proposed Reuse Plan's population (37,350) being less than the AMBAG forecast (66,612). Refer to response to comment 55-4.

The Reuse Plan is developed for an area of the Monterey Peninsula that has historically been without a plan. None of the existing County Area Plans cover Fort Ord. Therefore, the Reuse Plan will be used by Monterey County to revise its

Monterey County General Plan pertaining to Fort Ord. This may be done through an entirely new planning document specific to Fort Ord, or by amending the County's Greater Monterey Peninsula Area Plan, or other Area Plan the County deems appropriate to accommodate Fort Ord. Also, the proposed project was compared to the applicable policies of the County General Plan and as a result new objectives, policies and programs are provided in the Reuse Plan for Monterey County to use in a revised County General Plan. For additional information on this issue, refer to page 3-9 in the EIR.

The Reuse Plan is subject to the coastal act because the area west of Highway 1 is within the Coastal Act boundary area. The Reuse Plan states that widening Highway 1 to six lanes would be required to accommodate future traffic volumes associated with Fort Ord development. The area proposed for widening (from 4 to 6 lanes) is the length of Highway 1 between Highway 218 and the south end of Del Monte Boulevard. The California Coastal Commission has indicated that there should be no widening of Highway 1 to accommodate Fort Ord reuse unless all other feasible alternatives for serving the transportation demand of the base have been exhausted (California Coastal Commission 1994). The proximity of the roadway to the coastline introduces potentially significant environmental concerns involving both habitat and wetlands issues.

Response to Letter 56

56-1. The commenter states Table 4.7-2 does not contain information referenced in the text of the EIR. Table 4.7-2 and Table 4.7-3 were inadvertently mislabeled. Table 4.7-2 should read 4.7-3 and visa versa. Therefore, the information requested is contained in Table 4.7-3. The reader is referred to the revised language under Changes to the EIR section below.

Changes to the EIR

Page 4-74: Change Table 4.7-2 in the EIR to read: Table 4.7-3.

Page 4-79: Change Table 4.7-3 in the EIR to read: Table 4.7-2

56-2. The commenter states that the EIR should be revised to include an analysis of the project's impacts on the existing environment. The traffic modeling conducted was based on conditions in 1993/94 because of the comprehensive data available for that year. The base closure year (1991) was not used because of the lesser traffic data available. Further clarification on this issue is located on page 4-73 of the PEIR.

56-3. The commenter would like the "Financially Constrained" and "Optimistically Financed" roadway systems discussed in the EIR to be either mitigations to project impacts or as part of the project description.

The scenarios referenced in the comment were developed to determine what the Level of Service would be for different roadway networks and land use assumptions for Fort Ord and the region. The EIR concludes that Fort Ord development will pay for most of the new road construction on Fort Ord with funds originating from Fort Ord development. Also, based on a nexus analysis, the fair share mitigation of future development on Fort Ord on the regional transportation system is required.

The request that the "Financially Constrained" scenario be used as a mitigation or be included in the project description has been addressed already, as stated in the EIR (fourth bullet statement; page 4-82):

"the Optimistically Financed scenario is assumed to represent the proposed project, since it reflects FORA's specific attempts in the Reuse Plan to mitigate any impacts resulting from reuse. However, to the extent that the mitigating measures built into the plan for off-site improvements lie within the jurisdiction of agencies outside FORA's control, and cannot therefore be assured by FORA, the ultimate basis for existing impact significance at the regional level must remain the Financially Constrained scenario."

In other words, this means that there will be some significant and unavoidable impacts associated with the regional transportation system. The agencies responsible for implementation of transportation improvements outside of those FORA is responsible for may include TAMC, CalTrans and/or Monterey County.

The commenters request that the Reuse Plan EIR be responsible for an analysis of transportation mitigation measures to be implemented by other agencies goes beyond the scope of work for the EIR. Because Fort Ord is only responsible for its fare-share of regional impacts and necessarily its associated mitigations, a detailed discussion of implementation and monitoring of transportation mitigations by other agencies is beyond the scope of this EIR and is not the responsibility of FORA.

As stated in the EIR, future development of Fort Ord will have regional impacts. These impacts have been adequately discussed in the EIR through use of the TAMC regional road system traffic model. The results of the traffic modeling indicates (page 4-78) improvements to the regional transportation system level of service would occur under the Optimistically Financed scenario. However, to the extent that the mitigating measures built into the Reuse Plan for off-site improvements lie within the jurisdiction of agencies outside FORA's control, and cannot therefore be assured by FORA, some significant and unavoidable impacts associated with the regional transportation system will remain.

56-4. The commenter would like the EIR to include CEQA mandated secondary impacts of a mitigation. In this case, as it pertains to future prescribed roadway construction. CEQA Section 15126.c. requires an analysis of such secondary impacts, but the level of detail contained in the discussion need not be as detailed as that for the impacts of the proposed project. The reader is referred to the

revised language under Changes to the EIR section below. It is important to state that future roadway construction will be subject to additional environmental scrutiny to assure that mitigations are incorporated in a future roadway construction. This is especially important because of potential plant and wildlife impacts.

Changes to the EIR

Page 4-86: Add the following discussion after the last sentence in the section titled Conservation Element.

The potential future construction projects related to road widening may have environmental impacts. The general nature of these impacts are as follows:

Highway 68 in Monterey: The project would entail four-laning most or all of the existing highway. The impacts would be primarily associated with the removal of existing trees.

Del Monte Boulevard in Monterey/Seaside: This would primarily entail installation of turn movement lanes within developed areas. Building frontage area between existing structures and Del Monte Boulevard would be narrowed. There are no known potentially significant environmental impacts associated with this project. However, roadwork would occur within the coastal zone.

Highway 218 south of Seaside: This section of roadway is adjacent to riparian habitat which flanks this highway. Further study of project impacts would be required and mitigations may be required.

Reservation Road in Marina: This project would entail expansion to six lanes. Maritime chaparral and associated plant and animal species adjacent to Reservation Road would be potentially impacted.

Highway 1 in Seaside/Sand City: This would entail 6-laning the existing 4-lane highway. Impacts would pertain to views and sand dune habitat.

Highway 1 north of Castroville: This would entail 4-laning the existing 2-lane highway. The primary impacts would be related to loss of agricultural land. In the area of Moss Landing, the primary impact would relate to the slough and associated wildlife and encroachment into commercial areas.

Highway 156 east of Castroville: This would entail 4-laning the existing 2-lane highway. The primary impacts would be associated with the loss of agricultural land and loss of trees. Noise impacts relative to the existing residential subdivision would be expected to be increased.

Highway 183 north of Salinas: Located between Davis Road and Highway 156. This would entail 4-laning the existing 2-lane highway. The primary impact would be associated with loss of agricultural land.

Blanco Road west of Salinas: This would entail 4-laning the existing 2-lane highway. The primary impact would be associated with loss of agricultural land.

Highway 68 Bypass: Located north of the existing alignment and on Fort Ord property. The primary impacts would be associated with noise impacts to existing residences and impacts to maritime chaparral and associated plant and animal species. Based on an approximately 6 mile length and an average road right-of-way width of 1,000 feet, it would be expected that approximately 740 acres of maritime chaparral and other habitat would be removed.

Del Monte Boulevard in Marina: This would entail 6-laning the existing 4-lane. Frontage space between existing structures and Del Monte Boulevard would be narrowed.

Note: Because of known locations of OE and areas with suspected OE, all future road construction projects on Fort Ord will be required to implement federal policies pertaining to construction activities in areas of known and suspected OE. Refer to response to comment 32-1.

56-5. The commenter states that recommended future roadway improvements are not in the Financially Constrained Action Elements of the current Metropolitan Transportation Plan. CEQA requires that a project's impacts be identified, thoroughly discussed and mitigations provided. That is exactly what the Reuse Plan EIR has accomplished. Whether the mitigations are or are not in a regional plan such as the Metropolitan Transportation Plan is irrelevant, because impacts must be mitigated. The regional plan will be required to be amended at a future date to reflect the Reuse Plan EIR mitigations.

As it pertains to the comment requesting that a new traffic model be run that accommodates only constrained on- and off-site improvements, this has been done already and the results included in the EIR and discussed on pages 4-77 and 4-78.

56-6. The commenter corrects the statement in the EIR on page 4-94 regarding the Army and emission reduction credits. The reader is referred to the revised language under Changes to the EIR section below.

Changes to the EIR

Page 4-94: change the first paragraph at top of page to read as follows:

During closure, The Army has transferred air permits to new owners or has maintained the equipment requiring such permits under active permits.

~~obtained emission reduction credits as Fort Ord's emission sources were shut down.~~ Emission reduction credits are surplus emission reductions that represent a permanent enforceable and quantifiable decrease in emissions. Emission reduction credits are only needed in the MBUAPCD's permitting process for major sources of air emissions over 137 lbs/day of reactive organic gases or oxides of nitrogen. Emission reduction credits are important to the reuse of former Fort Ord lands because credits may be used to offset emissions associated with future economic growth (COE 1993). In general, emissions from population and economic growth related to Fort Ord are accommodated in the planning process rather than through emission reduction credits. The 1994 AQMP accommodates projected growth at Fort Ord through the year 2005.

56-7. The commenter requests language on Rule 1000. The reader is referred to the revised language under Changes to the EIR section below.

Changes to the EIR

Page 4-96: Add the following paragraph to the section titled Toxic Air Contaminants:

The MBUAPCD regulates toxic air contaminants (TAC) from new or modified sources under Rule 1000, which applies to any source which requires a permit to construct or operate pursuant to District Regulation II and has the potential to emit any of 23 carcinogenic TAC or any of several hundred non-carcinogenic TACs listed in Title 8 of the California Administrative Code (§ 5155). Rule 1000 also requires that sources of carcinogenic TACs install best control technology and reduce cancer risks to less than one incident per 100,000 population.

56-8. The commenter requests new information be added to the existing ambient air quality discussion. The reader is referred to the revised language under Changes to the EIR section below.

Changes to the EIR

Page 4-95: Amend the first paragraph to read as follows:

Ambient air quality in the project area is monitored at eight locations in the MBUAPCD. In addition, the National Park Service operates a station at the Pinnacles National Monument. Based on the monitoring data provided by the MBUAPCD, ozone concentrations exceeded state standards on nine days in 1992, sixteen days in 1993, six days in 1994, eight days in 1995 and twenty-one days in 1996 (Janet Brennan, pers. com., November 4, 1996). [...] For PM10, the NCCAB violated the state standard one time in 1992, seven times in 1993, one time in 1994, and exceeded one day in 1995.

56-9. The commenter requests that a consistency determination be provided. The reader is referred to the revised language under Changes to the EIR section below.

Changes to the EIR

Page 4-96: Add the following paragraph after the first paragraph:

A consistency determination with AMBAG population figures is required to base a conclusion that consistency with the Air Quality Management Plan exists. As indicated in Table 5.2-1 on page 5-11 of the PEIR, the AMBAG 2015 population projection for Fort Ord is 66,612 (of this 20,000 are students). The Reuse Plan forecast for Fort Ord for the year 2015 is 38,859 (of this 10,000 are students). Therefore, the Reuse Plan is consistent with the adopted forecast for the region. Furthermore, AMBAG's employment forecast (21,468) is above that of the Reuse Plan's (18,342). Therefore, the Reuse Plan is considered to be consistent with the adopted AMBAG forecast and is therefore also consistent with the Air Quality Management Plan.

56-10. The commenter notes that regional projects require a conformity determination vis-a-vis the Transportation Conformity Rule. This determination would be made by AMBAG.

56-11. The commenter states that policies should apply to all existing and future jurisdictions within Fort Ord. The reader is referred to the revised language under Changes to the EIR section below. No changes to the Reuse Plan are required in this case.

Changes to the EIR

Page 4-98: The last full sentence under impact #1 should read as follows:

The Draft Fort Ord Reuse Plan identifies the following policies and programs ~~for the Cities of Marina and Seaside~~ that address potential significant impacts to the NCCAB.

56-12. The commenter states clarification is required as it pertains to its relationship to EPA requirements. The reader is referred to the revised language under Changes to the Reuse Plan and Changes to the EIR sections below.

Changes to the Reuse Plan

Volume II. Page 4-213: Remove the last sentence under program A-2.1 and replace with the following sentence:

As a responsible agency, the MBUAPCD implements rules and regulations for many direct and area sources of criteria pollutants and toxic air contaminants.

Changes to the EIR

Page 4-99: Remove the last sentence under program A-2.1 and replace with the following sentence:

As a responsible agency, the MBUAPCD implements rules and regulations for many direct and area sources of criteria pollutants and toxic air contaminants.

56-13. Commenter requests that the carbon monoxide analysis (Caline4) be revised to reflect a new traffic analysis. The traffic analysis contained in the EIR is appropriate and adequate for FORA to base an informed decision on. Therefore, no new traffic analysis will be conducted making a new carbon monoxide analysis moot.

56-14. The commenter defines "sensitive receptor" as a member of the public who would be exposed to 8-hour concentrations of carbon monoxide (CO) above the standard minimum standards. The analysis contained in the EIR was based on this definition.

56-15. The commenter states that a consistency determination with the AMBAG population projections is required. The reader is referred to response to comment 55-4.

Response to Letter 57

57-1. The commenter requests that Fort Ord be developed with consideration for managed growth vis-a-vis available water supply, transportation facilities and costs for infrastructure. As it pertains to managed growth, the reader is referred to response to comment 21-1. As it pertains to careful consideration for costs of infrastructure and community services, the Reuse Plan provides for standards for service to be maintained for transportation, water supply, wastewater, habitat management and fire protection. These standards are set forth in Table 3.11-1 of Vol. 1.

The PFIP identifies the necessary public infrastructure and costs projected to provide the necessary infrastructure. The Public Services Plan, in Appendix B of the Reuse Plan, identifies the public financing mechanisms for public services including police and fire. The Public Service Plan does not include a financing plan for schools but the Reuse Plan does incorporate the transfer of five existing schools and a site for a sixth. The Comprehensive Business Plan provides a benchmark guide to illustrate the financial viability of developing at Fort Ord in a coordinated way that can

provide the necessary capital investment in infrastructure and compensate for the potential fiscal impacts due to revenue shortfalls in the provision of public services. The ultimate financing approaches that FORA selects to implement development at Fort Ord will need to be flexible and can be expected to utilize any or all of the financing mechanisms identified in SB 899 or available to the land use jurisdictions that are within the foot print of the former Fort Ord. No matter what the ultimate combination of financing measures, development at Fort Ord will need to achieve the service standards embodied in the Reuse Plan.

57-2. Commenter states that conveyance of Polygon 29c to the City of Monterey has not occurred to date. Comment acknowledged. No changes to the Reuse Plan or EIR are necessary.

57-3. The commenter requests that the city design standards be applied to the York Road Planning Area. The reader is referred to the revised language under Changes to the Reuse Plan section below.

Changes to the Reuse Plan

Volume I. Page 3-144: Add the following paragraph to the discussion titled *General Development Character and Design Objectives*.

3. The City of Monterey's Ryan Ranch development and design standards shall be integral to future development within the York Road Planning Area.

✓ 57-4. The commenter states that a portion of 8-mile Gate Road should be constructed in the York Road Planning Area. The reader is referred to the revised language under Changes to the Reuse Plan section below.

Changes to the Reuse Plan

✓ Volume I. Page 3-144: Add the following paragraph to the discussion titled *General Development Character and Design Objectives*.

4. The Section of 8-mile Gate Road between York Road and South Boundary Road shall be constructed in the York Road Planning Area.

57-5. The commenter states that an 80-foot wide floating easement needs to be provided in the York Road Planning Area. The reader is referred to the revised language under Changes to the Reuse Plan section below.

Volume I. Page 3-144: Add the following paragraph to the discussion titled *General Development Character and Design Objectives*.

5. An 80-foot wide floating easement shall be provided connecting Ryan Ranch Road to South Boundary Road and Upper Ragsdale Drive to South Boundary Road in the York Road Planning Area.

57-6. The commenter states that the EIR text should be corrected as it pertains to the widening of Del Monte Blvd. The reader is referred to the revised language under Changes to the Reuse Plan section below. The City of Monterey requests reimbursement of FORA's fair share cost of Del Monte Avenue shall be paid as a transit in-lieu of fee. Also, see Policy Consideration, below.

Change to the Reuse Plan

Volume I. Page 3-67: Amend the paragraph under Del Monte (Monterey) to read as follows:

This facility provides the primary link between the Peninsula and points to the east including Highway 1 and the former Fort Ord. Improvements to sections of this roadway are underway. The 2015 network includes widening of this facility to four to five lanes ~~six lanes~~ from Monterey to Highway 1. This widening assures increased traffic from reuse of Fort Ord. The preferred scenario in the Fort Ord Reuse Plan project the former Fort Ord's contribution to added trips to be 50% in the period to 2015.

Policy Consideration

In the comment, the City of Monterey requests reimbursement of FORA's fair share cost of Del Monte Avenue shall be paid as a transit in-lieu of fee. This requires a policy decision by FORA.

57-7. Commenter thanks FORA board for extending the public review period. Comment acknowledged.

57-8. Requests a comprehensive list of all polygons. A comprehensive table of all polygons with their land use program, acreages and development program is part of the on-going data management that FORA is presently pursuing. The table will be subject to minor refinements as completed boundary surveys are incorporated into the maps and data base. This on-going reconciliation is the result of the continuous stream of surveyed conveyances that the US Army completes and reconciliation in boundaries between jurisdictions and roadway engineering requirements. The Reuse Plan should be viewed as a General Plan level of description and commitment.

57-9. Commenter requests amendment to Table 3.3-1 in Volume I of the Reuse Plan to identify separately the Monterey Corporation Yard. The reader is referred to the revised language under Changes to the Reuse Plan section below.

Changes to the Reuse Plan

Amend Table 3.3-1, page 57-9 in Volume I of the Reuse Plan to add a separate line entry for the Monterey Corporation Yard within the York Road Planning Area.

57-10. Commenter requests that a separate line be included for the City of Monterey Corporation Yard District in table 3.10-1, page 3-130 of Volume I. This land use is currently designated as a 33 acre portion of the office park /R&D District.

Changes to the Reuse Plan

Amend Table 3.10-1, page 3-130 of Volume I of the Reuse Plan to add a separate line entry for the Monterey Corporation Yard within the York Road Planning Area.

57-11. Commenter requests that the Reuse Plan stipulate that polygons 29b and 29d are those areas within the Office Park/R&D District.

Changes to the Reuse Plan

Amend Volume I of the Reuse Plan, page 3-143, to insert into the Office Park/R&D District:

This land use area, consisting of polygons 29b and 29d, is approximately 147 acres and will accommodate up to 413,000 sq. ft. of office and/or research and development uses.

57-12. Commenter requests that the Reuse Plan stipulate that polygon 29e is the site reserved as a park and to remove reference to community park as "temporary."

Changes to the Reuse Plan

Amend Volume I of the Reuse Plan, page 3-144. Community Park District description as follows:

The site, consisting of polygon 29e, is reserved as a ~~potentially temporary community~~ park and may eventually be used for construction of the State Highway 68 By-Pass corridor.

57-13. Commenter requests that the Reuse Plan stipulate that polygon 29c is the site for the Monterey City Corporation Yard.

Changes to the Reuse Plan

Amend Volume I of the Reuse Plan, page 3-144, Monterey City Corporation Yard District description as follows:

The City of Monterey will utilize this undeveloped site, consisting of polygon 29c, for future corporation yard activities near State Highway 68.

57-14 Commenter refers to the maps depicting the Land Use Polygons for the Base Reuse in the Fort Ord Reuse Infrastructure Study Master Plan Report,

November 1994 and identifies a number of suggested corrections to the land use map in the Reuse Plan, (Figure 3.3-1). Refer to response to comment 7-4.

57-15. The commenter requests an amendment to the Reuse Plan. The reader is referred to the revised language under Changes to the Reuse Plan section below.

Changes to the Reuse Plan

Volume II. Page 4-127: Amend Table 4.3-3 to read as follows:

MONTEREY COUNTY

Park in Polygon 19a	Neighborhood Park	10	10
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Park in Polygon 29e	Community Park	25	25
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<u>TOTALS</u>			<u>35 Acres</u>
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57-16. The commenter points out that the reference to Natural Resource Management Area (NRMA) in Table 3.2-1 on page 3-7b (reference to Polygon 25) of the PEIR indicates that NRMA is not relevant to the proposed project. The new reference is "Habitat Management". Therefore, the commenter requests that reference to NRMA in the Reuse Plan be removed. The reader is referred to the revised language under Changes to the Reuse Plan section below.

In addition, the commenter requests a map to indicate the habitat management areas. The habitat management areas are indicated in two maps in Volume I, Section 3.6 Conservation, Open Space and Recreation Concept. Figure 3.6-2 indicates the draft management framework for lands outside the jurisdiction of the Fort Ord Dunes State Park and the Bureau of Land Management (BLM). Figure 3.6-3 indicate the lands to be managed by State Parks and the BLM.

Changes to the Reuse Plan

Amend Volume I and 2 to replace all references to "NRMA "with the revised designation, "Habitat Management."

57-17. Commenter refers to the maps depicting the Land Use Polygons for the Base Reuse in the Fort Ord HMP Planning Area, Exhibit B: of the Working Draft "Implementing/Management Agreement," which is reproduced for convenience in Appendix A of the Reuse Plan. Exhibit B in the HMP Working Draft is based on an earlier base of the Former Fort Ord and does not reflect the revised boundaries to the polygons in this area that have been made during the Reuse Planning process. See response 7-4.

In addition, the commenter requests changes in the City of Monterey designations on the sphere of influence and annexation requests on figure 4.1-4, page 4-17 of Volume II of the Reuse Plan. The figure is conceptual and the boundaries indicated

can be changed with the agreement of FORA. There may be an error on the City of Monterey sphere of influence boundaries. Though no corrections or changes to the Reuse Plan and EIR graphics or tables will be included with the Reuse Plan and Final PEIR documents, a compilation of the requests from commenters for corrections or changes to graphics will be provided to FORA. It will then be the responsibility of FORA to provide the corrections or changes requested at a future date after the certification of the EIR.

57-18. Commenter requests that Table 2.4-1 be revised so that it adds up to 100%. The numbers are rounded and therefore the table sums to greater than 100%.

57-19. Commenter notes that none of the maps in the Reuse Plan or the EIR indicate "NRMA" designated areas. However, at various locations in the EIR "NRMA" is still used incorrectly.

Changes in the EIR

Amend the EIR to replace all references to "NRMA" with the revised designation, "Habitat Management."

57-20. Commenter notes that the reference to Appendix A on page 4-40 of the EIR should read Appendix B. The reader is referred to the revised language under Changes to the EIR section below.

Changes to the EIR

Page 4-40: Amend the second sentence in first paragraph to read as follows:

The Draft Fort Ord Reuse Plan (Appendix B: Business and Operations Plan)

57-21. The commenter refers to the depiction of polygon boundaries on the maps in the EIR. Please refer to responses 57-17 and 7-4.

57-22. Commenter request change to the depiction of polygon boundaries in figure 3.3-1 in the Business Plan (Appendix B). Please refer to responses 57-17 and 7-4.

Response to Letter 58

58-1. The commenter implies that population growth is causing changes. The commenter does not address the content of the Reuse Plan or PEIR. No response is necessary.

Response to Letter 59

59-1. The commenter agrees with the Summary discussion. The commenter does not address the content of the EIR. No response is necessary.

59-2. The commenter believes that the discussion in the EIR pertaining to transportation, water, sewer, air and population is inadequate. As it pertains to water, refer to response to comment 8-5. As it pertains to transportation, water, sewer and population relative to phasing development at Fort Ord to reflect resource constraints, refer to response to comment 21-1.

59-3. The commenter does not like the format of the EIR "summary". The intent of a "summary" is to summarize the contents of a report. Therefore, to obtain a full understanding of the project it is required of the reader to read the entire document. As it pertains to whether the summary is legal or not legal, it is FORA's contention that the summary is adequate for the intended purpose and meets the requirements of CEQA (CEQA Section 15123).

59-4. The commenter states that jurisdiction delineation on maps use different graphics type nomenclature, which makes understanding the graphics difficult. Line conventions are generally followed but based on the graphic message to be conveyed on a particular figure, a line type may be used to enhance the distinction within the exhibit at the expense of convention. The graphic lines are internally consistent within a figure and selected to provide the greatest legibility practical.

59-5. The commenter would like to know how many students equal a Full-Time Equivalent (FTE) student. One FTE equals 15 units per semester, which can mean 1 student takes 15 units or 15 students taking 1 unit each. Based on current CSUMB conditions, the student to unit ratio is currently .7 to .8 (Trisha Lord, pers. com., January 8, 1997). Therefore, to get a rough headcount of the number of existing students, take the existing FTE and add 25 to 30 percent. Based on this methodology, 25,000 FTE (at full build out) will result in as many as 32,500 students. It is important to note that of the potential 32,500 students most will be "Extended Education" students which means they are not at Fort Ord 5 days per week.

59-6. The commenter wants to know if the two parallel dashed lines shown in the southern boundary area of Fort Ord is the Highway 68 bypass. The Highway 68 bypass indicated on various maps in the Reuse Plan and the EIR is shown in the southern boundary area of the Fort Ord property and is delineated by two parallel dashed lines following a curvilinear path. The right-of-way for this proposed alternative Highway 68 route is approximately 1000 feet wide.

59-7. The commenter would like to know what the dashed lines indicate. The dashed lines the commenter refers to delineate jurisdiction boundaries.

59-8. The commenter states that Table 5.1.1 on page 5-1 of the EIR does not include the Hatton Canyon Freeway, but the Reuse Plan does on page 3-66. The Hatton Canyon Freeway is a critical link in the regional network. This link is included in TAMC's regional modeling and is also on TAMC's list of proposed

facility improvements. The link appears on several tables in the Reuse Plan in order to provide a complete picture of the contribution of trips from Fort Ord to every link in the regional network. (See PFIP page 1-26, of Appendix B of the Reuse Plan.)

The traffic analyses completed for the DEIR, verified by subsequent modeling by TAMC (JHK 1997), indicate that development at the former Fort Ord does not produce a significant contribution to traffic on the Hatton Canyon link and no financing nexus exists. To clarify this issue, refer to the changes in the Reuse Plan below.

Changes to the Reuse Plan

Amend Volume I of the Reuse Plan, page 3-66, third paragraph, State Highway 1, beginning with the second sentence as follows:

This improvement includes the widening of the Highway to six lanes between the Fremont and Del Monte Interchange resulting in a network pattern intended to minimize the impact on State Highway 1 in this area. The preferred scenario in the Fort Ord Reuse Plan projects the former Fort Ord's contribution to added trips to be 32% in the period to 2015. The 2015 network also assumes completion of the Hatton Canyon improvements in the Carmel area, even though the transportation modeling indicates that Fort Ord's contribution to traffic on the Hatton Canyon link is not significant. ~~The preferred scenario in the Fort Ord Reuse Plan projects the former Fort Ord's contribution to added trips to be 32% in the period to 2015.~~

Amend Appendix B of the Reuse Plan, Table PFIP 1-3, Public Improvement Project Listing - Transportation System to add the following link and improvements following Highway 1 - North County, and adjust totals:

Highway 1- Seaside/Sand City; from 218 to Del Monte; Upgrade to 6 lanes; \$20,000,000 total costs; 32% Fort Ord contribution; \$6,400,000 Fort Ord capital cost; 2006 -2010 period.

59-9. The commenter points out that the EIR and Reuse Plan indicate conflicting positions on whether the Hatton Canyon project will be constructed or not and the EIR does not provide an analysis of what the characteristics of local roadways will be without construction of the Hatton Canyon project. Fort Ord development does not have a significant impact on the Hatton Canyon corridor. Therefore, an analysis of traffic on other roadways with or without construction of the Hatton Canyon freeway is not relevant to the project. Refer to response 59-8.

59-10. The commenter points out that the EIR does not provide an analysis of what the characteristics of local roadways will be without construction of the Highway 68 by pass. The EIR assumes construction of this roadway. There is no compelling basis for running the model without the Highway 68 bypass. However, without the bypass, traffic levels on other roadways would increase.

59-11. The commenter requests information on the Marina Coast Water District. The district obtains its water from three production wells that are connected to the 900 foot aquifer. The water is pumped anywhere from 1,500 to 2,000 feet. A back-up well, which is occasionally operated, provides water from the 400 foot aquifer. The basis for such deep wells is to avoid seawater intrusion and provide a potable water supply to the city of Marina. The MCWD used approximately 2,100 acre-feet of water last year (Rich Youngblood, pers. com., February 3, 1997)

59-12. The commenter states that for alternative modes of transportation to work in reducing emissions, people must be informed of the correlation between alternative modes and improved air quality, otherwise mitigation will be required. The EIR provides all the required and necessary mitigations as it pertains to air quality.

59-13. The commenter requests discussion on mitigations associated with population increase. A population increase by itself is not a significant impact (*Goleta Union School District v. The Regent's of the University of California* (36 Cal. App. 4th 1121, 1995)). What is potentially significant, however, are the impacts that human activities are projected to have. For example, the vehicle miles traveled create impacts on roadways as well as increase emissions. These impacts and other impacts associated with human activity are adequately discussed in the EIR and provide the necessary background information for the decision makers to base their informed decision on.

59-14. The commenter requests that development occur in a phased manner. Refer to response to comment 21-1.

59-15. The commenter states that FORA should proceed carefully with approving the project and consider its ramifications. The commenter does not address the content of the EIR. No response is necessary. However, the FORA Board should consider the intent of the comment in its deliberations before approval of the Reuse Plan and certification of the EIR.

Response to Letter 60

60-1. The commenter points out that the annexation process is not adequately addressed in the text and maps of the Reuse Plan and EIR.

Changes to the Reuse Plan

Volume II. Page 4-7. Section 4.1.1.1. Add the following sentence after the LAFCO sentence:

"Monterey County LAFCO is authorized under the Cortex-Knox Act and based on a resolution adopted by LAFCO, will not consider any boundary

changes at Ford Ord until an EIR is certified by the FORA Board. Once this action is complete, and the Reuse Plan is adopted, LAFCO will begin to consider formal requests for reorganizations (i.e., boundary changes) from individual jurisdictions. These require formal action by LAFCO once a property tax transfer agreement has been reached between the county and the individual jurisdictions".

60-2. The commenter states that page IV-18 of the Reuse Plan has dramatic impact on the role and financial future of FORA. Refer to response to comment 7-2.

60-3. The commenter states that, based on proposed annexations, there should be five land use/political jurisdictions at Fort Ord, not three. There are only three land use designations discussed in the Reuse Plan and the EIR because that is what currently exists. Refer to response to comment 7-1.

60-4. The commenter would like the text edited to reflect that Del Rey Oaks and Monterey are proposed land use jurisdictions. The reader is referred to the revised language under Changes to the Reuse Plan section below.

Changes to the Reuse Plan

Volume I. Page 1-2: Add the following sentence to the end of the first paragraph under Section 4.

Del Rey Oaks and Monterey are prospective land use/political jurisdictions.

60-5. The commenter requests that Del Rey Oaks and Monterey be referenced as proposed jurisdictions in the Reuse Plan and EIR. Refer to response to comment 7-1.

60-6. The commenter requests that Del Rey Oaks and Monterey be referenced in text. Refer to response to comment 7-1.

60-7. The commenter requests that Del Rey Oaks and Monterey be referenced in text. Refer to response to comment 7-1.

60-8. The commenter requests that names be referenced in the Reuse Plan. Including names in the document as proposed is not necessary to convey the necessary information, nor is it advisable, because it would then justify everyone's name and their title be included in the Reuse Plan.

60-9. The commenter requests that Del Rey Oaks and Monterey be referenced in text. Refer to response to comment 7-1.

60-10. The commenter requests that Del Rey Oaks and Monterey be referenced in text. Refer to response to comment 7-1.

60-11. The commenter states that Fort Ord was selected for closure in 1991 not 1990. The reader is referred to the revised language under Changes to the Reuse Plan section below.

Changes to the Reuse Plan

Volume I. Page 3-2: Amend reference to "1990" in second paragraph under section 3.1 to read "1991".

60-12. The commenter requests that Del Rey Oaks and Monterey be referenced in text and tables. Refer to response to comment 7-1.

60-13. The commenter states that Polygons 31a and 31b have not been properly labeled or identified in the Reuse Plan [and by association the EIR]. Refer to response to comment 7-4.

60-14. The commenter requests that Del Rey Oaks and Monterey be referenced in text and tables. Refer to response to comment 7-1.

60-15. The commenter requests that Del Rey Oaks and Monterey be referenced in text and tables. Refer to response to comment 7-1.

60-16. The commenter request a text amendment pertaining to description of Neighborhood Retail locations. The reader is referred to the revised language under Changes to the Reuse Plan section below.

Changes to the Reuse Plan

Volume I. Page 3-56. Amend the fourth sentence in the second paragraph to read as follows:

Two locations have been designated as Neighborhood retail, one adjacent to the CSUMB campus at the southeast corner of the intersection of North-South Road and Light Fighter Lane, and one at the connecting road between Coe Avenue and the proposed East Boundary Road ~~at the cross-sections of North-South Road and the East Boundary Road.~~

60-17. The commenter requests text amendment in the Reuse Plan that the current CalTrans proposal to realign State Highway 68 will not impact the commercial properties within the City of Del Rey Oaks at the intersection of Canyon Del Rey Road. CalTrans has not defined the alignment and engineering design of the project and FORA's Reuse Plan is not an appropriate venue for commenting on detailed design aspects of this CalTrans project. The environmental review of the CalTrans project will provide an opportunity to address the commenter's concerns.

✓60-18. The commenter requests that York Road be shown on maps as connecting Highway 68 and the Highway 68 by-pass. Modifications to figures contained in the Reuse Plan and EIR are not, by contractual agreement between the

Changes to the Reuse Plan

Volume I. Page 3-41, Development Capacity, second paragraph. Amend the last sentence as follows:

The table lists the various land uses, including UCMBEST, the CSUMB designation and area-wide rights-of-way and more specific categories for hotels, golf course, and the Fort Ord Dunes State Park.

Volume I. Page 3.42, Table 3.3-1. Amend Table to desegregate UCMBEST development capacity.

197-33. The commenter requests amendment to the text. Refer to response to comment 197-32.

197-34. The commenter requests an amendment to the text.

Changes to the Reuse Plan

Volume I. Page 3-43. Amend the last sentence to read as follows:

"This includes the expected potentially..."

197-35. The commenter requests an amendment to Table 3.4-1 to add "experimental agriculture" to the permitted range of uses. The commenter is referred to response to comment 197-26.

197-36. The commenter states that the extension of California Avenue (north of Reservation Road) should not be indicated on Figure 3.5-2 because it is currently under discussion with the City of Marina.

Changes to the Reuse Plan

Though no changes to the Reuse Plan and EIR graphics or tables will be included with the Reuse Plan and Final PEIR documents, a compilation of the requests from commenters of requests for changes to graphics or tables will be provided to FORA separately. It will then be the responsibility of FORA to provide the changes requested at a future date after the certification of the EIR.

197-37. The commenter would like a text amendment as it pertains to California Avenue extension.

Changes to the Reuse Plan

Volume I. Page 3-62. Remove the last sentence in the first paragraph and replace with the following discussion.

consultant and FORA, a funded aspect of the preparation of the Final EIR and revised Reuse Plan. However, all changes requested by commenter will be listed by the consultant and delivered to FORA for their use in the case FORA decides to make amendments to the figures. The reader is referred to the revised language under Changes to the Reuse Plan section below.

✓ Changes to the Reuse Plan

Volume I. Page 3-65: ^{where?} Amend Figure 3.5-1 to include York Road connection between South Boundary Road ^{24th} Highway 68 and the ^{to} clarify the configuration (2 lanes) of North-South Road between Highway 218 and South Boundary Road.

60-19. The commenter notes incorrect directional reference pertaining to the location of open space at Fort Ord. The reader is referred to the revised language under Changes to the Reuse Plan section below.

Changes to the Reuse Plan

Volume I. Page 3-80: Amend the first sentence in the second paragraph to read as follows:

Roughly two-thirds of the base consists of the undeveloped lands south and east west of the Main Garrison area.

60-20. The commenter requests that Del Rey Oaks and Monterey be referenced in text and tables. Refer to response to comment 7-1.

60-21. The commenter requests that Del Rey Oaks and Monterey be referenced in text and tables. Refer to response to comment 7-1.

60-22. The commenter requests that Del Rey Oaks and Monterey be referenced in text and tables. Refer to response to comment 7-1.

60-23. The commenter requests that Del Rey Oaks and Monterey be referenced in a revised figure. Though no changes to the Reuse Plan and EIR graphics or tables will be included with the Reuse Plan and Final PEIR documents, a compilation of the requests from commenters for changes to graphics will be provided to FORA. It will then be the responsibility of FORA to provide the changes requested at a future date after the certification of the EIR. Refer to comment 7-1.

Policy Consideration

FORA should consider whether graphics and tables in the Reuse Plan should refer to Del Rey Oaks in lieu of the South Gate Planning Area and Monterey in lieu of the York Road Planning Area.

60-24. The commenter requests that Del Rey Oaks and Monterey be referenced in text and tables. Refer to response to comments 7-1 and 60-23. The commenter requests additional language in Volume I, page 3-141. The reader is referred to the change below.

Changes to the Reuse Plan

Volume I. Page 3-141. Section 3.10.5 Add the following:

This District includes an Office Park/R&D District surrounding the planned visitor-serving hotel and golf course development. The combination of uses anticipates strong synergy between them. The area is located outside of the core infrastructure area but has been identified as a development "opportunity site."

60-25. The commenter states that open space relating to the "Frog Pond" (Polygon 31a) should be 15 acres not 22 acres. The acreage should be revised to 15 acres (Dennis Potter, pers., com., January 22, 1997).

Changes to the Reuse Plan

Volume I. Page 3-143. Amend second paragraph to read as follows:

Open Space Land Use. ~~22~~ 15 acres are projected for this park use and habitat protection.

60-26. The commenter requests that Del Rey Oaks and Monterey be referenced in text and tables. Refer to response to comment 7-1.

60-27. The commenter requests that Del Rey Oaks and Monterey be referenced in text and tables. Refer to response to comment 7-1.

60-28. The commenter requests that Del Rey Oaks and Monterey be referenced in a revised figure. Modifications to figures contained in the Reuse Plan and EIR are not, will be completed following the certification of the Final PEIR. All changes requested by commenter will be listed by the consultant and delivered to FORA for their use in the case FORA decides to make amendments to the figures. Refer to comment 7-1 and 60-23.

Policy Consideration

FORA should consider whether graphics and tables in the Reuse Plan should refer to Del Rey Oaks in lieu of the South Gate Planning Area and Monterey in lieu of the York Road Planning Area.

60-29. The commenter requests that Del Rey Oaks and Monterey be referenced in a revised figure. Though no changes to the Reuse Plan and EIR

graphics or tables will be included with the Reuse Plan and Final PEIR documents, a compilation of the requests from commenters for changes to graphics will be provided to FORA. It will then be the responsibility of FORA to provide the changes requested at a future date after the certification of the EIR. For labeling changes, refer to comment 7-1, 60-23 and 60-28. For polygon boundary changes, refer to comment 7-4.

Policy Consideration

FORA should consider whether graphics and tables in the Reuse Plan should refer to Del Rey Oaks in lieu of the South Gate Planning Area and Monterey in lieu of the York Road Planning Area.

60-30. The commenter requests that Del Rey Oaks and Monterey be referenced in text and tables. Refer to response to comment 7-1.

60-31. The commenter requests that Del Rey Oaks and Monterey be referenced in text and tables. Refer to response to comment 7-1.

60-32. The commenter requests that Del Rey Oaks and Monterey be referenced in text and tables. The reader is referred to the revised language under Changes to the Reuse Plan section below.

Changes to the Reuse Plan

Volume II. Page 4-46: Amend the list under Retail and Service Centers by adding the following:

- County South Gate Area: Adjacent to planned hotel and golf course development.

60-33. The commenter requests that South Gate Planning Area be added to the list of Business Park/Light Industrial and Office/R&D designated land uses. (Note, the list is also augmented to correctly include the York Road Planning Area.) The reader is referred to the revised language under Changes to the Reuse Plan section below.

Changes to the Reuse Plan

Volume II. Page 4-56: Amend the list under Business Park/Light Industrial and Office/R&D at the bottom of the page by adding the following:

South Gate Planning Area (Polygons 29a, 31a, and 31b); 48 acres; .20 FAR; 415,127 square feet.

York Road Planning Area (Polygons 29b, and 29d); 147 acres; .06 FAR; 413,000 square feet.

60-34. The commenter requests that the South Gate Planning Area be added to the list of Convenience /Specialty Retail designated land uses. The reader is referred to the revised language under Changes to the Reuse Plan section below.

Changes to the Reuse Plan

Volume II, Page 4-57: Amend the list under Convenience/Specialty Retail to include:

South Gate Planning Area (Polygons 29a, 31a, and 31b); 5 acres; .14 FAR; 30,000 square feet.

60-35. The commenter requests that Del Rey Oaks and Monterey be referenced in text and tables. Refer to response to comment 7-1.

60-36. The commenter points out that Program D-1.2 is out of place.

Changes to the Reuse Plan

Amend Volume II of the Reuse Plan, Page 4-58, Program D-1.2, as follows:

The City of Marina County of Monterey shall designate convenience/specialty retail land use on its zoning map and provide standards for development within residential neighborhoods.

60-37. The commenter points out that the reference to "club house" should be pluralized. Verification of this comment indicates there are two golf courses and one club house. Therefore, the text in the Reuse Plan is correct and will not be amended.

60-38. The commenter notes that the Broadway Avenue gate access to Fort Ord is open. The reader is referred to the revised language under Changes to the Reuse Plan section below.

Changes to the Reuse Plan

Volume II, Page 4-94: Amend the third sentence in the third paragraph to read as follows:

There is a gate at Broadway, which ~~would~~ currently provides access to Seaside ~~if it were open~~.

60-39. The commenter requests that the connection of South Boundary to York Road be included in Figure 4.2-2, Page 4-98. Though no changes to the Reuse Plan and EIR graphics or tables will be included with the Reuse Plan and Final PEIR documents, a compilation of the requests from commenters for changes to graphics will be provided to FORA. It will then be the responsibility of FORA to provide the

changes requested at a future date after the certification of the EIR. The reader is referred to the revised language under Changes to the Reuse Plan section below.

Changes to the Reuse Plan

Volume II. Page 4-98: Amend Figure 4.2-2 to show the connection of South Boundary to York Road.

60-40. The commenter requests that the proposed bicycle network be augmented to add South Boundary Road to York Road. Though no changes to the Reuse Plan and EIR graphics or tables will be included with the Reuse Plan and Final PEIR documents, a compilation of the requests from commenters for changes to graphics will be provided to FORA. It will then be the responsibility of FORA to provide the changes requested at a future date after the certification of the EIR. The reader is referred to the revised language under Changes to the Reuse Plan section below.

Changes to the Reuse Plan

Volume I. Page 4-115: Amend Figure 4.2-6 to show a bike trail on South Boundary Road from North-South Road to York Road.

60-41. The commenter states that Seaside has been left out of the soil conservation policies. The Seaside element of the soil conservation policies commences on page 4-151. Therefore, Seaside is covered in the discussion. However, the City of Marina was left out. A new policy is included in the following Changes to the Reuse Plan section below.

Changes to the Reuse Plan

Volume II. Page 4-150. Add the following new policy after Program A-5.1:

"Soils and Geology Policy A-6: The City shall require that development of lands having a prevailing slope above 30% include implementation of adequate erosion control measures.

Program A-6.1: The City shall prepare and make available a slope map to identify locations in the study area where slope poses severe constraints for particular land uses.

Program A-2.1: See description of this program above.

Program A-2.2: See description of this program above.

Program A-2.3: See description of this program above.

Program A-6.2: The City shall designate areas with extreme slope limitations for open space or similar use if adequate erosion control measures and engineering and design techniques cannot be implemented".

60-42. The commenter states that the safe yield of the Seaside basin has not been determined. The safe yield of the Seaside basin has been determined and is not exceeded by the Fort Ord golf courses using 400 afy from this source (U.S. Army Corps of Engineers 1993). However, it is the safe yield of the Salinas Groundwater Basin vis-a-vis salt water intrusion in the Fort Ord area that is a concern. The safe yield water extraction from Fort Ord wells is known to be at a level less than 4,700 afy.

60-43. The commenter states that the ephemeral drainage into the Frog Pond from development should not be precluded because implementation of Best Management Practices can preserve the quality of the habitat in the Frog Pond. The reader is referred to the revised language under Changes to the Reuse Plan section below.

Changes to the Reuse Plan

Volume II. Page 4-201: Amend the last paragraph to read as follows:

Program A-8.1: The County shall ~~allow~~ ~~prohibit~~ development in Polygon 31b to discharge storm water ~~only or other drainage~~ into the ephemeral drainage in this parcel that feeds into the Frog Pond ~~if a reasonable and cost effective alternative is not available subject to the,~~ and only with the provision that future applicants for development that could impact the Frog Pond be required to submit a Storm Water Pollution Prevention Plan that uses storm water "Best Management Practices" to control storm water, erosion and sedimentation. Such a plan shall both maintain the Frog Pond at its current level of biological diversity and health, and shall improve its level of biological diversity and health if its current condition is compromised due to existing uncontrolled storm water quality.

60-44. The commenter states that Seaside has been left out of the biological resources section. Seaside has not been left out of the biological resources section. The reader is referred to page 4-190 where the Seaside section commences.

60-45. The commenter notes an inappropriate reference to Marina is contained in the County of Monterey section on cultural resources. The reader is referred to the revised language under Changes to the Reuse Plan section below.

Changes to the Reuse Plan

Volume II. Page 4-221: Amend the first sentence under Cultural Resources Policy A-2 to read as follows:

The County of Monterey City of Marina shall provide.....

60-46. The commenter states that Figure 3.2-1 is incorrectly drawn. The NAE (Habitat Management) area appears to be too large and the polygon border and label are inaccurate. Though no changes to the Reuse Plan and EIR graphics or tables will be included with the Reuse Plan and Final PEIR documents, a compilation of the requests from commenters for changes to graphics will be provided to FORA. It will then be the responsibility of FORA to provide the changes requested at a future date after the certification of the EIR. Refer to comment 7-4, 60-13, and 60-25.

60-47. The commenter requests that Del Rey Oaks and Monterey be referenced in text as proposed land use jurisdictions. This issue is addressed in the EIR on page 3-10 and in sufficient detail. No changes to the text are required.

60-48. The commenter requests that the EIR acknowledge that Del Rey Oaks has made a formal request to LAFCO to annex properties in Monterey County Jurisdiction. The issue of annexation is adequately discussed in the EIR on page 3-10. The level of detail requested by the applicant to be inserted in the EIR is not necessary for the decision makers to base an informed decision on. No changes to the text are required.

60-49. The commenter states that Figure 3.6-1 is incorrectly drawn and should reflect the current status of request to LAFCO. FORA is not aware of any inaccuracies in the figure when the document was produced. However, if changes need to be made to the figure, these will be reviewed and approved by the FORA board. Though no changes to the Reuse Plan and EIR graphics or tables will be included with the Reuse Plan and Final PEIR documents, a compilation of the requests from commenters for changes to graphics will be provided to FORA. It will then be the responsibility of FORA to provide the changes requested at a future date after the certification of the EIR. The reader is referred to the Changes to the EIR section below. Refer to comment 7-1.

60-50. The commenter requests that Del Rey Oaks and Monterey be referenced in text and tables. Refer to response to comment 7-1.

60-51. The commenter states open space relating to the "Frog Pond" (Polygon 31a) should be 15 acres not 22 acres. Refer to comment 6-25. Refer to comment 7-1 for jurisdictional status. The commenter states that Del Rey Oaks will not allow noise, visible activity, or air pollution to adversely affect recreational activities in the NAE. Comment noted, no response necessary.

Change to the EIR

Amend the EIR, page 4-9 line 4 as follows.

"... a ~~22-acre~~ 15-acre expansion of the Regional Park District ..."

60-52. The commenter points out that the Seaside basin provides water to other uses other than the Fort Ord golf courses. The Seaside basin water used at Fort Ord is used for existing golf courses only and will continue to be used so. Seaside water is not and will not be used for any other use at Fort Ord. No changes to the text are required.

60-53. The commenter requests that Del Rey Oaks be referenced in text. Refer to response to comment 7-1.

60-54. The commenter states that Figure 4.7-2 should show York Road. Though no changes to the Reuse Plan and EIR graphics or tables will be included with the Reuse Plan and Final PEIR documents, a compilation of the requests from commenters for changes to graphics will be provided to FORA. It will then be the responsibility of FORA to provide the changes requested at a future date after the certification of the EIR. Refer to comment 60-18.

Changes to the EIR

Page 4-78: Amend Figure 4.7-2 to include South Boundary Road connecting to York Road.

60-55. The commenter requests that Del Rey Oaks be referenced in text. Refer to response to comment 7-1.

60-56. The commenter states that there should not be barriers to access to Polygon 31a. The commenter is correct and the EIR should be revised to eliminate this language.

Changes to the EIR

Amend page 4-135 line 2 as follows:

~~Barriers should be designed to prohibit unauthorized access into Polygon 31a.~~

60-57. The commenter requests that Del Rey Oaks be referenced in text. If and when the City of Del Rey Oaks takes over this polygon, then they would be responsible for the stormwater discharge quality to the Frog Pond.

60-58. The commenter requests that a figure be provided in color. Though no changes to the Reuse Plan and EIR graphics or tables will be included with the Reuse Plan and Final PEIR documents, a compilation of the requests from commenters for changes to graphics will be provided to FORA. It will then be the responsibility of FORA to provide the changes requested at a future date after the certification of the EIR. The reader is referred to the Changes to the EIR section below.

Changes to the EIR

Page A-28: Provide Figure 3.3-1 in color instead of black and white.

60-59. The commenter states that the Business Plan has not been thoroughly integrated into the Reuse Plan and EIR. The Comprehensive Business Plan provides a simplified model to illustrate the basic financial feasibility and fiscal consequences for the reuse of the former Fort Ord and relies on an infrastructure financing model that is efficient and prudent, relying on "pay-as-you-go" financing. FORA, and the land use jurisdictions have the choice and the powers to utilize a wide range of alternative financing methods. The role for FORA outlined in the Comprehensive Business Plan is consistent with the intent of SB 899 and provides a "base case" that simulates the consequences of coordinated marketing and development in order to realize financial savings. This model for FORA's role and the financing measures simulated in the Comprehensive Business Plan yield are the recommendations of the financing and business consultants. The inclusion of the Comprehensive Business Plan in the public documents is based on the desire to communicate the overall financial feasibility of coordinated redevelopment of the former Fort Ord. It is expected that FORA will use this "base case" scenario as well as other financing models to refine its Business strategy. From these on-going deliberations, FORA's role will emerge.

The maps and figures in the PFIP and particularly the CIP are an important implementation tool for realizing development at the former Fort Ord. The maps, charts, figures, exhibits, and tables are reflective of the draft Reuse Plan. Changes to the draft, adopted by FORA would result in updates to these implementation tools. FORA is expected to monitor and revise these tools on a regular basis.

With respect to subsequent annexations, refer to comment 7-1.

60-60. The commenter requests that Del Rey Oaks and Monterey be included in an exhibit showing jurisdictions that will have responsibility for municipal and public service functions. Refer to response to comment 7-1.

60-61. The commenter points out that "RKS" should read "RKG". The reader is referred to the revised language under Changes to the Business and Operations Plan section below.

Changes to the Business and Operations Plan

Page II-4. Amend "RKS" in the second sentence of the third paragraph to read "RKG".

60-62. The commenter states that the absorption rates forecast needs to include a golf course in the 1996-2000 planning horizon. The exhibit referred to is a projection of market demand by the real estate market consultant. FORA cannot change the projected demand for development by policy directive, the real estate market is a context within which FORA must make plans and policy. The market place is a dynamic setting, however, and the planning for the Reuse Plan is based on

a long-range projection. The Reuse Plan permits a wide range of uses and will flexibly accommodate faster absorption rates.

60-63. The commenter states that the costs in exhibit 4 need to include the phasing of capital improvements more closely linked to proposed development scenarios. The financial model in the Comprehensive Business Plan is more disaggregated in the supporting Exhibits 9 through 12. (Refer to corrections and modifications to the Comprehensive Business Plan in response to comment 7-2.

60-64. The commenter questions whether the costs identified in Exhibit 4 would make future development at Fort Ord financially questionable. The exhibit projects front-end capital investments to be carried by development at Fort Ord and the financial model tested illustrate that these capital costs can be carried by the aggregate of uses projected. The flow of capital (taking into account sources of funds and use of funds is summarized in Exhibit 10. Net cash flow and cumulative cash flow are shown at the bottom of the exhibit by time period through 2015. This exhibit has been revised to reflect corrections and refinements from the real estate economic consultant (Refer to comment 7-2). The sunk costs are not expected to be an impediment to the feasibility of subsequent development beyond the 20 year time frame. The model indicates the potential to recover the expected costs.

The commenter asks what the financial role of the major educational institutions at Fort Ord will be. The University of California is treated simply as one of many potential developers at the former Fort Ord. Since they have already been conveyed lands to implement UCMBEST, their contribution to financing is based on the nexus for need for transportation. Other infrastructure improvements are modeled on a user-fee basis requiring the recovery of capital costs through on-going fees by the service user. CSUMB is treated in the financial analysis in a similar way to UC since they too have been conveyed lands for the campus. If CSUMB does not contribute to traffic and infrastructure costs on the basis of a nexus (as modeled), then their contribution would need to be made up from the other contributing land uses. This scenario is the subject of on-going financial modeling for FORA as part of the Economic Development Conveyance (EDC) process. One potential mechanism for covering the infrastructure costs for CSUMB is the use of redevelopment financing.

60-65. The commenter requests additional language be added to the text pertaining to Community Building Strategy. The suggestion is appropriate and important.

Changes to the Reuse Plan Comprehensive Business Plan

Amend page III-2 section 4. Community Building Strategy to add a 9th strategy as follows:

(9) integrate new visitor serving uses at Fort Ord into the overall tourism strategy for the Monterey Peninsula.

60-66 through 60-69. The commenter states that the "opportunity zone" concept for the South Gate Planning Area should be included in the discussion of Early Sites Marketing Action Plan. The purpose of this Early Sites Marketing Action Plan is to reflect the sites poised for development in the first five years within the limits of projected market support representing the period from 1995 to 2000. The Site referred to is not included because there are competing sites with equivalent amenity and existing infrastructure services. The financial model projects a particular development sequence in order to construct a model for financial and fiscal performance but this is not the only sequence possible.

60-70. The commenter states that Figure 3.3-1 does not correctly depict Polygon 31a and 31b. Refer to comment 7-4.

60-71. The commenter states that the exhibit should include reference to the cities of Del Rey Oaks and Monterey. Refer to comment 60-23 and 7-1.

60-72 and 60-73 The commenter questions some of the financial performance model results. Corrections and revisions have been made to the text and tables. Refer to comment to letter 9.

60-74. The commenter questions the demolition costs as unrealistically high. These projections have undergone scrutiny by FORA in the months following the Draft Comprehensive Business Plan. Current professional judgment by a wide range of consultants have maintained a number very similar to the one used in the Draft Comprehensive Business Plan. It is true, however, that these projections are based on a number of inputs and variables and represent the best professional judgment of the consultants.

60-75. Commenter questions some of the financial performance model results. Refer to comment 60-72 and 73 and letter 9.

60-76 Commenter observes that the results of the model may not be realistic if other assumptions do not materialize. The observation is correct and that is why the model identifies the key assumptions.

60-77. Commenter questions some of the financial performance model results. Refer to comment 60-72 and 73 and letter 9.

60-78. Commenter observes that a program for sharing revenues and costs among affected local governments has not been approved. The principal of using FORA to mitigate fiscal shortfalls in the land use jurisdictions was reviewed by the FORA Administrative Committee to be explored in the Draft Business and Operations Plan. The Draft Business Plan concludes that if infrastructure costs can be rigorously managed, there is likely to be sufficient funds to offset fiscal shortfalls, and these shortfalls could be part of the subsequent negotiations for the Economic Development Conveyance. The Draft Business Plan is a benchmark model to test a wide range of assumptions and does not reflect specific FORA policy. It is expected

that FORA will continue to refine its financial and fiscal models relying on the cumulative learning that is possible from ongoing financial management.

60-79 and 60-80. Commenter requests identification of Del Rey Oaks and Monterey as proposed land recipients. Refer to comment 7-1.

60-81. Commenter requests that the PFIP and PSP have an integrated executive summary. The Comprehensive Business Plan serves as an integrating summary to supplement the individual summaries of the PFIP and PSP.

60-82. Commenter requests that a general geographic reference to the Southwest and Northwest service areas be changed to the "Southgate Planning Area." This would be an incorrect change. The general geographic description of the Southwest includes more than just the "Southgate Planning Area."

60-83. Commenter suggests that "key informants" should be identified. The PFIP is a summary document with many background engineering reports.

60-84. Commenter requests that the phasing and financing of improvements to North South Road must be clarified (pages PFIP 1-130 and 1-132). It appears the commenter is referring to the phasing and cost allocation to Fort Ord on pages PFIP 1-30 and 1-32. None of the infrastructure planning and financing models include more discreet phasing steps than the five-year periods indicated in the table. The models are broad-based projections of many components for the discreet periods indicated in the table. All of the North South Road improvements are included in the overall on-site improvements within Fort Ord that breakout the Fort Ord nexus from the regional nexus. How the roads will be financed is reviewed in the Comprehensive Business Plan.

60-85. The commenter asks if a figure PFIP 1-3 on page PFIP 1-50 is consistent with the detail in the tables. The figure collapses the detail in the tables to a simplified graphic representation of the phasing of the roadways modeled. However, the Blanco Road extension is inadvertently omitted from the figure.

60-86. The commenter requests that Del Rey Oaks and Monterey should be identified. Refer to comment 60-23 and 7-1.

60-87. The commenter suggests that the wastewater demand forecasts may need to be adjusted if the City of Del Rey Oaks uses reclaimed water on site rather than using the capacity of the MRWPCA plant in Marina. The demand forecasts should be the same so long as the development program is consistent and the projections of percent use of non-potable water remain the same. The source of the non-potable water supply would not be expected to change the demand factors.

60-88. The commenter suggests a change to the wastewater screen summary based on comment 87. The change is speculative at this time, but the PFIP is expected to be revised during the buildout of the plan to reflect infrastructure implementation.

60-89. The commenter suggests the infrastructure costs exceed current land values. The Public Facilities Financing Plan (PFIP 5) recognizes that not all land uses can support the expected direct nexus for infrastructure costs but that in aggregate, the desirable land uses are financially viable. Refer to comment letter 9.

60-90. The commenter notes that the PFIP correctly identifies the habitat area as 15 acres on Polygon 31a. Comment noted.

60-91. The commenter states the total costs of public improvements in Table PFIP 4-1 are not consistent with the costs identified in PFIP 2-23. The discrepancy in the PFIP reflects one table not having been updated. Regardless, the information contained in the PFIP the commenter refers to has been subsequently updated and will continue to be updated to reflect changing conditions associated with reuse.

60-92. The commenter states the dollar amounts do not agree with Table PFIP 3-7. Refer to response to comment 60-91.

60-93 through 60-112 (excluding 60-109). All of these comments refer to the Public Services Plan (PFIP) and all comments request that the analyses, tables, and text include the identification of the Cities of Del Rey Oaks and Monterey. Refer to comment 7-1.

60-109. The commenter suggests that the inflation rate assumed in the analysis should be reviewed and alternative scenarios included. Comment noted.

[Start July 31, 1996 City of Pacific Grove public hearing comments]

Response to Public Hearing Comment 61

61-1. The commenter requests information on future transit at Fort Ord. Refer to the EIR section on transit on page 4-72 and 4-85 and section 4.2.3 - *Transit* - in Volume II of the Reuse Plan.

Response to Public Hearing Comment 62

62-1. The commenter is concerned about payment to the Army for the Fort Ord property. This issue was addressed in a response at the hearing. Refer to response to comment 62-1 in Volume I of the Final PEIR.

62-2. The commenter is concerned that the proposed Reuse Plan exceeds replacement of the former Fort Ord population. This issue was addressed in a response at the hearing. Refer to response to comment 62-2 in Volume I of the Final PEIR. Also, Refer to response to comment 43-1 and 55-4.

Response to Public Hearing Comment 63

63-1. The commenter wants to know if the \$137 million was for on base improvements. Refer to comment 21-1 for information on roadway infrastructure implementation timing, monitoring and funding.

63-2. The commenter wants to know if proposition 218 has been weighted in the Reuse Plan. Proposition 218 was an initiative to amend the State Constitution which would require that all future local general taxes must be approved by a majority vote of the people and existing local general taxes established after December 31, 1994, without a vote of the people, be placed before the voters within two years. There has been no "weighted" analysis of the impacts to funding the Reuse Plan. Regardless of this proposition, the necessary funds to accommodate new infrastructure at Fort Ord will be borne by new residents at Fort Ord. New property owners at Fort Ord will "walk in" to an already established fee structure (based on nexus analysis) to accommodate the necessary infrastructure improvements. Beyond the Fort Ord mitigated impacts, unmitigated impacts would continue to be unmitigated until funding is obtained through new majority votes, if any. In other words, as it pertains to regional transportation impacts, there would be required to be a regional solution. A regional solution would most likely require a vote per the requirements of Proposition 218. A majority vote of the people to mitigate regional transportation impacts would be required.

63-3. The commenter wants to know if the Reuse Plan's "balanced budget" would be "unbalanced" if it were modified. This issue was addressed in a response at the hearing. Refer to response to comment 63-3 in Volume I of the Final PEIR.

Response to Public Hearing Comment 64

64-1. The commenter wants to know if costs contained in the Reuse Plan were firmer than the income/revenue estimates. This issue was addressed in a response at the hearing. Refer to response to comment 64-1 in Volume I of the Final PEIR.

64-2. The commenter wants to know if the requirement to pay the Army for the land would kill the project. It is speculated that the Army would not insist on a price "that would kill the project". This issue was addressed in a response at the hearing. Refer to response to comment 64-2 in Volume I of the Final PEIR.

64-3. The commenter wants to know what agency is responsible for providing water to Fort Ord. Currently, water is the responsibility of the Army. However, when the base is turned over it is expected that the MCWD will be the water purveyor. This issue was addressed in a response at the hearing. Refer to response to comment 64-3 in Volume I of the Final PEIR.

Response to Public Hearing Comment 65

65-1. Who will be "balancing" development at Fort Ord. This issue was addressed in a response at the hearing. The Reuse Plan is administered by FORA. Refer to response to comment 65-1 in Volume I of the Final PEIR and to response to comment 21-1 in Volume II.

Response to Public Hearing Comment 66

66-1. The commenter wants to know where the funds are coming from that would fund future transportation costs. Refer to response to comment 22-1. This issue was addressed in a response at the hearing. Refer to response to comment 66-1 in Volume I of the Final PEIR.

66-2. The commenter wants to know if the financial information is available for public review. Refer to Appendix B of the Reuse Plan. Also, this issue was addressed in a response at the hearing. Refer to response to comment 66-2 in Volume I of the Final PEIR.

66-3. The commenter wants to know who is responsible for Mello-Roos financing. This issue was addressed in a response at the hearing. Refer to response to comment 66-3 in Volume I of the Final PEIR.

66-4. The commenter wants to know how realistic is the plan adoption scenario. This issue was addressed in a response at the hearing. Refer to response to comment 66-4 in Volume I of the Final PEIR.

Response to Public Hearing Comment 67

67-1. The commenter would like to know where the impact is that was suffered when Fort Ord closed. Regardless of the economic conditions that existed in 1991 or currently exist, the reuse of the base will proceed. SB 899 was not created with the intent to limit growth to a level commensurate with the economic activity that existed prior to the departure of the 7th Light Infantry Brigade. However, the FORA Board is required to consider the comment. Refer to response to comments 43-1 and 55-4.

67-2. The commenter would like to know where the public sentiment factor is. This issue was addressed in a response at the hearing. Refer to response to comment 67-2 in Volume I of the Final PEIR.

67-3. The commenter would like to know what are the alternatives to the plan. This issue was addressed in a response at the hearing. Refer to response to

comment 67-3 in Volume I of the Final PEIR. The alternatives are discussed in the Draft EIR commencing on page 6-1.

67-4. The commenter would like to know if the economic analysis assumptions are in the Draft EIR or Reuse Plan. This issue was addressed in a response at the hearing. Refer to response to comment 67-4 in Volume I of the Final PEIR.

67-5. The commenter would like to know what it would take to reduce the plan by one-half or two-thirds. This issue was addressed in a response at the hearing. Refer to response to comment 67-5 in Volume I of the Final PEIR.

67-6. The commenter would like to know what happened at Hamilton Air Force Base. This issue was addressed in a response at the hearing. Refer to response to comment 67-6 in Volume I of the Final PEIR.

Response to Public Hearing Comment 68

68-1. The commenter would like to know if open space includes unexploded ordnance and would preclude public use as open space. This issue was addressed in a response at the hearing. Refer to response to comment 68-1 in Volume I of the Final PEIR.

68-2. The commenter would like to know if there would be height restrictions. There are no specific design guidelines for the Highway 1 corridor at this time. However, Residential Land Use Policy I-1 requires that the City/County shall support FORA in preparation of regional urban design guidelines, including a scenic corridor overlay. Program I-1.1 supports this. Though specifics such as height, colors, textures, etc., have not yet been developed, the discussion under Community Design Vision in Volume I of the Reuse Plan - *Context and Framework*, adequately provides a framework for future corridor viewshed protection.

Height limits are typically established through zoning. Per SB 899, the sequence of events following certification of the EIR and approval of the Reuse Plan by FORA includes general plan amendments by Fort Ord jurisdictions, followed by zoning changes. These are then returned to FORA for review for consistency with the approved Reuse Plan. Therefore, the Reuse Plan only intended to provide direction to each jurisdiction's zoning ordinance development.

However, the design objectives contained in the Reuse Plan includes language specific enough to indicate what the future design parameters will be for future development within view of Scenic Highway 1.

Volume I. Page 3-18 - Establish a special identity for major development sites, but keep all development compatible with the low density character of the greater Peninsula, particularly in terms of the scale and height of new buildings.

Volume I. Page 3-110 - (c) *Establish a maximum building height related to an identified mature landscape height to accommodate higher intensity land uses appropriate to this Town Center without detracting from the regional landscape character of the State Highway 1 Scenic Corridor.*

Volume II. Page 4-39 - *The City of Seaside shall support FORA in the preparation of regional urban design guidelines, including a scenic corridor design overlay area, to govern the visual quality of areas of regional importance (applicable to all Fort Ord jurisdictions).*

Volume II. Page 4-52 - *The City of Marina shall support FORA in the preparation of regional urban design guidelines, including a scenic corridor design overlay area, to govern the visual quality of areas of regional importance (applicable to all Fort Ord jurisdictions).*

Volume II. Page 4-129 - *Enhance the visual character of the State Highway 1 Scenic Corridor with detailed siting, grading and design plans and landscaping programs that minimize the visual intrusion of buildings and large paved areas for overnight RV vehicles and campground parking.*

68-3. The commenter states there is no alternative to the proposed project and there is the potential for pumping which could cause salt water intrusion. The commenter would also like to know how much water is being pumped at this time. The alternatives to the plan are discussed in the EIR commencing on page 6-1. The potential for seawater intrusion does exist. The safe yield has not been defined at this time, but as stated in the EIS (Volume I, page 4-57), the safe yield may be less than the total pumpage of 4,700 acre-feet per year (1991 baseline year). The Development and Resource Management Plan (DRMP) addresses the safe yield water use issue. Refer to response to comment 21-1. Also, refer to response to comment 8-5 for additional discussion on a long term water source for Fort Ord. The current pumping is estimated to be approximately 1,700 afy from the Salinas Valley Groundwater Basin (based on 1.5 mgd water use) (Jim Bowles, pers. com. February 3, 1997). This does not count water used on the two existing golf courses.

Response to Public Hearing Comment 69

69-1. The commenter would like to know if there are no solutions to long range planning then why proceed. This issue was addressed in a response at the hearing. Refer to response to comment 68-4 in Volume I of the Final PEIR.

Response to Public Hearing Comment 70

70-1. The commenter would like to know where UCSC is, what is the current status of the cemetery and why the Army gave land away and spent \$500 million to clean it up. The commenter would like to know if there are no solutions to

long range plan then why proceed. This issue was addressed in a response at the hearing. Refer to response to comment 70-1 in Volume I of the Final PEIR.

Response to Public Hearing Comment 71

71-1. Where will the proceeds from the sale of land go. The commenter would like to know if there are no solutions to long range plan than why proceed. This issue was addressed in a response at the hearing. Refer to response to comment 71-1 in Volume I of the Final PEIR.

[End July 31, 1996 City of Pacific Grove public hearing comments]

Response to Letter 72

72-1. The commenter addresses transportation, water, pollution, loss of open space and wildlife as it pertains to the proposed project. The commenter is referred to the EIR document for a discussion of these issues. Furthermore, the reader is referred to response to comment 8-5 pertaining to water and Response to comment 21-1 pertaining to phased growth.

72-2. The commenter requests that the proposed project be limited to a population that existed at Fort Ord when the Army was present. The issue raised must be considered by the FORA Board before they make a final determination on the EIR and the Reuse Plan. Refer to response to comment 43-1 and 55-4.

Response to Letter 73

73-1. The commenter is concerned with the proposed project's population. The comment is not specific enough to allow a specific response. However, the issue raised must be considered by the FORA Board before they make a final determination on the EIR and the Reuse Plan.

73-2. The commenter is concerned about traffic on Highway 68. Future development of Fort Ord will result in impacts to this roadway. Impacts will be partially mitigated by Fort Ord development through its fair share payment of traffic mitigation fees. As stated in the EIR, future Fort Ord development will exacerbate traffic impacts on Highway 68 and other regional roadways. Regional funding for expansion of vehicle capacity on Highway 68 and other regional roadways does not exist or is inadequate at this time to fund for expansion. For this reason, the EIR concludes that there are some significant and unavoidable impacts.

73-3. The commenter is concerned about water issues. Refer to response to comment 8-5.

73-4. The commenter wants to know if existing residents now living in the area should suffer to allow development for a new population. The readers preference appears to not allow new population in the region. The issue raised must be considered by the FORA Board before they make a final determination on the EIR and the Reuse Plan.

73-5. The commenter is concerned about pollution. Refer to the air quality discussion in the EIR for a response to this comment.

73-6. The commenter states that the proposed project has too many visitor-serving facilities and that visitors clog roads, take long showers, leave their pollutants and then leave town. The visitor-serving facilities accommodated in the plan reflects both the marketing analysis and the interests of local jurisdictions who want as much commercial/industrial acreage as possible. Acreage dedicated to commercial/industrial use was reduced from its level in the December 12, 1994 Fort Ord Base Reuse Plan to its current level because the infrastructure costs were higher for the 1994 Plan. Generally, a preponderance of jobs in one area, without the housing to go with it, will require increased roadway capacity to accommodate massive influxes in and out of the jobs area. This usually results in the need for multi-lane freeways. The current Reuse Plan provides a more reasonable jobs/housing balance. This more reasonable approach reduces per unit roadway infrastructure costs and reduces impacts to regional roadway systems by keeping more of the traffic on local roadways through provision of adequate housing stock.

73-7. The commenter states the Fort Ord Reuse Plan does not consider the needs of Monterey County residents. The issue raised must be considered by the FORA Board before they make a final determination on the EIR and the Reuse Plan.

[Start August 1, 1996 City of Carmel public hearing comments]

Response to Public Hearing Comment 74

74-1. Commenter invites those in attendance to visit Hopkins Marine station to look at Fort Ord. The commenter does not address the content of the Reuse Plan or EIR. No response is necessary.

Response to Public Hearing Comment 75

75-1. The commenter would like an extended public review period. Refer to response to comment 5-1.

75-2. The commenter is concerned about transportation, water, sewer and capacity vis-a-vis the available water. Refer to response to comment 8-5 pertaining to the water issue and Response to comment 21-1 pertaining to phasing development so that resources are not exceeded.

Response to Public Hearing Comment 76

76-1. The commenter is concerned about the limitation that water resources would place on the project. Refer to response to comment 8-5 and 21-1.

76-2. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period, 8-5 pertaining to the water issue and Response to comment 21-1 pertaining to phasing development.

Response to Public Hearing Comment 77

77-1. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

77-2. The commenter provides a statement about the impacts of the proposed project. The commenter does not address the content of the Reuse Plan or PEIR. No response is necessary.

Response to Public Hearing Comment 78

78-1. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

Response to Public Hearing Comment 79

79-1. The commenter states that one reason for the time frame associated with public review period is a financial one. The commenter does not address the content of the Reuse Plan or PEIR. No response is necessary.

[End August 1, 1996 City of Carmel public hearing comments]

Response to Letter 80

80-1. The commenter states that the EIR does not disclose all the impacts and future development should be based on a safe yield. The CEQA process provides the venue for concerns to be aired by the public and the various agencies so that all the relevant potentially significant impacts will be disclosed and discussed. This Final PEIR is part of the full disclosure process. As it pertains to safe yield, refer to response to comment 8-5 and 21-1.

80-2. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

80-3. The commenter states that two-thirds of the water needed for full buildout of Fort Ord does not exist on Fort Ord. Refer to Response to comment 8-5.

Response to Letter 81

81-1. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

81-2. The commenter provides a rhetorical list of his projections as it pertains to the CEQA process. The commenter does not address the content of the Reuse Plan or PEIR. No response is necessary.

81-3. The commenter states the EIR does not analyze impacts. This is a subjective statement on the content of the EIR. No response is necessary.

Also, the commenter wants to know how many lots of record will be within the Monterey Peninsula Water District (MPWMD). The number of lots of record within the MPWMD is irrelevant to the future development of Fort Ord. The future sources of water for Fort Ord reuse is separate from the MPWMD water sources. Refer to response to comment 8-5 for additional information on water issues and long term sources of water and their potential environmental impacts.

81-4. The commenter states that 800 million dollars of off-site highway construction is proposed. Refer to response to comment 22-1.

As it pertains to "huge negative impacts [financial] on existing property owners", the proposed plan would not result in financial impacts to existing property owners. Fort Ord reuse is not a conduit for increasing taxes on existing residents of Monterey County to pay for the existing regional transportation infrastructure deficiencies.

81-5. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

81-6. The commenter states the proposed project should be downsized. Refer to response to comment 21-1. Also, this is an issue for the FORA Board to consider.

Response to Letter 82

82-1. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

82-2. The commenter does not address the content of the Reuse Plan or PEIR. No response is necessary.

82-3. The commenter would like to know if the EIR provides adequate impact analysis and realistic mitigations. Upon completion of the Final PEIR, the environmental document will have considered all the relevant significant environmental impacts and will have adequately mitigated them, or recommended a statement of overriding consideration be used by the decision making body. FORA acknowledges that there are cumulative regional impacts that it is part of but cannot mitigate, therefore a statement of overriding consideration would pertain to cumulative water impacts, law enforcement, fire protection, traffic and circulation, and visual resources.

82-4. The commenter would like to know if there are project alternatives including one designed to reduce significant impacts. This issue is adequately discussed in the Alternative discussion in EIR commencing on page 6-1. Specifically, the "No Project" and "Alternative 6R" are the "environmentally superior alternatives".

82-5. The commenter states that the EIR does not discuss a project alternative that reduces impacts. The EIR discusses the "No Project" alternative commencing on page 6-16 of the EIR. Please refer to this discussion which outlines how the No Project alternative has fewer impacts than that of the proposed project.

82-6. The commenter is concerned with an alternative project description that does not exceed the available water supply. Refer to response to comment 8-5.

82-7. The commenter provides a rhetorical list of his projections as it pertains to the CEQA process. The commenter does not address the content of the Reuse Plan or PEIR. No response is necessary.

82-8. The commenter states that the EIR does not discuss the impacts of future water infrastructure, new roadways and does not provide an on-site location for a wastewater treatment plant. As it pertains to water infrastructure, the EIR adequately addresses water use to the year 2015. Additional discussion on the long-term water supply is included in Response to comment 8-5. As it pertains to impacts of new roadways, more specific impacts associated with future roadway expansion will be analyzed through the CEQA process at a later date. It is anticipated that the primary impacts of future transportation projects will be associated with plant and wildlife species which are required to be mitigated as required in the Habitat Management Plan (HMP). Through implementation of the HMP preservation and sustainability of important species is assured. Refer to response to comment 56-4 for additional discussion on the impacts associated with future road construction.

As it pertains to commenter's concern about wastewater treatment, the existing wastewater at Fort Ord is treated the Monterey Regional Water Pollution Control Agency (MRWPCA). This facility has a capacity of 29.6 mgd.

The current average flow to the MRWPCA is 20 mgd (Keith Israel, pers. com., December 30, 1996). Of the total amount of effluent currently flowing to the MRWPCA, .9 mgd is from Fort Ord (ibid.).

Future wastewater needs at Fort Ord are accommodated by an existing contractual agreement between the U.S. Army and the MRWPCA, whereby Fort Ord currently has 3.3 mgd treatment capacity set aside. As stated in the EIR, full buildout at Fort Ord is projected to use 9.8 mgd (Table 4.2-1, page 4-40). Therefore, there is a deficit long-term wastewater treatment capacity for Fort Ord of 6.2 mgd. Based on the 9.8 mgd projection, FORA expects to incrementally expand its treatment capacity rights in the regional treatment plant by 4.0 mgd between 2005 and 2045 (EDAW, Inc. and EMC Planning Group, Inc. - Business and Operations Plan 1996). Additional capacity could be available at a later date. It is important to note that there is the possibility that in the distant future the MRWPCA could be expanded by an additional 4 mgd to accommodate increased demand for wastewater treatment from throughout its service area. Therefore, it is possible that Fort Ord buildout could be accommodated entirely at the MRWPCA facility. It is also possible that increased demand throughout the MRWPCA service area could cut short the long-term wastewater needs of Fort Ord. This later scenario would require future expansion of treatment facilities or a future moratorium on development within the MRWPCA's district.

Based on the current rate of new sewer hook-ups to the treatment plant, there is a projected capacity that would last the next 20 years without considering the additional 4.0 mgd expansion capability (Keith Israel, pers. com., December 30, 1996).

82-9. The commenter states that Fort Ord redevelopment should be phased so as to not exceed safe-yield water. Refer to response to comment 8-5 and 21-1.

82-10. The commenter requests that a revised Draft EIR be recirculated. The Final PEIR will adequately address all concerns, thus addressing the requirements of CEQA that the environmental document provide adequate discussion of all the relevant significant environmental impacts.

Response to Letter 83

83-1. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

Response to Letter 84

84-1. The commenter is concerned about the limitation that water resources would place on the project. Refer to response to comment 8-5 and 21-1.

84-2. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

Response to Letter 85

85-1. The commenter states that the widening of Highway 1 under the optimistically financed heading is not adequate. Fort Ord reuse will pay its fair share to mitigate impacts to regional roadways. As a general rule, the closer the regional roadway is to Fort Ord the higher the percentage that Fort Ord redevelopment will pay for improvements to a particular roadway. The farther the roadway is from Fort Ord, it stands to reason that the impact from Fort Ord redevelopment, as a percentage of total vehicle trips on the particular roadway, will drop. Therefore, the percentage of the fair share fee paid by future development at Fort Ord will drop. More specific information on the projected Fort Ord redevelopment fair share funding for various roadways is located in *Appendix B: Business and Operations Plan*, commencing on page 5-9. Also, refer to Fort Ord Regional Transportation Study (JHK 1997).

It is also important to point out that the EIR recognizes that Fort Ord redevelopment shall only be responsible for its fair share of the mitigations to transportation infrastructure and that, due to the lack of a regional funding mechanism to cover the costs of future transportation infrastructure, there will be a residual and significant unavoidable impact.

85-2. The commenter states that future transit needs necessitates intercounty coordination. The Reuse Plan and EIR are amended to reflect this comment.

Changes to the Reuse Plan

Page 4-112: Add the following new programs:

Program A1-4: MST shall coordinate with the Santa Cruz Metropolitan Transit District to provide an integrated intercounty bus transit system.

Program A1-5: Existing rideshare programs shall be expanded to accommodate intercounty travel.

Changes to the EIR

Page 4-85: Add the following new programs:

Program A1-4: MST shall coordinate with the Santa Cruz Metropolitan Transit District to provide an integrated intercounty bus transit system.

Program A1-5: Existing rideshare programs shall be expanded to accommodate intercounty travel.

85-3. The commenter states that the Final PEIR should reference the Santa Cruz County Regional Transportation Commission and the Transportation Agency for Monterey County's (TAMC) rail studies and how future rail service might alleviate future traffic impacts.

TAMC is currently working on re-establishing the railroad service between Monterey and San Francisco that existed approximately 30 years ago. The extent that rail transit might alleviate future traffic impacts associated with the reuse of Fort Ord is speculative, though it is anticipated that it will be successful. No rail transit currently exists and it is uncertain how rail transit could benefit future redevelopment. The Reuse Plan addresses the rail transit issue on page 4-111 of the Reuse Plan (Volume II).

85-4. The commenter states that the EIR should be reviewed for consistency with the Metropolitan Transportation Plan. This issue was addressed previously in comment 56-5.

Response to Letter 86

86-1. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

Response to Letter 87

87-1. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

Response to Letter 88

88-1. The commenter requests that the proposed project be limited to a population that existed at Fort Ord when the Army was present. The issue raised must be considered by the FORA Board before they make a final determination on the EIR and the Reuse Plan. Refer to response to comment 43-1 and 55-4.

88-2. The commenter would like to know how water, wastewater and trash disposal will be resolved pertaining to the proposed full buildout. As it pertains to water, refer to response to comment 8-5 and 21-1. As it pertains to wastewater, refer to response to comment 82-8. As it pertains to trash disposal, this will be addressed through implementation of recycling programs as mandated by Assembly Bill 939 and discussed on page 4-40 of the EIR.

88-3. The commenter is concerned that transportation impacts are not adequately discussed in the EIR. Refer to response to comment 22-1, 56-3, 56-4 and 56-5.

88-4. The commenter would like to know who is responsible for the infrastructure required. Future development at Fort Ord will pay it fair share of all infrastructure requirements. This is discussed in detail in *Appendix B: Business and Operations Plan*.

88-5. The commenter requests that the EIR discuss cumulative impacts. The cumulative impacts discussion in the EIR (commencing on page 5-1) adequately discusses the necessary cumulative impacts as required by CEQA.

88-6. The commenter states that the Reuse Plan documents are inadequately prepared. The comment does not address any particular part of the Reuse Plan or PEIR. No response is necessary.

88-7. The commenter requests that FORA staff or an independent authority review the EIR for their professional judgment. The issue raised must be considered by the FORA Board before they make a final determination on the EIR and the Reuse Plan.

Response to Letter 89

89-1. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

89-2. The commenter is concerned about adequate discussion of impacts associated with development beyond the year 2015. As it pertains to water, the impacts pertaining to buildout development at Fort Ord have been addressed in more detail in response to comment 8-5. As it pertains to transportation issues, as the EIR states, beyond the year 2015 transportation forecasting could not go beyond 2015 because the regional land use forecasts (population and employment) from AMBAG were not available beyond 2015. To compensate for this, the transportation analysis beyond 2015 was approached through a qualitative extrapolation of the 2015 results.

89-3. The commenter would like to know where the 18,000 acre-feet of water come from. Refer to response to comment 8-5.

89-4. The commenter is interested in how wastewater treatment will be expanded. Refer to response to comment 82-8.

89-5. The commenter would like to know how future road widening would be funded. Funding would come from fees collected from Fort Ord redevelopment. The funding would only cover the fair share of Fort Ord redevelopment impacts on regional roadways. The on-going regional developments, which are not currently

required to mitigate their regional impacts, would result in many regional roadways not being mitigated. This is fully addressed in the EIR on page 4-86. Also, refer to response to comment 22-1.

89-6. The commenter would like to know why the Reuse Plan accommodates a larger population than was here before. Refer to response to comments 43-1 and 55-4.

89-7. The commenter would like to know if the Reuse Plan assumes a new Hatton Canyon roadway. Yes. It was determined that the Reuse Plan would have very little impact (on the order of less than 2 percent on Highway 1 south of Carpenter Street). However, with or without the Hatton Canyon project, there is no residual impact to other roadways impacted by Fort Ord.

89-8. The commenter would like to know how the Highway 1 corridor can be kept from being visually impacted without design guidelines. Refer to response to comment 68-2.

89-9. The commenter would like to know why there are no height limits on new buildings. Refer to response to comment 68-2.

89-10. The commenter would like to know if the Monterey Peninsula can absorb an increase in population by 72,000. Through the planning process and implementation of mitigations a population of 72,000 can be accommodate at the former military base.

89-11. The commenter would like to know if the Monterey Peninsula can absorb an additional 1,800 more hotel rooms and its tourists who do not worry about water conservation. Yes, and within the restraints of available water. Refer to response to comment 8-5 for additional information on water resources.

89-12. The commenter would like to know if the plan has factored in the existing hotel rooms and development currently under construction. The cumulative discussion in the EIR accommodates current and proposed projects.

89-13. The commenter would like to know if the Reuse Plan has taken into account the growth in the entire region. The cumulative discussion in the EIR accommodates current and proposed projects within the region.

89-14. The commenter states that when the Reuse Plan is adopted it will be "far harder, if not impossible, to modify". The EIR provides future CEQA review for proposed projects if they would result in specific conditions as outlined in section 1.3 of the EIR (page 1-3). Furthermore, SB 899 and SB 1600 put restrictions on local government's powers within the former Fort Ord territory and required local plan and zoning conformance with the Reuse Plan.

89-15. The commenter requests that the EIR evaluate a reduced project supported by a source of on-site, safe yield water only. Refer to response to comment 80-1.

As it pertains to safe yield, Refer to response to comment 8-5. As it pertains to the EIR discussing only a population supported by a safe yield water supply, this is a matter for the FORA Board to consider. As it pertains to population growth at Fort Ord without exceeding the water and transportation resources and infrastructure, refer to Development and Resource Management Plan contained in response to comment 21-1. Also, the "No Project" alternative is provided in the EIR for the lead agency to consider.

Response to Letter 90

90-1. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

90-2. The commenter states the proposed project would use too much water. This is a subjective opinion and should be considered by the decision makers prior to making a decision on the Reuse Plan. The commenter does not address the content of the Reuse Plan or PEIR. No response is necessary.

90-3. The commenter states the proposed project would use 90 percent of the wastewater treatment plant. The treatment plant referred to by the commenter is the MRWPCA treatment plant. For additional information on wastewater issues Refer to response to comment 82-8.

90-4. The commenter states the Reuse Plan would severely impact peninsula highways. This issue was adequately addressed in the Draft EIR. Additional information on this issue is included in response to comment 22-1.

90-5. The commenter would like the EIR revised to reflect development at Fort Ord based on water resources that now exist at Fort Ord. The EIR will not be revised to accommodate this request. Future water for Fort Ord is provided through a contractual agreement between the U.S. Army and the MCWRA.

[Start August 7, 1996 FORA public hearing comments]

Response to Public Hearing Comment 91

91-1. The commenter requests that the EIR evaluate a reduced project supported by a source of on-site, safe yield water only. Refer to response to comment 89-15. Also, the "No Project" alternative is provided in the EIR for the lead agency to consider.

Response to Public Hearing Comment 92

92-1. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

92-2. The commenter would like to know why all the FORA board members are not present. The comments submitted at the August 7 hearing were later submitted to the Board for their review. In addition, the comments in this Final PEIR will be reviewed by the FORA Board.

Response to Public Hearing Comment 93

93-1. The commenter is concerned about water use. Refer to response to comment 8-5 for an expanded discussion on water use and response to comment 21-1 regarding phased development vis-a-vis water. As it pertains to growth inducement, refer to the Growth Inducing section of the EIR (page 5-10) for a discussion on this issue.

Response to Public Hearing Comment 94

94-1. The commenter is concerned about the potential environmental impacts associated with a desalination plant. The desalination plant is discussed in the EIR in the context of a long-term water source only. The exact potable water production of such a facility is speculative at this time because it is uncertain which of the long-term water sources would be preferred as a source of future water for the buildout of Fort Ord. Also, the level of analysis the commenter is requesting is not appropriate for a program level EIR, but is appropriate for a future desalination facility. In addition, refer to response to comment 8-5 for additional information on desalination.

Response to Public Hearing Comment 95

95-1. The commenter states that the proposed buildout population of 72,000 is not justified by the enabling legislation that created FORA as a means to economic recovery. The use of economic recovery as a means to justify a statement of overriding considerations will be challenged. Refer to response to comments 43-1 and 55-4.

Response to Public Hearing Comment 96

96-1. The commenter states that the EIR is inadequate because it does not discuss the specific location of future groundwater recharge areas which would result in a reduction of the area for urban development. Water impoundment on Fort Ord in the context discussed in the EIR is now considered to be speculative at this time. There are currently other sources of water being studied that would provide for the buildout of Fort Ord. Refer to response to comment 8-5.

Response to Public Hearing Comment 97

97-1. The commenter would like to know what are the groundwater policies. Refer to the policies contained in Section 4.4 and 4.5 of the EIR.

Response to Public Hearing Comment 98

98-1. The commenter is concerned with the transportation costs. As it pertains to transportation costs, the 800 million represents county-wide transportation infrastructure improvements needed with or without Fort Ord redevelopment.

98-2. The commenter is concerned with toxics and the timing of buildout. Future development cannot be built on areas of known unexploded ordnance and toxic materials.

98-3. The commenter would like to know what the percentage of the total population growth will be in the year 2015. It is expected that approximately 37,350 people would reside at the former military base in the year 2015.

98-4. The commenter would like to know if there is a smaller project alternative. The EIR discusses the "No Project" alternative. This alternative correctly assumes that without "reuse" there will remain populations associated with the UCMBEST Center, CSUMB and the Presidio of Monterey Annex.

98-5. The commenter would like to know if the cost of demolition will be partially paid by other peninsula cities. No. Costs will be borne by future residents of Fort Ord through land purchase costs and/or through federal funds.

Response to Public Hearing Comment 99

99-1. The commenter has stated that the information on the 180 and 400 foot aquifers is not up to date. The most current seawater intrusion information contained in the most current MCWRA's Water Resources Data Report is from the early 1980's.

Response to Public Hearing Comment 100

100-1. The commenter states that FORA is not mandated to exceed the population which existed at Fort Ord in 1991 (i.e., 31K). Refer to response to comments 43-1 and 55-4.

The commenter states that the population figures and water figures are not proportional. The water figure used for full buildout in the EIR was 18,262 afy. This number is incorrect and should read "13,500 afy". Also, refer to response to comment 8-5 for additional water discussion.

Response to Public Hearing Comment 101

101-1. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

Response to Public Hearing Comment 102

102-1. The commenter is requesting that each FORA Board member city provide an economic profile for the fiscal year preceding the closure of Fort Ord and for the most recent fiscal year to determine the need for "economic recovery". SB 899 does not state that the population of Fort Ord or economic activity associated with reuse be based on a "like for like" replacement. Therefore, the request for economic information at the level of detail requested is not appropriate. The level of detail included in the Reuse Plan is adequate for the proposed project definition and objectives and provides a level of information that is adequate for the decision makers to base their decision on. Refer to response to commenter letter 43-1 and 55-4 for additional information on SB 899.

Response to Public Hearing Comment 103

103-1. The commenter requests water information. The information requested is in the EIR commencing on page 4-36. Also, refer to response to

comment 8-5 regarding future water sources and 21-1 regarding growth-management vis-a-vis water resources.

Response to Public Hearing Comment 104

104-1. The commenter would like to know when BLM will take over. BLM has already received its property.

Response to Public Hearing Comment 105

105-1. The commenter states that Fort Ord is necessary for economic health of the community. The Reuse Plan is the conduit for base reuse and as such will provide job opportunities.

Response to Public Hearing Comment 106

106-1. The commenter is concerned about water use. Refer to response to comment 8-5 for an expanded discussion on water use and response to comment letter 21-1 regarding phased development vis-a-vis water. As it pertains to the EIR including an alternative discussion that uses a safe-yield water only, the safe yield is known to occur somewhere between "no pumping" and pumping 4,700 afy from Fort Ord wells (Corps of Engineers 1993). To determine what level of pumping from Fort Ord wells will result in seawater intrusion will require monitoring wells. The installation of wells will likely be the result of the Development and Resource Management Plan (DRMP) proposed to be included as part of Volume I of the Reuse Plan and currently contained in response to comment 21-1.

Response to Public Hearing Comment 107

107-1. The commenter would like additional information on the water storage facilities discussed in the EIR. Refer to response to comment 8-5.

107-2. The commenter would like to know if geologic studies have been done for the water storage facilities. The level of detail requested by the commenter is required at a future date for any water storage facilities proposed, thus assuring appropriate environmental impact analysis. It is not necessary, nor is it a requirement of CEQA that a Program Level EIR include this level of detail. The MCWRA is currently working on an environmental document for a proposed north Salinas Valley water storage facility. This report is expected to be released by the end of 1997. Refer to response to comment 8-5.

Response to Public Hearing Comment 108

108-1. The commenter would like to know if more housing will be allocated to CSUMB. The Army has conveyed 1,253 residential units to the University and a portion of these units are currently occupied by staff, faculty and students. In addition, the campus has remodeled facilities on the central campus core for a limited number of dormitory units. The Reuse Plan accommodates a buildout capacity for the University that would total 3,093 residential units plus the equivalent of 5,100 residential units on the central campus core to house 80 percent of the projected 25,000 FTE.

Response to Public Hearing Comment 109

109-1. The commenter would like to know if the proposed Armstrong Ranch development will be allocated water in exchange for making land available for a reservoir. The planning for Armstrong Ranch is the responsibility of the City of Marina. A planned facility for reclaimed water is in the planning stages by the MRWPCA and MCWRA on the Armstrong Ranch (Airport Site). The alternatives under consideration include a 3,000 acre foot (af) surface reservoir or an aquifer storage and recovery field (i.e. recharge wells) (CH2MHILL 1996). The Reuse Plan does anticipate using reclaimed water provided from the MRWPCA.

Response to Public Hearing Comment 110

110-1. The commenter would like to know who will be paying for the land at Fort Ord. The Army has already conveyed substantial acres of land to the BLM, University of California, and California State University, and California Department of Parks and Recreation. Additional lands will be conveyed through Public Benefit Conveyances based on requested conveyances for approved public purposes. The remaining land will be conveyed by the Army subsequent to the adoption of the Reuse Plan and Certification of the EIR. The planned mechanism is an economic development conveyance (EDC) for parts or all of the remaining lands. FORA is currently investigating the preparation of an EDC application that will form the basis for the negotiating of terms for the land conveyance. If an EDC is not negotiated between the parties, the BRAC law provides for the property disposition by the Army through normal governmental procedures that can include direct sale.

Response to Public Hearing Comment 111

111-1. The commenter would like to know if future City of Marina plans for the coast will affect plans for coastal development within Fort Ord. There is no correlation between the two.

Response to Public Hearing Comment 112

112-1. The commenter would like to know how much water was allocated to the U.S. Army when they were at Fort Ord. The Army did not have any allocations imposed upon them. In 1991, the known water use was 4,700 afy. The average use between 1986 and 1989 was 5,100 when the population on the base was 31,986 (includes residents and employees). The peak water use year was 1984. Also, refer to response to comment 8-5.

Response to Public Hearing Comment 113

113-1. The commenter would like to know what the impacts of future road construction will be on Reservation Road and Highway 68. Future road construction on Reservation Road is identified in the EIR to be six laning the period to 2015. Highway 68 would remain the same potentially, except there may be funding collected from private developments fronting Highway 68 and funding from county wide sources which could result in four-laning this roadway. In the case the Highway 68 by-pass is constructed, traffic flow on the existing Highway 68 would be expected to be reduced. Construction of the by-pass may reduce the need to expand Highway 68 to four-lanes.

113-2. The commenter would like to know what the off-site traffic impacts will be on the Peninsula. Transportation is adequately discussed in the EIR. Refer to the transportation section of the EIR. Also, Refer to response to comment 56-4.

Response to Public Hearing Comment 114

114-1. The commenter would like to know if the Reuse Plan is consistent with the County's 1,200 [actually 1,253 units] low and moderate income housing units set aside at Fort Ord. In 1992, the County Board of Supervisors voted to ensure that housing units in Fort Ord be retained as "permanently affordable" (Monterey County 1992). Subsequent to this resolution, the 1,253 units have been absorbed by the CSUMB for use as affordable faculty, staff, and student housing.

Response to Public Hearing Comment 115

115-1. The commenter would like specific information on current water use and water line loss conditions at Fort Ord. The EIR determines whether the proposed project may have a significant impact on the environment based on physical conditions that were present at the time the decision became final to close Fort Ord as a military base (September 1991). Refer to page 1-3 (section 1.2.2) in the EIR.

Existing development at Fort Ord uses approximately 1,700 acre feet of water per year from existing Fort Ord wells. Only non-military water users are currently metered. Current line loss is estimated at approximately 10 percent.

Response to Public Hearing Comment 116

116-1. The commenter is concerned that the water discussion is inadequate. Refer to response to comment 8-5. The conclusions made in the EIR

Response to Public Hearing Comment 117

117-1. The commenter would like to know why the proposed project with twice the population of alternative 6R would have fewer impacts to sensitive habitat. The response to this comment is located in the alternatives discussion on page 6-7 of the EIR.

117-2. The commenter would like to know why Alternative 6R fails to meet economic recovery when it provides approximately the same number of jobs as there were when Fort Ord was a military base. The EIR does not imply or state that Alternative 6R does not meet economic recovery. FORA has selected the proposed project with its population forecast of 72,000 at full build out as the preferred project. The FORA Board retains the option to select another alternative. Refer to response to comment 43-1.

Response to Public Hearing Comment 118

118-1. The commenter would like to know if the Army has expressed an intention to sell the lands at Fort Ord and which section of the BRAC law would allow the Army to do so. Refer to response to comment 110-1.

Response to Public Hearing Comment 119

119-1. The commenter would like information on a national cemetery. The Reuse Plan has been amended to accommodate cemetery uses. Refer to response to comment 44-1.

Response to Public Hearing Comment 120

120-1. The commenter would like to know who determined the "planning premises" for the Reuse Plan. The Draft Reuse Plan is a broad-based community

plan. The history of this community involvement is summarized in Volume I, Page 2-1 through 2-9) "Strategic Themes" were defined in the December 12, 1994 Interim Base Reuse Plan. Subsequent planning by FORA are reflected in the "Community Design Vision" on Pages 3-1 to 3-19. The implementation strategies for the former Fort Ord are described in section 3.11 of the Reuse Plan, Volume I Pages 3-147 and reflect consensus of the Administrative Committee as a basis for drafting the Reuse Plan for consideration of the FORA Board and public comment.

Response to Public Hearing Comment 121

121-1. The commenter is concerned with regional water problems. The project would not solve regional water problems which stem from overdraft and seawater intrusion. It has been determined that to solve these two problems distribution of reclaimed water and groundwater to those areas with overdraft and seawater intrusion is needed. This is currently underway in the form of reclaimed water (sewage converted into a usable water), new distribution lines, and new and expanded water storage facilities. Refer to response to comment 8-5.

Response to Public Hearing Comment 122

122-1. The commenter states that the need to recover lost jobs will be used as a basis for an overriding consideration. The use of economic recovery as a means to justify a statement of overriding considerations will be challenged. Refer to response to comments 43-1 and 55-4.

Response to Public Hearing Comment 123

123-1. The commenter states that the EIR is inadequate because it fails to provide alternatives that comply with the required reuse plan elements contained in SB 899. Senate Bill 1180 states that the lead agency may use an environmental impact statement prepared pursuant to federal law as the environmental impact report for a federal military base reuse plan. In this context, the EIR used the existing EIS's alternatives and included a CEQA mandated "No Project" alternative. Also, Refer to response to comment 27-3.

Response to Public Hearing Comment 124

124-1. The commenter would like to know how many acre-feet per year could be taken from the Salinas Valley Groundwater Basin within the Fort Ord political jurisdiction which would not result in overdraft or seawater intrusion. Safe yield extraction of water is a function of the gradient of groundwater relative to seawater,

the amount extracted and other environmental factors. The MCWRA is currently addressing the problem with a long term commitment to water recharge in north Salinas Valley. This would influence the wells at Fort Ord because they are integral to the Salinas Valley Groundwater Basin. Based on the Fort Ord Disposal and Reuse EIS, the safe yield is known to be at a level less than 4,700 afy. The exact level of water extraction that would result in "safe yield" is not currently known. Future water use will be based on a safe yield water extraction from area wells. This will be assured through implementation of the Development and Resource Management Plan discussed in response to comment 21-1. Also, Refer to response to comment 8-5 for an expanded discussion on long-term water sources and their potential impacts.

Response to Public Hearing Comment 125

125-1. The commenter does not approve of the proposed project because of water and transportation problems. The intent of the Reuse Plan and the EIR is to provide adequate and necessary infrastructure to accommodate future development at Fort Ord.

[End August 7, 1996 FORA public hearing comments]

Response to Letter 126

126-1. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

126-2. The commenter states that the Reuse Plan contains speculative "assumptions". Without knowing specifically what it is the commenter is referring to a meaningful response cannot be provided. However, it is anticipated that through preparation of the response to comments the commenters concerns are addressed.

Response to Letter 127

127-1. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

Response to Letter 128

128-1. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

Response to Letter 129

129-1. The commenter is concerned with new development and loss of open space in light of water supply problems. The Reuse Plan provides for adequate water infrastructure and sets aside 62 percent of the former military base for habitat management. The beach area (Fort Ord Dunes State Park) and the golf courses (existing and proposed) comprise an additional 10 percent of the base that will be preserved as open space.

Response to Letter 130

130-1. The commenter requests that the public review period be extended and would like Fort Ord developed to include a national cemetery, as well as facilities for the indigents and the homeless. As it pertains to the public review period, refer to response to comment 5-1. As it pertains to a national cemetery, refer to response to comment 44-1. There are federal, state and locally funded organizations that have used the McKinney Act to obtain existing housing at the former Fort Ord through Public Benefit Conveyances for use by the indigent and the homeless.

Response to Letter 131

131-1. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

Response to Letter 132

132-1. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

[Start August 9, 1996 FORA public hearing comments]

Response to Public Hearing Comment 133

133-1. The commenter states that the EIR should consider a safe yield alternative. The proposed project is subject to a safe yield water source whereby seawater intrusion is in abeyance. Refer to response to comment 8-5 and 21-1.

Response to Public Hearing Comment 134

134-1. The commenter states without submitting any particulars that the EIR is incomplete and inadequate. Because there is no specific comment to the Reuse Plan or the EIR, no specific response can be provided. However, it is anticipated that the Final EIR adequately addresses all the issues.

Response to Public Hearing Comment 135

135-1. The commenter supports the previous two comments. No response necessary.

Response to Public Hearing Comment 136

136-1. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

Response to Public Hearing Comment 137

137-1. The commenter agrees with the previous comment. No response necessary.

[End August 9, 1996 FORA public hearing comments]

Response to Letter 138

138-1. The commenter is requesting that each FORA Board member city provide an economic profile for the fiscal year preceding the closure of Fort Ord and for the most recent fiscal year to determine the need for "economic recovery". Refer to response 102-1.

138-2. The commenter also states that economic recovery should not be used by the FORA Board as a basis for a statement of overriding considerations. Refer to response to comment 43-1, 55-4 and 95-1.

Response to Letter 139

139-1. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

139-2. The commenter states that the EIR must be revised to address environmental impacts such as water systems and road projects. The Final EIR

addresses these issues in more detail. Refer to response to comment 8-5 for additional information on water supply, and refer to the Development and Resource Management Plan vis-a-vis water resources and transportation infrastructure discussion in response to comment letter 21-1.

139-3. The commenter states that the EIR fails to address a reasonable range of alternatives because the alternatives cannot meet the requirements set forth in SB 899. Also, refer to response to commenter letters 43-1, 55-4.

139-4. The commenter would like additional information on the stated project objective (EIR, page 3-2) to accommodate regional growth. Refer to response to comments 43-1 and 55-4.

139-5. The commenter would like additional information on "aggregate totals" and "not to exceed envelopes". The comment is evidently addressing the EIR but is not specific enough to allow a response. No response is feasible.

139-6. The commenter would like additional information on asbestos and lead contamination clean up. Refer to response to comment 32-1.

139-7. The commenter states that the EIR is inadequate. It is anticipated that after completion of the Final EIR that all environmental issues will have been adequately discussed.

139-8. The commenter requests that the CSUMB master plan be included in the Reuse Plan EIR. The CSUMB master plan is being independently produced by CSUMB and is not available at this time because it has not been completed. If the reader would like to see the CSUMB document, it will be necessary for the reader to obtain this document independently of the Fort Ord Reuse Plan and EIR.

139-9. The commenter states that CalTrans needs an alternative Highway 68 alignment. There is such an easement included in Reuse Plan and EIR graphics as well as reference to it in the EIR text. Refer to response to comment 40-1.

139-10. The commenter would like to know if the plan is consistent with the coastal act. Refer to response to comment 55-12.

139-11. The commenter states that there are no accurate estimate for demolition costs. Refer to response to comment 8-1.

139-12. The commenter states that the density limits are not acceptable. It is assumed that the commenter means that the densities are too high. The densities proposed in the Reuse Plan for the various residential types of land use (low, medium and high density) reflect market demand as well as the need to provide a variety of housing types for a broad range of incomes. Furthermore, there are also other factors involved in densities. For example, providing higher residential densities provides a larger number of potential transit riders and supports a more efficient transportation system. Activities located closer together facilitate mode

shifts from automobiles to walking, biking and transit. Activities located spatially closer together reduce travel distances.

139-13. The commenter would like more information on "economic recovery" as a project objective. Refer to response to comment 43-1 and 55-4.

139-14. The commenter requests that the design guidelines be included in the EIR. The EIR does contain visual guidelines that are contained in the Reuse Plan commencing on page 4-147 of the EIR. Also, refer to response to comment 68-2.

139-15. The commenter would like more information on growth inducing impacts. Without a more specific request, a specific response cannot be provided. The discussion in the EIR on growth inducing impacts is adequate for the decision makers to base their decision on.

139-16. The commenter would like more information on the discrepancy in growth projections between the EIR, AMBAG and historic. The reader is referred to section 2.2 in Volume I (Context and Framework) where there is a discussion of projections. Also, Refer to response to comment 55-4. In general, forecasts are based on economic studies and historic activity. Often, they will conflict with other projections because of the methodology used and the time they are developed. They are meant as planning tools so that planning can proceed with relative accuracy.

139-17. The commenter would like more information about height limits. Refer to response to comment 68-2.

139-18. The commenter would like more information on the number of hotel units currently in the planning stages in the Monterey Bay area. It is uncertain what purpose this information would have. The information requested is construed to not serve the intent of the CEQA process. Therefore, the information is not provided.

139-19. The commenter would like information on baseline data. Because the nature of the comment is vague, no specific response can be provided. Baseline data is included in the Fort Ord EIS and SEIS as well as the DEIR. However, it is anticipated that through preparation of the Final PEIR, the baseline data will be complete.

139-20. The commenter would like more information on inclusionary housing and use of "zones" for "group homes." The Reuse Plan is a "general plan" level document that identifies a "permitted range of uses for land uses." See Table 3.4-1. Zoning for the lands within Fort Ord is the responsibility of the land use agencies, specifically the County of Monterey, the City of Monterey and the City of Seaside.

139-21. The commenter would like information on internal inconsistencies. Because the nature of the comment is vague, no specific response can be provided. However, it is anticipated that through preparation of the Final PEIR, the internal inconsistencies will no longer be.

139-22. The commenter would like more information on land sales. Because the nature of the comment is vague, no specific response can be provided.

139-23. The commenter states that the EIR uses 10,000 acres whereas the Army built on 5,000 acres. The commenter is referring to the acreage to be used for urban uses as a result of project implementation. Review of Table 3.3-1 in Volume I indicates that the total square footage of future development (including CSUMB, POM, Housing, Business Park, Light Industrial, Office, R&D, Retail, Visitor Serving, and road rights-of-way) equals to approximately 8,686 acres.

139-24. The commenter would like more information on the landfill site. The landfill is currently part of the city of Marina and is proposed for a golf course and equestrian center. Refer to figure 4.3-1 in Volume II of the Reuse Plan. For a golf course to exist on the landfill site will require re-engineering and reconstruction of the landfill lens cap to accommodate vegetation typically associated with a golf course, primarily trees (Dave Eisen, pers. com., February 25, 1997).

139-25. The commenter states that mitigation measures should not be confused with the project. It cannot be determined what is meant by this comment.

139-26. The commenter would like more information on "newly excessed parcels". Property has been turned over to UC, CSU and the city of Seaside. The Reuse Plan identifies the major lands that have already been conveyed by the Army. These are described in section 2.4.3 PBC, EDC Process, Volume I, beginning on Page 2-36. Additional parcels will be disposed as described in the Reuse Plan. For example, the City of Seaside has recently gained title to the two existing golf courses.

139-27. The commenter states that the "no project" alternative could result in 34,000 residents requiring 9,000 afy of water. The population number is correct, however, the water figure is incorrect and should read "6,067 afy". The wastewater demand figure changes as well. Refer to the following Changes to the EIR section.

Changes to the EIR

Page 6-19. Amend last sentence in first full paragraph to read as follows:

The demand for water would be approximately 6,067 9,346 afy, and the amount of wastewater generated would be approximately 4.85 5.80 mgd.

139-28. The commenter would like to know what the expenses would be associated with moving the POM. No detailed estimate has been made to move the Presidio of Monterey Annex. Specific financing plans have not been prepared for every potential project. In broad terms, however, the costs will be related to the difference between rebuilding approximately 1,590 existing units less the land value that can be attributed to the property vacated by the Presidio Annex. The land value will be determined in subsequent applications and negotiations with the Army.

139-29. The commenter would like information on phasing. Refer to response to comment 21-1.

139-30. The commenter would like more information on the "Planned Development Mixed Use Districts". The information presented in Volumes 1 and 2 are adequate for the decision makers to make a decision on. Refer to these two volumes as it pertains to the "Planned Development Mixed Use Districts".

139-31. The commenter states that the policies and programs are not legally enforceable. The Draft Reuse Plan includes programs and policies for adoption as the General Plan provisions for the former Fort Ord for the County of Monterey, the City of Marina, and the City of Seaside. The Reuse Plan illustrates the adoption process in the Implementation Chapter of Volume I of the Reuse Plan, beginning on Page 3-147. As provided in SB 899, the local jurisdictions will be able to establish the responsibilities for land use approvals when they have adopted General Plan provisions for their respective portions of the former Fort Ord and when FORA has certified that the General Plan provisions are consistent with the Reuse Plan. This internal consistency will provide the basis for enforceable policies and programs.

139-32. The commenter states that the program EIR is misused in this case. Refer to response to comment 16-3.

139-33. The commenter states that the EIR lacks feasible and reasonable alternatives. Refer to response to comment 27-3.

139-34. The commenter states the EIR omitted cumulative projects. The list of projects in Table 5.1-1 on page 5-1 of the EIR is complete.

139-35. The commenter would like more information on recycled water. The wastewater will be conveyed to the wastewater treatment plant north of Marina where it will be treated and discharged through the Castroville Seawater Intrusion Project pipelines, or, in the case that the Marina Coast Water District is delegated responsibility as Fort Ord's wastewater agency, the effluent flow from Fort Ord (and Marina) would be returned to Fort Ord and Marina as reclaimed water for use on golf courses and landscaping.

139-36. The commenter would like more information on the importance of SB 899. Refer to page 1-1 and 2-1 in the EIR as well as page 1-3 in the Business and Operations Plan.

139-37. The commenter would like more information on school siting. Figure 3.2-1 of the EIR indicates where schools and universities will be located.

139-38. The commenter would like more information pertaining to seismic hazards. The general seismic hazards are discussed in the Reuse Plan (Volume II) in the Soils and Geology section (pages 4-145 to 4-158). The EIR also contains a discussion of soils and geology at Fort Ord in section 4.3 (pages 4-27 to 4-36). More specific information is not required at this program level.

139-39. The commenter would like more information on the “shared revenue stream”. This line item in the Draft Comprehensive Business Plan refers to the moneys available to off-set the potential fiscal deficits accumulated in the individual jurisdictions within the former Fort Ord boundaries attributable to development at Fort Ord.

139-40. The commenter would like more information on the peculiarities and conflicts associated with spheres of influence. Refer to response to comment 57-17.

139-41. The commenter states that a stable and finite project description is lacking. Without a more specific comment a specific response cannot be provided. However, it is anticipated that through the Final PEIR a full project description would exist.

139-42. The commenter would like more information on the characteristics of dune outfall pipe relating to stormwater runoff. Stormwater quality is adequately discussed in the Reuse Plan (volume 2) commencing on page 4-158. Policies and programs are established to protect water quality, especially Monterey Bay.

139-43. The commenter would like more information regarding the sale of land by the Army without a local reuse plan in place. The U.S. Army has and will continue to sell land or deed it over to government agencies regardless of a Fort Ord Reuse Plan. For example, the sale of the golf courses to the city of Seaside and deeding over of properties to the city of Marina (Fritzsche Field), UC (area around Fritzsche Field) and CSUMB for their Monterey Bay campus has already occurred. Furthermore, this situation reflects the “no project” alternative discussed in the EIR.

139-44. The commenter would like more information on the subject of toxics. Refer to response to comment 55-8 for information on lead on the beach and response to public hearing comment 136-6. Also, the EIR discusses issues pertaining to toxics in the Public Health and Safety section (4.6).

139-45. The commenter would like more information on the impacts associated with future roadway projects. Refer to response to comment 56-4.

139-46. The commenter would like the UC Master plan included in the EIR. As was stated above in response to comment 139-8, it is not required that a master plan of a state agency with jurisdiction within FORA jurisdiction be integrated into the overall Fort Ord Reuse Plan and EIR. A summary of the Draft Master Plan, including four figures, is provided in the DEIR, beginning on page 4-157.

139-47. The commenter would like more information on unexploded ordnance. Besides the information included in section 4.6 of the EIR, the commenter is referred to response to comment 32-1.

139-48. The commenter would like more information on undevelopable areas at Fort Ord. It is assumed that the commenter is referring to areas with unexploded ordnance. This area, approximately 8,000 acres of the approximately 15,000 acres

conveyed to the Bureau of Land Management, will be cleaned of its unexploded ordnance and converted to usable open space. Also, refer to response to comment 32-1.

139-49. The commenter would like more information relating to wastewater treatment capacity. Refer to response to comment 82-8 for a discussion on wastewater treatment.

139-50. The commenter would like more information on future water sources. Refer to response to comment 8-5 with respect to water supply and response to comment 21-1 as it pertains to management of development and resources.

139-51. The commenter requests that the public review period be extended and that a revised EIR be prepared. Refer to response to comment 5-1 pertaining to the review period.

Response to Letter 140

140-1. The commenter would like a project alternative included in the EIR that includes a project based on safe yield water use only. This issue is addressed in the Safe Yield Water Supply discussion in response to commenter 8-5. Also, refer to response to comments 43-1, 55-4 and 123-1.

Response to Letter 141

141-1. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

Response to Letter 142

142-1. The commenter states that the EIR does not prove that economic dislocation has occurred. There is no federal or state requirement that a base reuse plan or a general plan prove that economic dislocation occurs. The nature of a reuse plan and a general plan is to fulfill the requirements of state law pertaining to long term planning documents. The estimate of jobs lost on the Peninsula with the closing of the former Army Base is summarized in Volume I of the Reuse Plan, Page 2-14. Also, refer to response to comment 43-1 and 55-4.

142-2. The commenter states the EIR does not take into account the recession/depression that occurred at the time of base closure and has continued until recently. There is no federal or state requirement that an EIR take into account such concerns. Economic effects of a project shall not be treated as significant effects

on the environment, unless the effects result in physical changes to the environment. The EIR includes an economic discussion commencing on page 4-20.

142-3. The commenter states that Vol. 1 of the Reuse Plan contradicts numerous studies and articles referenced in the Monterey Herald newspaper over the last 4 years. The information in Vol. 1 of the Reuse Plan is based on the discipline of economic analyses that relies on a wide array of statistics gathered by local agencies and the State of California. The commenter is referred to the "Assessment of Planning Baseline and Market Data Fort Ord Base Reuse Plan," (SKMG 1995).

142-4. The commenter states that the EIR is not objective in its presentation of economic issues. The commenter submits an opinion on the EIR. The economic analysis contained in the EIR is considered to be adequate for the decision makers to base their decision on. Also, refer to response to comment 138-1.

142-5. The commenter repeats comment one above.

142-6. The commenter states that a program EIR is too general. Refer to response to comment 16-3.

142-7. The commenter is requesting an alternatives discussion that includes a project based on safe yield water use only. As it pertains to alternatives and safe yield water supply, Refer to response to comment 8-5, 21-1, and 27-3.

142-8. The commenter would like more information on water supply. Refer to response to comment 8-5.

142-9. The commenter would like more information on aesthetics and viewsheds. Refer to the Reuse Plan, Volume I, pages 3-8 to 3-20 and Section 3.8, 3.9 and 3.10 in Volume I (commencing on page 3-103). Also, refer to response to comment 68-2.

142-10. The commenter would like more information on potential future development on the east and west side of Highway 101. Development in this area is outside the physical impact area of Fort Ord, therefore, it is not relevant to the proposed project. The regional models used in the DEIR analyses such as economic growth, traffic projections and air quality impacts utilize the adopted growth assumptions for these areas provided by AMBAG.

142-11. The commenter would like more information on transportation mitigations. Based on previous comments submitted, this comment is interpreted to refer to the potential impacts associated with transportation mitigations. Refer to response to comment 56-4.

142-12. The commenter would like more information on growth. Without more specific information a specific response cannot be provided. However, as it is

presented in the EIR, the growth inducement discussion is adequate for the decision makers to base a decision on.

142-13. The commenter would like more information on economic development. The information presented in the EIR is adequate for the decision makers to base a decision on. Furthermore, the decision makers have the economic information contained in Volume I and Appendix B (Business and Operations Plan) of the Reuse Plan to base their decision on.

142-14. The commenter states that the cumulative impacts analysis in the EIR is inadequate. The cumulative impacts discussion in the EIR is adequate for the decision makers to base their decision on. Without more specific request for information from the commenter, a more specific response cannot be provided.

142-15. The commenter states that the EIR does not adequately discuss the implications and impacts of the creation of many legal lots of record. The Program EIR is based on the fact that there will be future subdivision and reuse of the base. Without more specific request for information from the commenter, a more specific response cannot be provided.

142-16. The commenter would like an executive summary. The EIR contains a summary. Refer to response to comment 17-2.

142-17. The commenter states that the lack of easy availability of the EIR seems to violate the intent of CEQA. The commenter has stated an opinion based on her interpretation of CEQA section 15087(e). FORA distributed the Reuse Plan and EIR to all local libraries for a period of 133 days (June 1, 1996 to October 11, 1996). Though there was only one set of the Reuse Plan and EIR available at each library, the length of time they were available to the public would adequately meet the intent of CEQA. Regardless, FORA will make available five copies of the Final PEIR for public review at each of the libraries used as a repository for the Draft EIR.

Response to Letter 143

143-1. The commenter would like more information on water. Refer to response to comment 8-5.

143-2. The commenter would like to know if the Monterey Peninsula can accommodate an additional 57 percentage increase in population. Through the planning process and implementation of mitigations prescribed in the EIR, a buildout population of 72,000, and a projected population of 37,400 by the year 2015 can be accommodated at the former military base.

143-3. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

Response to Letter 144

144-1. The commenter would like more information on water. Refer to response to comment 8-5.

144-2. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

Response to Letter 145

145-1. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

Response to Letter 146

146-1. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

Response to Letter 147

147-1. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

[Start August 12, 1996 Marina public hearing comments]

Response to Public Hearing Comment 148

148-1. The commenter would like more information on vocational service relative to housing development. There is no vocational service proposed as part of the Reuse Plan. This would be an issue for the City of Marina to discuss and perhaps act upon at a later date and after approval of a reuse plan.

Response to Public Hearing Comment 149

149-1. The commenter states that Monterey Peninsula College (MPC) at Marina would excel in occupational training. The commenter does not address the content of the Reuse Plan or PEIR. No response is necessary.

Response to Public Hearing Comment 150

150-1. The commenter supports keeping some large lots at Fort Ord as in Marina. The commenter does not address the content of the Reuse Plan or PEIR. No response is necessary.

Response to Public Hearing Comment 151

151-1. The commenter states that the 20-year plan water infrastructure may need to be scaled down because of cost. The water infrastructure system must be in place in order to accommodate future development. If funding is limited and portions of the system are constructed, this will dictate the number of units and commercial square footage that would be able to be supported.

[End August 12, 1996 Marina public hearing comments]

Response to Letter 152

152-1. The commenter is concerned about water use. Refer to response to comment 8-5 for an expanded discussion on water use and response to comment letter 21-1 regarding phased development vis-a-vis water.

152-2. The commenter would like to know how much water is currently needed for properties that have already been conveyed. Current water consumption at Fort Ord is estimated to be approximately 1,700 afy. The "No-Project" Alternative in the DEIR is a close surrogate for Reuse of the lands that have already been conveyed. The water demand is estimated to be 6,067 afy. The commenter is referred to comment 139-27.

152-3. The commenter is concerned about water use. Refer to response to comment 8-5 for an expanded discussion on water use and response to comment letter 21-1 regarding phased development.

152-4. The commenter is concerned about water use. Refer to response to comment 8-5 for a discussion on safe yield water use.

152-5. The commenter would like more current information on economic conditions. Refer to response to commenter letter 138-1, 142-1, 142-2 and 142-3 for a discussion on economic issues.

Response to Letter 153

153-1. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

Response to Letter 154

154-1. The commenter states that the transit facilities are not correctly depicted in the text or graphics. Refer to response to comment 2-1.

154-2. The commenter states that transit service funding has and is being cut back by the federal government, therefore a new source of funding will be required to provide transit service at Fort Ord. The Reuse plan distinguishes between capital costs and operations and maintenance costs for the provision of transit services at Fort Ord. The Public Facilities Implementation Plan and Public Services Plan in Appendix B of the Reuse Plan provide for the financing of the capital improvements anticipated to support transit at Fort Ord through the 2015 period. The transportation nexus analysis in the PFIP, establishes a total of \$3,800,000 in capital improvements for the "intermodal centers" on Fort Ord. In addition, the PSP, establishes a nexus of \$4,950,000 for the purchase of 15 buses as part of the capital expenditures required to support transit. The Reuse Plan does not address the financing of operations and maintenance. This is traditionally the responsibility of Monterey-Salinas Transit. Funds for transit operations and maintenance are derived through a combination of sources including federal Section 9 funds, State Transit Assistance (STA) and Transit Development Act (TDA) funds, and farebox revenues.

The recently completed "Fort Ord Regional Transportation Study" (JHK 1997), suggests that there is an unfunded shortfall of \$76 million for the district through the 2015 period for operations and maintenance. This amount is broken down into "Fort Ord Development" and "Other Development". Of the total O&M shortfall, MST figures indicate that Fort Ord development is responsible for \$38.5 million. Refer to Table 7-5, Page 7-14 in the JHK report. It is a policy decision for the FORA Board to consider whether to contribute to the funding of MST operations and maintenance. Also, refer to response to comment 22-1 for additional information on transportation funding.

Policy Consideration

Appendix B. PFIP and PSP. The FORA Board shall consider whether to establish policy to contribute to the funding of operations and maintenance for MST.

Regardless of FORA funding its share of MST O&M, there will remain a significant environmental impact because the funding of MST O&M would be short \$37.5 million as a result of "Other Development". Refer to the following Changes to the EIR section below for amended text.

Changes to the EIR

Page 4-82. Add the following to the list of Significance Criteria:

"result in the need for new or altered transit services that are not funded in their entirety".

Page 4-91. Add the following new impact discussion.

Impact: Increased Demand for Transit Services.

The reuse of Fort Ord will increase the demand for transit services. However, FORA intends only to fund capital facilities such as new buses, a new transit center and two new park and ride lots. FORA does not propose to fund MST operations and maintenance. Based on MST information, this would leave MST with an unfunded \$37.5 million operations deficit associated with Fort Ord development.

O&M funding for transit agencies is traditionally the responsibility of the transit agency. Funds for transit operations and maintenance are derived through a combination of sources including federal Section 9 funds, State Transit Assistance (STA) and Transit Development Act (TDA) funds, and farebox revenues.

In the event that FORA did contribute towards MST O&M funding, there would remain an outstanding unfunded amount associated with regional development.

Since FORA cannot assure that funding will be obtained to support adequate transit services, even with funding of capital facilities, this impact should be considered significant and unavoidable.

Page 5-6. Amend the last sentence in section 5.1.7 to read as follows:

"The cumulative impact of demands on the regional roadway network and transit operations and maintenance is considered to be significant unavoidable, since funding for all off-site improvements and transit maintenance and operations cannot be assured".

Page 5-14. Add the following to the next to the last list of bullet statements:

- Impact of unfunded transit operations and maintenance

Page 5-14. Add the following to the last list of bullet statements.

- Cumulative impacts on transit services

154-3. The commenter states the Public Facilities Implementation Plan does not address transit service needs in the same manner as it addresses regional

roadway improvements vis-a-vis assigning the costs of roadway improvements to the reuse of Fort Ord. The commenter also requests that operating costs deficiencies should be included in the Public Services Plan. The commenter notes that MST has identified a number of deficiencies in their service area including providing service to and from Fort Ord. The commenter also notes that the life of a transit coach is twelve years and replacement coaches must be programmed into the capital improvement plan for Fort Ord. As it pertains to funding transit O&M, the EIR concludes that impacts to transit O&M is significant and unavoidable. Refer to response to comment 154-2.

154-4. The commenter points out that the Reuse Plan is partial to discussion of streets and road but leaves out a similar discussion pertaining to transit. The commenter suggests a bus operations plan should be prepared for the Reuse Plan. The Reuse Plan is a general plan level document that includes a draft CIP to address the anticipated capital improvements through the year 2015. A more detailed transit operation plan including bus operations would not be necessary in the Reuse Plan and would be futile in addressing specific MST issues at this time because transit issues could change in the future, thus negating some elements of a discussion.

154-5. The commenter states that the discussion of park and ride lots should specifically identify the two locations where MST plans to develop park and ride lots. The commenter also states that additional park and ride lots should be developed throughout Fort Ord where appropriate. Refer to response to comment 2-1.

154-6. The commenter states that the Reuse Plan discusses parking management but fails to endorse it. Volume 2 of the Reuse Plan contains a Transportation Demand Management Policy and Programs (page 4-117) which address this concern. The EIR also uses the policy and programs to mitigate impacts (page 4-85).

154-7. The commenter would like the Marina design objectives on page 3-103 of Volume I to include a language promoting the use of the park and ride facility which is planned for the corner of Imjin Road and 12th Street.

Changes to the Reuse Plan

Volume I. Page 3-108. Add the following objective:

7. Promote the use of the Park and Ride facility which is planned for development at the corner of Imjin Road and 12th Street.

154-8. The commenter would like the Marina design objectives on page 3-108 of Volume I to include language that encourages the use of and compliment the Fort Ord Transportation Center at First Avenue and Fifth Street.

Changes to the Reuse Plan

Volume I. Page 3-111. Add the following objective:

8. Create uses which encourage the use of and compliment the Fort Ord Transportation Center at First Avenue and Fifth Street.

154-9. The commenter would like the CSUMB design objectives on page 3-118 of Volume I to include language that encourages the use of alternate transportation by providing convenient and direct transit access to campus activity centers.

Changes to the Reuse Plan

Volume I. Page 3-118. Add the following objective:

2. Encourage the use of alternate transportation by providing convenient and direct transit access to campus activity centers.

154-10. The commenter would like the Marina design objectives on page 3-103 of Volume I to include a language promoting the use of the park and ride facility which is planned for the corner of Gigling Road and Eighth Avenue.

Changes to the Reuse Plan

Volume I. Page 3-124. Add the following objective:

6. Promote the use of the Park and Ride Facility which is planned for development at the corner of Gigling Road and Eighth Avenue.

154-11. The commenter requests that the Reuse Plan (Volume I, page 3-149) contain a more balanced view of all circulation components, not just roadway improvements to increase single occupancy vehicle use, especially as it relates to the preparation of phasing scenarios. The phasing scenarios referred to in the comment reflect the overall financial implications of alternative development patterns. As such they are more sensitive to the major cost factors resulting from roadway construction and the effect of these costs on the bottom line. However, the commenter's request is not inconsistent with the overall approach to circulation taken in the preparation of the Reuse Plan.

Changes to the Reuse Plan

Volume I. Page 3-149. Circulation Factors, insert the following at the end of the bulleted paragraph:

as well as the pattern of development mix and density that can support efficient transit operations;

154-12. The commenter points out that the circulation strategy discussion on page 3-150 of the Reuse Plan needs to include more comprehensive discussion of all circulation issues. The commenter is referred to response to comment 154-11.

Changes to the Reuse Plan

Volume I. Page 3-150. Circulation Strategy, insert the following at the end of the bulleted paragraph:

- 6) promote a development mix and pattern that will support efficient transit operations and specifically concentrate trip-ends along the multimodal corridor.

154-13. The commenter recommends that policy E on page 4-31 of Volume II of the Reuse Plan be augmented with a new program, which would state that the City of Marina shall encourage the development of an integrated street pattern for new developments which provides linkages to the existing street network and discourages cul-de-sac's or dead-end streets The Reuse Plan includes Air Quality Program A-3.1 (Volume II, page 4-213) which addresses this issue.

154-14. The commenter recommends that policy E on page 4-36 of Volume II of the Reuse Plan be augmented with a new program, which would state that the City of Seaside shall encourage the development of an integrated street pattern for new developments which provides linkages to the existing street network and discourages cul-de-sac's or dead-end streets.

Changes to the Reuse Plan

Volume II. Page 4-37. add program E-1.3

Program E-1.3: The City of Seaside shall encourage the development of an integrated street pattern for new developments which provides linkages to the existing street network and discourages cul-de-sac's or dead-end streets.

154-15. The commenter recommends that policy E on page 4-41 of Volume II of the Reuse Plan be augmented with a new program, which would state that the County Monterey shall encourage the development of an integrated street pattern for new developments which provides linkages to the existing street network and discourages cul-de-sac's or dead-end streets.

Changes to the Reuse Plan

Volume II. Page 4-41. add program E-1.3.

Program E-1.3: The County of Monterey shall encourage the development of an integrated street pattern for new developments which provides linkages to the existing street network and discourages cul-de-sac's or dead-end streets.

154-16. The commenter recommends that policy E on page 4-52 of Volume II of the Reuse Plan be augmented with a new program, which would allow the City of Marina to increase densities of up to ten percent for projects which promote the use of alternate transportation as evidenced by the inclusion of some or all of the following: provision of bus turn-outs, provision of bus shelters, provision of bicycle lockers, secure bicycle racks, showers, and development and implementation of employee trip reduction programs. The commenter's concerns are already addressed in the Reuse Plan, Volume I, Page 4-111 with transit Program A-1.2.

154-17. The commenter recommends that policy E on page 4-55 of Volume II of the Reuse Plan be augmented with a new program, which would allow the City of Seaside to increase densities of up to ten percent for projects which promote the use of alternate transportation as evidenced by the inclusion of some or all of the following: provision of bus turn-outs, provision of bus shelters, provision of bicycle lockers, secure bicycle racks, showers, and development and implementation of employee trip reduction programs. The commenter is referred to response to comment 154.16.

154-18. The commenter recommends that policy E on page 4-59 of Volume II of the Reuse Plan be augmented with a new program, which would allow the County of Monterey to increase densities of up to ten percent for projects which promote the use of alternate transportation as evidenced by the inclusion of some or all of the following: provision of bus turn-outs, provision of bus shelters, provision of bicycle lockers, secure bicycle racks, showers, and development and implementation of employee trip reduction programs. The commenter is referred to response to comment 154.16.

154-19. The commenter points out that the RIDES Paratransit program currently provides service from 7:00 a.m. until 11:00 p.m., not from 10:00 a.m. until 2:00 p.m. as stated on page 4-103 in Volume II.

Changes to the Reuse Plan

Volume II. Page 4-108. Amend the last line on the page to read as follows:

"... life-equipped vans Monday through Friday between 7:00 a.m. until 11:00 p.m. ~~10:00 a.m. until 2:00 p.m.~~ ..."

154-20. The commenter points out that the figure on page 4-110 of Volume II of the Reuse Plan - *Transit Activity Centers and Corridors*, incorrectly depicts the proposed MST transit center to be at First Avenue and Eighth Street. It should be shown at the intersection of First Avenue and Fifth Street. The commenter also points out that the park and ride lots are not indicated and could enhance the diagram. Refer to response to comment 2-1.

154-21. The commenter points out that there should be more transit activity centers shown on figure 4.2-5 in Volume II of the Reuse Plan. The consultant concurs, it should be shown on the figure. Though no changes to the Reuse Plan and EIR graphics or tables will be included with the Reuse Plan and Final PEIR documents, a compilation of the requests from commenters for changes to graphics will be provided to FORA. It will then be the responsibility of FORA to provide the changes requested at a future date after the certification of the EIR.

154-22. The commenter would like the Key Transit Corridors in Figure 4.2-5 in Volume II to include additional roadways. The roadways recommended for inclusion include First Avenue, Gigling Road between North-South road and Eighth Avenue, Monterey Road, Reservation Road between Del Monte Blvd. and Blanco Road, and Inter-Garrison Road between the main CSUMB Campus and the CSUMB housing area. This level of bus corridor planning is premature and may not be responsive to the phasing requirements of development. This level of detail is more appropriate to bus operation master plans. Though no changes to the Reuse Plan and EIR graphics or tables will be included with the Reuse Plan and Final PEIR documents, a compilation of the requests from commenters for changes to graphics will be provided to FORA. It will then be the responsibility of FORA to provide the changes requested at a future date after the certification of the EIR.

154-23. The commenter would like to know if the program language included in section 4.2.3.3 - *Transit Policies and Program*, pertaining to "support" is financial or "moral" support. If it is the case that it is moral support, then the activity centers, corridors and bus stop facilities identified in the Reuse Plan programs cannot be implemented by MST. FORA's PFIP indicates a capital improvement of approximately \$9,000,000 for transit capital costs through the 2015 period. Also, refer to response to comment 154-2.

154-24. The commenter is disappointed that the EIR concludes that there would be an unavoidable significant impact relative to traffic and circulation. The commenter believes that his agency would be able to provide the necessary service that would result in mitigating the impact. Therefore, the commenter requests that the role of transit in ameliorating regional impacts be clarified.

The commenter is implying that MST could reduce the impact of regional transportation deficiencies. Based on the historical mode splits which are integrated into the 2015 transportation model run, this is highly unlikely due to the public's preference for driving their vehicles. Also, based on the historical mode split between vehicles and alternative transportation, the EIR takes a conservative

approach to transportation planning and assumes no change in the LOS of regional roadways as a result of implementing expanded transit service to Fort Ord.

Also, FORA provides fair-share funding for future transportation projects and provides land uses which promote the use of alternative modes of transportation. The plan is established on historical mode splits which were used in the model. Therefore, the transportation analysis reflects a worst case scenario and not an optimistic transit use that exceeds 2 percent. Also, as it pertains to transit operations and maintenance, refer to response to comment 154-2.

154-25. The commenter implies that the regional mode split assumptions used in the traffic analysis could in fact be worse (i.e., more vehicle trips on area roadways) unless adequate funding is provided to allow necessary expansion of transit services at the same rate overall as vehicle trips increase. The Reuse Plan funds for 15 new buses and a variety of transit facilities (capital facilities) to be funded by base-wide fees. It is not anticipated that this would result in an increase or decrease in the historical ridership. It is likely that college students will use transit more than other segments of the community. Also, refer to response to comment 154-2.

154-26. The commenter states that the Fort Ord transportation infrastructure will fail to deliver the adequate service unless adequate funding is provided for transit service. Refer to response to comment 154-2 and 154-24.

154-27. The commenter states that the coordinating efforts described in Policy A-1 on page 4-84 of the EIR can only work if funding is available to provide transit services. Refer to response to comment 154-2 and 154-24.

154-28. The commenter requests that Table 4.7-2 in the EIR be amended to include regional transit capital improvements information. The capital cost allocation indicated corresponds to that costs included in the PFIP of the Reuse Plan representing \$5,000,000. The PFIP projection is \$4,950,000. The table will be added to the EIR to reflect the back-up to this calculation.

154-29. The commenter states that the life of a transit coach is twelve years and accordingly this must be reflected into the capital improvement plan. The CIP does not include a replacement schedule for buses. The CIP, however, will be annually updated by FORA and this information could be included.

154-30. The commenter points out that the traffic and circulation section of the EIR includes figures depicting the transportation network for the year 2015 and full buildout, but does not include a figure showing the proposed transit network. The commenter is referred to response to comment 154-22.

Changes to the EIR

Add table "Regional Transit Capital Improvements"

TABLE 4.7-2A

Regional Transit Capital Improvements (in thousands)

<u>Capital Improvements</u>	<u>Capital Cost for Bus Acquisition</u>	<u>Percentage Allocated to Fort Ord</u>	<u>Capital Cost Allocated to Fort Ord</u>
<u>Route Coverage</u>			
<u>One bus for service to Hidden Hills, Laguna Seca, San Benancio and Corral de Tierra along Highway 68</u>	<u>\$330</u>	<u>20%</u>	<u>\$66</u>
<u>One bus for developments along Highway 156 between Castroville and Prunedale</u>	<u>330</u>	<u>30%</u>	<u>99</u>
<u>Monterey Peninsula Airport and Laguna Seca on Sundays</u>	<u>0</u>	<u>20%</u>	<u>0</u>
<u>Two buses for direct service Monterey to Watsonville</u>	<u>660</u>	<u>40%</u>	<u>264</u>
<u>Two buses for direct service Monterey to San Benito County</u>	<u>660</u>	<u>30%</u>	<u>198</u>
<u>Service Hours</u>			
<u>Earlier Weekend Service</u>	<u>0</u>	<u>20%</u>	<u>0</u>
<u>Service Frequencies</u>			
<u>Two buses for additional service on Line 20: Salinas-Monterey</u>	<u>660</u>	<u>40%</u>	<u>264</u>
<u>Two buses for additional service on Line 21: Salinas-Monterey</u>	<u>660</u>	<u>20%</u>	<u>132</u>
<u>Facilities</u>			
<u>Operations and Maintenance Facility</u>	<u>150</u>	<u>33%</u>	<u>50</u>

Source: Monterey-Salinas Transit

Response to Letter 155

155-1. The commenter states the EIR does not adequately address the impacts associated with water, transportation, etc. As it pertains to water, refer to response to comment 8-5. As it pertains to transportation, Refer to response to comment 56-4.

155-2. This comment is the same as comment 155-1. The response is the same as it is for 155-1.

155-3. The commenter would like to know if the programs and policies are enforceable.

There are two phases associated with enforcement of the programs and policies. The first phase is during FORA's tenure. The second phase is after FORA's tenure. SB 899, which creates FORA, would become inoperative (i.e., FORA would cease to exist under SB 899) when the FORA Board determines that 80 percent of the territory of Fort Ord that is designated for development or reuse in the Reuse Plan has been developed or reused in a manner consistent with the Reuse Plan, or June 30, 2014, whichever occurs first, and would be repealed on January 1, 2015.

During the FORA tenure, though each jurisdiction must go through an implementation process and a set of procedures defined in Volume I of the Reuse Plan (p. 3-155 - 3-161), nothing prohibits local jurisdictions from changing their respective elements of the Reuse Plan. A change to the Reuse Plan is likely to result in a change to the conclusions contained in the EIR. Therefore, it is likely that the Reuse Plan EIR would require additional environmental analysis. Any revisions to the Reuse Plan and/or the EIR would be funded by the jurisdiction proposing Reuse Plan changes. It is important to note that the Reuse Plan elements and the EIR will be assimilated into the local jurisdiction's general plans.

The EIR states on page 1-3 that future CEQA analysis, beyond that which is included in the Reuse Plan EIR, shall be conducted if any events specified in Public Resources Code Section 21166 should occur, as follows:

"When an environmental impact report has been prepared for a project pursuant to this division, no subsequent or supplemental environmental impact report shall be required by the lead agency or by any responsible agency, unless one or more of the following events occurs:

- a) Substantial changes are proposed in the project which will require major revisions of the environmental impact report;
- b) Substantial changes occur with respect to the circumstances under which the project is being undertaken which will require major revisions in the environmental impact report; or

c) New information, which was not known and could not have been known at the time the environmental impact report was certified as complete, becomes available."

CEQA environmental review conducted for future individual projects that implement the Final Fort Ord Reuse Plan will be tiered to EIR to the extent this program-level analysis remains adequate for such purposes. Section 15152(b) of the State CEQA Guidelines establishes:

"Where an EIR has been prepared for a program, plan, policy, or ordinance consistent with the requirements of this section, any Lead Agency for a later project pursuant to or consistent with the program, plan, policy, or ordinance should limit the EIR on the project to effects which:

- 1) Were not examined as significant effects on the environment in the prior EIR; or
- 2) Are susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means."

Additional CEQA analysis may also be required at the specific project level to give decision makers more information about site-specific issues which are not addressed in this program-level EIR.

During the period following FORA's tenure, the Reuse Plan elements and EIR will remain assimilated in local general plans. Any potential future amendments to the Reuse Plan will also remain subject to CEQA Guidelines Section 15378(a), which defines an amendment to a general plan (i.e., reuse plan) as a "project" and thus subject to environmental analysis. It is unknown if noticing of a proposed amendment (in the context where FORA does not exist) would be required beyond the political boundaries of the jurisdiction proposing the amendment. Because the Reuse Plan and its EIR were developed in the context of a large political area, it would appear that noticing throughout the region would be required, but this is not addressed in either SB 899 or SB 1600. However, there are other means for the public to be notified of proposed amendments to local jurisdiction's general plans. This would include the AMBAG notices, a mailing list created by each local jurisdiction that would include individuals and organizations interested in future Fort Ord development, notification in a local newspaper with general circulation, etc.

155-4. The commenter states the feasibility and enforcement of all mitigations must be addressed. CEQA requires that all mitigations be feasible, reasonable, and enforceable. This is the basis of all programs, policies and mitigations contained in the Reuse Plan and the EIR. In addition, the Development and Resource

Management Plan (DRMP) contained in response to comment 21-1 implements funding and monitoring programs for future transportation improvement, as well as future water sources.

155-5. The commenter would like an alternative that includes development limited to the year 2015.

The Final PEIR identifies an additional mitigation measure to address the phasing of future growth at Fort Ord to mitigate potential environmental impacts associated with: 1) traffic and circulation (section 4.7) addressing roadway capacity and capital resources to fund required improvements; 2) hydrology and water quality (section 4.5) including available water supply and seawater intrusion into the aquifer; 3) public services; and 4) capital resources to fund required improvements. The additional mitigation measure is a Development and Resource Management Plan to monitor development at Fort Ord to assure that it does not exceed resource constraints posed by transportation facilities and water supply. The components of the Development and Resource Management Plan include: 1) management of transportation improvements, 2) management of available water supply, 3) provision of adequate public services; and 4) capital planning. Refer to response to comment 21-1.

155-6. The commenter states that impacts associated with development beyond 2015 are based on modeling. The modeling that was used in the transportation analysis stopped at the year 2015 because that is the extent of the empirical data. Beyond that time impacts are speculative. The modeling associated with financing is based on the best data available and extrapolation. This is the approach taken to prepare a report for any project, whether it is a reuse, a general plan, or a private development project.

155-7. The commenter provides clarification on the "underlying activity" described in the EIR. No response warranted.

155-8. The commenter would like to know what "CEQA case" is being referred to in the EIR on page 4-2. The case law is the San Francisco Ecology Center v. City and County of San Francisco (3d Dist. 1991) 229 Cal. App. 3d 1011.

155-9. The commenter states that the jobs/housing ratio at Fort Ord at the time of base closure was .77 and the proposed ratio is 2.05. Therefore, to conclude that the proposed project would be an improvement over Alternative 7's jobs/housing ratio indicates a misunderstanding of CEQA. The commenter states the comparison should be made between the 1991 conditions and the proposed project. The commenter also states that creating a large number of jobs may have potentially significant impacts

The proposed project does contain more jobs than the number of jobs that existed at the time of base closure (vis-a-vis the number of housing units), but will have fewer jobs than the alternatives. It is in FORA's purview to provide economic recovery within the resource constraints of Fort Ord and provide housing. In preparing the

Fort Ord Reuse Plan the optimum jobs/housing range was determined to be 2.05. This would provide adequate housing and a strong economic base. Though the optimal range is .75:1.25, FORA is not required to implement this ratio. However, it is also in FORA's purview to reduce the number of jobs in order to obtain the optimum ratio range.

To offset the impact associated with the project's 2.05 ratio, the plan concentrates commercial development and jobs associated the town-center, CSUMB and UCMBEST along the planned multi-modal corridor and help encourage the long range viability of transit use in that corridor.

The commenter also points out that the jobs/housing ratio number for Alternative 8 in Table 2.4-1 (p. 2-8) in the EIR should read 2.39. Though no changes to Reuse Plan and EIR tables and graphics will be included with the Reuse Plan and Final PEIR documents, a compilation of the requests from commenters of requests for changes to tables and graphics will be provided to FORA separately. It will then be the responsibility of FORA to provide the changes requested at a future date after the certification of the EIR.

Changes to the EIR

Page 2-8. Amend Table 2.4-1. Alternative 8 jobs/housing ratio from 3.39 to 2.39.

155-10. The commenter is concerned with the availability of water. Refer to response to comment 8-5 for additional discussion on water resources and 21-1 for implementation of a safe yield monitoring program relative to future water use.

155-11. The commenter disagrees with the conclusion contained in the EIR regarding water impacts. The basis for the EIR concluding that there would be no significant environmental impact is based on the potential to provide water from Fort Ord through desalination. The conclusion is further reinforced through additional information on water included in response to comment letter 8-5.

155-12. The commenter requests that a water allocation and monitoring plan be implemented as part of the proposed project. Refer to response to comment 21-1.

155-13. The commenter states that the traffic and circulation analysis does not include an evaluation of the project's impacts on existing roads and highways and does not clearly identify mitigation measures. On the contrary, the EIR does include an evaluation of the impacts. This discussion commences on page 4-77 of the EIR. Mitigations are included as well commencing on page 4-83.

As it pertains to the comment on "construction of projects not approved", CEQA requires that impacts be identified and mitigations provided to reduce the impact to a less than significant level. It is irrelevant if the projects are not approved at this time. Funding for transportation infrastructure is based on the project's "nexus" on roadways only, though there is an added mitigation (p. 4-86), which allows FORA to take some of its funding and allocate it toward one particular off-base regional

roadway which it feels will maximize the effectiveness of its fair share contributions in reducing traffic impacts to the regional roadway system.

As it pertains to the comment that the traffic and circulation section of the EIR concludes that travel demand is "less than significant", this is the conclusion made in the EIR as it pertains to increased demand within Fort Ord. It is not the conclusion made pertaining to increased travel demand on the regional transportation system. The EIR concludes that the impacts to the regional transportation system cannot be fully mitigated, regardless of Fort Ord's fair share payment toward the regional transportation system, and, therefore, significant impacts would remain.

155-14. The commenter points states that the reference to AMBAG in Table 5.2-1 is incorrect. The table is in error as it pertains to the reference. Reference #4 should not include reference to AMBAG. As it pertains to the CSUMB population figure of 10,000 by the year 2015, CSUMB is projecting a lower population by 2015 and will report this in February 1997.

There is an error in the table. The 2015 population is derived through preparation of the Reuse Plan by FORA. It is not a population figure generated by AMBAG as indicated in the footnote (footnote #4).

155-15. The commenter requests that the public review period be extended and that the EIR be recirculated. Refer to response to comment 5-1 pertaining to the review period. The EIR will not be recirculated because the Final PEIR will adequately discuss all the potentially significant issues.

155-16. The commenter states that the proposed buildout population of 72,000 is not justified by the enabling legislation that created FORA as a means to economic recovery. Furthermore, the commenter states that the proposed project goes beyond the economic recovery of Marina and Seaside. Refer to response to comments 43-1, 55-4 and 142-1.

155-17. The commenter states that the EIR does not contain demographic data the Reuse Plan contains and points out that the Reuse Plan states the county's net population loss was 13,000. The commenter is incorrect, the Reuse Plan states the population loss to be 18,000.

155-18. The commenter recommends to the decision makers to recognize that economic success depends on conservation of its natural resources.

155-19. The commenter requests that additional information on financing be provided. The commenter misunderstands the intent of the financing program. The reuse of Fort Ord is not dependent upon funding from the existing population of the Monterey Peninsula or the county. Funding will originate from those who develop at Fort Ord.

155-20. The commenter states that a housing element is required because the reuse plan is a general plan and all general plans require a housing element. SB 899 was explicit in describing what the contents of the reuse plan would include. As stated in the SB 899 legislation (Chapter 4) the Fort Ord Reuse Plan shall include all of the following five elements. The first element is a land use plan for the integrated arrangement and general location and extent of , and the criteria and standards for, the uses of land, water, air, space, and other natural resources within the area of the base. The land use plan shall designate area of the base for residential, commercial, industrial and other uses, and may specify maximum development intensities and other standards and criteria. The land use plan shall provide for public safety. The remaining element include a transportation plan; a conservation plan; a recreation plan; and a capital improvement program. It will be the responsibility of each jurisdiction at Fort Ord to modify their housing elements to accommodate Fort Ord.

155-21. The commenter states that the Reuse Plan should include the use/destruction/sale of housing in the Housing Element. Refer to response to comment 155-20.

155-22. The commenter would like an inclusionary housing program included in the Housing Element of the Reuse Plan. Refer to response to comment 155-20.

155-23. The commenter requests that the statement contained in the Business Plan that states "both Seaside and Marina have a sufficient supply of low income housing within their existing residential areas" be substantiated. A market report was prepared, titled Assessment of Planning Baseline and Market Data Fort Ord Base Reuse Plan, (JHK 1995) as part of the Reuse Plan. Included in the market study is the information the commenter is requesting. Additional information on available housing in the cities of Marina and Seaside is available in these respective city's housing elements.

155-24. The commenter states that housing to meet the needs of the community is needed. The basic premise of the Reuse Plan is to provide market rate housing outside of that housing used by CSUMB and housing conveyed through the McKinney Act.

Response to Letter 156

156-1. The commenter requests that the public review period be extended. Refer to response to comment 5-1 pertaining to the review period.

Response to Letter 157

157-1. The commenter requests that the public review period be extended. Refer to response to comment letter 5-1 pertaining to the review period.

Response to Letter 158

158-1. The commenter wants existing housing units to be rented. Except for POM, CSUMB housing and McKinney Act housing, the sale or rental of housing units on Fort Ord cannot occur until after the Reuse Plan is approved.

Response to Letter 159

159-1. The commenter states that the CalTrans right-of-way proposal for the Highway 68 Bypass was not properly advertised by CalTrans and the commenter requests that the right-of-way for this bypass depicted in the Reuse Plan be removed. Regardless of what CalTrans did or did not do pertaining to the right-of-way's, the right-of-way is now integral to the Reuse Plan. The bypass is referenced in the EIR traffic and circulation section and in the Habitat Management Plan (HMP) as well.

Response to Letter 160

160-1. The commenter requests that the public review period be extended. Refer to response to comment letter 5-1 pertaining to the review period.

Response to Letter 161

161-1. The commenter requests that the public review period be extended. Refer to response to comment letter 5-1 pertaining to the review period.

Response to Letter 162

162-1. The commenter would like to know if there will be a redevelopment agency at Fort Ord. The commenter would also like to know what will be FORA's main funding sources. SB 1600 section 67679.5 permits a redevelopment agency if needed. FORA's main funding source will be land sales and one-time development fee, and potentially Mello-Roos taxes and redevelopment "tax increment" financing.

162-2. The commenter points out a clarification in the text pertaining to sharing costs for costs of habitat should be limited to Fort Ord jurisdictions. The intent of the language in the Reuse Plan is that only those agencies with jurisdiction within Fort Ord will participate.

162-3. The commenter points out that a Fort Ord area transportation impact fee should be discussed in the EIR. The transportation discussion in the Final PEIR includes three funding sources: Fort Ord development, "impact study area" and public. Refer to response to comment 22-1 for additional information.

162-4. The commenter states that institutional facilities will enhance the economy. The commenter does not address the content of the Reuse Plan or PEIR. No response is necessary.

162-5. The commenter states that Fort Ord may be difficult to market because of the costs of water and road systems. These are issues addressed in the EIR and the Business and Operations Plan. Constraints do exist and pose a challenge to future reuse of Fort Ord.

162-6. The commenter points out that because there are three jurisdictions at Fort Ord developing clear development agenda and process at Fort Ord may be difficult. The commenter states that this situation would result in a difficult land use entitlement process. The jurisdictions are aware of the potential problems associated with multiple jurisdictions. The commenter does not address the content of the Reuse Plan or PEIR. No response is necessary.

162-7. The commenter points out that Fort Ord will be perceived as "extremely sensitive to environmental growth issues". The commenter does not address the content of the Reuse Plan or PEIR. No response is necessary.

162-8. The commenter states that the future forecast for light-industrial development by 2015 is relative small compared to the City of San Jose. The commenter does not address the content of the Reuse Plan or PEIR. No response is necessary.

162-9. The commenter states that the future forecast for research and development is unpredictable. The commenter does not address the content of the Reuse Plan or PEIR. No response is necessary.

162-10. The commenter states that future Fort Ord housing will compete with Sand City housing. The commenter does not address the content of the Reuse Plan or PEIR. No response is necessary.

162-11. The commenter questions if the economic forecast for an "entertainment center", which includes shopping, restaurants and multi-screen theaters, would be in demand during the projected construction period 2011 to 2015. Based on the study, the interest in entertainment appears to be long lasting.

162-12. The commenter points out that lodging facilities proposed at Fort Ord will be good for Sand City and will not compete with the Sand City lodging facilities that are coastal oriented. The commenter does not address the content of the Reuse Plan or PEIR. No response is necessary.

162-13. The commenter states that the desalination plant should be identified in the Dunes State Park Plan. This use has been accommodated in the Park Plan.

162-14. The commenter reiterates comment 2 above.

162-15. The commenter states that the city supports restoration of economic and housing activity that existed prior to the base closure. This is an option available to FORA and will be considered by FORA.

Response to Letter 163

163-1. The commenter reiterates his previous comment (#159).

Response to Letter 164

164-1. The commenter would like to know if there is policy that relates to building a freeway and/or expressway adjacent to a school. There is no state policy that would preclude construction of a highway or expressway adjacent to a school (pers. com., January 17, 1997).

164-2. The commenter would like information on a new runway and runway extension at the airport. The airport referred to is the Marina Municipal Airport which was previously owned by the Army and known as Fritzsche Airfield. Any information pertaining to this airport should be obtained by reviewing the master plan and EIR prepared recently for that airport.

164-3. The commenter states that the "village" commercial viability is questionable due to the proximity of "big box" retailers. There are no guarantees for success for any retailer, whether large or small. The success of commercial enterprise in the village setting will be premised on "niche" retailing, as well as ambiance and proximity to the customer base.

164-4. The commenter would like to know what the population impact will be associated with reuse. The EIR discusses a number of issues pertaining to transportation, water, public services, land use, etc. which are predicated on population expansion. The reader is referred to the socioeconomic discussion commencing on page 4-20 of the EIR for information on population, housing, employment, etc.

164-5. The commenter would like to know why the EIR does not reflect the CSUMB president's statement that the population at CSUMB would probably never achieve 25,000 full-time students. The CSUMB long-range plans accommodate 20,000 students on-site (living on campus) at full buildout. This is what must be considered in developing the Reuse Plan and the EIR.

164-6. The commenter would like additional information on the existing housing market. Refer to response to comment 155-23.

164-7. The commenter would like to know if the road infrastructure will be constructed prior to or after light industrial land uses are in place. The development of roadways on base will be premised on the availability of funds. For example, FORA is currently using limited funds from the Economic Development Administration to upgrade existing roadways at Fort Ord prior to development of light industrial properties and prior to CSUMB gaining a significant population. Roadway construction will be ongoing effort by FORA using grant funds as well as impact fees as new development comes on line at Fort Ord. After the reuse plan is approved, properties will be conveyed from the U.S. Army to the cities of Marina and Seaside, as well as Monterey County. Therefore, it is the intent of the Reuse Plan and the EIR to match development of infrastructure and new development as the flow of funding will allow so that there are no gaps in the development of infrastructure.

164-8. The commenter apparently disapproves of using Highway 156 to attract Silicon Valley satellite facilities. The commenter does not address the content of the Reuse Plan or PEIR. No response is necessary.

164-9. The commenter would like to know what guarantee is there that CalTrans will not expand the two lane area of Highway 218 between North/South Road and Fremont Boulevard. There are no guarantees that CalTrans will do anything. However, based on the fact that the length of Highway 218 between North/South Road and Fremont Boulevard is closely flanked by housing on steep slopes, it was prudently concluded that widening in this area would not occur.

164-10. The commenter would like to know if "big semi-trucks going into the new business parks at Fort Ord" is discussed in the EIR. This issue was not specifically addressed in the EIR because there are no known "significant" environmental issues associated with this type of vehicle. In determination of whether an effect may have a significant effect on the environment calls for judgment based on scientific and factual data, as well on there being a substantial body of public opinion that considers or will consider the effect to be adverse. Scientific and factual data, as well as public opinion did not justify the EIR consultant discussion "big semi-trucks".

164-11. The commenter would like to know where in the EIR is there a discussion of the approved and proposed developments. The commenter is referred to the cumulative impacts discussion commencing on page 5-1 of the EIR.

164-12. The commenter would like to know how the county can make planning decisions for Fort Ord without adopting land use designations first, following county land use guidelines. The county has been involved with the reuse effort since 1991 and helped to create the Reuse Plan that was circulated in 1996.

The land use designations it selected for the area within its jurisdiction within Fort Ord was based on its state mandated right to plan for property within its jurisdiction.

164-13. The commenter would like to know what changes to the EIR will be required to accommodate known threatened and endangered species that occur in the coastal dunes.

Fort Ord supports a variety of biological habitats identified in the Habitat Management Plan (HMP) that are unique to the central coast, such as maritime chaparral and coastal dunes and the plants associated with these habitats. These resources have been maintained at Fort Ord due in part to restricted access associated with the military use of the base. Several plant and animal species have been identified that have been designated or are proposed for listing as rare, threatened, endangered or otherwise sensitive by various state and federal agencies.

The HMP effectively serves as the basis for the Army's "permit" for incidental take of federally-listed species under the ESA. "Listed" species are those species designated "threatened" or "endangered" by the USFWS. Conformance with the requirements of the HMP is a prerequisite for the transfer of land from the Army to other entities.

A primary goal of the HMP is to promote preservation, enhancement and restoration of special status and animal species and their habitats at former Fort Ord, while allowing economic recovery through reuse and development of the base. To achieve this goal, some parcels at former Fort Ord are designated for development with no restrictions, others have certain management guidelines or prescribed set-asides, and other are designated as habitat preserves with little or no development allowed.

The HMP does not preclude future landowners from complying with environmental regulations enforced by federal, state or local agencies. These regulations could include obtaining Section 7 or Section 10(a) permit from the USFWS pursuant to the federal Endangered Species Act (ESA), complying with measures for conservation of state-listed threatened and endangered species and other special-status species recognized by CDFG under the California ESA and CEQA, and complying with local land use regulations and restrictions (COE 1994).

However, implementation of the HMP will simplify regulatory compliance. The HMP will provide a basis for recipients of former Fort Ord lands to seek Section 7 and Section 10(a) permits as applicable for the "take" of federally listed species within the parcel they received. Because the HMP provides mitigation for impacts on federally listed species, little or no additional mitigation will be required to obtain a Section 7 or 10(a) permit. Also, because the HMP addresses several federal candidate species, the document is considered a prelisting conservation agreement between the USFWS and local agencies. This agreement will preclude the need to develop additional mitigation measures, should the candidate species addressed in the HMP become listed. The California Department of Fish and Game has reviewed

and provided input during HMP development and will consider mitigation described in the HMP when reviewing development plans for compliance with the California ESA and CEQA.

The Biological Resources Management Program (BRMP) serves as the first step in translating the Army's requirements into a practical planning tool for local jurisdictions. It provides the polygon-by-polygon analysis of the requirements of the HMP, discusses the planning implications of and provides guidelines for addressing those requirements through the planning process. In tiering-off of the HMP, the BRMP is intended to establish the framework for CEQA and the California Endangered Species Act (CESA) approvals and to realize economic recovery while protecting the biological resources at Fort Ord. The BRMP recommends future surveys to identify specific biological resources in each polygon impacted by future development.

Though from a federal perspective the HMP species are considered protected through implementation of the HMP and no further mitigation beyond the HMP is required to satisfy the USFWS and the ESA, the HMP has not been approved by the California Department of Fish and Game (CDFG). CDFG has given tentative approval to the HMP as adequate mitigation for HMP species under CEQA but has requested that an Implementing Agreement, signed by all affected jurisdictions, be drafted as a binding state-level document (Leslie Zander, pers. com. February 13, 1996).

To manage the numerous federal, state and local holdings in the former base that will be used as habitat management areas, a Coordinated Resource Management and Planning (CRMP) program was recommended by the HMP as a practical means of coordinating basewide resource management and planning at Fort Ord. This program is an established process used throughout the country for land management and planning purposes and agreed upon through a Memorandum of Understanding. The CRMP is a resource planning, problem solving and management process administered by a group of agency staff, professional biologists and concerned citizens, which allows for direct participation of everyone concerned with natural resources management in a given planning area. An inter-agency and inter-jurisdictional CRMP has been established at Fort Ord, whose objective is to serve as a clearinghouse by providing a forum for information and resource exchange on habitat-related issues, to develop standards for habitat management, monitoring and reporting and to coordinate the implementation of the HMP. The CRMP is intended to benefit all parties by providing for shared resources/expertise for HMP implementation.

The HMP did not identify or accommodate maintenance or replacement of existing Fort Ord infrastructure facilities. However, this situation should not be expected to preclude work on infrastructure facilities, nor should the proposed project be counted as part of other agency's allowable area of disturbance. For example, in the HMP and the Biological Resources Management Planning document prepared in September 1995, future development in polygon 6b is limited to an area not to exceed 1 percent of the total natural habitat within this polygon.

In addition, there are other sensitive biological resources at Fort Ord that were not addressed in the HMP. These resources typically include species or habitat that have limited legal protection status but may be considered sensitive for various reasons by CDFG, other resource agencies and interest organizations. A list of these sensitive species and habitats known to occur at Fort Ord but not addressed in the HMP are available in Biological Resources Management Planning report (Zander 1995). Both the HMP and the Biological Resources Management Planning report are referenced herein by reference.

The CEQA Guidelines state that any activity that would substantially reduce the number or restrict the range of a rare or endangered species would be considered a significant impact. Some of the species of plants and animals listed in the Zander report may meet the definition of rare or endangered provided in Section 15380 of the CEQA Guidelines. If, through the CEQA review, impacts on these special status species are determined to be significant, additional mitigation satisfactory to CDFG to reduce the effect of the impact may be required.

164-14. The commenter would like to know where in the EIR are specific plans to protect threatened and endangered species. Refer to the section 4.10 of the EIR - (Biological Resources), for this discussion.

164-15. The commenter would like to know where in the EIR is there a discussion on the protection of "high sensitivity" archaeological resources. Refer to pages 4-153 to 4-156 in the EIR.

164-16. The commenter would like economic and market analysis for justifying golf courses. The commenter should review the document titled Assessment of Planning Baseline and Market Data for the Fort Ord Base Reuse Plan prepared in November 1995, by SKMG, and included herein by reference. Volume I of the Reuse Plan is partially based on this document. The conclusion of the report (page VI-13) is that two additional golf courses on Fort Ord during the next 20 years would be viable if offered in conjunction with residential communities and hotel/conference centers.

164-17. The commenter would like to know if future golf courses will be using potable water and if so will development occur first so that development's treated wastewater can be used. The total build out water use for Fort Ord is 13,500 afy. Of this amount 3,000 afy will be recycled water (treated wastewater) from the MCWPCA wastewater treatment plant to be used for landscaping (e.g. golf courses) and some industrial and commercial uses.

164-18. The commenter recommends to the FORA board that South Boundary Road be included as a bike and pedestrian trail. The commenter would like to know what hiking and bicycle clubs and associations were consulted by FORA when it developed the Fort Ord trails plan. The State and County Parks Departments were contacted, as well as the Bureau of Land Management.

Modifications to figures contained in the Reuse Plan and EIR , will be completed following the certification of Final PEIR. All changes requested by commenter will be listed by the consultant and delivered to FORA for their use in the case FORA decides to make amendments to the figures. The reader is referred to the revised language under Changes to the Reuse Plan section below.

Changes to the Reuse Plan

Volume I. Page 4-115: Amend Figure 4.2-6 to show a Class 2 bike trail on South Boundary Road from North-South Road to York Road.

164-19. The commenter would like to know what an HOV is. An HOV means high occupancy vehicle.

164-20. The commenter would like to know what "fine-grained" means. The reference to "fine-grained" is located on page 3-12 of Volume I and is meant to convey to the reader that may be in the context of the urban design measures discussion in the Reuse Plan.

Response to Letter 165

165-1. The commenter states that the EIR does not fulfill any of the requirements of CEQA he lists. The commenter submits an opinion on the adequacy of the EIR which the EIR consultant does not consider to be correct.

165-2. The commenter states that the level of analysis in the program level EIR prepared for the Fort Ord Reuse Plan is inadequate based on his interpretation of CEQA. With completion of the Final PEIR, all the necessary information required for the decision makers to base an informed decision on will be available. As it pertains to a detailed matrix showing what agencies are responsible for what mitigations, the EIR contains, by jurisdiction (i.e., Marina, Seaside and Monterey County), a well organized mitigation structure that precludes the necessity to create a matrix.

165-3. The commenter states that the use of a statement of overriding conditions based on economic recovery or infeasible alternatives should not be considered by FORA. This is a matter for FORA to consider.

165-4. The commenter states that an alternative that is limited by the constraints of existing infrastructure or support facilities needs to be included in the EIR. The EIR does include such an alternative. It is the No Project alternative. This alternative represents the current status of base reuse, which is manifest in the U.S. Army turning over its property to other federal agencies and state agencies. To date this includes the UCMBEST Center, CSUMB, Fritzsche Field, BLM, and California Department of Parks and Recreation. The major population generators will be UCMBEST, CSUMB and Fritzsche Field which is in Marina jurisdiction. The

particular types of impacts associated with the No Project alternative are discussed at a level of specificity that is appropriate commencing on page 6-16 of the EIR.

165-5. The commenter would like a discussion of baseline conditions associated with the No Project alternative. The baseline would be associated with the conditions that existed in 1991. The commenter is referred to the discussion in section 1.2.2 on page 1-3 of the EIR regarding baseline determination. Based on 1991 being the baseline year, the discussion of alternatives would necessarily be tied to this benchmark year and not existing environmental conditions as requested in the comment.

165-6. The commenter requests that each alternative be compared based on economic information. An economic analysis at a level of detail requested by the commenter is not included as part of the scope of work for the EIR because SB 899 did not require this type of analysis. However, with the existing summary matrix (p. 2-10 in the Draft EIR) and the alternatives discussions in the EIR (commencing on page 6-1 in the Draft EIR), the general economic conditions of the alternatives relative to the proposed project have been adequately discussed.

165-7. The commenter would like the EIR to include an alternative which is based on existing infrastructure limitations. The No Project alternative addresses this issue. With the current conveyance of land from the U.S. Army to other agencies base reuse is proceeding, which will promulgate infrastructure improvements regardless of the reuse plan, but not to the extent the Reuse Plan would promulgate infrastructure improvements. As it pertains to limiting future development to a safe yield water supply, it is the intent of FORA not to exceed the safe yield water supply within the Salinas Valley Groundwater Basin, which Fort Ord wells extract water from. However, the commenter must be informed that through a regional approach to addressing seawater intrusion in Monterey County administered by the MCWRA, safe yield water use is expected to increase in the future as water storage and distribution facilities and the Castroville Seawater Intrusion Project (reclaimed water from the MCWPCA) are brought on-line. The commenter is referred to the Safe Yield Water Supply discussion in response to comment 8-5. Also, refer to response to comment 21-1 which includes a discussion of the Development and Resource Management Plan.

165-8. The commenter states the EIR mitigations are vague and unquantifiable. The commenter also lists five elements (avoid, minimize, rectify, reduce, and compensate) to consider when selecting a mitigation measure, which the commenter states must be included in the EIR. The mitigations in the EIR were developed based on these five elements.

165-9. The commenter states that mitigations in the EIR are inadequate because they rely on future studies or consultation with regulatory agencies. In *Sacramento Old City Association v. City Council of Sacramento* (3d Dist. 1991) 229 Cal. App. 3d 1011, the deferral of mitigations was considered acceptable when premised on accepted performance standards that the lead agency can and will guarantee to implement. Future development will be required to provide mitigation monitoring

programs that implement the programs contained in the Reuse Plan (note that Public Resources Code Section 21081.6(b) requires that mitigations shall be incorporated into the Reuse Plan as programs, therefore a mitigation monitoring program would be moot). Also, the Reuse Plan policies and programs are required to be implemented by local agencies and projects are required to be consistent with these policies and programs (CEQA Guidelines 15063(d)).

Furthermore, Section 21081.6 of the Public Resources Code (AB 3180) applies to actions such as the adoption of a general plan where there are no conditions of approval and mitigation is provided through policies and programs that are, or will be incorporated into the general plan or zoning.

In the case of a general plan, the intent of the AB 3180 monitoring program can be augmented with the annual general plan status report required of each planning agency under Government Code Section 65400. Also, each Fort Ord jurisdiction is required to develop a mitigation monitoring program for future projects which implement the Reuse Plan programs. Refer to the Changes to the Reuse Plan section below for amended text.

Changes to the Reuse Plan

Volume I. Page 3-164. Add the following section.

3.11.8. Monitoring of Reuse Plan Programs

General Plan Annual Status Report (by local land use jurisdiction)

In order to measure the adequacy and effectiveness of programs contained in the Reuse Plan that are pertinent to the particular jurisdiction, each local jurisdiction shall provide FORA the annual general plan status report, prepared by land use jurisdictions pursuant to Government Code Section 65400.

Amendments to the FORA Reuse Plan

If the local jurisdictions determines that is necessary to provide new programs and/or amend existing programs to improve the performance of the Reuse Plan programs as mitigations to impacts identified in the Reuse Plan EIR, the local jurisdictions will provide recommendations to FORA, via the Annual Status Report, for their consideration and approval.

165-10. The commenter would like to know how additional water will be ensured. Refer to response to comment 8-5.

165-11. The commenter would like to know specific details on timing, financial implications, environmental impacts, and water fees for future hook-ups and monthly service. As it pertains to environmental impacts, refer to response to comment 8-5. As it pertains to the remainder of the comment the reader is referred

to the Business and Operations Plan (Appendix B of the Reuse Plan) for an extensive discussion of public services.

165-12. The commenter would like to know how the water infrastructure will be administrated. The Business and Operations Plan (Appendix B of the Reuse Plan) provides this information.

165-13. The commenter would like to know how Hydrology and Water Quality Program B-1.1 will be implemented. The commenter would like to know what interagency agreement will be adopted to mandate that potential reservoir and water impoundment sites on Fort Ord be identified. There is currently no such agreement, nor is there at this time a specific development plan. To provide a detailed discussion on the subject of reservoir and/or water impoundment sites for which there are no current plans would be speculative at this time. The commenter is referred to response to comment 8-5 for additional discussion on future water sources.

The funding for future studies would be provided by whoever would be the beneficiary of the water. The jurisdiction where the proposed water facility would be located would identify the water facility on its maps after environmental documents are certified by the lead agency and the project is approved. Rezoning of a jurisdictions zoning maps would then follow. Also, refer to response to comment 21-1

165-14. The commenter would like to know how Hydrology and Water Quality Program B-1.2 will be implemented. There may or may not have to be any interagency agreements. Future agreements would be multi-jurisdictional and would most likely exist between the Fort Ord jurisdictions, including FORA, and the MCWRA. Funding for the studies would be provided by Fort Ord jurisdictions or whomever they have contractual agreements with. The contents of this agreement cannot be determined at this time and to discuss the potential contents would be speculative. If water supplies are not available or feasible then no water would be available for additional development. Also, refer to response to comment 21-1.

165-15. The commenter would like to know how Hydrology and Water Quality Program B-1.3 will be implemented. The water conservation goal is approximately 15 percent average overall between all types of land uses at Fort Ord, or, more specifically, 33 percent on residential water use. No multi-jurisdictional agreements have been developed at this time. Enforcement of conservation efforts will be conducted by the jurisdictions, with FORA reviewing the results. Funding for this effort will be negligible except for an annual report to FORA from each jurisdiction. After FORA's tenure, the water purveyor would be expected to account for water conservation efforts. The ordinance will be developed and adopted after the Reuse Plan is approved. Its cost is not known but would be expected to be a function of staff costs and the efficiency of creating such an ordinance. Water conservation will never "be done". Through water conservation it is projected that the 6,600 afy water use for the interim period before full buildout (buildout is estimated to be 13,500 afy) will be reduced to 5,610 afy. Of this amount,

approximately 80 percent would be effluent flow to the MCWPCA wastewater treatment plant. This flow would then be treated and returned to the MCWD for use within the MCWD for landscaping and/or commercial/industrial use.

165-16. The commenter would like to know how Hydrology and Water Quality Policy B-2 will be implemented. Refer to response to comment 8-5 for additional water source discussion and 21-1 for information on responsibility, verification and safe yield monitoring.

165-17. The commenter would like to know how Hydrology and Water Quality Policy C-3 will be implemented. Refer to the Changes to the EIR and Changes to the Reuse Plan sections below for amend text. The cost of mitigating seawater intrusion is a regional issue. Through the MCWRA, the seawater intrusion problem is being addressed. The issue of recharge, seawater intrusion and drafting is being addressed by the MCWRA in their current basin management plan. This plan includes a recharge program. Refer to response to comment 8-5 for a discussion of future potential water sources and their environmental impacts. Refer to response to comment 21-1 for a discussion of the constraints on future development vis-a-vis safe-yield water supply.

As it pertains to specific numeric goals of maximum withdrawal rates to be determined based on well levels, recharge rates, extraction quantities, rainfall, etc., this is a matter for the MCWRA to determine. However, safe yield from Fort Ord wells is addressed in Hydrology and Water Quality Policy C-3 and its associated programs (C-3.1 and C-3.2).

Changes to the EIR

Page 4-43. Amend Policy C-3 to read as follows:

The City/County shall prevent further seawater intrusion associated with development of Fort Ord ~~to the extent feasible~~.

Changes to the Reuse Plan

Page 4-163. Amend Policy C-3 to read as follows:

The City/County shall prevent further seawater intrusion associated with development of Fort Ord ~~to the extent feasible~~.

165-18. The commenter would like to know how Hydrology and Water Quality Program C-3.1 will be implemented. Refer to response to comment 8-5 for additional water source discussion and 21-1 for information on responsibility, verification and safe yield monitoring.

165-19. The commenter would like to know how Hydrology and Water Quality Program C-3.2 will be implemented. Because seawater intrusion is a regional problem, it requires a regional solution, which is the intent of program C-3.2. The MCWRA is currently developing its basin management plan which will address long range goals to stop seawater intrusion. This goal includes the use of reclaimed water by various area jurisdictions to offset potable water use.

165-20. The commenter states that performance standards are required as part of the EIR. Refer to 2.5-1 for the project mitigation monitoring program.

165-21. The commenter requests that agreements between jurisdictions be developed prior to certification of the EIR and approval of a Reuse Plan. The approach requested to be implemented is not reasonable because it is uncertain what the final outcome of the EIR and Reuse Plan will be.

165-22. The commenter states that the mitigations in the EIR are inadequate and states that the EIR misleads the reader into thinking that the programs and policies will be enacted. CEQA requires that a proposed project's potential environmental impacts be evaluated and if determined to be significant they must then be mitigated, except for those impacts that cannot be mitigated, in which case a statement of overriding consideration would be required. This is what the EIR provides. The variety of policies and programs the EIR were derived from the Reuse Plan because these policies and program are de facto mitigation measures for the variety of potential impacts. If policies and programs fall short of mitigating an impact, a "mitigation" is prescribed. This is also what the EIR provides. Policies, programs and mitigations will then become enforceable through resolution of FORA based on findings and evidence. FORA and the jurisdictions with control of Fort Ord will be liable for implementation of the programs, policies and mitigations. The EIR states (page 1-5) the following:

[...] "The Draft EIR has been prepared concurrently with the *Draft Fort Ord Reuse Plan* (released May, 1996), so as to maximize opportunities to build necessary environmental mitigations into the project planning process. New policies and programs have been developed for each resource element in order to alleviate potential impacts and make the proposed project as self-mitigating as possible. The policies and programs organized as amendments to local general plans serve as a separation of mitigation responsibilities by jurisdiction. FORA must adopt the Reuse Plan, including all policies and programs incorporated in it, in order to approve implementation of the proposed project. This assumes implementation of the policies and programs as a precondition of reuse and represents a commitment embodied in the certification of the EIR by FORA".

165-23. The commenter states that there would be a CEQA violation if long term water supply were not evaluated. Refer to response to comment 8-5 for a discussion of future water supplies and their potential impacts.

165-24. The commenter requests detailed analysis of future stormwater detention requirements and how it will augment future water supplies. As it pertains to how stormwater detention will augment groundwater supplies, future cisterns associated with some larger developments could offset the need for water (potable or reclaimed) or percolation ponds could be constructed at various locations (assuming ground conditions are conducive to percolation and construction costs are not prohibitive) which could recharge the groundwater.

At the program level of this EIR, the detailed information requested by the commenter is not necessary. Construction of future detention facilities is meant to augment existing efforts to recharge groundwater supplies. This approach would result in minor groundwater augmentation relative to the larger projects currently underway, such as the Castroville Seawater Intrusion Project. Recharge potential was not considered in the water use balance for future Fort Ord development because of the lack of information as to its potential success. Nevertheless, it is included in the Reuse Plan to encourage efforts to obtain alternative sources of water. By itself recharge can only marginally and incrementally reduce seawater intrusion and is considered merely a part of a larger program to keep seawater where it is.

Future development would be encourage to implement the stormwater detention plan by incorporating detention facilities (e.g., cisterns and percolation ponds). The size and location would be based on geologic conditions on a particular development site. It may be that only a few developments could accommodate such a facility.

Furthermore, as it pertains to stormwater runoff quality, the EIR acknowledges there could be impacts to Monterey Bay and/or local streams associated with storm water runoff quality. The EIR includes policies and programs to address this potential impact (refer to section 4.5 of the EIR). There are existing performance standards associated with the regulatory programs which are the basis for the prescribed programs in the EIR. The regulatory programs include the Federal Coastal Zone Management Act of 1972, the General Storm Discharge Permitting System and the Marine Protection, Research and Sanctuaries Act of 1972. The regulatory environment will assure that future storm water runoff will eliminate and/or minimize impacts.

165-25. The commenter states that there is inadequate long-term water supply. Refer to response to comment 8-5.

165-26. The commenter states that more information is required to justify the conclusion that local water supplies are reduced to a less than significant impact. The EIR concludes that because a number of reasonable, new water supply sources have been identified to support the proposed project, including the siting of an on-

site desalination plant, and assuming adoption of the policies, programs, and mitigations identified, the increased demand for water is considered to be a less than significant impact. This conclusion is premised on FORA having the option to use desalination water to off-set potential loss of Salinas Valley Groundwater Basin water if use of such groundwater would exceed safe yield. In addition, FORA has the option to augment its water supply above and beyond the 6,600 afy from the MCWRA through assisting MCWRA in planning and funding new water sources, and/or obtaining water from an on-site facility or out of county facility as discussed in response to comment 8-5. The reader is directed to discussion of water sources in response to comment 8-5.

165-27. The commenter requests that the project water requirements be put into perspective with the other regional growth forecasts and projections of where the water supply for the county will be obtained. The first 6,600 afy of water for Fort Ord reuse will be provided based on an agreement with the MCWRA. This is discussed in response to comment 8-5. This water will be augmented with future water projects currently being considered, such as the Merritt Lake water storage facility. Desalination water and/or out of county water, as discussed in response to comment 8-5 is also a potential long-term source of water. If it is the case that the seawater intrusion problem cannot be controlled through use of groundwater or surface water sources, FORA has the option to obtain a future water source through desalination.

As it pertains to other regional growth forecasts, urban growth in the region represents approximately 10 to 15 percent of water extraction in the Salinas Valley Groundwater Basin, which indicates agriculture uses far more water than urban uses. Therefore, the supply of water is not so much a problem as is the current water rights which allow agriculture to continue to use water in a relatively wasteful manner (e.g., spray irrigation in the Salinas Valley when wind speeds are 25 mph) and in a manner which results in seawater intrusion. With minor adjustments in the manner water is used in the agricultural business, additional, though incremental, potable water supplies could be obtained for urban use. Seawater intrusion could also be diminished. Furthermore, the MCWRA's basin management plan currently being developed will address new methods to stop seawater intrusion.

165-28. The commenter states that the policies and programs cannot be used as mitigations because of the recent court decision - *Stanislaus Natural Heritage Project, Sierra Club, et al., v. County of Stanislaus and Diablo Grande Limited Partnership*. This case pertains to a general plan for a project in the San Joaquin Valley that did not discuss the environmental impacts associated with potential future water sources. The Fort Ord Reuse Plan Final Program EIR does contain a discussion of the potential impacts associated with potential future water sources. Refer to response to comment 8-5.

165-29. The commenter states that the mitigations for water use are mitigation measures until they are formally designated. Mitigations are required to be implemented as part of project approval and are incorporated into the project

through resolution by FORA. Deferring mitigation to the future is acceptable as discussed above in response to comment 165-9.

165-30. The commenter requests that an alternative be discussed that is based on minimizing environmental impacts. The "No Project" alternative meets this requirement. The reuse scenario under the No Project Alternative would result in the least development, and is, therefore, the environmentally superior alternative at a local level. This is based on the acreage of open space and habitat conservation in relation to development, projected population, and the level of construction for development and infrastructure.

Under the No Project Alternative, only 13% of total former Fort Ord property (or 3,800 acres) would be developed; this would include already-existing development and land remaining under the Army. Approximately 56% of the former Fort Ord would be left undeveloped for habitat management (15,648 acres), 5% of the land would have little or no development for parks and recreation (1,320 acres), and an additional 26% (7,200 acres) would be left undeveloped under Army caretaker status. As it pertains to transportation funding, refer to response to comment 21-1.

For additional information, refer to response to comments 43-1 and 55-4.

165-31. The commenter reiterates that the "No Project" alternative does not fulfill project objectives for economic enhancement and states the EIR does not provide a reasonable range of project alternatives. The "No Project" alternative should not be construed to lack economic benefits, because under the status quo (no reuse plan) there is going to be economic activity associated with the CSUMB, UCMBEST, Fritzsche Field, and other property metered out by the Army. However, the "No Project" alternative would not provide the economic benefits associated with a reuse plan. As it pertains to reasonable alternatives, refer to response to comment 27-3.

Changes to the EIR

Page 6-2. Remove the first sentence in the third full paragraph.

165-32. The commenter requests that a project alternative be included in the EIR which is based on existing groundwater resources. Refer to the discussion under the heading *Safe Yield Water Supply* in response to comment 8-5.

165-33. The commenter states that the EIR does not depict existing traffic conditions. The commenter is correct in that traffic conditions at the time the EIR was developed were not considered. The EIR discussed the issue of what the baseline conditions would be for discussion of the EIR. Refer to the section 1.2 of the Draft EIR. Also, the reader is referred to the discussion in the traffic and circulation section of the EIR (4.7.3, pages 4-72 and 73), where information on the traffic baseline information is explained.

165-34. The commenter states that the EIR does not identify who is responsible for implementation of mitigations. The EIR does state who is responsible for project mitigations in the summary matrix contained in Table 2.5-1 of the Draft EIR commencing on page 2-16. A footnote in this table to mitigation responsibility (#2) states that the "mitigation responsibilities apply only to those impacts which are considered significant or potentially significant before mitigation. As for the degree to which proposed measures would reduce impacts below a level of significance, without a more specific comment, a specific response cannot be provided. Regardless, CEQA requires that mitigations must be included that minimize impacts. Mitigations included in the EIR are known to reduce impacts.

165-35. The commenter states that the traffic model and the mitigations are not consistent with the Metropolitan Transportation Plan and the State Implementation Plan. EIR Refer to response to comment 56-5.

165-36. The commenter states that the mitigation that would allow FORA to fund off-site roadways at their discretion is inadequate because options, priorities, financial needs, potential funding, etc. are not described. At the program level, the level of detail requested by the commenter is not necessary. It should be noted that the mitigation is above and beyond what is required by CEQA.

165-37. The commenter states that the discussion of emission credits is incorrect. Refer to response to comment 56-6.

165-38. The commenter states that quantification of emissions should be conducted for each roadway and the results included in the EIR. The detailed analysis requested by the commenter is not necessary for a program level EIR, as discussed in section 4.8.2 in the EIR (page 4-96). Impact analysis and implementation of mitigations by future projects at Fort Ord are assured through implementation of the existing standards of the AQMP, which are included in the discussion contained in the EIR. However, the EIR does provide a carbon monoxide model to determine the potential impacts to sensitive receptors as projected in the year 2015 (the last year for which transportation information is available). The conclusion was that no exceedance of the air standards would occur. Refer to the discussion on climate and air quality in section 5.1.8 of the Draft EIR.

165-39. The commenter states that specific mitigation measures and their effectiveness should be identified and a matrix showing how these measures would reduce emissions. This is not necessary as stated in response to comment 165-38.

165-40. The commenter would like to know who is responsible for mitigation implementation. This is discussed in the Summary section of the EIR as well as in the Development and Resource Management Plan (DRMP) discussion in response to comment 21-1.

165-41. The commenter requests that cumulative impacts need to be quantified and used in making a consistency determination for compliance with the existing AQMP. The level of detail included in the cumulative discussion of the EIR reflects

the requirements of CEQA pertaining to cumulative impact discussions. CEQA section 15130 states that the discussion of cumulative impacts need not provide as great a detail as is provided of the effects attributable to the project alone. Therefore, because the project alone is a reuse plan (read: general plan), the level of detail contained in the cumulative analysis of the EIR is adequate. Also, the cumulative projects are assumed to be consistent with the AMBAG population forecasts. Therefore, their combined emissions would be consistent with the Air Quality Management Plan.

165-42. The commenter states that the mitigations are not made specific to the cities of Marina and Seaside. On the contrary, the language included is clear as it pertains to each jurisdiction's responsibility.

165-43. The commenter states that the UCMBEST Center impacts discussed in the EIR are inadequate. For a program level EIR, the impacts are adequately discussed. Providing a greater level of detail in a impact analysis (e.g., acreage of impervious surfacing associated with UCMBEST and the quantity of storm water runoff it would generate) would not change the nature of the mitigation. To provide more specific information at this time would be futile, because the analysis could only be "worst case". A change in the proposed project's description would negate the value of an analysis. Such is the case with UCMBEST. The master plan for this facility now projects approximately 4.4 million square feet of institutional/R&D instead of 5 to 7 million square feet. Nevertheless, the mitigations remain the same as it pertains to 4.4 million or 7 million square feet of institutional/R&D. In conclusion, the level of analysis requested by the commenter in the Reuse Plan would be futile and would not advance the requirements of CEQA.

165-44. The commenter states that the water discussion relative to the UCMBEST Center is inadequate. The water for this UC facility will be derived from the 6,600 afy allocation. Also, refer to response to comment 8-5.

165-45. The commenter states that the proposed buildout population exceeds the SB 899 mandate and if FORA uses a statement of overriding consideration to justify the significant negative impacts of the project this shall be challenged. Refer to response to comments 43-1 and 55-4.

165-46. The commenter states that if there is no evidence included in the EIR pertaining to economic recovery, then reference to economic recovery should be stricken from the EIR. The EIR is not responsible for determining the definition of economic recovery, because it is only mandated to determine the environmental impacts of the reuse plan.

165-47. The commenter states that a revised EIR should be provided which retains the intent of SB 899. Refer to response to comments 43-1 and 55-4.

165-48. The commenter states that economic data is needed to determine if economic recovery is justified. Refer to response to commenter letter 138-1, 142-1, 142-2 and 142-3 for a discussion on economic issues.

165-49. The commenter states that the EIR must include a discussion of a reasonable range of alternatives and states that both of the environmentally superior alternatives were rejected. As it pertains to alternatives in general, refer to response to comment 27-3. As it pertains to the environmentally superior alternatives being rejected, it is unclear what the commenter is saying. The environmentally superior alternatives were not rejected. They are presented to the decision makers as lower impact alternatives as required by CEQA.

165-50. The commenter states that the project is growth inducing and if used as a project alternative is a revised EIR, should be identified as such. The project is growth inducing as discussed in section 5.2 of the Draft EIR. As for an alternative, it is unclear what the commenter is implying.

165-51. The commenter requests additional data on seawater intrusion. This issue is addressed in the Hydrology and Water Quality section of the EIR, the response to comment 8-5, and in the Development and Resource Management Plan discussion pertaining to safe yield water supply in response to comment 21-1.

165-52. The commenter requests additional information on safe yield water. Refer to response to comment 8-5 as it pertains to additional sources of water and 21-1 as it pertains to monitoring of safe yield water.

165-53. The commenter states that the EIR does not include a discussion of current water use data. The baseline conditions for the EIR analysis is 1991. Therefore, the EIR includes information for that year. Water use in 1991 was 4,700 af.

165-54. The commenter would like clarification on current water metering, water use and water line loss vis-a-vis the 6,600 afy. The current water use is at least 1,288 afy based on current wastewater flows to the treatment plant of .9 mgd (refer to response to comment 152-2).

165-55. This comment repeats the previous comment (#26). Refer to response to comment 165-26.

165-56. This comment repeats the previous comment (#24). Refer to response to comment 165-24.

165-57. This comment repeats the previous comment (#24). Refer to response to comment 165-24.

165-58. The commenter requests additional information on desalination. Refer to the Desalination discussion in response to comment 8-5.

165-59. The commenter would like more information on importing water to Fort Ord. Refer to Imported Water from Outside Monterey County and Imported Water From the Salinas Valley for a discussion of imported water and potential impacts in response to comment 8-5.

165-60. The commenter would like to know what are the groundwater policies that Alternatives 7 and 8 are inconsistent with. Refer to response to comment 97-1.

165-61. The commenter states that the EIR is inadequate and needs to be reissued as a revised Draft EIR. Upon completion of the Final PEIR it will not be considered an inadequate document. However, the comment is for the decision makers to consider.

Response to Letter 166

166-1. The commenter states that 72,000 people at buildout is too many people. The commenter has stated an opinion which the FORA Board shall consider before making a decision.

166-2. The commenter states that she has no desire to have the Monterey Peninsula as an extension of "Silicon Valley". The commenter is referring to text in the Reuse Plan concerning capturing economic activity from the "Silicon Valley" area. The commenter has stated an opinion which the FORA Board shall consider before making a decision.

166-3. The commenter believes the proposed residential densities are too high and would like to have them reduced to 4 units per acre. The commenter has stated an opinion which the FORA Board shall consider before making a decision.

Response to Letter 167

167-1. The commenter would like to know if a water constrained analysis is included in the discussed as part of the proposed project or alternatives. The Comprehensive Business Plan, Public Facilities Implementation Plan and the Public Services Plan are premised on a 6,600 afy water supply serving Fort Ord up to the year 2015. Therefore, the proposed project does identify a constrained water supply. Also, the Development and Resource Management Plan discussed in response to comment 21-1 correlates future development to the environmental constraints such as water and transportation infrastructure.

167-2. The commenter points out that the EIR identifies unmitigated significant impacts. This is correct.

167-3. The commenter states that the EIR must identify the "constrained scenario", vis-a-vis traffic and circulation, as the project's unavoidable traffic impacts. The EIR does identify the constrained scenario as an unavoidable impact on page 4-86 following the mitigation.

167-4. The commenter states that the project should be downsized to reduce adverse impacts associated with long-term buildout. FORA intends to control

buildout vis-a-vis the infrastructure constraints through the Development and Resource Management Plan discussed in response to comment 21-1. However, statements of overriding consideration as it pertains to unmitigated impacts would still be required to be implemented.

167-5. The commenter requests that a word substantially be removed from the EIR. This is a point pertaining to semantics and does not address a substantial issue. The EIR will not be changed.

167-6. The commenter states that the AMBAG 1994 population forecast for the year 2015 used in Table 5.2-1 is incorrect. Based on the most current AMBAG Regional Population and Employment Forecast (1994), the projected Fort Ord population is 66,612 in the year 2015, which includes 20,000 CSUMB students.

167-7. The commenter requests that reference to the jobs/housing balance be removed from the EIR because there is no mechanism to ensure that persons employed in the area also live there. The point of the discussion in the EIR on this subject of jobs/housing is that when there are no housing opportunities and only jobs in a geographic area (or few housing opportunities and mostly jobs), there will be heavy traffic flows in one direction in the morning and then the opposite direction in the evenings. This results in poor use of infrastructure.

Providing a more balanced jobs/housing ratio was one of the tenets of the Reuse Plan. Without the more balanced jobs/housing ratio larger capacity regional roadways would have been required to be constructed to serve Fort Ord. This would unnecessarily increase the cost of development at Fort Ord and create a situation where, due to higher infrastructure costs, marketing Fort Ord would be more difficult. Table E-3 of the Fort Ord Regional Transportation Study depicts the current Reuse Plan's daily trip distribution. This table indicates a relative balance between trips originating from Fort Ord and going out, and trips originating off-Fort Ord and traveling in to Fort Ord. Based on the 2015 modeling by TAMC, 41% of the daily person trips originating at within Fort Ord would stay within the boundaries. Additionally, 46% of the daily person trips destined for Fort Ord would originate within the boundaries. This results in a balance of daily trip origins of 160,161 and trip destinations of 143,055 which can be expected because of the balance of uses incorporated into the Draft Reuse Plan.

167-8. The commenter recommends that water conservation associated with landscaping be quantified and included in the EIR. Hydrology and Water Quality Policy B-1, Program B-1.3, contained in the Conservation Element Policy states "the city/county shall adopt and enforce a water conservation ordinance which is as stringent or more stringent than Monterey County's ordinance, to reduce water demand and effluent generation". This program is one of the reasons the 6,600 afy water demand will be reduced to 5,610 afy. Refer to response to comment 8-5 for additional information on water use and conservation.

167-9. The commenter would like the EIR to include annual water usage of both existing and proposed golf courses. Within the 2015 time frame two additional

golf courses were determined to be possible. These would use 315 afy each of reclaimed water from the MCWD's reclaimed water distribution line (not yet constructed). In the interim period, if the two new golf courses are constructed before the MCWD's reclaimed water distribution line, the golf courses could use the a part of the 6,600 afy.

167-10. The commenter states that the transportation study is based on the TAMC model which is not based on the AMBAG model. At the time the EIR was prepared for the Reuse Plan the only certified transportation model to be used in Monterey County was TAMC's MCTAM model. The commenter now requests a comparison between the certified MCTAM model and an as yet uncertified AMBAG model. This comparison will not be provided. As it pertains to the comment about socioeconomic inputs used in the MCTAM model, the commenter should refer to the TAMC for the specific socioeconomic inputs.

167-11. The commenter requests clarification of the discussion on existing methodology used in the EIR to describe baseline conditions. The conditions applicable to the transportation baseline analysis are discussed on page 4-68 of the Draft EIR in the section titled Forecasting Methodology and on page 4-72 in the section titled Operating Conditions. Based on these discussions it is evident that the baseline conditions are based on modeling and extrapolations.

167-12. The commenter requests clarification of the discussion on existing traffic conditions reported in the EIR and states that without traffic count data for specific locations, existing conditions cannot be said to have been adequately documented as required by CEQA. The approach taken in the EIR to describe existing conditions is explained on page 4-68 of the Draft EIR in the section titled Forecasting Methodology. The commenter is aware that the baseline year for the EIR analysis is 1991. However, as explained in the EIR (4-72 and 4-73), 1993/94 information was used because it was more detailed and comprehensive. Where traffic data could not be obtained, the MCTAM model was used to interpolate conditions. Therefore, the EIR used the best available information.

167-13. Tables 4.7-2 and 4.7-3 were inadvertently mislabeled. Table 4.7-2 should read 4.7-3 and Table 4.7-3 should read 4.7-2.

167-14. The commenter requests that a misspelling be changed and that the AMBAG population and employment forecast of 1994 is missing from the bibliography.

Changes to the EIR

Page 4-77. Under "POM Use Only" Scenario. Change "protected" to "projected"

Page 7-3. Section 7.3 Add the following to the Bibliography: 1994 AMBAG Population and Employment Forecast.

167-15. The commenter would like to know why the LOS for Highway 101 was omitted. The roadways included in the transportation model were directed by TAMC and may have included this highway. However, Highway 101 was excluded from discussion in the EIR because it was not determined to be impacted by Fort Ord reuse to a significant level.

167-16. The commenter points out that the LOS results are reported in Appendix B, not C. The commenter is correct.

Changes to the EIR

Page 4-78. Amend the last sentence in the second full paragraph to read as follows:

“LOS results for the individual scenarios are presented in Appendix B C”.

167-17. The commenter would like to know if the Draft EIR modal split assumptions used for the traffic forecasts are documented, and if so where. The historical modal split is integral to the transportation study in the EIR, however it was not discussed in the Reuse Plan. Also, the transit, bicycle and pedestrian networks are not specifically modeled within the MCTAM model, however, assumptions regarding their use, based on historical choices, are built into the model. The model assumes that 98 percent of all trips are in an automobile.

167-18. The commenter states that the procedures by which the socioeconomic forecasts were coded to the Draft EIR forecast model travel zones should be documented so that AMBAG can determine whether the traffic forecasts used for this DEIR are consistent with AMBAG traffic forecasts for the same roadways, under various alternatives and years. TAMC staff consulted on the use and development of socioeconomic forecasts outside of the study area. This data was based on the 1994 AMBAG Population and Employment Forecast. Furthermore, the procedure used to develop the zonal forecast was reviewed by the FORA ITAC.

167-19. The commenter repeats comment 167-15.

167-20. The commenter would like to know how the Annual Average Daily Traffic on Highway 156 east of Castroville decreases without capacity improvements to this roadway. As the Draft EIR is written (see Table 4.7-2) this roadway would be widened from 2 lanes to 4 lanes.

167-21. The commenter states that Table 4.7-4 should include the “POM Use Only Scenario” so the reader can assess the validity of the report’s assumed redistribution of traffic which may result from capacity improvements planned for on-site and off-site roadways in the “Financially Constrained” or “Optimistic” scenarios. The POM scenario was used to identify the location and magnitude of regional deficiencies that would occur even without the civilian reuse of former Fort Ord. This scenario does not apply to the proposed project, but is relevant to the No Project Alternative discussed in Section 6.4.

167-22. The commenter states that the standard of significance for traffic and circulation impacts is unclear and requests that the Congestion Management Plan (CMP) standard of significance be used.

The EIR uses a single LOS standard of "D" for all roadways, not the multiple LOS standards of the County's Congestion Management Program (CMP). This approach is based on "leveling out" the multiple standards that exist in each of the Fort Ord jurisdictions. Refer to the following Table 4.7-3 (A).

167-23. The commenter requests a language change to the standard of significance. The standard is appropriate as written and does not require change.

167-24. The commenter states there is a typographical error in paragraph 4 on page 4-82. The typographical error was not found.

167-25. The commenter requests a language change. The language as currently written is correct because the future beyond 2015 can only be speculated.

167-26. The commenter requests clarification of the intent of the "Optimistic Financing Scenario" vis-a-vis CEQA. The "Optimistic Financing Scenario" is relevant to CEQA because the proposed project impacts various roadways which it cannot mitigate to a less than significant level because the impacted roadways are regional roadways. However, Fort Ord will pay its fair share to reduce impacts pertinent to its traffic volumes. Therefore, the discussion as presented in the EIR is correct and changes will not be made.

TABLE 4.7-3(A)
Regional Off-Site Roadway Facilities LOS and Impact Summary¹

Roadway	Segment	Existing LOS ²	CMP LOS Standard ³	Significant Impacts		Nexus ^{7 8}
				Cumulative Development without Project ^{4,5}	Project Only ⁶	
State Highway 1	State Highway 68 to Del Monte Blvd. (Seaside)	D	E	NO	NO	NO
	Del Monte Blvd. (Seaside) to State Highway 218	D	E	YES	NO	YES
	State Highway 218 to Fremont Blvd.	D	E	YES	YES	YES
	Fremont Blvd. to Main Gate	D	D	YES	NO	NO
	Main Gate to 12th Street	C	D	NO	NO	NO
	12th Street to S. Marina (Del Monte Blvd.)	C	D	NO	NO	NO
	S. Marina (Del Monte Blvd.) to Reservation Road	C	D	NO	NO	NO
	Reservation Road to N. Marina (Del Monte Blvd.)	C	D	NO	NO	NO
	N. Marina (Del Monte Blvd.) to State Highway 156	C	D	NO	NO	NO
	State Highway 156 to Santa Cruz County line	E	E	YES	YES	NO

State Highway 68	State Highway 1 to State Highway 218	F	E	YES	YES	NO
	State Highway 218 to San Benancio Road (Highway)	F	E	YES	YES	NO
	State Highway 218 to San Benancio Road (Freeway Bypass)	N/A	C	N/A	N/A	YES
	San Benancio Road to Reservation Road	B	E	NO	NO	NO
	Reservation Road to E. Blanco Road	B	C	NO	NO	NO
State Highway 156 ⁹	Hwy 1 to 0.1 miles East of Castroville Blvd.	B	C	NO	NO	NO
	0.1 miles East of Castroville Blvd. to US 101	E	E	YES	YES	NO
State Highway 183	US 101 to Davis Road	E	D	YES	NO	NO
	Davis Road to Espinosa Road	C	D	YES	NO	NO
	Espinosa Road to State Highway 156	D	E	YES	NO	NO
State Highway 218	State Highway 1 to Fremont Boulevard	D	D	NO	NO	NO
	Fremont Boulevard to North-South Road	B	D	NO	NO	NO
	North-South Road to Hwy 68	B	D	NO	YES	YES
Del Monte Boulevard	El Estero to Highway 1	F	D	YES	YES	NO
	State Highway 1 to Broadway Avenue	D	D	NO	NO	YES
	Broadway Avenue to Fremont Blvd	C	D	NO	NO	NO
	State Highway 1 (S. Marina) to Reservation Road	D	D	YES	NO	YES
	Reservation Road to State Highway 1 (N. Marina)	A	N/A	NO	NO	NO

Fremont Blvd	State Highway 1/State Highway 68 to Broadway Avenue	D	D	YES	NO	NO
	Broadway Avenue to State Highway 1	C	D	NO	NO	NO
Broadway Avenue	Del Monte Blvd to Noche Buena Street	C	N/A	NO	NO	NO
	Noche Buena Street to North-South Road	C	N/A	NO	NO	NO
Reservation Road	Hwy 1 to Del Monte Boulevard	B	D	NO	NO	NO
	Del Monte Boulevard to Crescent Ave	E	D	YES	NO	NO
	Crescent Ave to Imjin Road ¹⁰	B	D	NO	NO	NO
	Imjin Road to Blanco Road ¹⁰	N/A	D	NO	NO	YES
	Blanco Road to Inter-garrison Road ¹¹	A	D	NO	NO	NO
	Inter-garrison Road to Davis Road ¹²	A	D	NO	YES	NO
	Davis Road to State Highway 68	A	D	NO	NO	NO
Blanco Road	Reservation Road to Davis Road	E	E	YES	YES	YES
	Davis Road to State Highway 68	B	D	NO	NO	NO
Blanco Road/ Sanborn Rd	State Highway 68 to State US101	C	D	YES	NO	NO
Davis Road	Reservation Road to Blanco Road	A	D	NO	NO	NO (except bridge)
	Blanco Road to Rossi Street (Highway 183)	E	D	YES	NO	
	Rossi Street (Highway 183) to US 101	F	D	YES	NO	NO

- 1 This table indicates which roadway segments are expected to be significantly impacted by the proposed project based on the LOS significance criteria listed in Table 4.7-3 on page 4-79 of the Draft EIR.
 - 2 The existing level of service is based on the MCTAM model and use of arterial LOS methodology discussed on page 4-73 of the Draft EIR
 - 3 The Congestion Management Program (CMP) standards are discussed in greater detail in TAMC's March 1994 CMP.
 - 4 "POM Use Only" scenario from the EIR was used to represent cumulative off-site projects (without the project) and assumes a level of road improvements based on TAMC committed off-base projects to the year 2015.
 - 5 Difference between existing conditions and "POM Use Only" scenario reflects impact of cumulative development on the regional transportation system without project.
 - 6 Difference between "POM Use Only" and "Optimistic Financing" reflects impact of project only.
 - 7 There is an important note pertaining to a nexus. First, the amount contributed must be proportional to the share of the improvement's costs that is created by new development. The need for an improvement may be generated by the reuse of Fort Ord, by growth within the study area but outside Fort Ord, and by the desire to correct existing deficiencies. Second, development-related financing cannot be used when a large percentage of new trips start or end outside the assessment area and, therefore, would not be charged. Thus, improvements to major facilities serving a high percentage of inter-regional trips cannot be included in a development related fee program. Third, development related financing is difficult to mandate for operations and maintenance costs. These constraints greatly impact the amount that can be generated through such programs and how the funds may be used.
 - 8 Based on a nexus determination, this amount reflects FORA's fair share amount. This amount is indicated in the Business and Operations Plan (Appendix B of the Reuse Plan), PFIP Table 1-3.
 - 9 PFIP indicates a 68% contribution to fund this segment based on recommendations in the Comprehensive Business Plan. Based on a strict nexus analysis there is no nexus therefore there is no Fort Ord contribution to fair share funding.
 - 10 PFIP identifies a segment from Fort Ord boundary to Imjin Road (project T-6) for improvement from 4 to 6 lanes.
 - 11 PFIP identifies a new 4 lane arterial from Reservation Road to Inter-Garrison Road (Project T-7).
 - 12 PFIP identifies a new 4 lane arterial from Inter-Garrison Road to Barloy Canyon Road (Project T-8).
- Note: Because FORA only pays its fair share transportation costs full mitigation is not assured for regional roadways. However, the EIR allows FORA, through a prescribed mitigation on page 4-86 of the Draft EIR, to apply funding to all or selected off-site improvements.
- Note: Increased volume from existing conditions to "Optimistic Financing" scenario reflects impact of cumulative development with project.

167-27. The commenter states that Program A-1.1 does not ensure a funding is in place prior to the impact. Refer to the DRMP in response to comment 21-1 for a discussion of a mechanism that addresses the concern.

167-28. The commenter states that Streets and Roads Policy A-1.2 is an ineffective mitigation because FORA does not have the authority to make financial contributions to off-site transportation improvements. FORA has the authority to work with TAMC to select the most critical roadways that could benefit from the amended policy.

167-29. The commenter states that Streets and Roads Program C-1.4 is an ineffective mitigation because there is no language that would require implementation of the mitigation prior to the impact. The DRMP addressed in response to comment 21-1 addresses this concern.

167-30. The commenter states that pedestrian and Bicycles Policy B-1 is an ineffective mitigation because there is no language that would require implementation of the mitigation prior to the impact. The DRMP addressed in response to comment 21-1 addresses this concern.

167-31. The commenter states that the Reuse Plan should use principles of the emerging field of Conservation Biology and provide habitat corridor linkages. The field of Conservation Biology is not "an emerging field", it has been around for decades but has not been widely implemented. Besides the 15,000 acres of continuous habitat that has been set aside for open space and administered by the BLM, the various pieces of habitat management areas accommodated throughout Fort Ord in the Reuse Plan will be administered through the Habitat Management Plan (page 1-4), which addresses conservation through development of corridor linkages. Specific locations for such linkages should be addressed at the time development proposals are submitted to the Fort Ord jurisdictions.

167-32. The commenter states that Table 5.2-1 in the EIR contains incorrect AMBAG population forecast information. The EIR consultant disagrees with the commenter. The information used in the table is based on Summary Table 1 in the current 1994 AMBAG Population and Employment Forecast.

167-33. The commenter states the population statistics are incorrect in the EIR. The commenter states the population statistics are incorrect in the EIR. There is no disagreement between the basic population forecasts but the Reuse Plan defines a market capture area for the Monterey Peninsula that includes Fort Ord in order to generate a population characterization and employment growth and project capture rates that reflect Fort Ord's location in the Monterey Peninsula Economy. This designation of a "Monterey Peninsula" area is different from that referred to in the commenter's remarks.

167-34. The commenter states that the population forecast by FORA for Fort Ord did not historically reflect the availability of water, but future AMBAG forecasts will reflect the availability of water. The commenter does not address the content of the Reuse Plan or PEIR. No response is necessary.

167-35. The commenter requests clarification in the EIR.

Changes to the EIR

Page 5-13. Amend the second sentence in the second paragraph to read as follows:

"The location of the ~~CSUMB~~ and UCMBEST facilities in particular ..."

167-36. The commenter would like the EIR to state why FORA should adopt a plan for uses beyond 20 years. Another way to look at the issue the commenter raises is as follows. If the economy could absorb the entire base in ten years then the Reuse Plan would have been developed for that time frame instead of a 40-60 year time frame, thus the issue raised would be moot. However, the economy can only absorb small incremental parts at a time, therefore the Reuse Plan reflects this slower and more realistic scenario.

Regardless of this rhetorical preamble, the EIR is based on the EIS because of SB 1180, which mandates the EIR to tier off of the EIS. The EIS was prepared for the disposal and reuse of all Fort Ord, except the POM Annex and a military reserve area, which the Army is keeping. Therefore, because the EIS was developed for the entire base (except the POM and other military areas), the EIR must also be developed for the entire base. The option to leave out of the Reuse Plan a portion of existing developed military property was not an option.

167-37. The commenter requests language be removed from the EIR. The language will not be removed because it is appropriate.

167-38. The commenter states that Salinas should be included in the cumulative projects table in the EIR (Table 5.1-1). Salinas was not included because it was not in the immediate area of Fort Ord.

167-39. The commenter repeats comment 167-34.

167-40. The commenter repeats comment 167-34.

167-41. The commenter requests an amendment to the language in the text. Refer to the Changes to the EIR section below for amend text.

Changes to the EIR

Page 5-10: Amend the next to the last sentence in the last paragraph to read as follows:

U.S. Environmental Protection Agency, Region IX
Lisa B. Hanf, Manager, Federal Activities Office
August 17, 2001

- 3-1 This comment expressing support for the lead agencies in their effort to halt the seawater intrusion problem in the Salinas Valley groundwater basin and noting that the DEIR/EIS a very well written and thorough document are noted. No further response is necessary as no environmental issues are raised.
- 3-2 The commenter's rating of the Draft EIR/EIS is noted. No further response is necessary because no specific environmental issues area raised. Responses to specific comments are presented below.
- 3-3 The use of recycled water from the Monterey Regional Water Pollution Control Agency (MRWPCA) treatment plant via the Monterey County Water Recycling Projects (MCWRP) is governed by a number of factors, including the availability of recycled water, irrigation demands, and the absence of any significant amount of recycled water storage capacity. The total flow available from the plant varies, but is estimated to be approximately 21,000 AFY, based on flow for each month during the year. Irrigation requirements within the CSIP service area are at a maximum during June, July, and August, and are minimal during November, December, January, and February. Based on the irrigation requirements within the CSIP service area and monthly capacity of the MCWRP, the average annual recycled water use is estimated to be approximately 13,300 AFY; therefore, this is the amount assumed for purposes of project evaluation to be generated for delivery in the CSIP area. For the most recent irrigation season, recycled water use was approximately 11,000 AFY.

The 1993 CSIP EIR estimated that the system could initially provide up to approximately 19,000 AFY of reclaimed water, but storage facilities would be required to allow storage of recycled water during the non-irrigation months of November through February for later use during the higher irrigation months. Storage of recycled water as part of the project solution was evaluated in Alternative B. Two types of storage facilities were evaluated: surface storage (i.e., Merritt Lake) and subsurface storage (i.e., injection and extraction of recycled water). These storage options have been shown to be costly and they present significant environmental issues, such as loss of significant farmland, lower crop yield as a result of recycled water use, and groundwater quality degradation. Further, as shown with the analysis of Alternative B, recycled water use and reoperation of reservoirs is not sufficient to fully halt seawater intrusion; diversion of river water is still required.

As flow to the MRWPCA treatment plant increases in the future, it is assumed that additional recycled water will become available for use during the irrigation season.

This increased level of recycled water availability is the basis for the projected increase to 16,000 AFY in recycled water use within the CSIP service area. It is important to recognize that, while overall water demand in the project region is expected to decrease (due largely to conservation efforts and a switch to lower water demanding crops) by 2030, the demand in the northern Salinas Valley is expected to increase, in part due to urbanization allowed by the adopted general plans of the cities and communities in this area. Agricultural water use in the Basin is expected to decrease by 60,000 AFY by 2030, whereas urban demands are expected to increase by 40,000 AFY. While the Salinas area is acknowledged for its lowest per capita water use in California (except San Francisco), a 5% per capita reduction in water use is projected by the year 2030 due to even greater conservation. Yet, despite this, modeling for the project shows that seawater intrusion may not be halted in 2030 without relying on the combination of expanded use of recycled water in combination with the project's diversion facility and some expansion of a delivery system.

Regarding maximizing recharge from reoperation of the reservoirs, this is already included as part of the proposed project.

As to regulatory programs that further manage groundwater extraction, it must be acknowledged that, given the high level of conservation already practiced and planned into the future, that reducing groundwater use without adding an alternative supply results in either a substantial reduction in farm productivity or severe restrictions on use of water in urban areas. The effects of restricting water availability are addressed in Alternatives C and D of the EIR/EIS.

As can be seen, while the comment provides for rationale consideration of alternatives that do not result in diversion of water from the Salinas River, more than a decade of planning has not resulted in any suitable options that can accomplish this without severely hampering the productivity of the region.

- 3-4 As described in Section 3.2.5, management measures are already in place in the CSIP area as a part of CSIP implementation. The MCWRA will continue to manage and limit pumping by those water users who receive direct water deliveries from the proposed project. This type of restriction will help to ensure the project's effectiveness in meeting its stated objectives. The hydrologic model evaluations presented in the Draft EIR/EIS include the assumption that pumping management will continue within the project delivery area.

Table 1-2 of the Draft EIR/EIS is a summary of existing and future water conditions in the Salinas Valley, including estimates of existing and future groundwater use. The estimates presented in Table 1-2 were derived from a series of evaluations of present and future land and water use practices, and include consideration of increased levels of conservation in both agricultural and municipal and industrial use categories. Please see Master Response MR-5.


3-5 The commenter is concerned about the potential project impacts to steelhead and riparian habitat, and recommends that the lead agencies assess whether the project objectives could be met without the construction of the diversion structure and impoundment of water. The impoundment and diversion of water are necessary components of the proposed project if it is to meet the objectives of stopping seawater intrusion and providing adequate water supplies. Please see response to Comment 3-3 regarding the limitations on the amount of recycled water available for delivery to the CSIP area to meet these objectives. Please see response to Comment 3-4 about conservation measures already being implemented. Although the proposed action could result in significant impacts to steelhead and riparian habitat, it has been identified as the environmentally preferred alternative among the alternatives being considered. Refer to Section 2.2.6 on page 2-7 of the Draft EIR/EIS for a discussion of the Environmentally Preferred Alternative. See also Master Response MR-9, however, regarding modification to the estimate of riparian habitat that could be affected by implementation of the proposed action. Please see response to Comment 3-7 regarding the commenter's concerns related to impoundment-related effects on steelhead. Note that approval of the project will require substantial mitigation for these impacts and the concurrence of NMFS (through Endangered Species Act consultation) that the impacts to steelhead are minimized and fully mitigated.

3-6 Please see Master Response MR-9.

3-7 The comment states that predation risk to outmigrating steelhead smolts has been underestimated. The commenter states that the salinity in the proposed impoundment would be different from that of the lagoon and that the impoundment, because it would contain fresh water, would be conducive to increasing the population of largemouth bass that escape from the reservoirs. As stated on page 5.6-81 of the Draft EIR/EIS, however, predator populations are not likely to become established in the impoundment because it would be drained on an annual cycle. Unlike the Tuolumne and Merced River examples cited by the commenter, the Salinas River does not provide year-round habitat for largemouth bass that can provide refuge areas when the impoundment is not in operation.

Nevertheless, it is recognized that there is still a potential for predation to occur, and the Draft EIR/EIS includes provisions for monitoring for, and mitigating, impacts as described on pages 5.6-83 and 5.6-87. Endangered Species Act Section 7 consultation with the National Marine Fisheries Service (NMFS) is ongoing and may include expansion and addition of mitigation measures if needed to find that the impact is minimized and fully mitigated. The recommendation presented by the commenter to include periodic lowering of the inflatable dams when monitoring suggests that steelhead are moving downstream and/or (if) predation densities get too high will be more fully explored in Section 7 consultation. See also response to Comment 5-7.

3-8 Modeling for the proposed project is complex. In the past, various individual components have been examined and none have been found to be sufficient to halt seawater intrusion. Modeling has been conducted to examine various levels of



recharge, use of recycled water, and diversion of river water needed to halt seawater intrusion. As explained in response to Comment 3-3, recharge is maximized under the project, as is use of recycled water (given environmental impacts associated with this use). As shown in the modeling for the proposed project with all components included, the project halts seawater intrusion under current water demand/hydrologic conditions, and may not (without additional expansions as explained in the EIR/EIS) halt seawater intrusion under 2030 conditions. It can be concluded, therefore, that elimination of any one of the project components would result in an inability of the project to halt seawater intrusion.

It also must be recognized that the project has a beneficial impact to groundwater quality, and the ability to halt ongoing pollution of the groundwater basin is tied to the ability of all project components to function together.

Modeling of the isolated effects of each of the project components would be costly, and given the marginal ability of all components together to halt seawater intrusion, would not result in information that would lead to removal of any of the project components and their associated impacts. Further, a reduction in groundwater pumping of the magnitude contemplated with the project is not feasible without the project providing replacement water; otherwise, significant effects to agricultural productivity or urban land uses would occur as described under Alternatives C and D (reduction in groundwater pumping without a new source of water is effectively the same as these alternatives). Consequently, this type of modeling, in addition to being costly to conduct, would be for an infeasible project. Please see Master Response MR-1.

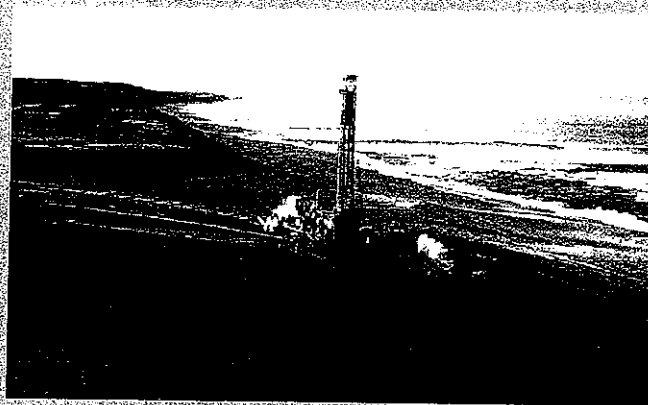
- 3-9 Because the hydrologic modeling performed to evaluate the SVWP indicates that the proposed project may not fully halt future (2030) seawater intrusion, an expanded distribution system might be necessary for future project operations. This expanded distribution system is described at a conceptual level and evaluated in the Draft EIR/EIS at a level of detail corresponding to the information and projections available at this time. See pages 5.3-41 through 5.3-62 in Section 5.3 of the Draft EIR/EIS for a discussion of hydrology, reservoir levels, groundwater elevations, and seawater intrusion under the different project alternatives under projected future demand conditions. As noted in response to Comment 2-12, given the dynamics of the hydrologic system, the uncertainties of whether future demands will equal the projected 2030 demand, and the limitations of modeling, it cannot be known whether or to what extent seawater intrusion would actually occur in 2030. It is possible that the project as proposed, with deliveries only within the CSIP system, would continue to fully halt seawater intrusion in 2030. Therefore, it is appropriate to address this expanded system at a conceptual level. However, modeling does show the expanded system would remedy modeled shortfalls in halting 2030 seawater intrusion, which translates to positive impacts to groundwater.

If the monitoring program included in the project indicates that seawater intrusion has begun to advance landward in the future, further planning of increased deliveries of surface water from the SVWP and an expansion of the delivery system beyond the



Marina Coast Water District

Deep Aquifer Investigative Study



WRIME Water Resources & Information
Management Engineering, Inc.

May 2003



WRIME

Water Resources & Information
Management Engineering, Inc.

tel. 916.564.2236 1451 River Park Drive, Suite 142, Sacramento, CA 95815
fax 916.564.1639 <http://www.wrime.com>

May 15, 2003

Marina Coast Water District
11 Reservation Road
Marina, CA 93933

Attn: Mr. Dave Meza

Subject: Deep Aquifer Investigative Study

Dear Mr. Meza:

WRIME, Inc. is pleased to submit the final report on "Deep Aquifer Investigative Study" to the Marina Coast Water District (MCWD).

WRIME, Inc. appreciates having this opportunity to work with the MCWD staff, the Technical Advisory Committee members and the DWR, to evaluate the feasibility of the Deep Aquifer as a short-term and long-term source of water supply to the MCWD.

Should you have any questions, please do not hesitate to contact us about this report.

Sincerely,

*Water Resources &
Information Management Engineering, Inc.*

Ali Taghavi, Ph.D., P.E.
Vice President

DISCLAIMER

This report was prepared for the Marina Coast Water District under a grant from the California Department of Water Resources. The in-progress findings were shared on two occasions with a Technical Advisory Committee (TAC) consisting of agency personnel (MPWMD, USGS, PVWMA, MCWRA, Santa Cruz County Public Works, DWR) and selected consultants. At the TAC meetings, input was solicited and the subsequent suggestions were incorporated, as appropriate, into the project. Scheduling of TAC meetings was difficult and consequently some TAC members had less-than-adequate time to fully review and evaluate the work performed. As such, the findings of this report are not necessarily endorsed by all members of the TAC. The findings provide new insights into the water resources of the area, insights that are in some ways contradictory with previous beliefs. The findings are considered preliminary and subject to further refinement, and are in no sense final.

Deep Aquifer Investigative Study

May 2003

Prepared For:

Marina Coast Water District

List of Preparers:

Ali Taghavi, Ph.D., P.E.

Martin Feeney, C.H.G.

Lew Rosenberg, R.G., C.E.G.

Christopher Smith, P.E.

TABLE OF CONTENTS

TABLE OF CONTENTS.....	i
LIST OF TABLES.....	ii
LIST OF FIGURES	iii
SECTION 1 INTRODUCTION.....	1-1
STUDY AREA	1-1
DEEP AQUIFER DEFINITION.....	1-1
STUDY OBJECTIVES	1-3
REPORT ORGANIZATION	1-4
SECTION 2 DATA ANALYSIS AND SYNTHESIS.....	2-1
PREVIOUS REPORTS	2-1
GROUNDWATER LEVEL DATA.....	2-3
Marina Coast Water District Wells.....	2-3
Castroville Area Wells.....	2-8
USGS Monitoring Well.....	2-13
GROUNDWATER PRODUCTION.....	2-13
GEOLOGIC AND HYDROGEOLOGIC DATA	2-14
Stratigraphy	2-14
Structure	2-16
Sources of Information	2-17
AQUIFER PARAMETER AND HYDRAULIC RELATIONSHIPS	2-25
Well Interference Tests.....	2-26
Tidal Fluctuations	2-31
IMPLICATIONS OF HYDROGEOLOGIC FINDINGS.....	2-31
Recharge Considerations	2-32
SECTION 3 SALINAS VALLEY INTEGRATED GROUND AND SURFACE WATER MODEL (SVIGSM) UPDATE	3-1
SVIGSM BACKGROUND.....	3-1

CODE UPDATES	3-11
SVIGSM DATABASE UPDATES.....	3-13
Deep Aquifer Modifications	3-13
Reliz Fault Modifications	3-28
Coastal Boundary Conditions	3-28
SVIGSM Recalibration.....	3-29
BASELINE CONDITION.....	3-50
SECTION 4 WATER SUPPLY RELIABILITY AND SAFE YIELD ANALYSIS	4-1
DEFINITION.....	4-1
SAFE YIELD ANALYSIS.....	4-1
POTENTIAL WATER SUPPLY ALTERNATIVES	4-7
SECTION 5 SUMMARY OF FINDINGS	5-1
DATA ASSESSMENT AND ANALYSIS.....	5-1
HYDROLOGIC MODELING AND ANALYSIS	5-2
WATER SUPPLY RELIABILITY	5-2
SECTION 6 REFERENCES.....	6-1

LIST OF TABLES

TABLE 2.1 AVERAGE GROUNDWATER LEVELS FOR USGS MONITORING AND MCWD PRODUCTION WELLS.....	2-13
TABLE 2.2 AQUIFER PARAMETER DATA	2-26
TABLE 2.3 THE OBSERVED AND THEORETICAL RESPONSE FROM MCWD WELLS.....	2-28
TABLE 4.1 BASELINE CONDITION AND POTENTIAL WATER SUPPLY ALTERNATIVES	4-11
TABLE 4.2 COMPARISON OF AVERAGE GROUNDWATER LEVELS (FT, MSL) PER AQUIFER FOR COASTAL MONITORING LOCATIONS	4-11
TABLE 4.3 DIFFERENCE IN AVERAGE ANNUAL COASTAL GROUNDWATER FLOW (AFY) BETWEEN SUPPLY ALTERNATIVE AND BASELINE CONDITIONS FOR EACH AQUIFER.....	4-11
TABLE 4.4 COMPARISON OF AVERAGE ANNUAL VERTICAL GROUNDWATER FLOW (AFY) BETWEEN AQUIFERS 1 AND 2 IN THE PRESSURE AND FORT ORD SUBAREAS	4-12

LIST OF FIGURES

FIGURE 1.1 VICINITY MAP SHOWING MARINA COAST WATER DISTRICT.....	1-2
FIGURE 2.1 MARINA COAST WATER DISTRICT DEEP AQUIFER WELLS WATER LEVEL DATA.....	2-4
FIGURE 2.2a MCWD ANNUAL PRODUCTION FROM WELL 10	2-5
FIGURE 2.2b MCWD GROUNDWATER LEVELS FOR WELL 10	2-5
FIGURE 2.3a MCWD ANNUAL GROUNDWATER PRODUCTION FROM WELL 11	2-6
FIGURE 2.3b MCWD GROUNDWATER LEVELS FROM WELL 11	2-6
FIGURE 2.4a MCWD GROUNDWATER PRODUCTION FROM WELL 12.....	2-7
FIGURE 2.4b MCWD GROUNDWATER LEVELS FROM WELL 12	2-7
FIGURE 2.5a MCWD TOTAL GROUNDWATER PRODUCTION.....	2-9
FIGURE 2.5b MCWD GROUNDWATER LEVELS.....	2-9
FIGURE 2.6 WATER LEVEL HISTORY CASTROVILLE AND MARINA AREA DEEP ZONE WELLS.....	2-10
FIGURE 2.7 WATER LEVEL HISTORY CASTROVILLE AREA DEEP ZONE WELLS.....	2-11
FIGURE 2.8 WATER LEVEL HISTORY CASTROVILLE AND MARINA AREA DEEP ZONE WELLS – CSIP DELIVERIES.....	2-12
FIGURE 2.9a MCWD ANNUAL GROUNDWATER PRODUCTION	2-15
FIGURE 2.9b MCWD MONTHLY GROUNDWATER PRODUCTION.....	2-15
FIGURE 2.10 STRUCTURAL CONTOURS FOR TOP OF MONTEREY FORMATION	2-18
FIGURE 2.11 CROSS SECTION LOCATION MAP	2-19
FIGURE 2.12a GEOLOGIC CROSS SECTION A-A'	2-20
FIGURE 2.12b GEOLOGIC CROSS SECTION B-B'	2-21
FIGURE 2.12c GEOLOGIC CROSS SECTION C-C'	2-23
FIGURE 2.13 WELL INTERFERENCE TESTING FOR MCWD WELLS NOS. 10, 11, AND 12.....	2-27
FIGURE 2.14 MCWD WELL NO. 12 - IDLE PERIOD RECORD	2-29
FIGURE 2.15 USGS MONITORING WELL VS. MCWD WELL NO. 12.....	2-30
FIGURE 3.1 SVIGSM MODEL GRID	3-2
FIGURE 3.2 LOCATION OF CALIBRATION WELLS.....	3-5
FIGURE 3.3a HISTOGRAM OF RESIDUAL GROUNDWATER LEVELS BETWEEN SVIGSM VERSION 4.18 AND HISTORIC DATA FOR WATER YEARS 1959 THROUGH 1994.....	3-6

FIGURE 3.3b HISTOGRAM OF RESIDUAL GROUNDWATER LEVELS BETWEEN SVIGSM VERSION 4.18 AND HISTORIC DATA IN PRESSURE SUBAREA FOR WATER YEARS 1959 THROUGH 1994	3-7
FIGURE 3.3c HISTOGRAM OF RESIDUAL GROUNDWATER LEVELS BETWEEN SVIGSM VERSION 4.18 AND HISTORIC DATA IN EAST SIDE SUBAREA FOR WATER YEARS 1959 THROUGH 1994	3-8
FIGURE 3.3d HISTOGRAM OF RESIDUAL GROUNDWATER LEVELS BETWEEN SVIGSM VERSION 4.18 AND HISTORIC DATA IN FOREBAY SUBAREA FOR WATER YEARS 1959 THROUGH 1994	3-9
FIGURE 3.3e HISTOGRAM OF RESIDUAL GROUNDWATER LEVELS BETWEEN SVIGSM VERSION 4.18 AND HISTORIC DATA IN UPPER VALLEY SUBAREA FOR WATER YEARS 1959 THROUGH 1994	3-10
FIGURE 3.4 BOTTOM ELEVATION OF ORIGINAL MODEL LAYER 3.....	3-14
FIGURE 3.5 BOTTOM ELEVATION OF REVISED MODEL LAYER 3	3-15
FIGURE 3.6 BOTTOM ELEVATION OF MODEL LAYER 4	3-16
FIGURE 3.7 AQUIFER SYSTEM THICKNESS FOR ORIGINAL MODEL	3-17
FIGURE 3.8 AQUIFER SYSTEM THICKNESSES FOR REVISED MODEL.....	3-18
FIGURE 3.9 SVIGSM GEOLOGIC CROSS-SECTION LOCATION MAP.....	3-19
FIGURE 3.10a GEOLOGIC CROSS-SECTION A-A'	3-20
FIGURE 3.10b GEOLOGIC CROSS-SECTION B-B'	3-21
FIGURE 3.10c GEOLOGIC CROSS-SECTION C-C'	3-22
FIGURE 3.10d GEOLOGIC CROSS-SECTION D-D'	3-23
FIGURE 3.10e GEOLOGIC CROSS-SECTION E-E'	3-24
FIGURE 3.10f GEOLOGIC CROSS-SECTION F-F'	3-25
FIGURE 3.10g GEOLOGIC CROSS-SECTION AA-AA'	3-26
FIGURE 3.10h GEOLOGIC CROSS-SECTION BB-BB'	3-27
FIGURE 3.11 TRANSMISSIVITIES IN GPD/FT FOR ORIGINAL MODEL LAYER 3.....	3-30
FIGURE 3.12 HYDRAULIC CONDUCTIVITIES FOR ORIGINAL MODEL LAYER 3.....	3-31
FIGURE 3.13 HYDRAULIC CONDUCTIVITIES FOR REVISED MODEL LAYER 3	3-32
FIGURE 3.14 HYDRAULIC CONDUCTIVITIES FOR REVISED MODEL LAYER 4	3-33
FIGURE 3.15 HYDRAULIC CONDUCTIVITIES FOR ORIGINAL MODEL LAYER 1.....	3-35
FIGURE 3.16 HYDRAULIC CONDUCTIVITIES FOR REVISED MODEL LAYER 1	3-36

FIGURE 3.17a RESIDUAL GROUNDWATER LEVEL BETWEEN SVIGSM VERSION 5.0 AND HISTORIC DATA IN THE PRESSURE SUBAREA - 4 LAYER MODEL FOR WATER YEARS 1959 THROUGH 1994	3-38
FIGURE 3.17b RESIDUAL GROUNDWATER LEVEL BETWEEN SVIGSM VERSION 5.0 AND HISTORIC DATA IN THE EAST SIDE SUBAREA - 4 LAYER MODEL FOR WATER YEARS 1959 THROUGH 1994	3-39
FIGURE 3.17c RESIDUAL GROUNDWATER LEVEL BETWEEN SVIGSM VERSION 5.0 AND HISTORIC DATA IN THE FOREBAY SUBAREA - 4 LAYER MODEL FOR WATER YEARS 1959 THROUGH 1994	3-40
FIGURE 3.17d RESIDUAL GROUNDWATER LEVEL BETWEEN SVIGSM VERSION 5.0 AND HISTORIC DATA IN THE UPPER VALLEY SUBAREA - 4 LAYER MODEL FOR WATER YEARS 1959 THROUGH 1994	3-41
FIGURE 3.18a HISTOGRAM OF RESIDUAL GROUNDWATER LEVELS BETWEEN SVIGSM VERSION 5.0 AND HISTORIC DATA - 4 LAYER MODEL FOR WATER YEARS 1959 THROUGH 1994	3-42
FIGURE 3.18b HISTOGRAM OF RESIDUAL GROUNDWATER LEVELS BETWEEN SVIGSM VERSION 5.0 AND HISTORIC DATA IN PRESSURE SUBAREA- 4 LAYER MODEL FOR WATER YEARS 1959 THROUGH 1994	3-43
FIGURE 3.18c HISTOGRAM OF RESIDUAL GROUNDWATER LEVELS BETWEEN SVIGSM VERSION 5.0 AND HISTORIC DATA IN EAST SIDE SUBAREA- 4 LAYER MODEL FOR WATER YEARS 1959 THROUGH 1994	3-44
FIGURE 3.18d HISTOGRAM OF RESIDUAL GROUNDWATER LEVELS BETWEEN SVIGSM VERSION 5.0 AND HISTORIC DATA IN FOREBAY SUBAREA- 4 LAYER MODEL FOR WATER YEARS 1959 THROUGH 1994	3-45
FIGURE 3.18e HISTOGRAM OF RESIDUAL GROUNDWATER LEVELS BETWEEN SVIGSM VERSION 5.0 AND HISTORIC DATA IN UPPER VALLEY SUBAREA- 4 LAYER MODEL FOR WATER YEARS 1959 THROUGH 1994	3-46
FIGURE 3.19 CALIBRATION WELL 74 - PRESSURE SUBAREA MCWD #10 - UPPER DEEP AQUIFER.....	3-47
FIGURE 3.20 CALIBRATION WELL 75 - PRESSURE SUBAREA MCWD #11 - UPPER DEEP AQUIFER.....	3-48
FIGURE 3.21 CALIBRATION WELL 76 - PRESSURE SUBAREA MCWD #12 - UPPER DEEP AQUIFER.....	3-49
FIGURE 4.1 PUMPING SENSITIVITY ANALYSIS HYDROGRAPH LOCATION MAP	4-2
FIGURE 4.2 RESPONSE CURVE OF PUMPING AND AVERAGE GROUNDWATER LEVELS FOR COASTAL HYDROGRAPH LOCATIONS PER AQUIFER	4-3

FIGURE 4.3 RESPONSE CURVE OF PUMPING AND AVERAGE ANNUAL (1959-94) GROUNDWATER LEVELS FOR COASTAL LEVELS FOR COASTAL HYDROGRAPH OF WELL 5.....	4-4
FIGURE 4.4 RESPONSE CURVE OF PUMPING AND AVERAGE ANNUAL (1959-94) GROUNDWATER LEVELS FOR COASTAL HYDROGRAPH OF WELL 12.....	4-5
FIGURE 4.5 RESPONSE CURVE OF PUMPING AND AVERAGE ANNUAL (1959-94) GROUNDWATER LEVELS FOR COASTAL HYDROGRAPH WELL 24.....	4-6
FIGURE 4.6 RESPONSE CURVE OF PUMPING FOR CHANGE OF AVERAGE ANNUAL (1959-94) VERTICAL GROUNDWATER FLOW FROM AQUIFER 1 TO 2 IN PRESSURE AND FORT ORD SUBREGIONS.....	4-8
FIGURE 4.7 RESPONSE CURVE OF PUMPING TO CHANGE IN AVERAGE ANNUAL (1959-94) COASTAL GROUNDWATER FLOW	4-9
FIGURE 4.8 MCWD EXISTING AND PROPOSED GROUNDWATER PRODUCTION WELL LOCATION MAP.....	4-10
FIGURE 4.9 ALTERNATIVE 1 GROUNDWATER LEVEL DIFFERENCE FOR LAYER 1, SEPTEMBER 1994.....	4-13
FIGURE 4.10 ALTERNATIVE 1 GROUNDWATER LEVEL DIFFERENCE FOR LAYER 2, SEPTEMBER 1994.....	4-14
FIGURE 4.11 ALTERNATIVE 1 GROUNDWATER LEVEL DIFFERENCE FOR LAYER 3, SEPTEMBER 1994.....	4-15
FIGURE 4.12 ALTERNATIVE 1 GROUNDWATER LEVEL DIFFERENCE FOR LAYER 4, SEPTEMBER 1994.....	4-16
FIGURE 4.13 ALTERNATIVE 2 GROUNDWATER LEVEL DIFFERENCE FOR LAYER 1, SEPTEMBER 1994.....	4-17
FIGURE 4.14 ALTERNATIVE 2 GROUNDWATER LEVEL DIFFERENCE FOR LAYER 2, SEPTEMBER 1994.....	4-18
FIGURE 4.15 ALTERNATIVE 2 GROUNDWATER LEVEL DIFFERENCE FOR LAYER 3, SEPTEMBER 1994.....	4-19
FIGURE 4.16 ALTERNATIVE 2 GROUNDWATER LEVEL DIFFERENCE FOR LAYER 4, SEPTEMBER 1994.....	4-20
FIGURE 4.17 ALTERNATIVE 3 GROUNDWATER LEVEL DIFFERENCE FOR LAYER 1, SEPTEMBER 1994.....	4-21
FIGURE 4.18 ALTERNATIVE 3 GROUNDWATER LEVEL DIFFERENCE FOR LAYER 2, SEPTEMBER 1994.....	4-22
FIGURE 4.19 ALTERNATIVE 3 GROUNDWATER LEVEL DIFFERENCE FOR LAYER 3, SEPTEMBER 1994.....	4-23

FIGURE 4.20 ALTERNATIVE 3 GROUNDWATER LEVEL DIFFERENCE FOR LAYER 4, SEPTEMBER 1994	4-24
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The Marina Coast Water District (MCWD) in cooperation with the California Department of Water Resources (DWR) initiated an investigative study of the Salinas groundwater basin deep aquifer system.

The potable groundwater supplies in the coastal areas of Salinas Valley Groundwater Basin have been contaminated by intrusion of seawater from the Monterey Bay. The seawater has extended to approximately 8 miles inland in the upper (180-foot) aquifer, and to approximately 2 miles inland in the middle (400-foot) aquifer. Although there are no direct indications of seawater intrusion in the deep aquifer, there are concerns that continued and increased groundwater pumping may cause intrusion of seawater there as well.

Because MCWD relies on the deep aquifer for approximately 85 percent of its water supply, a long-term water management plan is of paramount importance to the District. As such, the District and DWR initiated investigating the reliability of the deep aquifer as a long-term water supply source.

STUDY AREA

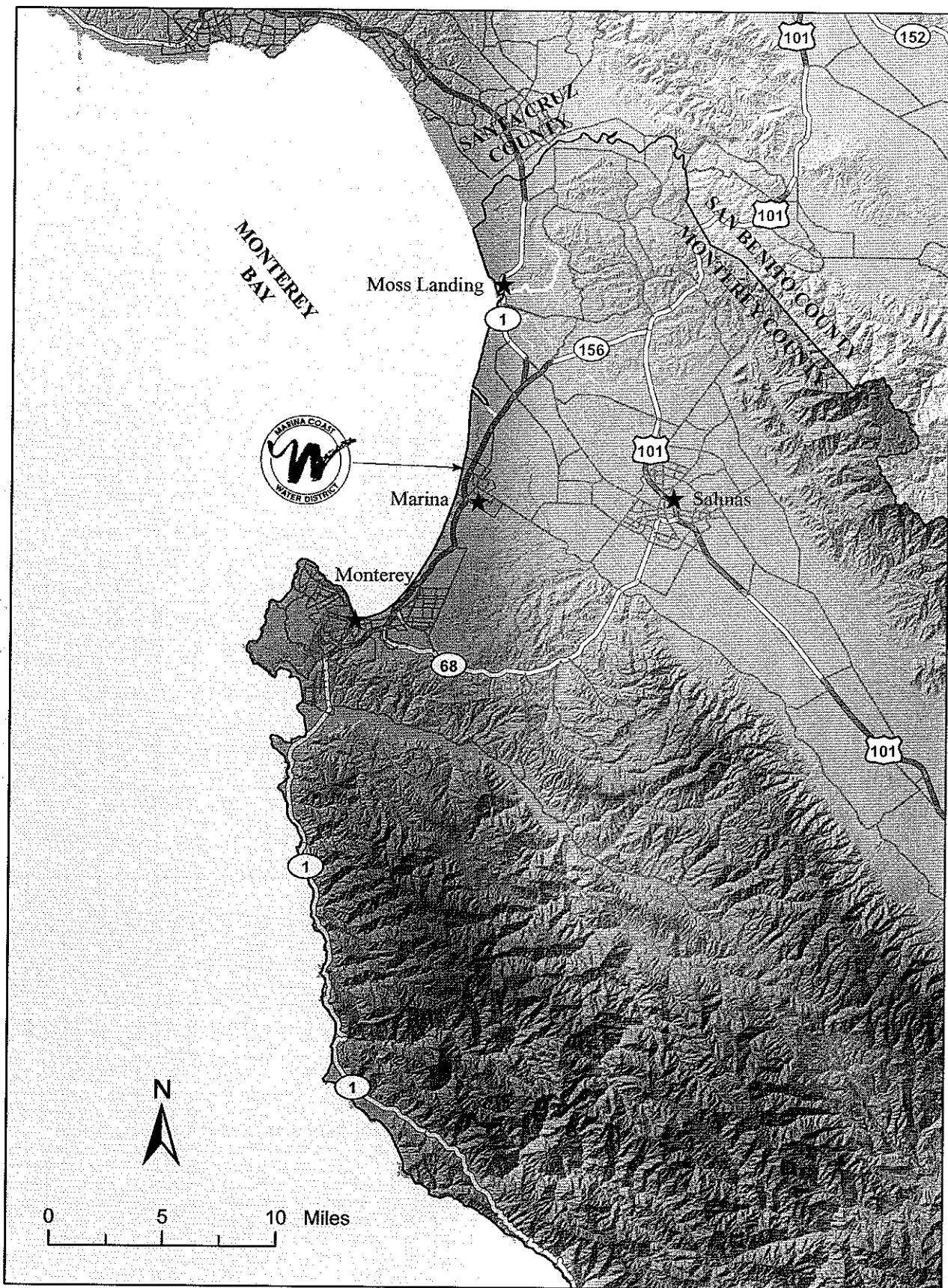
The study area is centered on the MCWD service area (Figure 1.1). Because of MCWD's geographical location relative to the advancing seawater in the 180- and 400-foot aquifers, the District was one of the first groundwater users forced to use the deep aquifers. Some agricultural users in the Castroville area also were forced to drill into the deeper sediments to provide water for agricultural purposes. The construction and operation of the Castroville Seawater Intrusion Project (CSIP) in 1998 allowed these agricultural users to abandon the use of their deep wells. As such, MCWD remains today the only significant user of the deep aquifer.

The study area is also defined by the availability of data. Relevant water well data are only available in those areas where deeper wells have been constructed and operated.

Understandably, deeper wells have only been drilled in the intruded areas. Therefore, the available data are limited to this area. For this reason, the primary study area becomes those areas with, or threatened by, seawater intrusion in both the 180- and 400-foot aquifers.

DEEP AQUIFER DEFINITION

The term "deep aquifer" or "deep zone" has been part of the groundwater lexicon of the Salinas Valley for more than 25 years. Other alternative terms have included the "900-foot" and "1500-



Base: USGS 30-meter National Elevation Dataset (2001)

Figure 1.1 Vicinity map showing Marina Coast Water District

foot" aquifers. However, these terms are defined vaguely and the "deep aquifer" is not necessarily located at these arbitrary depths. The use of the deep aquifer has been driven by the need to drill deeper to avoid seawater intrusion. Initially, wells were drilled to the next deeper elevation that had fresh-water-bearing materials. Subsequently, wells were drilled to greater depths further extending the bottom of the deep aquifer. As such, the term "deep aquifer" became defined primarily by depth of well. Little effort was expended to understand the geologic nature and origin of the sediments that make up the deep aquifer.

Accordingly, the current use of the term "deep aquifer" essentially aggregates all sediments below the 400-foot aquifer without respect to geology. This report attempts to provide geologic assignments for the sediments encountered in these deeper wells such that a hydrogeologic framework can be developed to assist the understanding of these aquifer systems.

Throughout this document, the term "deep aquifers" will be utilized in place of "deep aquifer" because available data strongly suggest a multiple-aquifer system.

STUDY OBJECTIVES

There have been many geologic and hydrogeologic data in the Coastal areas of Monterey Bay that have not been evaluated in the past. In addition, the basin-wide hydrologic model, the Salinas Valley Integrated Ground and Surface water Model (SVIGSM), has been used for analysis of impacts in many studies, including the Salinas Valley Water Project. However, SVIGSM does not include all the latest geologic and hydrogeologic data representing the deep aquifer system.

The objectives of this study, as laid out in the MCWD's request for proposals, are as follows:

- Identify all users and their use rates of the Salinas Basin deep aquifer.
- More fully characterize the deep aquifer.
- Identify the safe yield of the deep aquifer including more accurate characterization of recharge rates, transmissivity, and connectivity to the middle and upper aquifers.
- Update the Salinas Valley Integrated Ground and Surface Water Model (SVIGSM) to be able to address yield and seawater intrusion questions related to aquifer use.
- Develop a deep aquifer groundwater management component to the Salinas Valley Water Plan through a consensus building, stakeholder process.

To achieve such goals, the following scope of work was developed:

Task 1 - Establish project management methods;

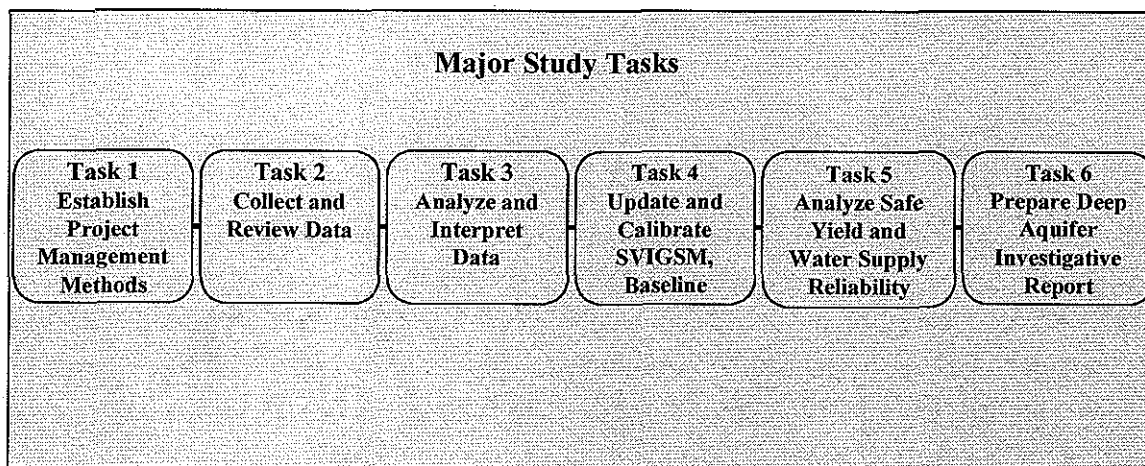
Task 2 - Collect and review data about the Deep Aquifer;

Task 3 - Analyze and interpret data about the Deep Aquifer;

Task 4 - Update the SVIGSM;

Task 5 - Estimate safe yield and analyze water supply reliability; and

Task 6 - Prepare Report and Presentation of Findings.



REPORT ORGANIZATION

This report provides documentation of the work performed and the findings of the study. The report is organized into the following sections:

Section 1: Introduction - Describes the purpose, project background, study area, scope of project, and organization of this report.

Section 2: Data Analysis and Synthesis - Describes the data collected, analysis of the time series data and its incorporation in the model, and estimation of missing data.

Section 3: SVIGSM Update - Describes the background of the model, impacts of updating the code and of updating the model database, and the efforts to mitigate those impacts.

Section 4: Water Supply Reliability and Safe Yield Analysis - Describes the definition of safe yield, the criteria developed and used to analyze safe yield, and impacts of several potential groundwater supply alternatives.

Section 5: Summary of Findings - Presents summary of study findings.

This section tabulates and analyzes the available hydrogeologic data from the coastal portion of the deep aquifers system of Monterey County. The deep aquifer designation derives from the history of water resource development in Monterey County. Advancing seawater intrusion, first in the 180-foot aquifer, then in the 400-foot aquifer, forced groundwater users to progressively drill deeper to find fresh water. The first deep aquifer water well was drilled in 1976; approximately nine more water wells have since been drilled into this aquifer system in the coastal area.

This section attempts to integrate all available data on the aquifer systems underlying the 180- and 400-foot aquifers of the Salinas Valley to develop an improved understanding of the groundwater resource. This refined understanding is then used to update the representation of the deep aquifer the SVIGSM. Several local-scale investigations into the hydrogeology of the deep aquifers have been performed over the last 20 years and provided useful insight into the understanding of the deep aquifers. However, this evaluation represents the first attempt to bring together all the data that have been developed since the preparation of the Deep Aquifer Report prepared in 1976 by Richard Thorup (unpublished draft report).

The available data set for the deep aquifers is scanty. These data are presented in this report with preliminary conclusions. Conclusions should be considered provisional and are subject to revision when more data become available. Much of the available data raises questions that cannot be adequately answered, or even speculated upon, within the existing framework of understanding. The data, corresponding interpretation, and conceptual understanding have been incorporated into the SVIGSM so that additional insight can be gained by evaluating the results of modeling analyses.

PREVIOUS REPORTS

The hydrogeology of the northern Salinas Valley has been the subject of many studies, such as the landmark 1946 Salinas Basin Investigation (DWR, 1946), and, more recently, the 1994 Salinas River Basin Water Resources Management Plan (Montgomery Watson, 1994). However, these studies focused on the shallow aquifers, commonly referred to as the 180-foot and the 400-foot aquifers, and not on the deep aquifers. Only several studies specifically focus on the deep aquifers and provide significant insight into its hydrogeology. The most significant are summarized below:

Thorup (1976, 1983)—In 1976, Richard Thorup issued a draft report discussing the results of a 1,718-foot-deep test well (Fontes well) for the proposed Castroville Irrigation Project (CIP). This well is significant because it was the first water well to test the deep aquifers. Based on his analysis of the test well and other oil and water wells, Thorup estimated that the “900-foot aquifer” extended from the mouth of the Salinas River southward to Greenfield and contained nearly 11 million acre-feet of fresh water. Thorup concluded that the Fontes well would not produce enough water for the CIP and recommended an alternate location at the Marihart Ranch, south of Spreckels. Thorup updated this report in 1983 to include the information from three additional wells subsequently perforated into what he considered the deep aquifer—the Monterey County Mulligan Hill well (14S/02E-06L01), Leonardini #3 (13S/02E-19Q03), and Monterey Dunes #1 (13S/01E-36J01). Accompanying the 1983 report were a series of geologic maps and cross sections that depicted the extent and geometry of the deep aquifers. Based on more refined data, Thorup calculated that the deep aquifers contained approximately 4.6 million acre-feet of usable groundwater and estimated a recharge rate of 65,500 acre-feet per year.

Grasty (1988)—As part of his M.S. thesis research, James Grasty performed and interpreted gravity and magnetic surveys across the Armstrong Ranch in the city of Marina. Grasty observed a northwest-trending gravity low and magnetic anomaly, which he interpreted as a shear zone related to the “King City fault” (Reliz fault). More germane to the present study of the deep aquifers is his hypothesis of “the presence of an anomalous area (bedrock depression) where a thick sequence of Quaternary sediment accumulated” between the Marina No. 10 and 11 wells (Grasty, 1988, p. 24–25). This is the first depiction of the “Marina trough.”

Geoconsultants (1999)—At the American Association of Petroleum Geologists, Pacific Section, meeting in the city of Monterey, Jeremy Wire and his associates presented a paper showing a feature called the Marina trough, which is located between the Mulligan Hill well and the Reliz fault. Geoconsultants postulated the existence of the Marina trough based on the presence of an extremely thick section of sediments, which were identified as Pleistocene age, based on microfossil analysis by Dr. James Ingle of Stanford University.

Hanson and others (2002)—As part of a U.S. Geological Survey (USGS) research project, a 2,000-foot-deep monitoring well cluster was drilled in Marina. This report provides valuable information on stratigraphy, water levels, and water chemistry of the deep aquifers, in addition to the well construction. Of particular interest is the documentation of Pliocene-aged sediments from the depths of 950 to 2000 feet.

Montgomery Watson (1993) – This report presented, in draft form, the first version of the SVIGSM. The model was developed as a hydrologic model that integrates the groundwater and surface water flow systems, along with a water quality model. The model also simulates the

operation of the Nacimineto and San Antonio reservoirs, regulating the flows to the Salinas River system. This report focuses on the development and calibration of the groundwater flow and quality models.

Montgomery Watson (1997) – This report presents the update of SVIGSM calibration. The model underwent substantial review and analysis as part of this effort.

Montgomery Watson (1998) – This report presents the update and applications of the SVIGSM. The SVIGSM was used to evaluate the historical hydrologic benefits of operation of Nacimiento and San Antonio reservoirs on the groundwater basin, as well as the Salinas River flows. The report also presents the analysis of flood control and economic benefits of historical operation of the reservoirs.

GROUNDWATER LEVEL DATA

Water level data are available for wells in the deep aquifers in the Castroville area from the Monterey County Water Resources Agency (MCWRA). Intermittent water level data are also available from MCWD for their three production wells. Continuous water level data since June 2001 are available for the USGS Monitoring well cluster.

MARINA COAST WATER DISTRICT WELLS

A static water level history of MCWD wells can be assembled from various sources. MCWD has collected static water level data from these wells on an irregular schedule, creating several long data gaps. Other sources include data collected at the time of well construction and spot measurements collected by contractors as part of pump servicing. The most apparent data gap is the period from early 1998 until early 2002 for which no static water level data are available. Since beginning this investigation, static water level data have been collected on an almost continuous basis. The available water level data are presented on Figures 2.1 to 2.4b.

Although the record in Figure 2.1 is incomplete, the static water level history of all the wells shows a general pattern. Water levels at the time of well completion are close to sea level. During the first several years of operation, static water levels fall relatively rapidly. Then static water levels appear to level off and maintain a narrow range of fluctuation. All three of MCWD's wells have maintained water levels significantly below sea level since initiation of extractions. Well Nos. 10 and 11 display water levels averaging 40 feet below mean sea level. Well No. 12 displays average water surface elevation of approximately 15 feet below msl. Of interest are the strong vertical gradients maintained between these wells and the increasing head with increasing well depths.

Figure 2.1
Marina Coast Water District Deep Aquifer Wells Water Level Data

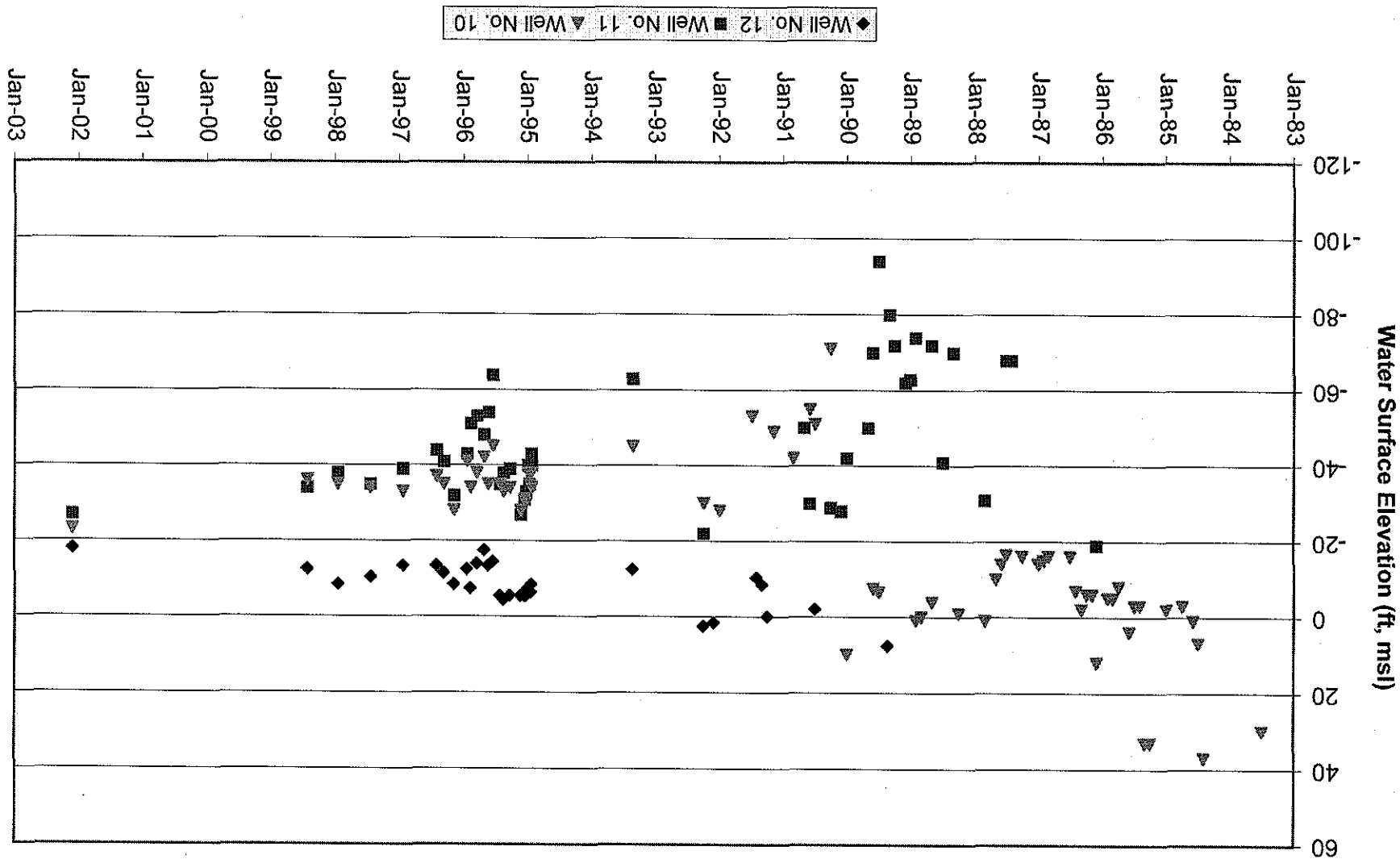


Figure 2.2a MCWD Annual Production from Well 10

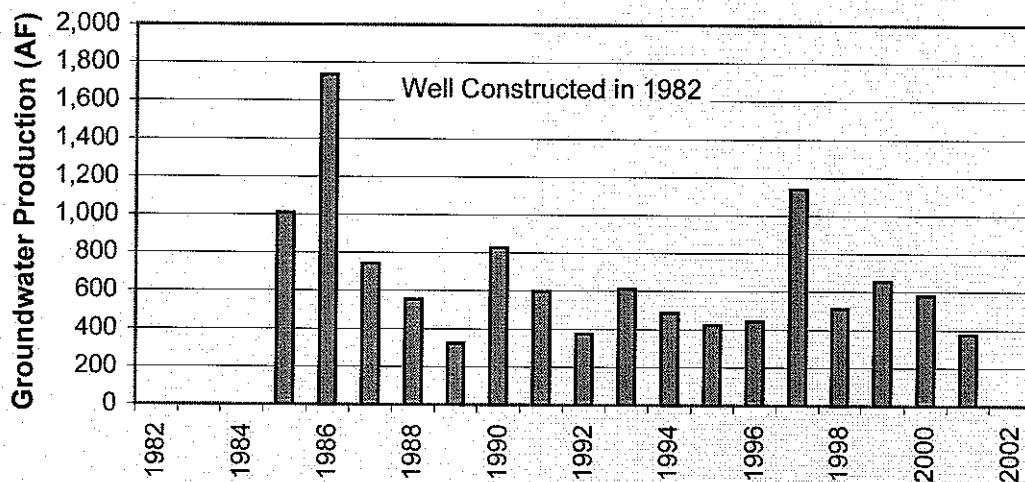


Figure 2.2b MCWD Groundwater Levels for Well 10

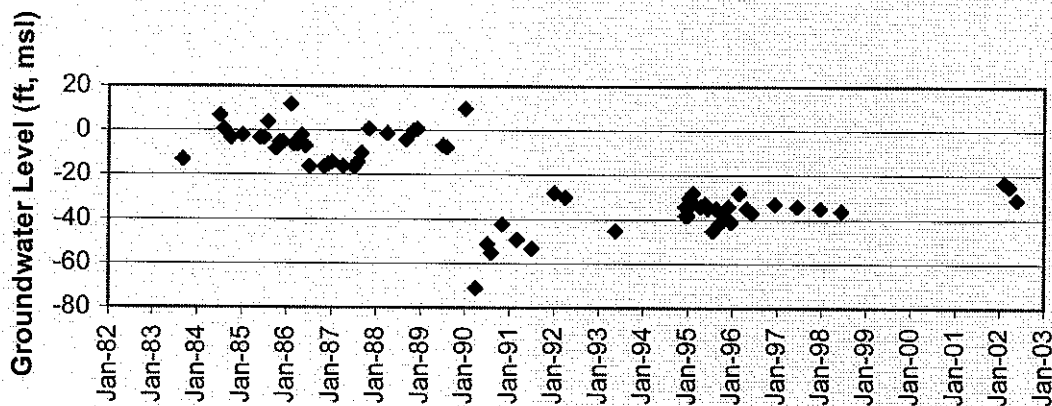


Figure 2.3a MCWD Annual Groundwater Production from Well 11

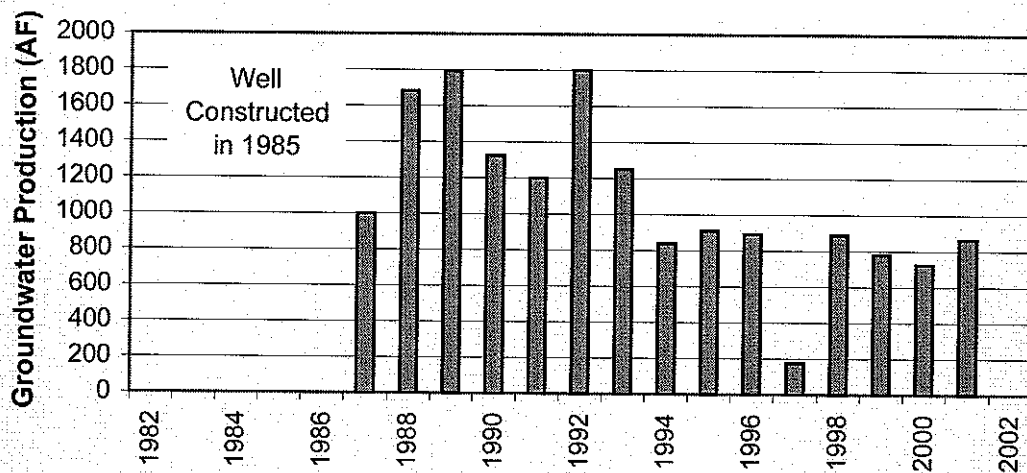


Figure 2.3b MCWD Groundwater Levels from Well 11

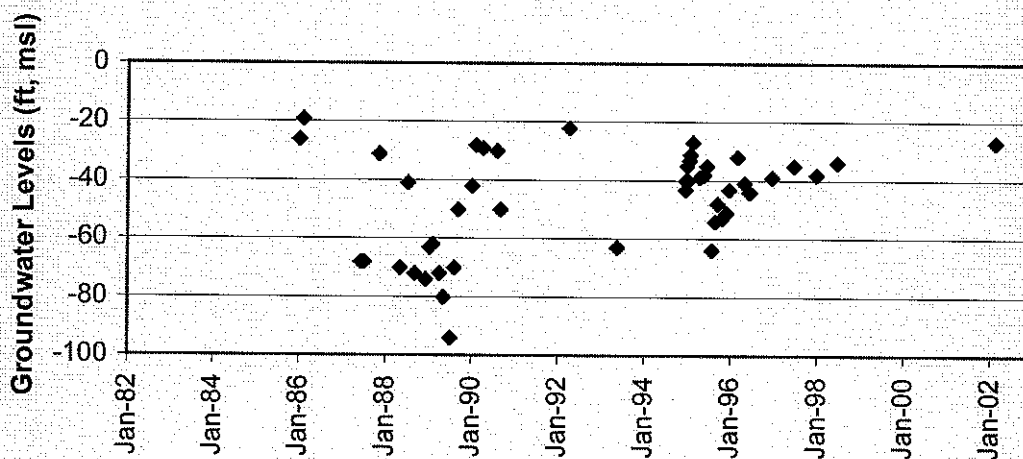


Figure 2.4a MCWD Groundwater Production from Well 12

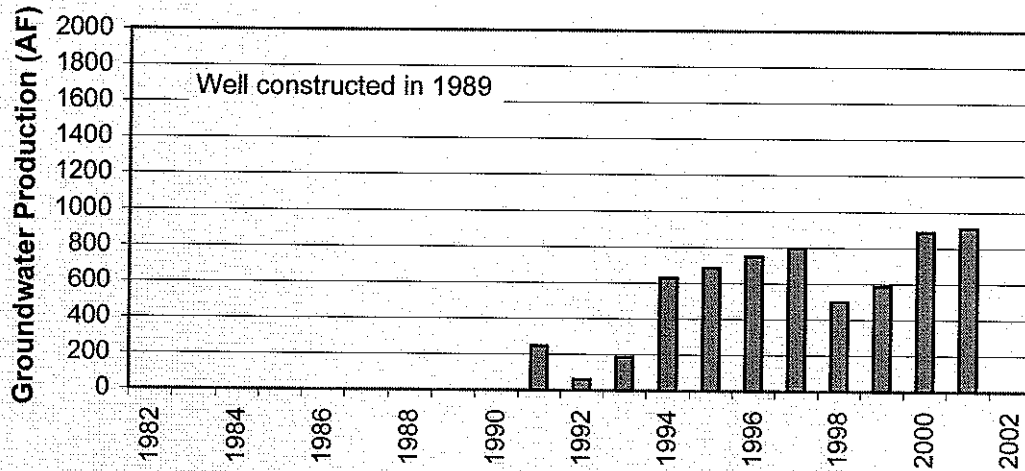
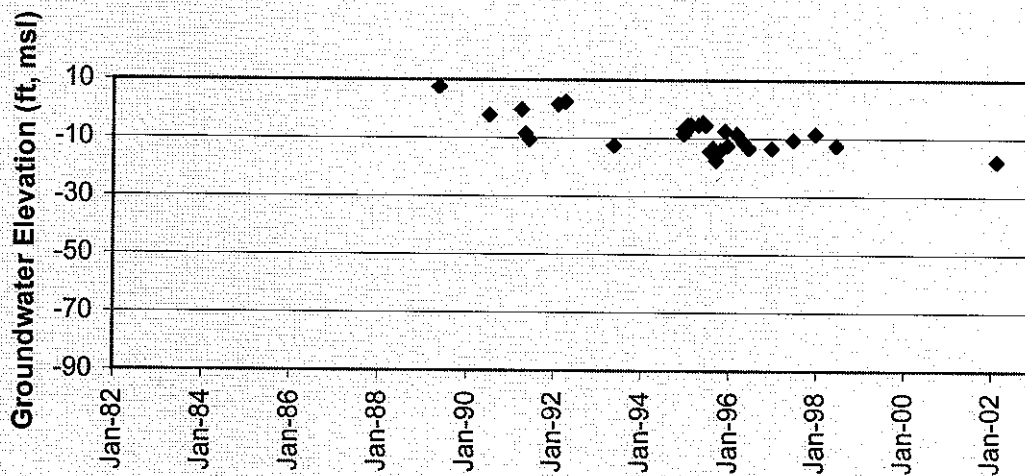


Figure 2.4b MCWD Groundwater Levels from Well 12



Figures 2.2a through 2.4b present annual production and static water level history for each of MCWD's wells. Water level data are generally too sparse to discern a strong linkage between extractions at Well Nos. 10 and 11. The record for Well No. 12 is clearer and shows a general decline in water level with increasing extractions. Taken together, the records from all the wells allow an understanding of how the overall operation of the well field impacts water levels at each well site. The water level record from Well No. 10 shows a large shift in average water level in 1989 (approximately). This is the period when production from Well No. 11 was coming on-line. As is discussed below, Well Nos. 10 and 11 display significant mutual interference effects. Beginning in 1987, water level records in Well Nos. 10 and 11 reflect the aggregate pumping from these wells. As discussed below, the hydraulic linkage between Well Nos. 10 and 11 and Well No. 12 is poor.

Figures 2.5a and b present monthly production and water levels from MCWD wells during the period from January 1995 to December 1997—the period with the most water level data. Figure 2.6 shows the seasonal fluctuations in water levels in response to demand variations. While the magnitude of the response differs, generally the observed fluctuation in water level is proportional to the variation in monthly production from a given well.

CASTROVILLE AREA WELLS

The MCWRA collects monthly data from five of the wells completed in the Castroville area deep aquifers. Monthly water level data extends back to approximately October 1986. These data are presented in Figure 2.7. The water level records display a strikingly similar response. The annual irrigation cycle is apparent in the records of all the wells, with all the wells displaying approximately 40 feet of annual water level fluctuation. Of interest is that the record from Well No. 13N/2E-32E05, an observation well, is essentially identical to the records of the surrounding production wells, suggesting a highly connected, confined system. The regional response of the aquifer system to the cessation of pumpage in 1998, with the onset of CSIP water deliveries, is also striking. Water levels in all wells recovered to above sea level elevations by 2000, again indicative of a connected, confined aquifer system.

Figure 2.8 presents the water level records from selected Castroville wells with the MCWD wells record. The cessation of pumpage due to CSIP water deliveries has provided for a significant relaxation of the aquifer in the Castroville area; however, the water level record from the MCWD's wells, although sparse, shows no apparent response to this regional relaxation.

Figure 2.5a MCWD Total Groundwater Production

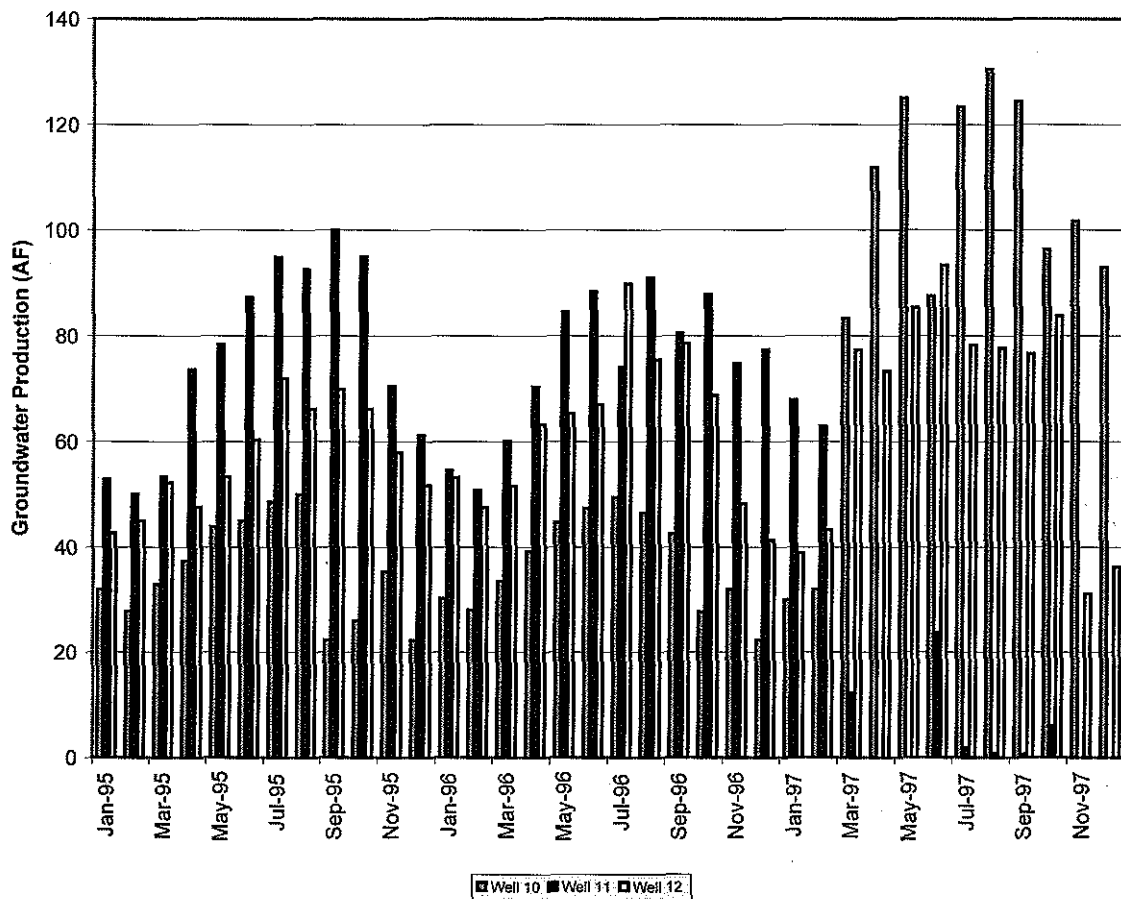


Figure 2.5b MCWD Groundwater Levels

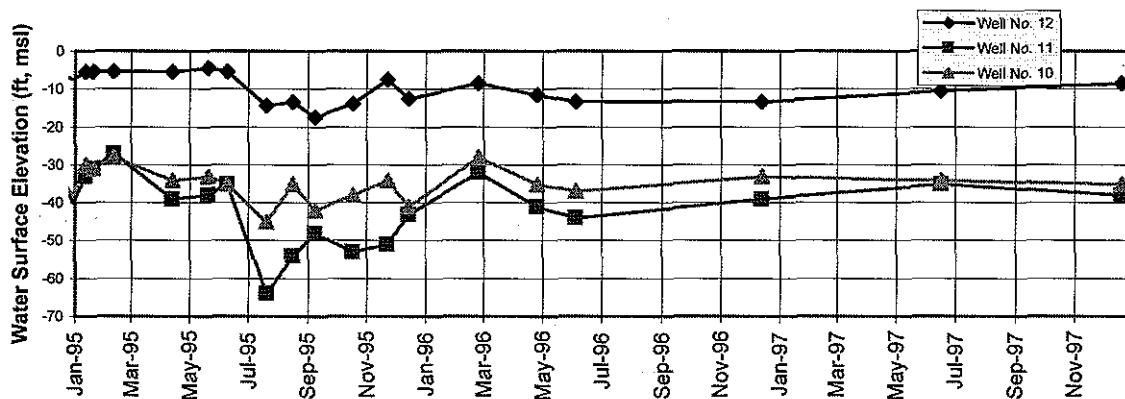


Figure 2.6
Water Level History Castroville and Marina Area Deep Zone Wells

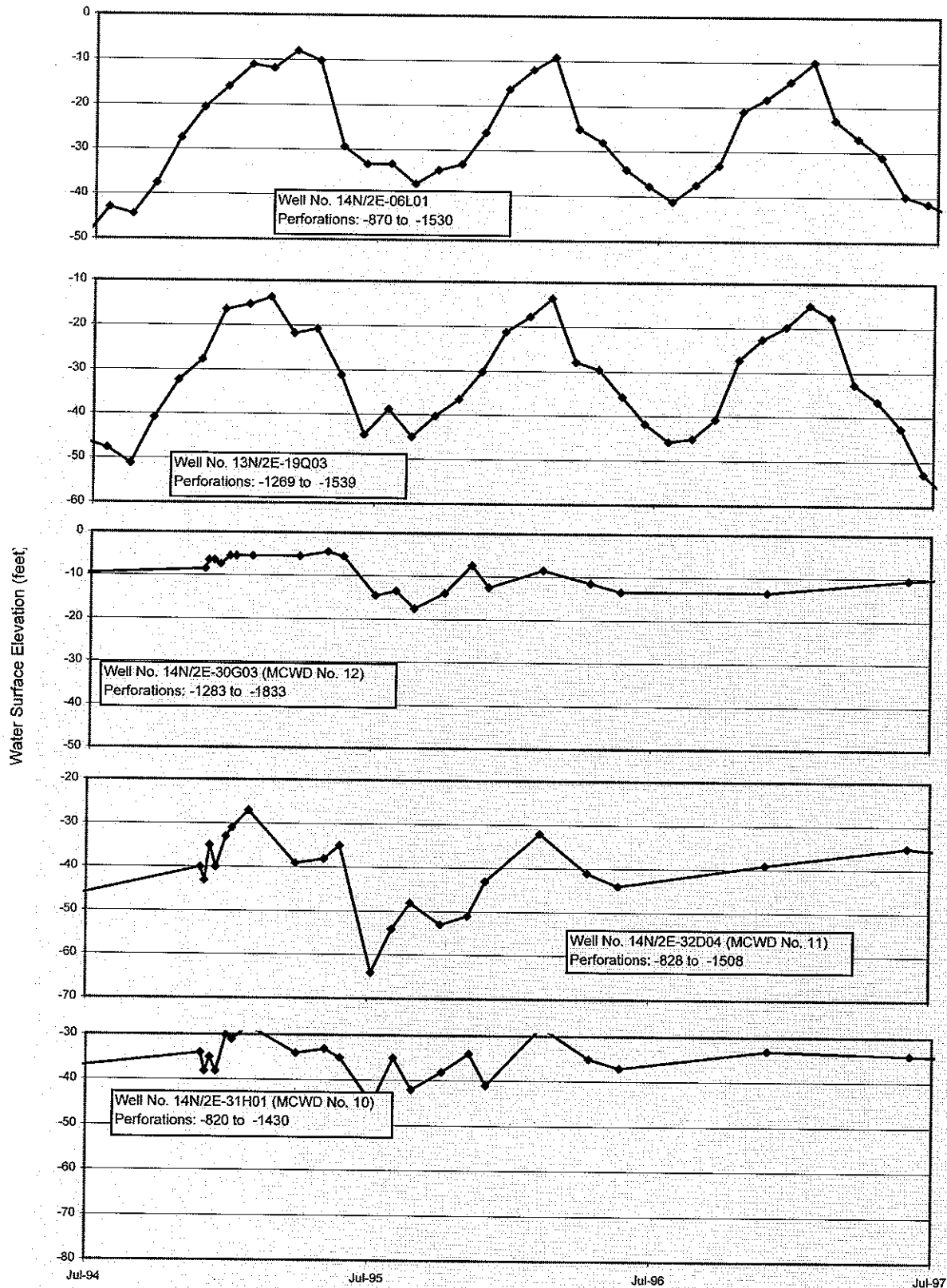


Figure 2.7
Water Level History
Castroville Area Deep Zone Wells

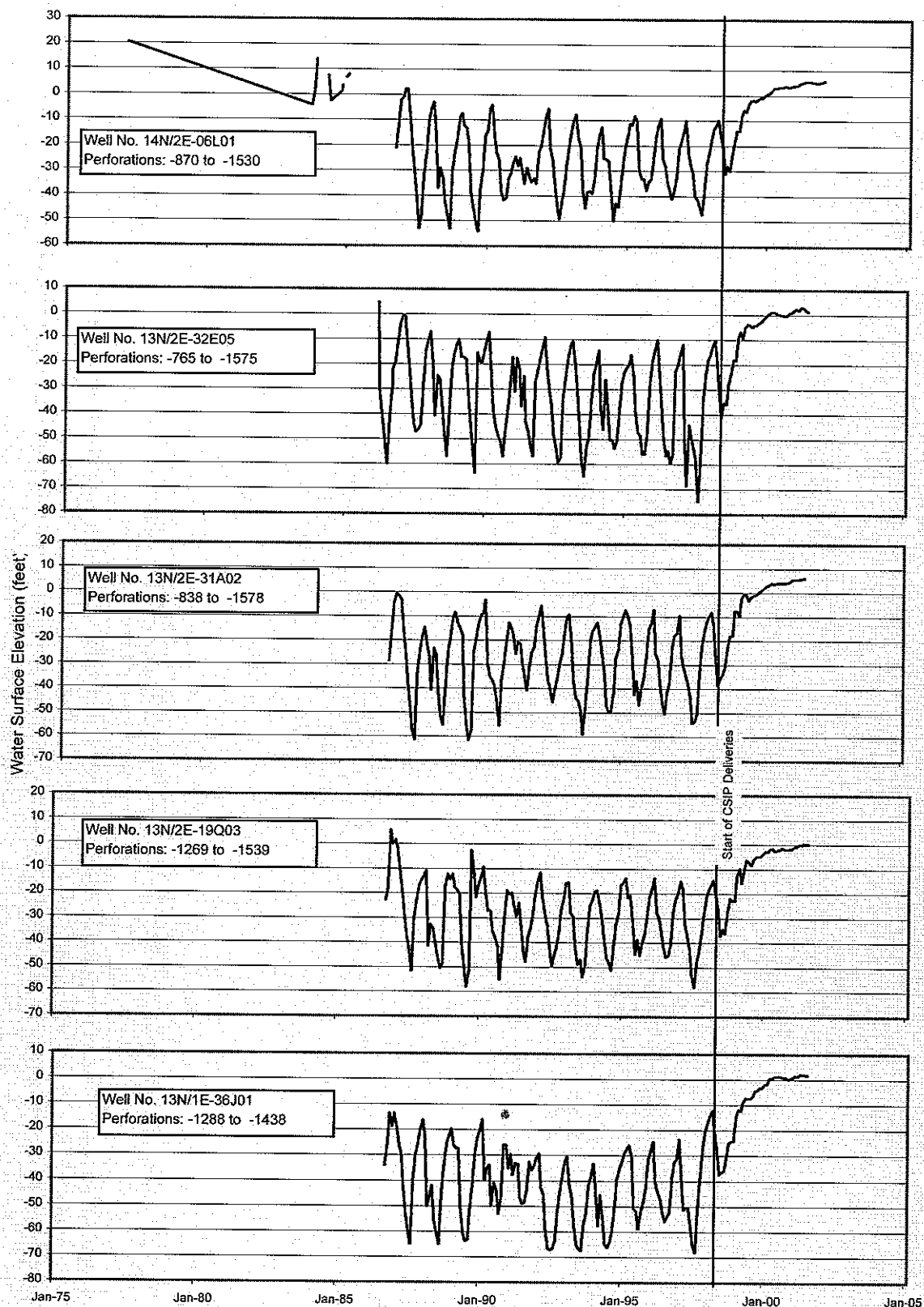
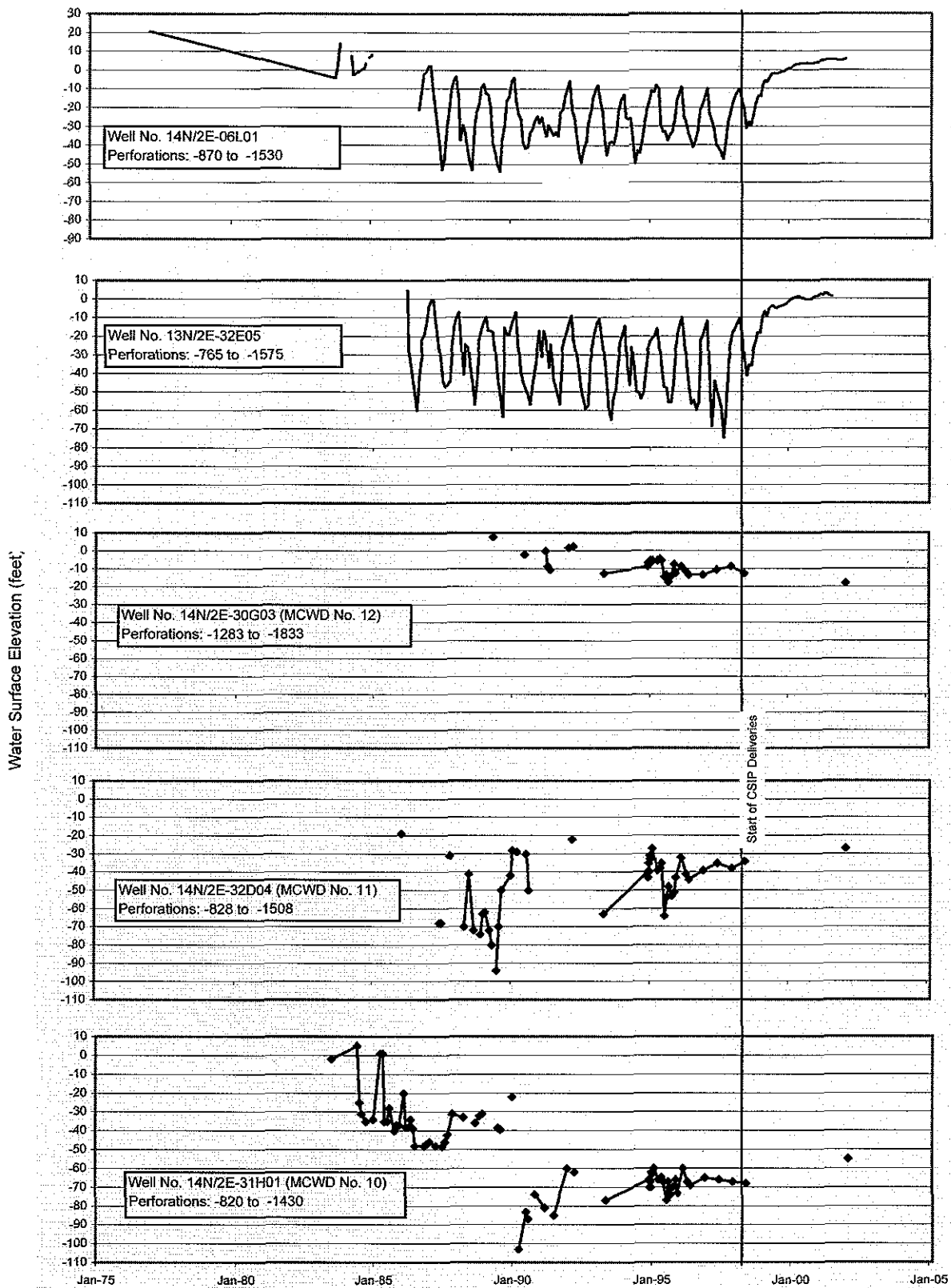


Figure 2.8
Water Level History
Castroville and Marina Area Deep Zone Wells - CSIP Deliveries



USGS MONITORING WELL

Working for MCWD and MCWRA, the USGS completed a well designed to monitor groundwater conditions in the deep aquifers. The well is located at MCWD's headquarters and consists of four separate wells completed in the same borehole. The wells were designed to monitor groundwater conditions at specific depths selected based on review of the borehole data and the consideration of construction of proximal wells. The well monitors four discrete zones ranging in thickness from 20 to 40 feet. After completing the monitoring well cluster, MCWRA equipped the monitoring wells with continuous water level recording devices. Water level data has been collected since June 2001. The average water level for each monitoring well, as well as for MCWD's production wells, is summarized in Table 2.1 below.

Table 2.1 Average Groundwater Levels for USGS Monitoring and MCWD Production Wells

Well	Elevation of Perforations (feet)	Average Water Surface Elevation (feet)
DMW-1-1	-1754 to -1804	-2.7
DMW-1-2	-1334 to -1354	2.3
DMW-1-3	-984 to -1004	-17
DMW-1-4	-874 to -894	-16.2
MCWD No. 10	-788 to -1398	-38
MCWD No. 11	-828 to -1508	-40
MCWD No. 12	-1283 to -1833	-12

Drawing conclusions from comparison of the groundwater elevation data in the USGS well with that of the production wells is difficult. The USGS wells are completed in thin, discrete zones while the production wells are completed across multiple zones. For example, the intervals within which DMW-1 and DMW-1-2 are completed are included in a single perforated interval of Well No. 12. The water surface in DMW-1-2 is substantially above that of Well No. 12 while DMW-1-1 is below it. The water level in Well No.12 is likely a composite head of several smaller zones of differing heads from which it produces.

GROUNDWATER PRODUCTION

Ten water wells have been installed in Monterey County to produce from the deep aquifers. MCWD operates three wells: MCWD Well Nos. 10, 11, and 12. Monthly production data from these wells are available from MCWD. The remaining seven wells are agricultural supply wells. Production data from these wells are reported to MCWRA, so are confidential and not available. However, because these wells are now idle due to construction and operation of

CSIP, the data from these wells are less important. Data from MCWD are summarized in Figure 2.8.

Figure 2.9a reveals annual production from the deep aquifers to have been relatively constant since the completion of Well No. 12 in 1990. Total production has averaged approximately 2000 acre-feet/year over this period. Figure 2.9b also shows monthly production for the period. The seasonal distribution of demand is apparent, with winter extractions as low as approximately 100 acre-feet/month (AF/M) and summer extractions exceeding 250 AF/M.

GEOLOGIC AND HYDROGEOLOGIC DATA

Geology: This section describes the geologic characteristics of the deep aquifers based on stratigraphic and structural information.

STRATIGRAPHY

Granitic basement— The oldest unit in the study area consists primarily of granitic rocks, secondarily of metamorphic rocks. These rocks form the Sierra de Salinas and Gabilan Range that border the Salinas Valley. In the subsurface, the granitic rocks underlie the Tertiary and Quaternary sedimentary rocks. Several of the wildcat oil wells drilled along the coast reached the granitic basement.

Lower to Middle Miocene sedimentary rocks— Overlying the granitic basement are a series of marine sedimentary rocks which include an unnamed arkosic sandstone formation and the Monterey Formation. These rocks crop out in the hills near Monterey, Corral de Tierra, and Carmel Valley. Because these formations have been uplifted, folded, and eroded, their total thickness is unknown. However, within the area of Cross Sections A and B, these sedimentary rocks are approximately 1,000 to 2,000 feet thick. One possible exception is the area beneath the Elba Capurro and Bayside Development Vierra wells where a thick section of sandstone indicates a possible buried canyon (Starke and Howard, 1968).

Upper Miocene to Pliocene marine sequence— As described by Clark (1981, p. 24), this sequence consists of a shallow-water transgressive sandstone unit (the Santa Margarita Sandstone), a deeper water, siliceous, organic mudstone unit (the Santa Cruz Mudstone) and a shallow-water unit (the Purisima Formation). In Monterey County, only the Santa Margarita Sandstone is exposed on land, whereas the Santa Cruz Mudstone and the Purisima Formation crop out offshore in Monterey Bay. Interpretation of drill hole data suggests that the thickness of the Purisima Formation ranges from 500 to 1,000 feet in the area of Cross Sections A, B, and

Figure 2.9a MCWD Annual Groundwater Production

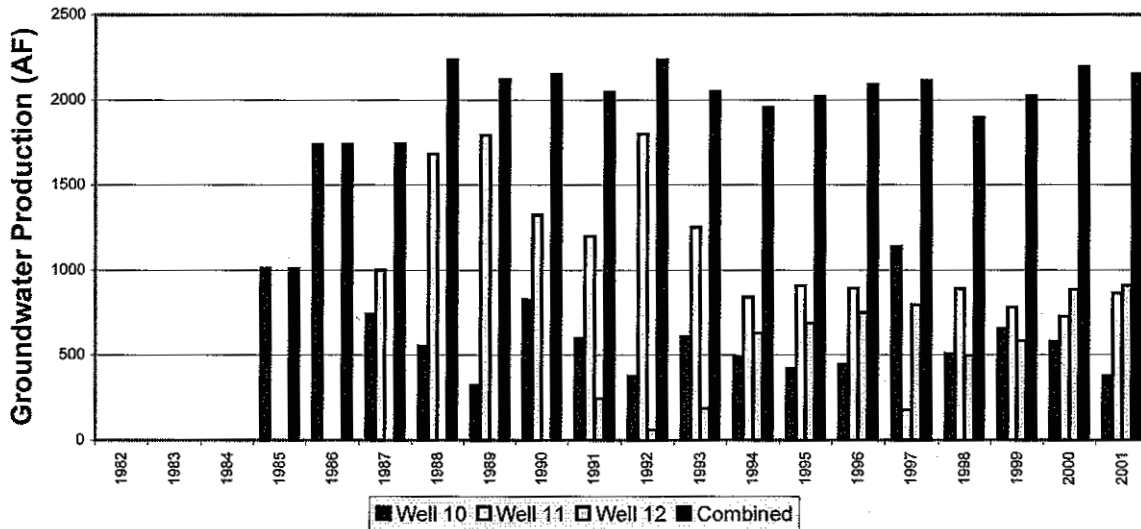
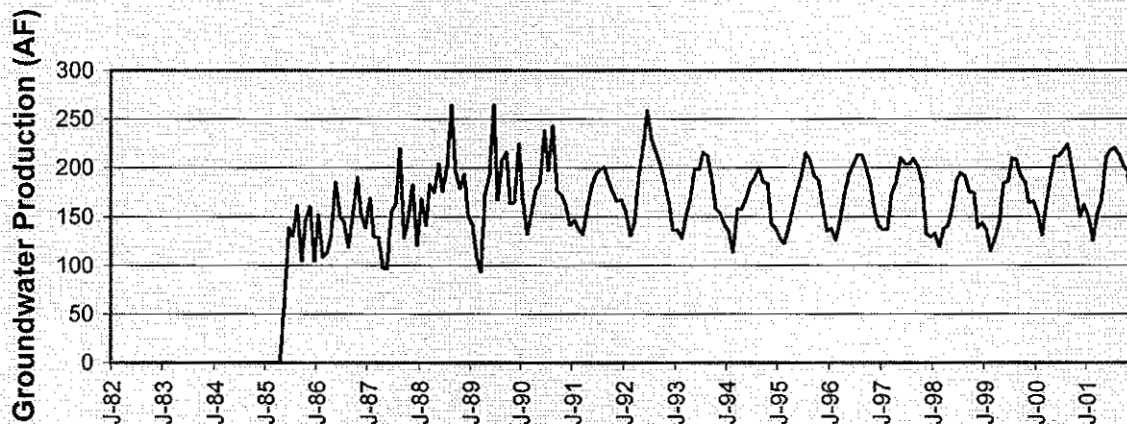


Figure 2.9b MCWD Monthly Groundwater Production



C. In the Gabilan Range and in the subsurface Salinas Valley, the Pliocene age Pancho Rico Formation is present. Although it was deposited in a different basin than the Purisima Formation, the Pancho Rico Formation contains fauna similar to and is litho logically identical to the Purisima Formation (Gribi, 1963). The thickness of the Pancho Rico Formation in the Marihart-Luckey well is about 1,000 feet.

Pliocene and Quaternary nonmarine — This group includes three units — the Pliocene-Pleistocene Paso Robles Formation, the Pleistocene Aromas Sand, and undivided Quaternary surficial deposits. These sediments form most of the outcrops in the lower Salinas Valley and are widespread in the subsurface. Although aquifer recharge occurs through the Quaternary sediments, they do not constitute a major water supply sources. The surficial Quaternary sediments include floodplain deposits, alluvial fans, eolian deposits, fluvial and marine terraces, and basin deposits. The Paso Robles Formation and the Aromas Sand are important water sources for the Salinas Valley and include the 180-foot and the 400-foot aquifers.

STRUCTURE

Faults — The Salinas Valley is a tectonic depression between two structural highs, the Gabilan Range to the northeast and the Santa Lucia Range to the southwest (Dupré, 1991). Uplift of the Gabilan Range is largely due to transpressional forces from the San Andreas fault (Dohrenwend, 1975). One of the principal faults associated with uplift of the Santa Lucia Range is the San Gregorio fault; it is the primary fault west of the San Andreas Fault in central California, and extends northward from Big Sur across Monterey Bay to join the San Andreas Fault north of San Francisco. Some right-slip from the San Gregorio fault has been distributed eastward to intra-Salinian faults, including the Monterey Bay/Navy/Tularcitos fault zone. The Monterey Bay fault zone is a 6-to 9-mile-wide zone of short en echelon northwest-striking faults that are the offshore extension of the northwest-striking faults in the Salinas Valley and Sierra de Salinas (Greene and others, 1973). As shown on Cross Section B-B', the Monterey Bay fault zone offsets Purisima Formation against Monterey Formation, with the southwest side upthrown. Another important strike-slip fault is the Rinconada fault that trends northwestward along the western side of the Salinas Valley. The Rinconada fault extends from Santa Margarita to Arroyo Seco. Near Arroyo Seco, the Rinconada fault dies out, steps east, and continues the Reliz fault. The Reliz fault extends at least as far north as Spreckels and likely joins the offshore Monterey Bay fault.

Gravity — A compilation map of isostatic gravity contours shows a prominent gravity low with a value of about -46 mGal near the western boundary of the former Fort Ord. This low extends as a northwest-southeast direction beneath the USGS DMW-1, Marina No. 11, Marina No. 12, and Fort Ord D wells (Langenheim and others, 2002). We interpret this gravity low as a

concealed sedimentary basin with the deepest part near Marina and the former Fort Ord. This deep basin could partly explain the unusually thick section of Purisima Formation penetrated by the USGS DMW-1 well. The gravity low continues southeastward, forming a trough parallel to the axis of the Salinas Valley.

Monterey Formation subcrop — We contoured the top of the Monterey Formation and the bottom of the Upper Miocene to Pliocene marine sequence, which consists of the Purisima Formation near the coast and the Pancho Rico Formation in the central Salinas Valley. Picks were compiled from several sources. Sources included interpretation of well logs and gravity data in the coastal area (this study), previous work in the Seaside and Laguna Seco area (Rosenberg and Clark, 1994; Yates and others, 2002), and cross sections of the Salinas Valley (Thorup, 1983). The data from these sources were reconciled to develop a map encompassing the region from the coast southeastward to King City. The density of well control is greatest near the coast and decreases farther southeast. Likewise, the accuracy of the picks follows the same pattern.

The resulting structural contours were digitized and saved as ESRI shapefiles. Figure 2.10 shows the structural of the top of the Monterey Formation. To create a three-dimensional surface of the structure, the shapefiles were converted into ESRI grid format. The area between the contours was interpolated with the tension spline method using ArcView 8.2 Spatial Analyst software. The altitude of the structural contours was then joined to existing nodes of the Salinas Valley Integrated Groundwater and Surface Water Model for use in modeling flow in the Deep Zone.

SOURCES OF INFORMATION

As part of modeling the deep aquifers, we developed three geologic cross sections. To construct the cross sections, a variety of sources were used. These include published geologic map compilations by Wagner and others (2002) and Rosenberg (2001), unpublished oil well records (on file at the California Division of Oil and Gas Resources (CDOGR), Santa Maria, California), unpublished scout reports (Gribi, E.A., and Thorup, R.R., unpublished notes), unpublished micro-paleontology reports (Chevron, undated; Ingle, 1989), and unpublished water well records (on file at the MCWRA, the MCWD, and the Monterey Peninsula Water Management District [MPWMD]). Information from these sources was integrated to form a coherent, internally consistent model of the subsurface geology extending from Moss Landing southward to Seaside, and from the offshore Monterey Bay southeastward to near Spreckels.

Figure 2.11 shows a cross section location map. Cross Section A-A' (Figure 2.12a) is parallel to the coast and extends from Seaside northward to the Elkhorn area. Cross Section B-B' (Figure 2.12b) is perpendicular to the coast and extends from approximately 9 miles offshore

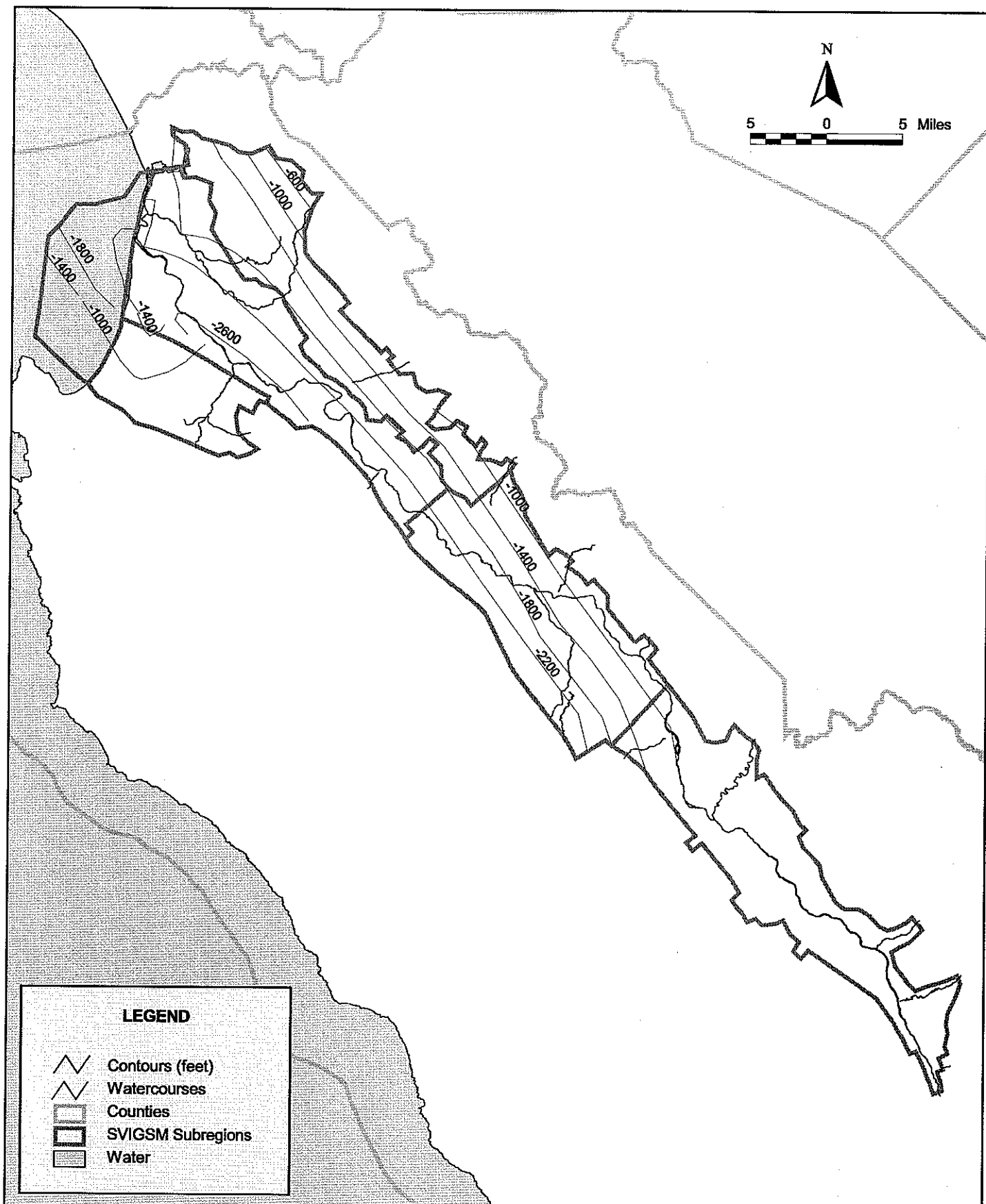
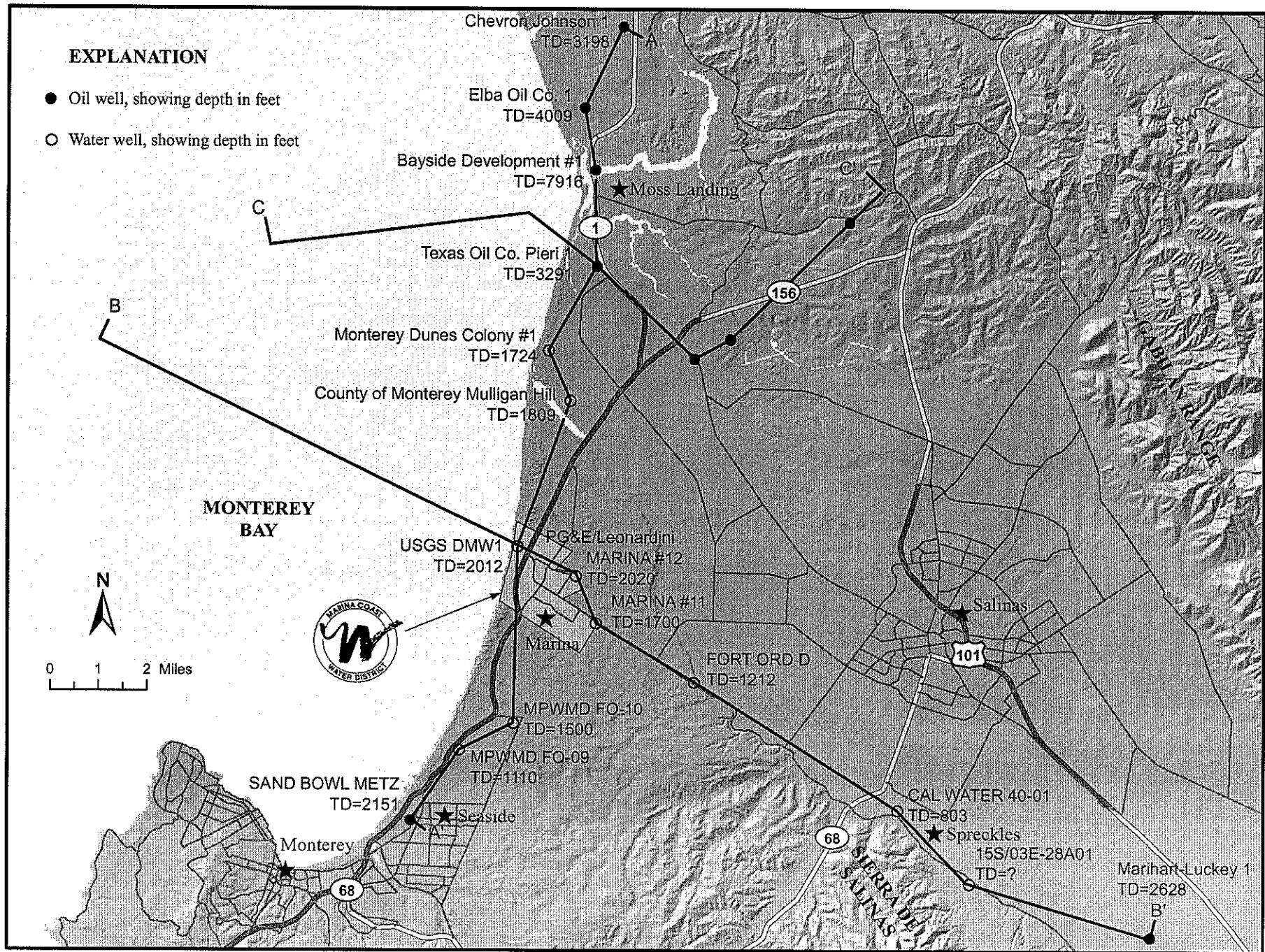
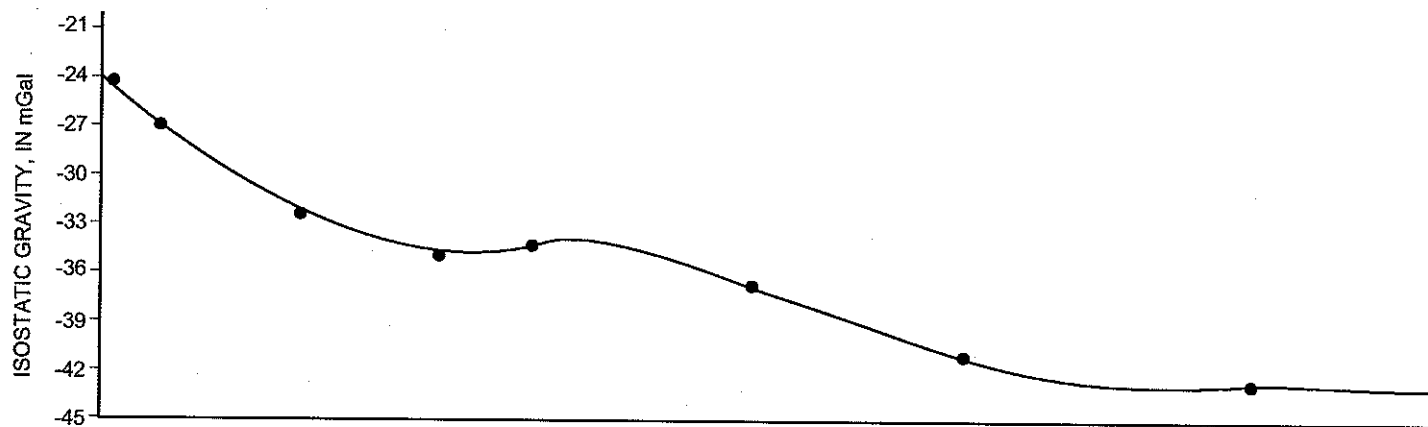
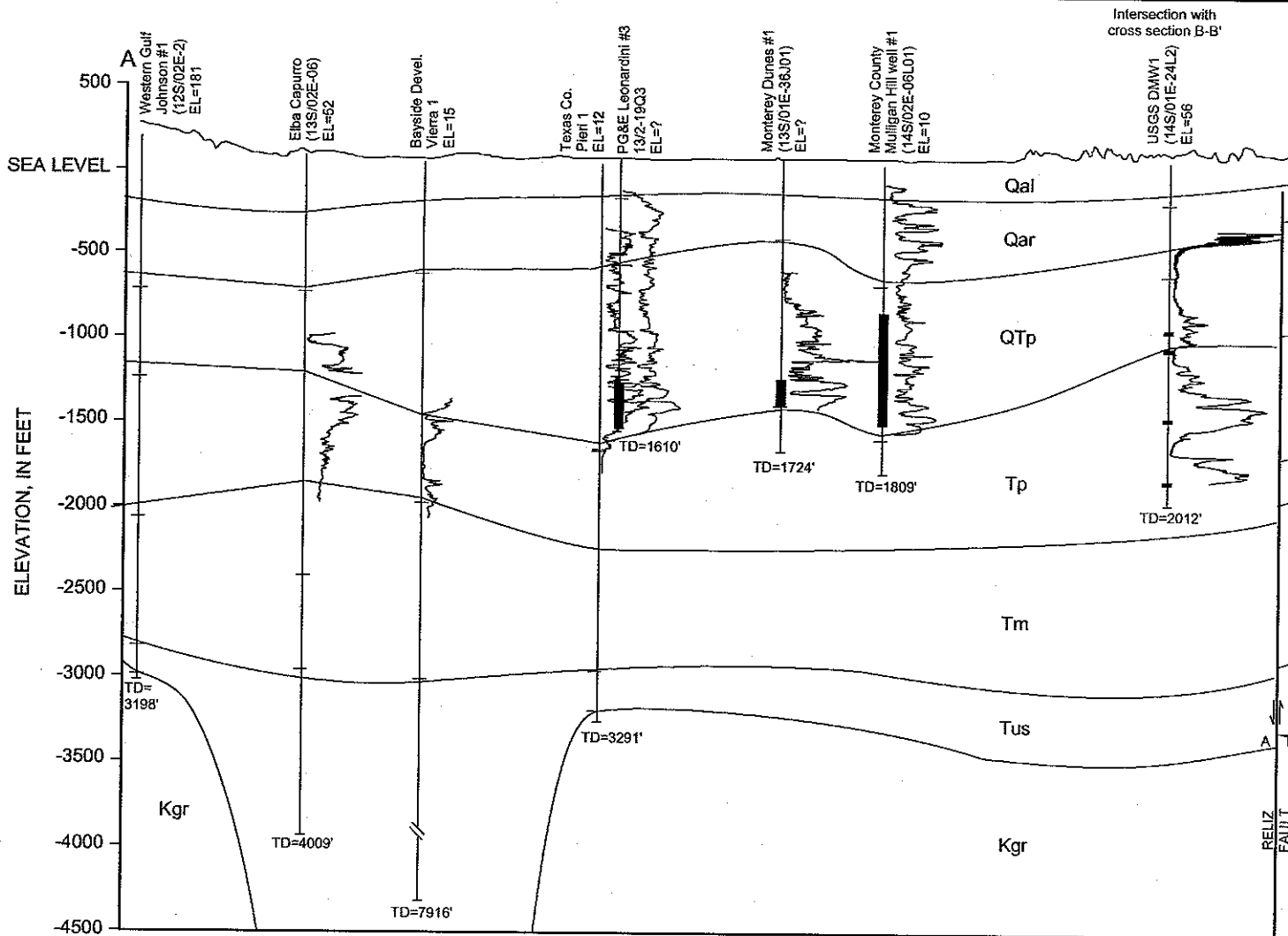


Figure 2.11 Cross Section Location Map



Base: USGS 30-meter National Elevation Dataset (2001)



SOURCES OF DATA

Geologic data compiled from published mapping (Hanson and others, 2002; Wagner and others, 2002; Rosenberg, 2001), oil well logs (CDOG files), unpublished scout reports (Gribi, E.A., Thorup, R.R.), unpublished micro-paleontology reports (Chevron, undated; Ingle, J.C., 1989; McDougall, K., 2001), water well logs (MCWRA, MCWD, and MPWMD files).

Gravity data from USGS published mapping (Langenheim and others, 2002).

Topography from USGS National Elevation Dataset (30-m resolution). Bathymetry from Degnan and others, 2001 (30-m resolution)

southeastward to near Spreckels. Cross Section C-C' (Figure 2.12c) is a modified version of a cross section by Geoconsultants (1996), with the area extended approximately 7 miles offshore and 4 miles northeastward to include the Fred Ash No. 2 wildcat oil well. The following descriptions discuss data for key wells used to constrain the cross sections.

Bayside Development Vierra 1 — According to CDOGR records, General Petroleum spudded this well in November 1944, drilling it to a depth of 5,739 feet. At that point Bayside Development took over the drilling, deepening the well to 7,818 feet, then abandoned it in February 1945. Lithologic picks are from e-logs, scout notes, Starke and Howard (1968), an unpublished correlation sheet by G.L. Harrington (1945), and unpublished data from the California Division of Mines and Geology (written communication to J.C. Clark, dated December 1967). The well never reached basement to its drilled depth.

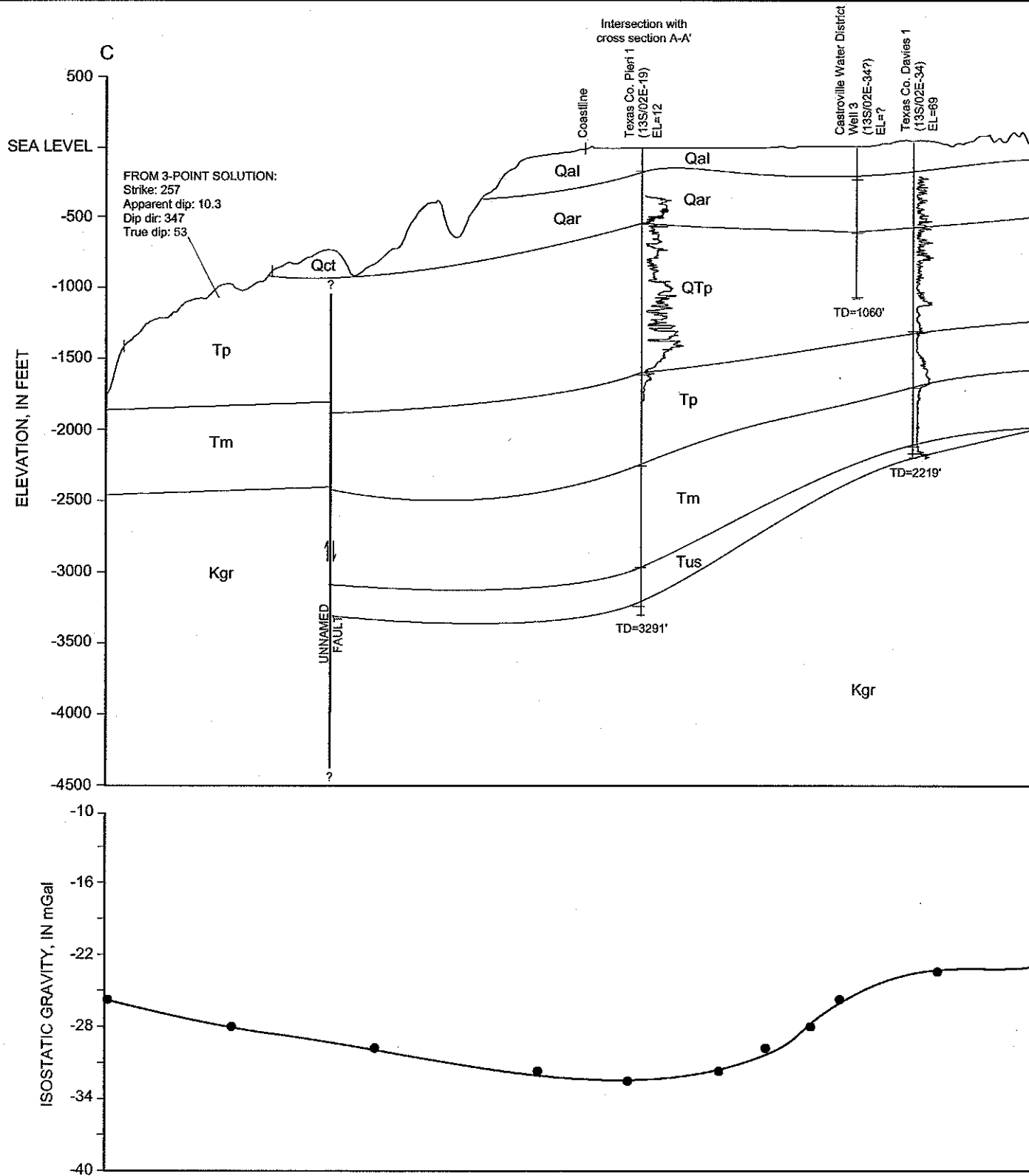
California Water Service 40-01 — This well was drilled in November 1983 to a depth of 912 feet. Picks are based on the DWR drillers log and an e-log. This well bottomed in the Paso Robles Formation.

Castroville Water District 3 — No drillers log was available for Castroville Water District Well 3. Picks were from an e-log contained in a report by Geoconsultants (1996). The well is 1,060 feet deep and bottoms in the Paso Robles Formation.

Elba Capurro — The Elba No. 1 well was drilled to a depth of 3,970 feet in April 1937 and abandoned in February 1939. There are no driller or geophysical logs of this well in CDOGR files. Picks were from a scout report (Gribi, E.A., and unpublished notes), a micropaleontology report (Goudkoff, P.P., 1937), an unpublished e-log (which shows a total depth of 4,009 feet, and unpublished paleontology records (Brabb, E.E., written communication, 2002). Of interest is a letter in the CDOGR files from the Deputy Supervisor of the Division of Oil and Gas, dated November 22, 1938, which reports fresh water to a depth of 1,280 feet, below which is brackish to salt water. The well never reached basement to its drilled depth.

Fort Ord D — The Fort Ord D well was drilled by Geotechnical Consultants to a depth of 1,162 feet in January–February 1995. Lithologic picks are from the geologic log and e-log. The well bottomed in the Paso Robles Formation.

Fred Ash & Sons 2 — Local water well driller Fred Ash drilled this well as a wildcat oil play in September 1966. The well was drilled to 1,959 feet and bottomed in “sticky blue green shale” which we interpret as the Monterey Formation. CDOGR records state that no oil shows were observed and the well was capped with the intent of converting it into a water well. Stratigraphic picks are based on driller’s log and an e-log annotated by R.R. Thorup.



Marihart-Luckey 1 — The Marihart-Luckey well was drilled by R.R. Thorup as a wildcat oil well to a depth of 2,628 feet in November 1958. No oil shows were noted according to CDOGR records so the well was abandoned. The CDOGR Report on Proposed Operations notes that non-marine strata were encountered from surface to total depth, and that the age of the bottom was Pliocene. Based on regional geologic mapping, we interpret these rocks as belonging to the Pancho Rico Formation.

Marina Well Nos. 11 and 12 — Well No. 11 was drilled in November–December 1985 to a depth of 1,700 feet. Well 12 was drilled in November 1988 to a depth of 2,020 feet. Geologic reports by Geoconsultants (1986, 1989) and a paleontology report by Ingle (1989) were used for the picks. However, one important difference in interpretations is that Ingle interprets Well Nos. 11 and 12 as bottoming in Pleistocene sediments, whereas we interpret them as bottoming in the Purisima Formation. Our interpretation is based on correlating e-log markers from the USGS DMW-1 well and the statement by Ingle (1989, p. 5) that “many of the species have a broad Pliocene-to-Recent age range” which allowed us to relax the interpretation that these wells were strictly in Pleistocene sediments.

Monterey County Mulligan Hill #1 — This well was drilled as a test well to a depth of 1,809 feet in September–December 1976. Based on paleontologic analysis of ditch and bit samples, Thorup reported that the well bottomed in Monterey Formation (1983, plate 10).

Monterey Dunes #1 — This well was originally drilled March–May 1972 to a depth of 687 feet. Subsequently, in late January 1977, it was deepened to 1,724 feet. Picks are from drillers logs and e-logs. The well bottomed in what we interpret as Purisima Formation.

MPWMD FO-09 and FO-10 — Well FO-09 was drilled in August 1994 to a depth of 1,100 feet and Well FO-10 was drilled in September 1996 to a depth of 1,500 feet. Picks were from MPWMD Technical Memorandums 94-07 and 97-04 (Oliver, 1994, 1997). Although these reports show the wells bottoming in the Santa Margarita Sandstone, we interpret them as reaching the Purisima Formation based on review of preliminary cross sections by the logging geologist J.W. Oliver (MPWMD).

PG&E Leonardini #3 — This well is near the Pieri well and was used to refine the upper stratigraphy. The well was drilled February–May 1980 to a depth of 1,610 feet. Picks are from the DWR driller’s report and an e-log.

Sand Bowl Metz — The driller log in the CDOGR records is scanty (0–565': surface sand, 565–1,160': shale, 1,160–1,430': sand, 1,430–1,890': sandy shale, and 1,890–2,151': basement rock). The CDOGR files also contain an e-log for this well. To supplement these data, we used the

driller's log and e-log from the nearby Monterey Sand Company water well (15S/01E-15P02) shown on Cross Section B-B' of Staal, Gardner & Dunne (1990).

Texas Co. Davies— Scout records reveal that the Davies well was drilled as a play based on geophysical methods (E.E. Gribi, unpublished data). The Davies well was drilled and abandoned in August 1949. The well reached a depth of 2,219 feet and bottomed in granitic basement. Picks were from an e-log annotated by R.R. Thorup; ditch, sidewall, and core sample logs; and scout records by Gribi. Only the sidewall and core sample data are in the CDOGR files. Thorup's e-log notes show "Purisima" extending from 1,320 to 1,680 feet. Also of interest is a note on the CDOGR Well Summary Report, which lists the fresh water/salt water contact at 1,690 feet depth.

Texas Co. Pieri— The Pieri well was drilled and abandoned in August 1949 to a depth of 3,291 feet. Picks are from CDOGR records and an e-log. The well reached basement.

Western Gulf Johnson 1— The Johnson 1 well was drilled in November–December 1932 to a depth of 3,198 feet. No records for this well were available from CDOGR. The picks were made from the Western Gulf Oil Company oil well log (dated February 17, 1933) and a Standard Oil Company of California paleolog (dated January 27, 1953). The well bottomed in granitic rock.

USGS DMW-1— The USGS well is the most recent (2000) and most detailed well in the deep aquifer. Core samples, geophysical logs, and paleontologic analysis show that this well encountered a thick section of Purisima Formation. Picks are from Hansen and others (2002).

AQUIFER PARAMETER AND HYDRAULIC RELATIONSHIPS

Aquifer parameter data are limited. Transmissivity values are available from a few wells where formal aquifer tests were performed at the time of well completion. Additional transmissivity data can be estimated from specific capacity data utilizing the Logan approximation (Logan, 1964). Hydraulic conductivity data from slug testing are available for the four separate completions of the USGS monitoring well. Hydraulic conductivity tests are also available for a few sidewall cores from MCWD Well 10. No formal estimates of storativity have been advanced. The available aquifer parameter data are presented in Table 2.2.

Table 2.2 Aquifer Parameter Data

State Well No.	Name	Method	Screen Length (feet)	Transmissivity (gpd/ft) tested estimated		Hydraulic Conductivity (ft/day)
T13N/R2E-19Q03	PG&E/Leonardini	SC	270		12,755	6.3
T13N/R2E-32M02	Sea Mist	SC	810		23,789	3.9
T14N/R2E-06L01	Co. of Monterey	SC	660		32,606	6.6
T14N/R2E-24L05	DMW-1-4	slug	20		359	2.4
T14N/R2E-24L04	DMW-1-3	slug	20		2086	13.8
T14N/R2E-24L03	DMW-1-2	slug	20		1137	7.6
T14N/R2E-24L02	DMW-1-1	slug	40		4338	14.5
T14N/R2E-30G03	MCWD No. 12	Pumping	240	29,700		16.5
T14N/R2E-32D04	MCWD No. 11	Pumping	200	24,300		16.4
T14N/R2E-31H01	MCWD No. 10	Pumping	210	40,000		25.4
T14N/R2E-31H01	MCWD No. 10 @ 842	lab	--	--	--	4.6
T14N/R2E-31H01	MCWD No. 10 @ 1460	lab	--	--	--	0.6
T13N/R1E-25R01	Mty Dunes Colony #3	SC	60		9,091	20.2

Methods: SC – Logan Approximation
 Slug – Slug test

Pumping – Pumping test
 Lab – sidewall sample in laboratory

WELL INTERFERENCE TESTS

MCWD Well Nos. 10, 11, and 12. In order to supplement the available aquifer parameter data and to better understand the interactions between MCWD wells for modeling purposes, a well interference test was performed. Each MCWD well was equipped with a water level data logger. Each of the wells was shut down for a week while the other two wells met system demand. The results of the test are presented in Figure 2.13.

Well No. 12 was shut down for the first week followed by Well 10 for the second week and Well No. 11 for the third week. During Week One, the Well No. 12 water level record displayed a conventional recovery response. The recovery curve was undisturbed by interference with other wells although the operational cycles of Well Nos. 10 and 11 during this period are obvious in their records. Well No. 10 was off for Week Two. Well No. 10 also showed a recovery curve; however, this curve was disturbed with a classic interference signature, corresponding to the operations of Well No. 11. During the third week and part of the fourth, Well No. 11 was off. Again, the recovery curve of this well was disturbed with the interference signature from Well No. 10, demonstrating the mutual interference between Well Nos. 10 and 11.

The interference between Well Nos. 10 and 11 is relatively consistent with the expected theoretical response utilizing the available aquifer parameters. The lack of measurable response in Well No. 12 suggests that this well is not in hydraulic communication with Well Nos. 10 and 11. The observed and predicted responses are presented in Table 2.3.

Figure 2.13 Well Interference Testing for MCWD Wells Nos. 10, 11, and 12

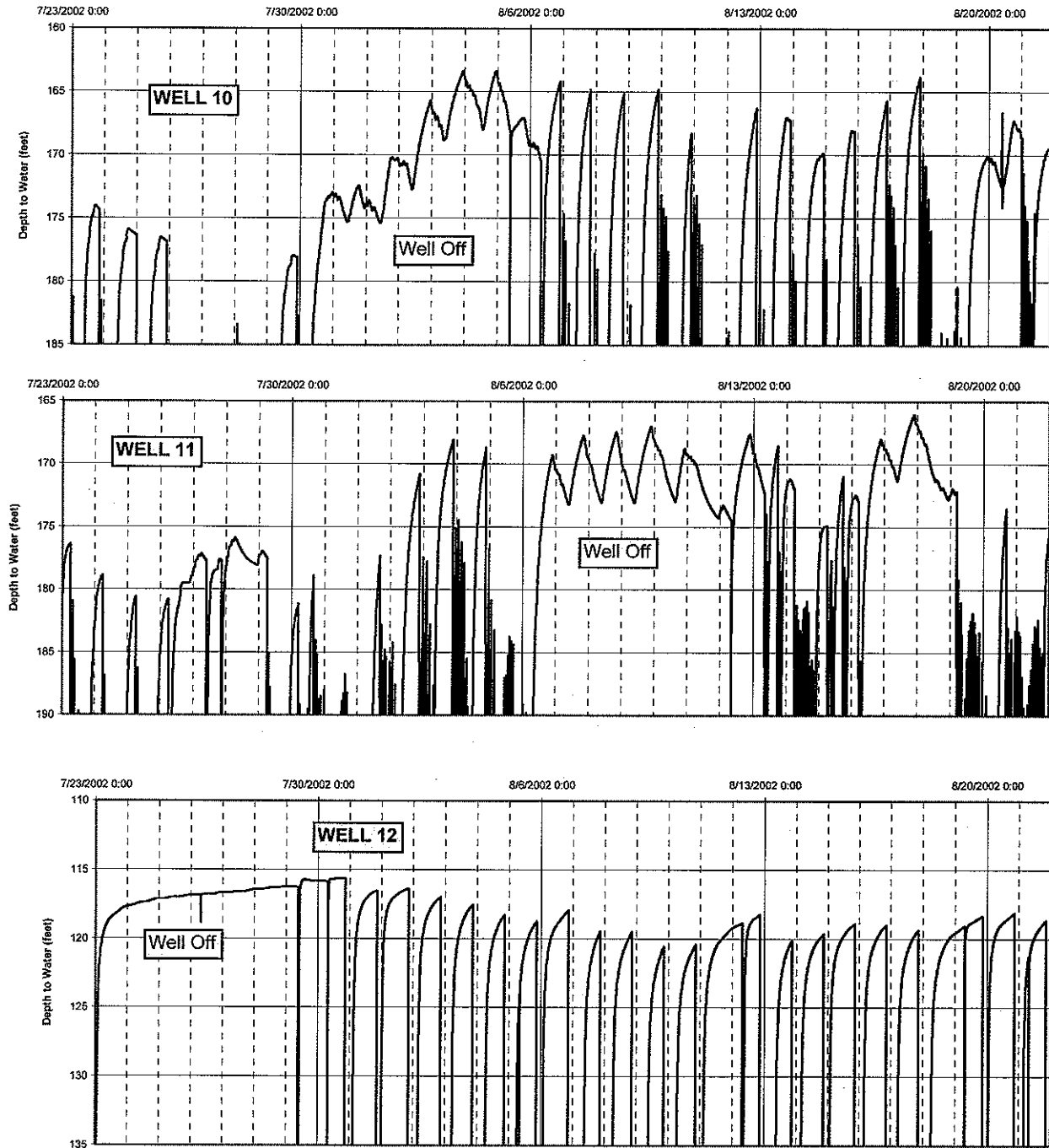


Table 2.3 The Observed and Theoretical Response from MCWD Wells

Wells	Distance (feet)	Discharge Rate (gpm)	Observed Drawdown Response (feet)	Theoretical Drawdown Response (feet)
Well 10 on 11	2,850	1,500	3	8.1
Well 11 on 10	2,850	1,800	5	9.7
Well 10 on 12	5,650	1,500	0	2.7
Well 11 on 12	3,950	1,800	0	6.1

Assumptions: Convention Theis Analysis, Transmissivity 31,000 gpd/ft, Storativity 0.0001, 0.25 days

Note: Storativity is assumed and regional leakage could not be determined due to insufficient data

The difference between observed and theoretical responses likely derives from the fact that each aquifer from which these wells produce is more accurately an aggregation of smaller aquifers, making invalid some of the assumptions required for theoretical prediction. Still, the magnitude of the observed interference in Well Nos. 10 and 11 is consistent with predicted responses. The lack of any interference response to the combined pumping of Well Nos. 10 and 11 on Well 12 is significant, suggesting hydraulic isolation of this well relative to the other two. This finding is consistent with the geologic interpretation that places Well No. 12 in the Purisima Formation, whereas Well Nos. 10 and 11 are largely in the Paso Robles Formation.

Close inspection of the recovery record of Well No. 12 shows minor variations in water levels superimposed on the recovery curve. Closer inspection of these data (Figure 2.14) the variations are a tidal signature that correlate directly with the tides in Monterey Bay.

USGS Monitoring Well versus MCWD Well No. 12. Three of the four wells at the USGS Monitoring Well are completed in the Purisima Formation (USGS, 2002). Geologic interpretation and the well interference data indicate that MCWD Well No. 12 is also completed in the Purisima Formation. Figure 2.15 compares water level data collected at the four USGS monitoring wells with data collected from Well No. 12 during the Well Interference exercise described above. Most evident in Figure 2.14 are the strong tidal signature in all of the USGS wells, and the strong correlation and lack of lag time with tides in Monterey Bay. Comparison of the pumping schedule of Well No. 12 and the water level records of the four monitors suggests a response in the deepest monitor (DMW-1-1), corresponding to the shut down and start-up of Well No. 12. There is a similar, although more subdued, response in the next deepest well (DMW-1-2). No evidence of response is apparent in the other two monitors (DMW-1-3 and -4). These results appear consistent with the perforated elevations of the monitoring wells and Well No.12. The latter is perforated between elevations -1283 to -1833

Figure 2.14 MCWD Well No. 12 -- Idle Period Record

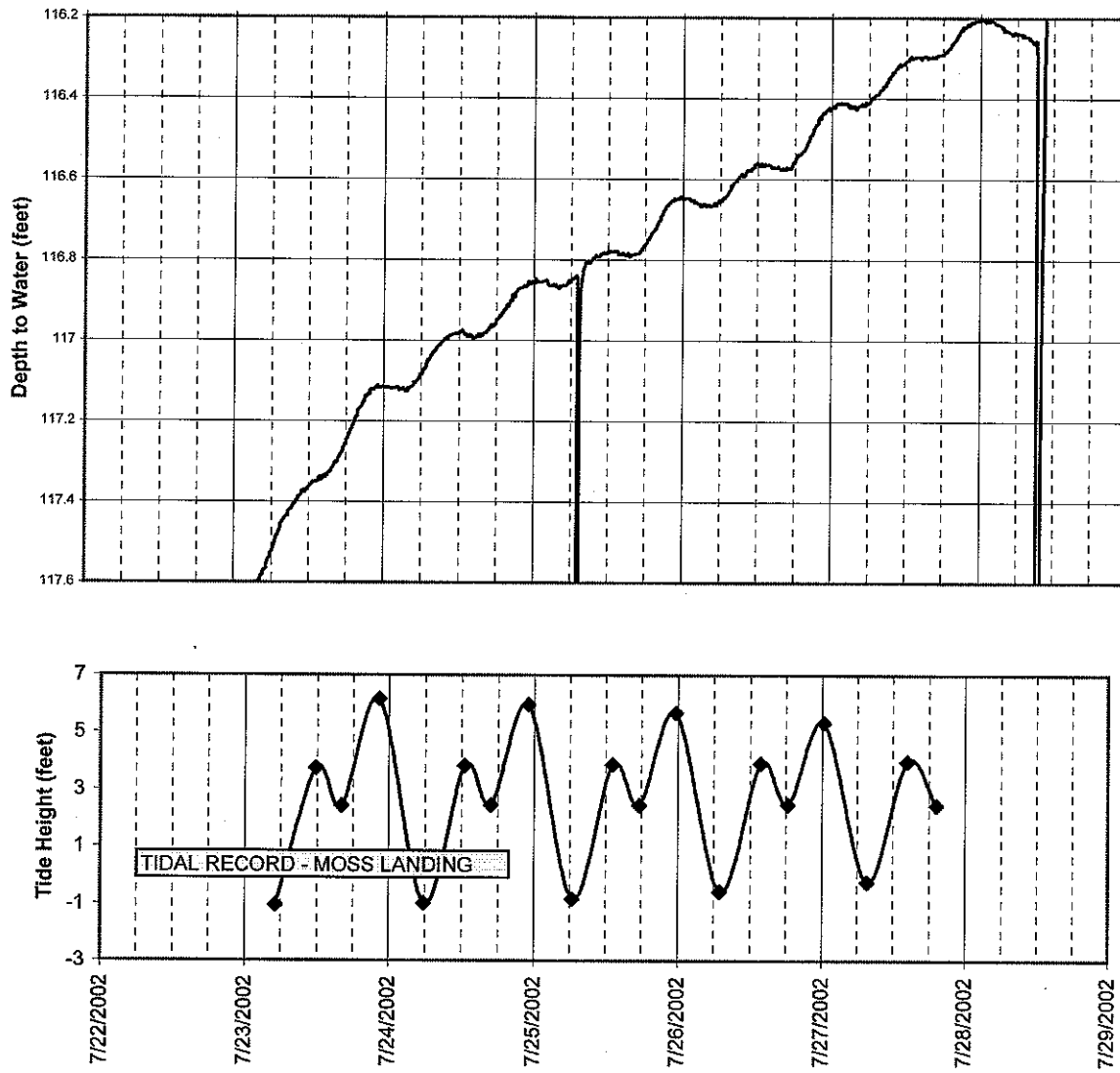
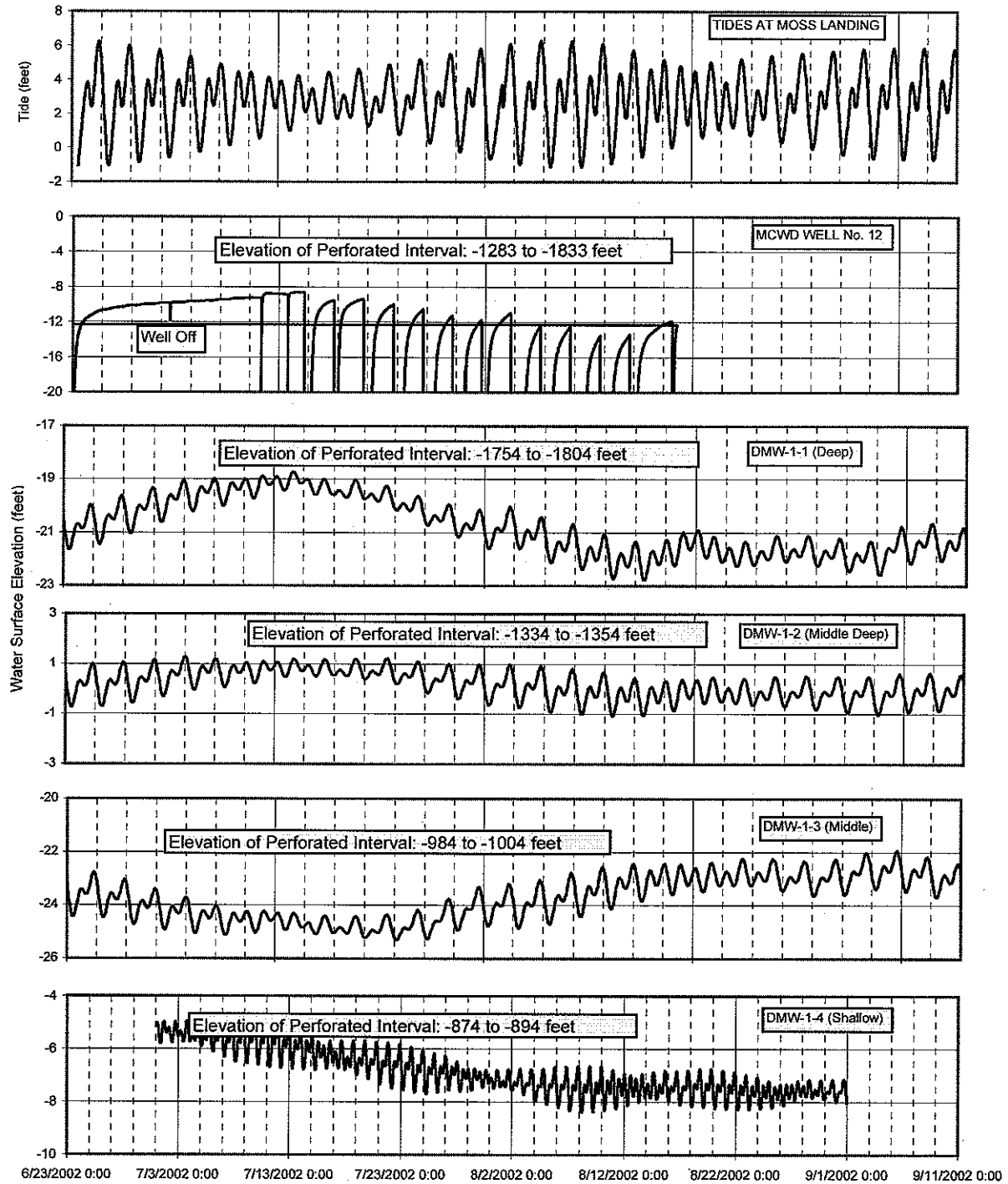


Figure 2.15. USGS Monitoring Well vs. MCWD Well No. 12



feet, whereas DMW-1-1 and DMW-1-2 are perforated at elevations -1754 to -1804 feet and -1334 to -1354 feet, respectively.

TIDAL FLUCTUATIONS

As noted above, the USGS monitoring wells, as well as other wells, all show a strong tidal signature. The water level data reveals no evidence of a significant time lag between the ocean and aquifer response. Because of the lack of lag time, it is speculated that the response is the result of cyclic loading of the aquifer, rather than hydraulic fluctuations at a possible outcrop.

Assuming cyclic loading, the tidal response data can be utilized to calculate a storage coefficient for these aquifer units. The ratio of aquifer water level change to tidal change is the tidal efficiency of the aquifer. In all four wells, the aquifer response is approximately 2 feet of change in response to 6 feet of tidal fluctuation, or a ratio of 0.33. Tidal efficiency can be related to storage coefficient utilizing the following equation (Lohman, 1972):

$$S = \theta \rho b \beta (1/1-TE)$$

Where:	θ = porosity	= 0.3
	ρ = specific weight of water	= 0.434 lbs/in ² ft
	b = aquifer thickness	= 20 feet
	β = Inverse of water elasticity	= 3.3×10^{-6} in ² /lb
	TE = tidal efficiency	= 0.33

Utilizing these values, a specific storage coefficient of 1.3×10^{-5} (dimensionless) can be calculated, a value considered very appropriate for confined conditions. This value is lower than that estimated from the well interference analysis. However, this value is not influenced by leakage effects that may be moderating drawdown at the production wells. For this reason the value derived from the tidal data may be more appropriate for the aquifer system as a whole.

IMPLICATIONS OF HYDROGEOLOGIC FINDINGS

Taken together, the overall conclusion that can be derived from the collected data and the preliminary analysis is that the deep aquifers from which MCWD extracts its water supply is actually two separate aquifer systems. Existing geologic and water chemistry data suggest that MCWD Well Nos. 10 and 11 produce primarily from the Paso Robles Formation, whereas MCWD Well No. 12 produces from the Purisima Formation. In contrast, the deep aquifers wells in the Castroville area are interpreted to produce from the Paso Robles Formation. Aquifer response data suggests these two aquifer systems are hydraulically isolated from each other.

RECHARGE CONSIDERATIONS

The hydrogeologic interpretation of the deep aquifers raises questions regarding the nature and magnitude of recharge to these aquifers. Well No. 12 is completed in and produces primarily from the Purisima Formation. The Purisima Formation is not exposed on land in Monterey County. The closest land exposure is in Soquel where the Formation is the primary source of water for the Soquel Creek Water District. Therefore, recharge for the Purisima Formation (Well 12) is primarily leakage from overlying aquifers. Some portions of extractions may be supported by depletion of groundwater storage. However, the low estimates for storage coefficients for this aquifer system suggest that the volume of groundwater that can be removed from storage is not large.

The Paso Robles Formation crops out extensively throughout the Salinas Valley region. However, in most locations, the Formation underlies the Salinas Valley alluvium and Aromas Sands that comprise the 180-foot aquifer and upper portion of the 400-foot aquifer. The alluvium receives recharge primarily from the river and irrigation return flows. In areas where Paso Robles is overlain by alluvium, recharge is from leakage from overlying aquifers.

There are 37,500 acres of Paso Robles Formation exposed in Monterey County. Of this area, 33 percent (or 12,400 acres) is exposed in the El Toro–Laguna Seca Area where the Formation constitutes as recharge area for these areas. The remaining acreage of Paso Robles Formation is exposed on the west side of the Salinas Valley. However, much of this area is in the rain shadow of the Santa Lucia Range. Annual rainfall on the outcrop areas is less than 12 inches. With this limited rainfall, direct recharge to the outcrops of Paso Robles Formation from precipitation is minimal, if any. Given the hydrogeologic setting, extractions from the Paso Robles Formation also appear to be primarily supported by leakage from the overlying shallow aquifer system.

The implications regarding recharge mechanisms are generally supported by the water level history of MCWD wells. All three of MCWD wells show a similar water level history: a rapid decline as local storage is depleted, then a stabilization as extractions equilibrate with leakage. This interpretation is best evaluated by modeling.

SECTION 3

SALINAS VALLEY INTEGRATED GROUND AND SURFACE WATER MODEL (SVIGSM) UPDATE

The purpose of this section is to describe the development of the SVIGSM, its applications in various studies, the modifications made to the deep aquifer layer of the model and any related changes to the hydrogeologic parameters, and the summary results of recalibrating the model.

The section is divided as follows:

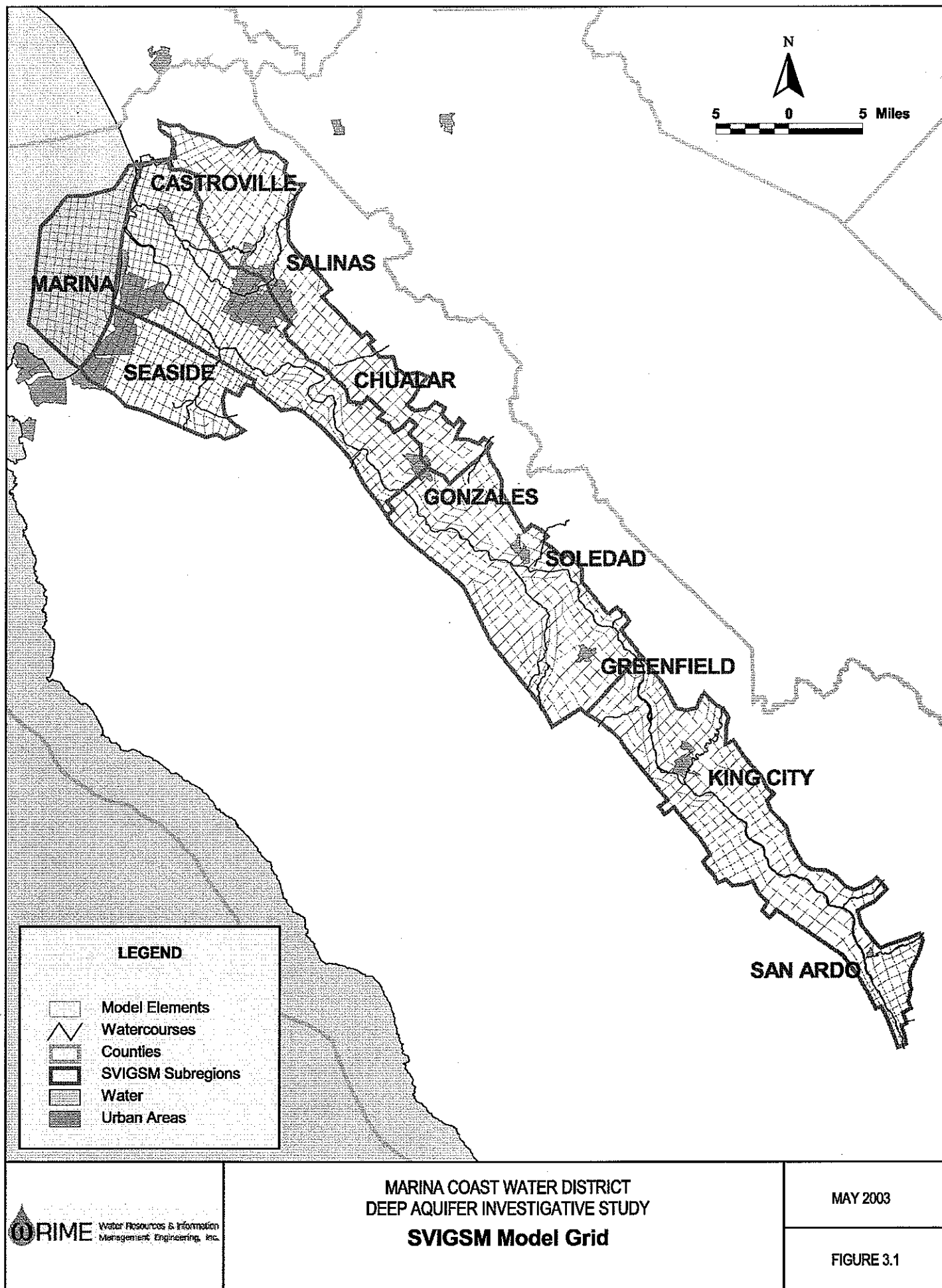
- SVIGSM Background provides information about the development of the model, updates and modifications to the model in the last 5 years, capabilities of the model, and applications of the model;
- Code Update provides information about older and recently released IGSM codes and the impacts of the code update on model results;
- Data Update provides information about the impacts on the model simulation due changes in model stratigraphy and the efforts to mitigate those impacts.

Model results presented in Section 3 are associated with historical water years 1959 through 1994, representing the historical record of when the Salinas River was regulated.

SVIGSM BACKGROUND

The SVIGSM is the most recent analytical tool that analyzes the hydrologic conditions in the Salinas Valley groundwater basin. Prior to the development of SVIGSM, there were two significant modeling efforts at a basin-wide level. The first model was developed in 1978 by the USGS and the second model was developed in 1986, based on the predecessor to IGSM, the FEGW14. Both models focused on the groundwater flow in the basin, and had limited interaction with the surface processes. The previous modeling efforts did not consider the special importance of the hydrologic processes of the Salinas Valley groundwater system with respect to land and water use processes and daily rainfall and runoff in the main watershed and tributary watersheds, and to the regulation of Salinas River flows by Nacimiento and San Antonio Reservoirs.

The SVIGSM, developed in 1993, utilized the databases from the previous modeling efforts with significantly additional data developed as part of the Salinas River Basin Management Plan (BMP). The model development is documented in the report on BMP Task 1.09 (Montgomery Watson, 1995). The SVIGSM model network is shown in Figure 3.1.



The SVIGSM has gone through substantial updates and revisions since its initial development. These updates are reported in the *Salinas Valley Integrated Ground Water and Surface [water] Model Update* (Montgomery Watson, 1997), *Salinas Valley Historical Benefits Analysis (HBA)* (Montgomery Watson, April 1998), and *Update of the Historical Benefits Analysis (HBA) Hydrologic Investigation in the Arroyo Seco Cone Area: Monterey County Water Resources Agency* (Ali Taghavi and Associates, February 2000). The following summarizes the data and model revisions performed as a result of these studies. The reader is referred to the individual reports for additional discussion.

The following was specifically revised as a result of the 1997 work:

1. 1989/1991 land use and irrigated crop acreages were included;
2. assumptions associated with the Truck crop acreages that remain idle during crop rotation were finalized and included in the model;
3. the vegetation corridor along the Salinas River was coded as riparian as opposed to native vegetation;
4. distribution of hydraulic conductivity was modified; and
5. aquifer parameters were revised to ensure the proper calibration of model results to the historical groundwater conditions for the period from October 1969 to September 1994.

The following was specifically revised as a result of the April 1998 work:

1. the October 1969 to September 1994 simulation period was extended to October 1949 to September 1994;
2. land use and irrigated crop acreages were updated to reflect the lengthened simulation period;
3. crop evapotranspiration and irrigation efficiencies were changed from a static data set to a transient data set to allow for changes in agricultural technology and techniques over the 50-year simulation period;
4. urban water demand and surface water diversions were updated to reflect the lengthened simulation period;
5. groundwater pumping distribution was updated to reflect the lengthened simulation period and to reflect changes in land development over that time;
6. specific capacities and hydraulic conductivities in the Arroyo Seco Cone area were updated based on studies conducted by others;

7. soil parameters were adjusted to provide better consistency and to improve the overall water balance of the valley; and
8. model simulation results were verified with observed data.

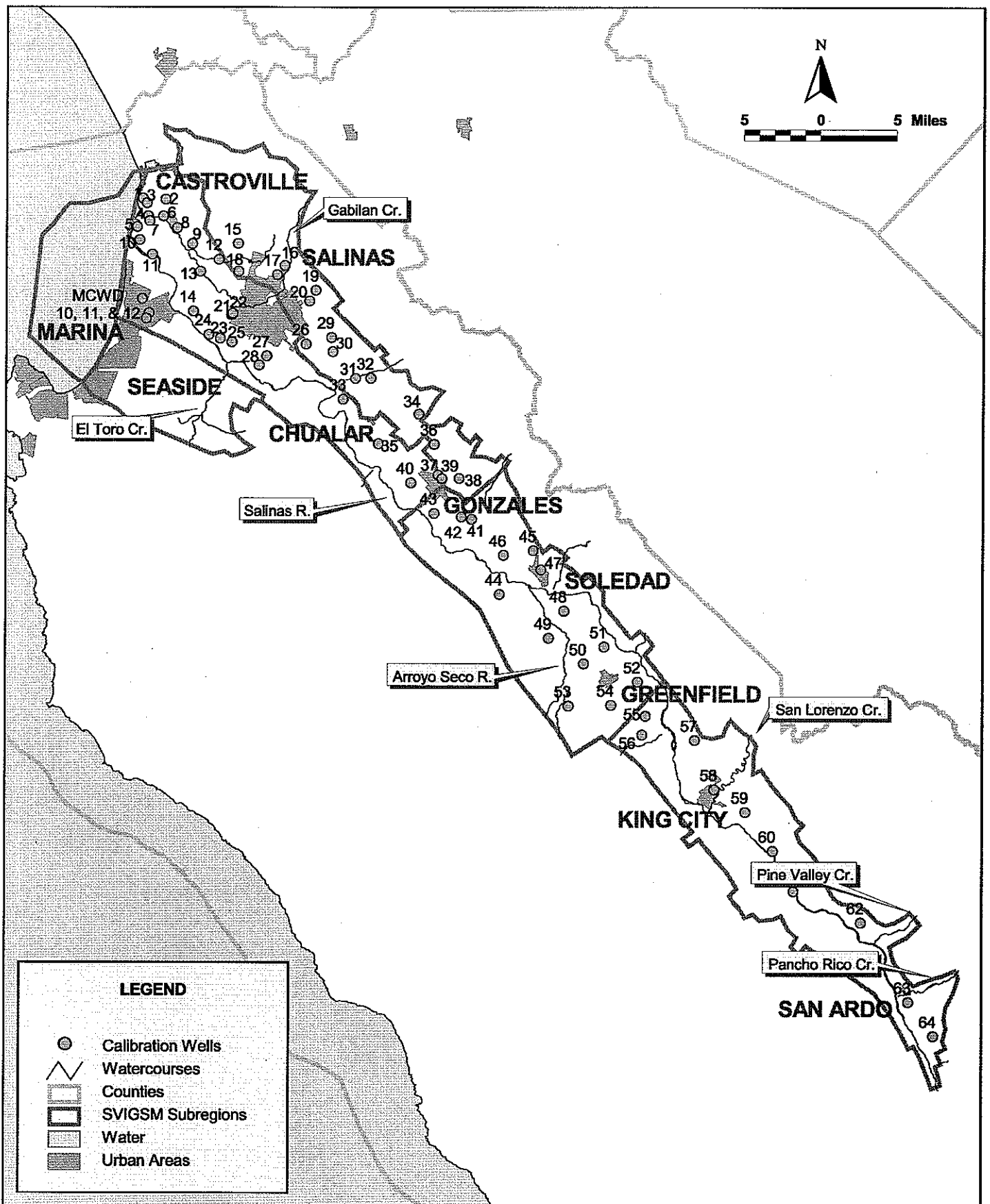
Figure 3.2 shows the location of calibration wells used in the 1998 work. Figures 3.3a through 3.3e show a statistical evaluation of the SVIGSM (v. 4.18, 1998) calibration performance associated with the 1998 work.


The following was specifically revised as a result of the February 2000 work:

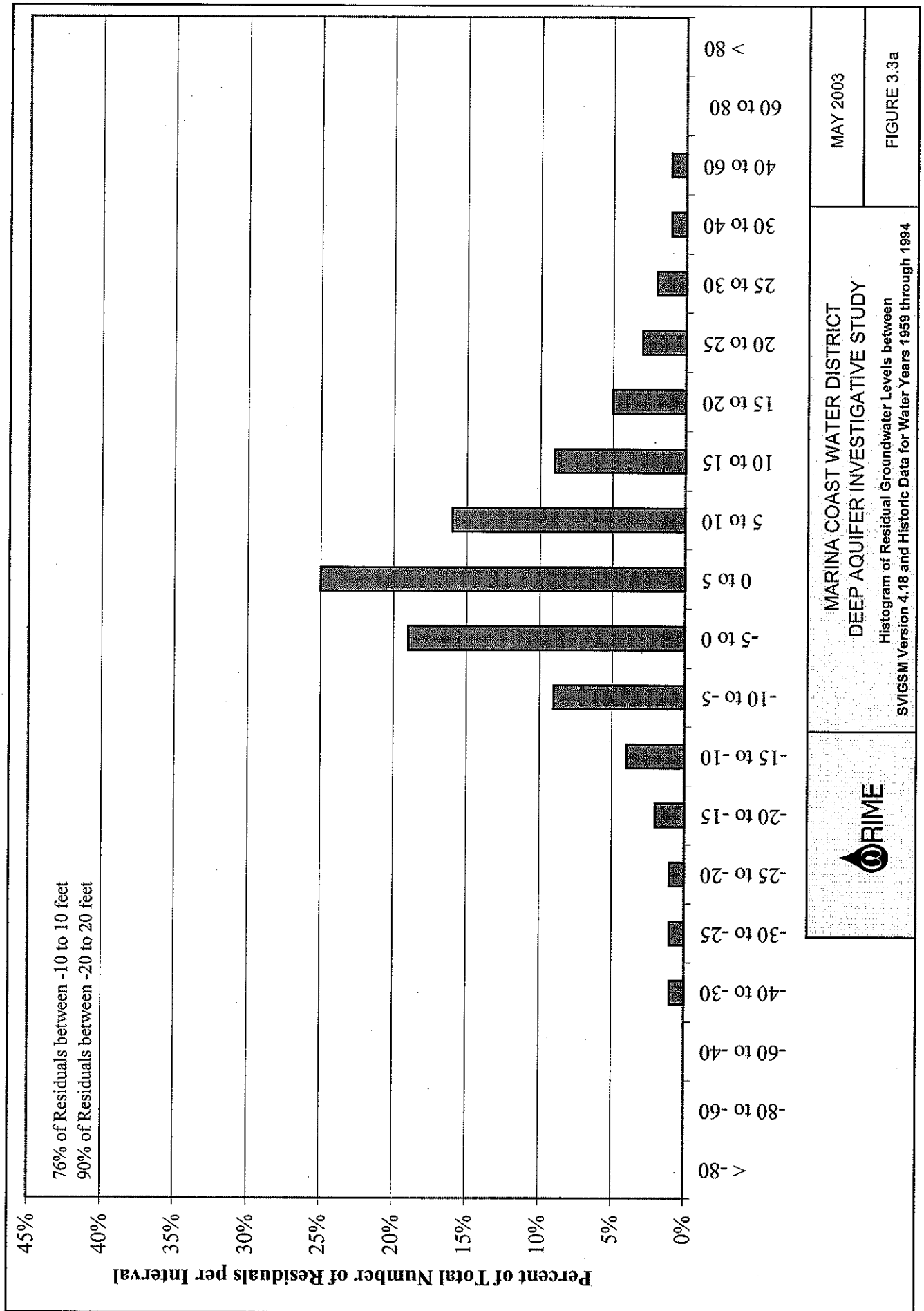
1. the SVIGSM calibration in the Arroyo Seco Cone area was refined to include the latest streamflow and hydrogeologic data available, and
2. reservoir operation routine was revised to more appropriately simulate the potential diversions of the water from the Nacimiento reservoir by San Luis Obispo County, under the baseline and alternative scenario analyses.

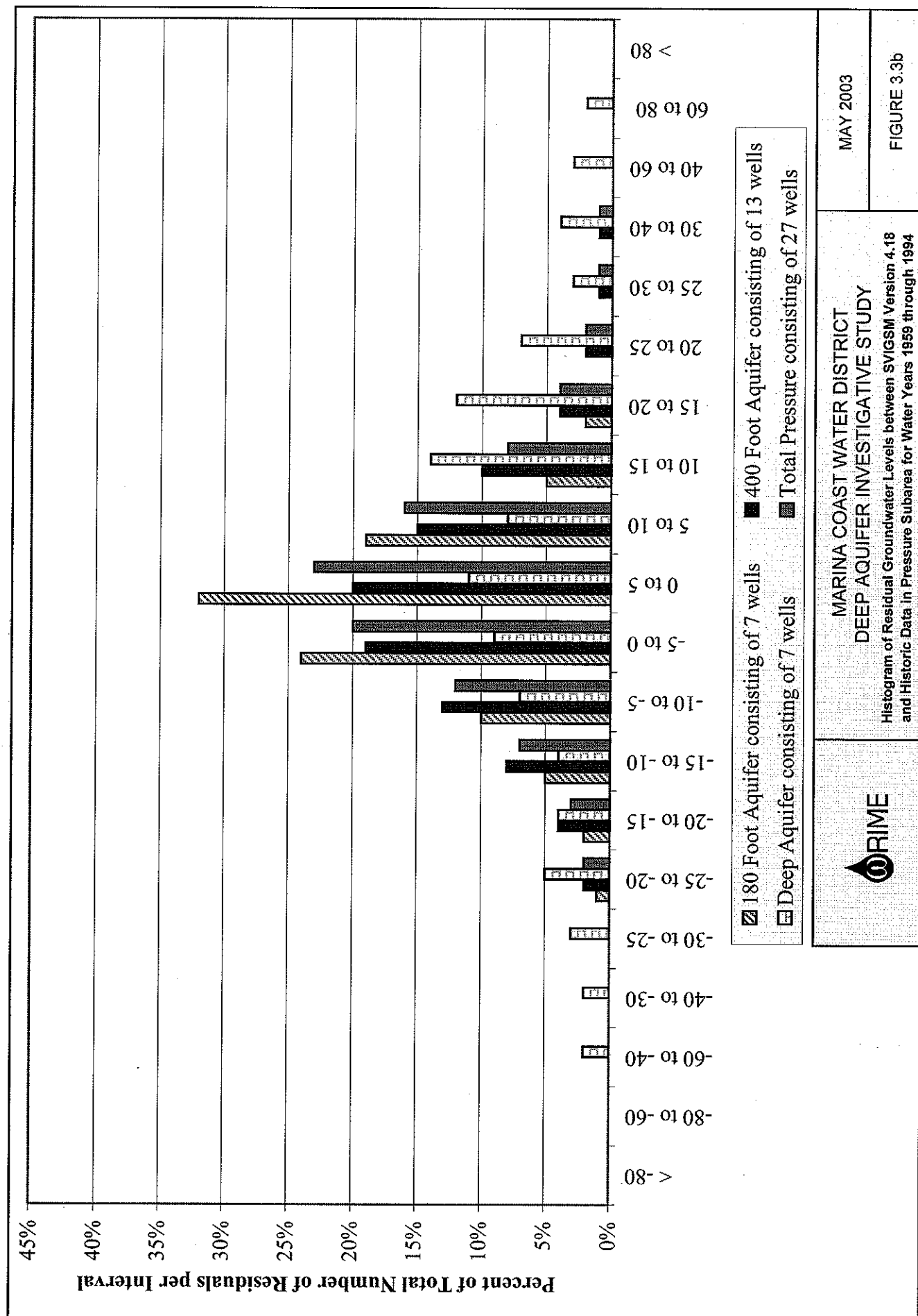
The SVIGSM contained the following features as a result of these updates:

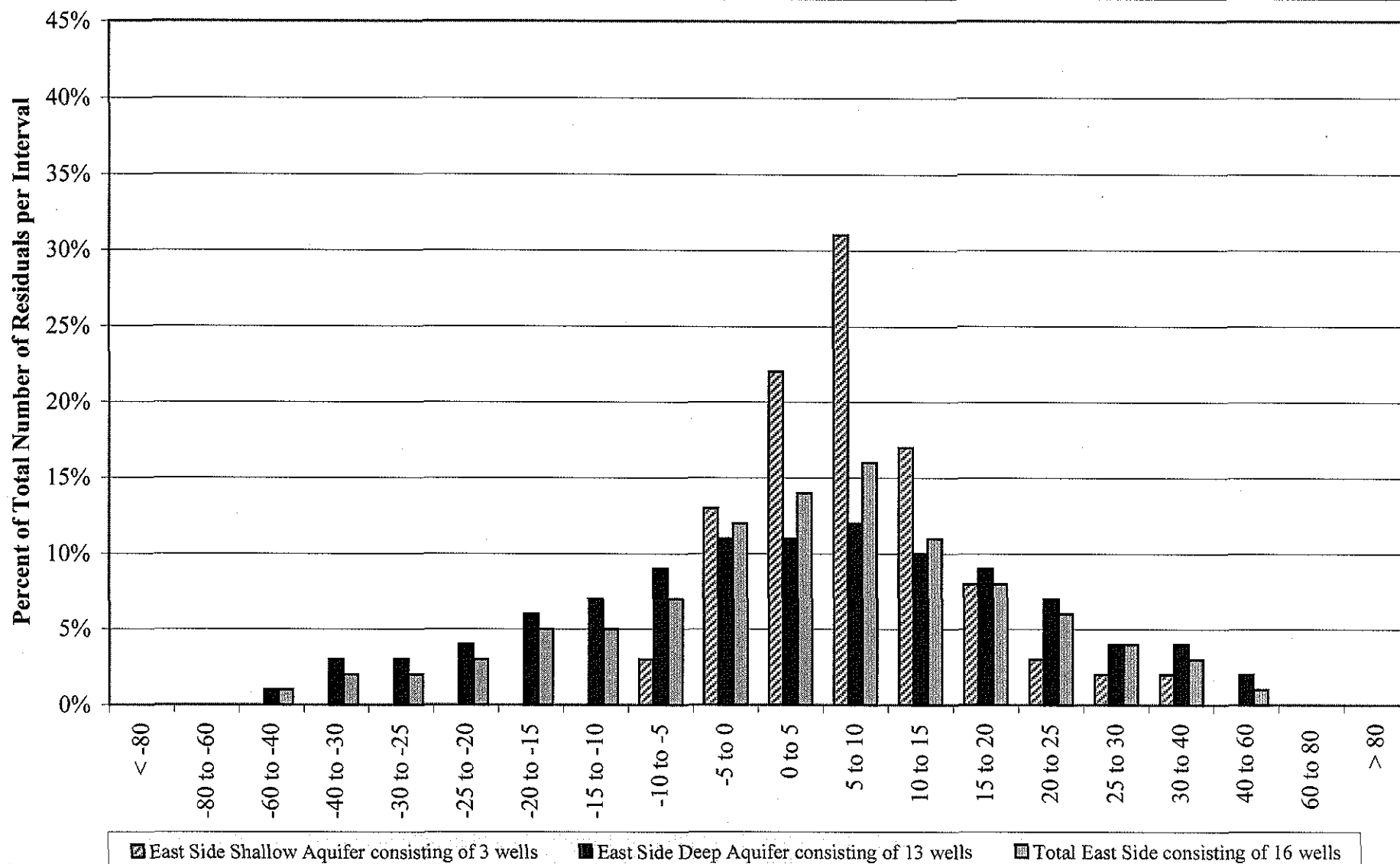
- Simulation of the vertical and horizontal groundwater flow in the Salinas Valley through water-bearing formations in the valley:
 - The 180-foot, 400-foot, and the Deep Aquifer in the Pressure subregion;
 - The East Side Shallow, East Side Deep, and the Deep Aquifer in the East Side subregion;
 - The Shallow and Deep Aquifers in the Forebay subregion; and
 - The unconfined aquifer in the Upper Valley
- Simulation of the Salinas River and its major tributaries from Nacimiento and San Antonio Reservoirs to the Monterey Bay;
- Simulation of the interaction of the Salinas River, and its tributaries, with the groundwater system;
- Simulation of Nacimiento and San Antonio Reservoirs based on specific operational rules for water supply and flood control;
- Simulation of reservoir operations that can satisfy those diversion requirements that derive from water rights and environmental flow requirements;
- Simulation of the rate and extent of seawater intrusion;



 <p>Water Resources & Information Management Engineering, Inc.</p>	<p>MARINA COAST WATER DISTRICT DEEP AQUIFER INVESTIGATIVE STUDY Location of Calibration Wells</p>	<p>MAY 2003</p>
		<p>FIGURE 3.2</p>





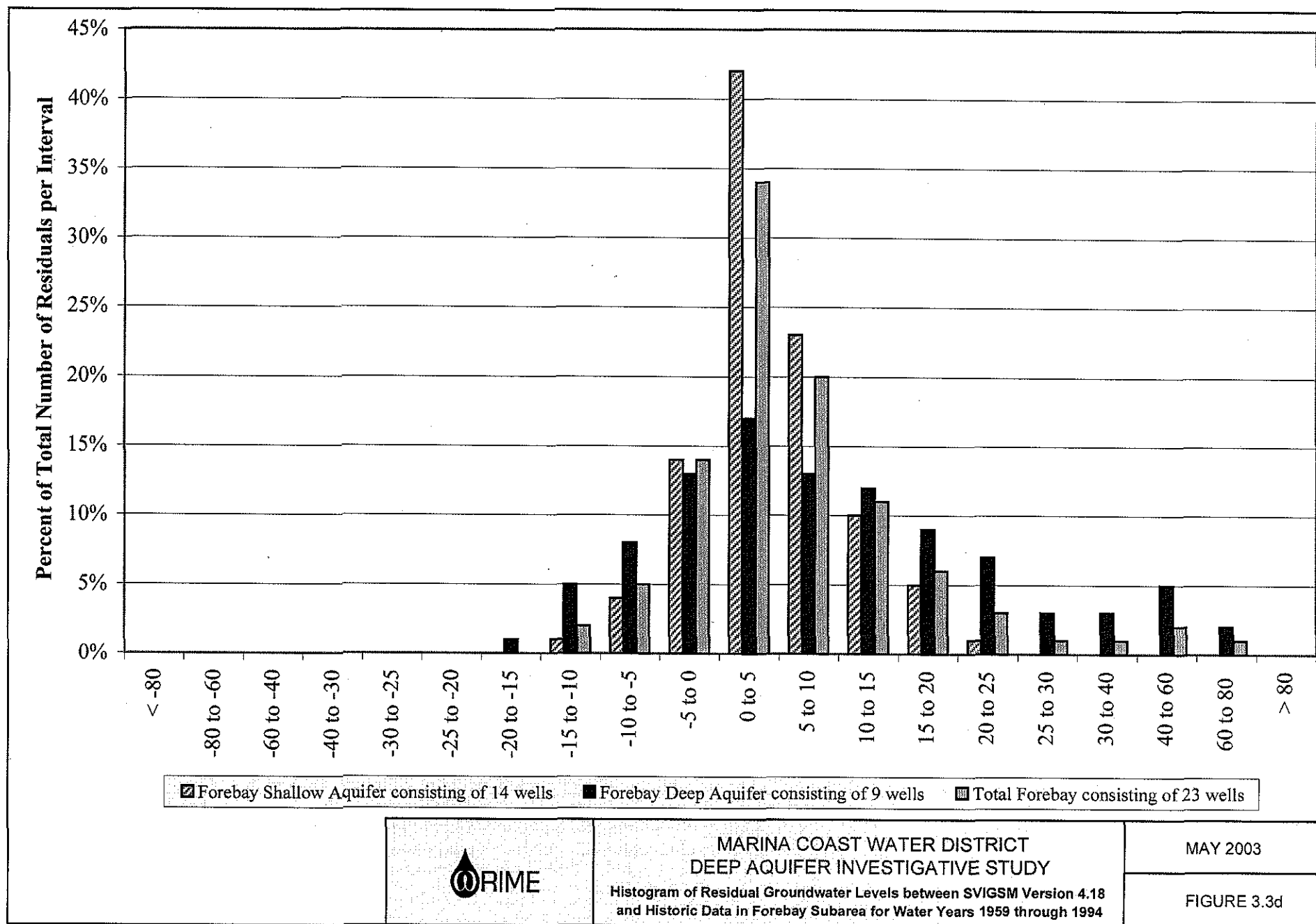


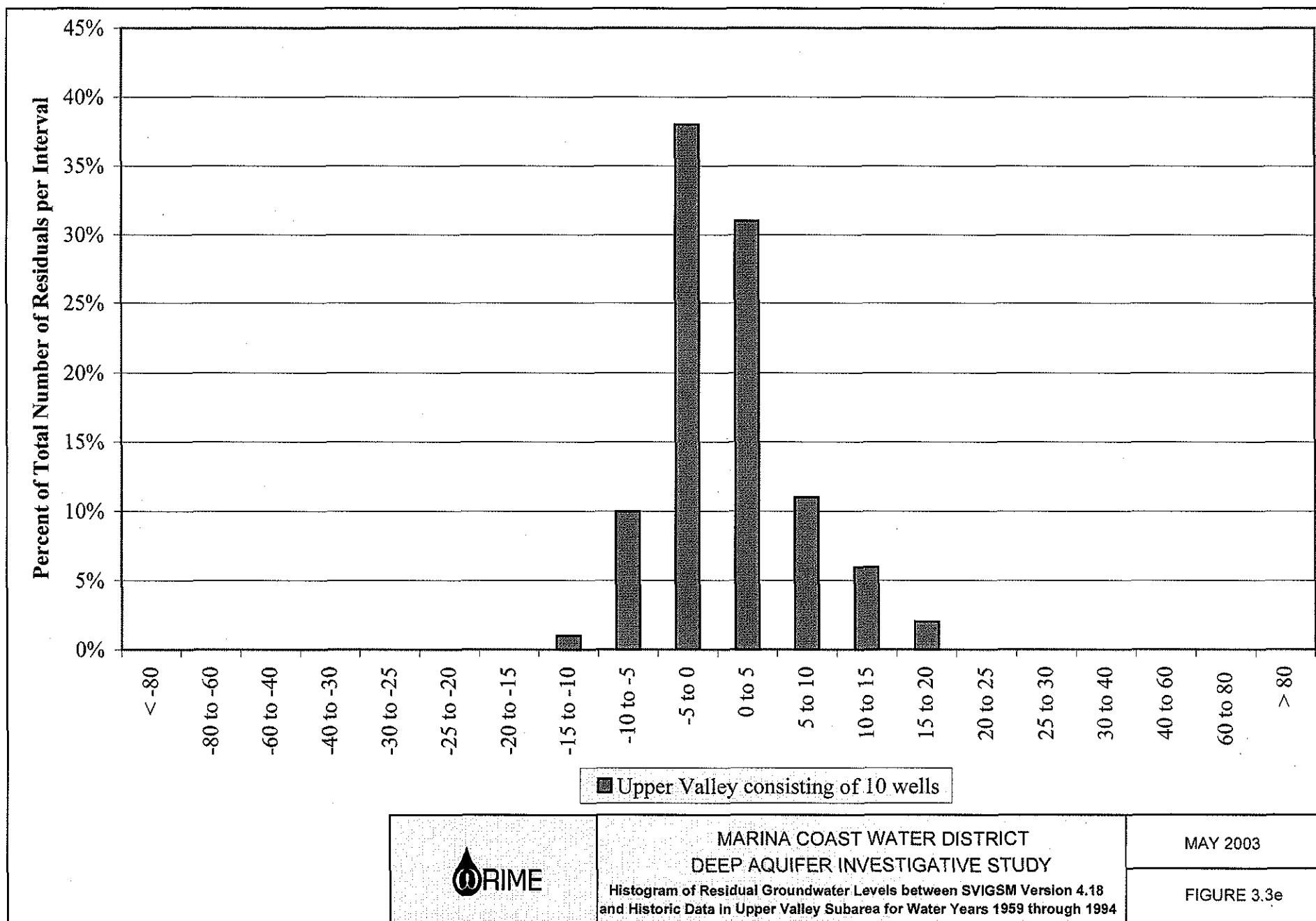
MARINA COAST WATER DISTRICT
DEEP AQUIFER INVESTIGATIVE STUDY

Histogram of Residual Groundwater Levels between SVIGSM Version 4.18
and Historic Data in East Side Subarea for Water Years 1959 through 1994

MAY 2003

FIGURE 3.3c





- Simulation of the agricultural water use requirements based on crop irrigated acreage, crop potential evapotranspiration, minimum soil moisture requirements, and crop efficiency; and
- Simulation of direct runoff and deep percolation from rainfall and irrigation applied water.

The SVIGSM model was developed to address basin-wide hydrologic and water supply operational issues. As such, the SVIGSM has been applied to many studies since its initial development:

- Evaluating the impacts of the Castroville Seawater Intrusion Projects;
- Providing a better understanding of the nature of the physical and hydrologic processes in the Salinas River Basin. This includes natural and operational factors that influence seawater intrusion and coastal groundwater flow from Monterey Bay;
- Analyzing the hydrologic impacts of the Salinas River Basin Management Plan so that sufficient information was provided for alternatives screening and preferred alternative selection;
- Conducting a Historical Benefits Analysis to identify and quantify the hydrologic, flood control, and economic benefits of Nacimiento and San Antonio Reservoirs;
- Analyzing the effects reservoir re-operation scenarios and
- Analyzing impacts of the Salinas Valley Water Project, a proposed project currently undergoing the final stages of environmental permitting process.

CODE UPDATES

IGSM was initially released in 1990 as part of the Central Valley Groundwater and Surface water Model (CVGSM). It has been modified over the years for different project applications; this resulted in different versions of IGSM as related to specific projects. In 2000, DWR initiated a study to combine into a single IGSM version all features from various versions used in local and statewide applications. This effort resulted in IGSM version 5.0, which is currently used in several modeling efforts throughout California. DWR initiated a review process of the IGSM 5.0 code and its application to California's Central Valley. This process resulted in refinement of several major modules of IGSM, including the groundwater simulation daily time-step, simulation of the stream-aquifer interaction based on non-linear methodology, and refined non-linear soil moisture accounting routine. These code refinements were released as a new version of the code: IGSM2 version 1.0 (December 2002). Currently IGSM2 does not provide simulation

capabilities for reservoir operations and multiple models. Also, it is not backwards compatible for datasets of earlier versions of IGSM. Due to the release schedule of IGSM2, as well as its limitations on simulation of reservoir operations and multi-model integration, the results of the DWR review were incorporated into a revised version of the original IGSM. This new version is released as beta version of IGSM version 6.0, which is being developed to meet specific project requirements for the conjunctive use projects under study by DWR, Alameda County Water District (ACWD), and East Bay Municipal Utility District (EBMUD) (WRIME, Inc. 2003).

IGSM 6.0 simulates the groundwater and surface water flows and their interaction on a daily and/or monthly time-step; and has the option to simulate stream-aquifer hydraulic interaction using both linear and non-linear methods; and simulate general head boundary condition using both linear and non-linear methods. The program is also backward compatible with IGSM 3.2 and later versions. This version of IGSM is currently under final review and will be official released in June, 2003 then the project application for Stony Creek Fan Conjunctive Use project is complete. Therefore, IGSM 5.0 was selected for use in the Marina Coast study since it is the most recent, officially released version of IGSM possessing all the features needed to properly simulate hydrologic conditions in the Salinas Valley groundwater basin. It is anticipated that with the official release of IGSM 6.0, the conversion to IGSM 6.0 would be straightforward, requiring limited time to evaluate the calibration and make necessary refinements. Formal documentation of IGSM 6.0 and its application in Northern Sacramento Valley, California will be available in June 2003. Documentation regarding the application of IGSM 6.0 in Alameda County, California will be available by September 2003.

IGSM 5.0 is backwards compatible with IGSM 4.18, meaning that the data files developed for SVIGSM 4.18 are compatible with SVIGSM 5.0. As such, no modifications of the data file structure were necessary to use SVIGSM 5.0.

Several comparisons were made to measure the impacts of changing the IGSM code, without changing the geologic database of the model. These comparisons are:

1. change in groundwater levels between SVIGSM versions 4.18 and 5.0;
2. change in groundwater levels between observed groundwater levels and SVIGSM 5.0;
3. change in average annual coastal flow rate between the SVIGSM versions; and
4. change in average annual stream depletion rate between the SVIGSM.

In general changing the code did not result in any significant changes to the performance of the calibrated model.

SVIGSM DATABASE UPDATES

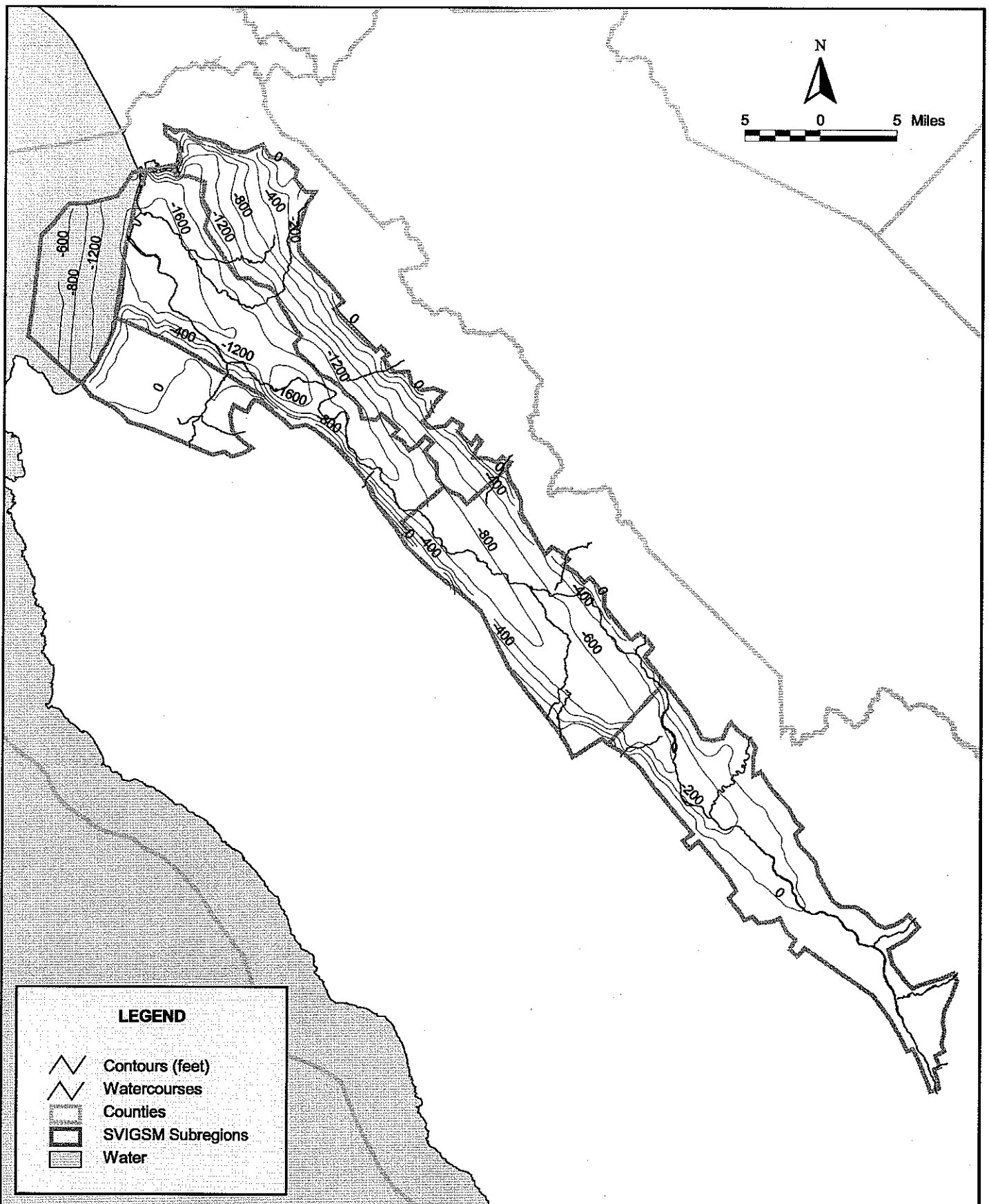
There were two major changes made to the SVIGSM database due to recently conducted studies. These changes, discussed in detail below, are in regard to the new interpretation of the deep aquifers and the capability of the Reliz Fault to inhibit groundwater flow.

DEEP AQUIFER MODIFICATIONS

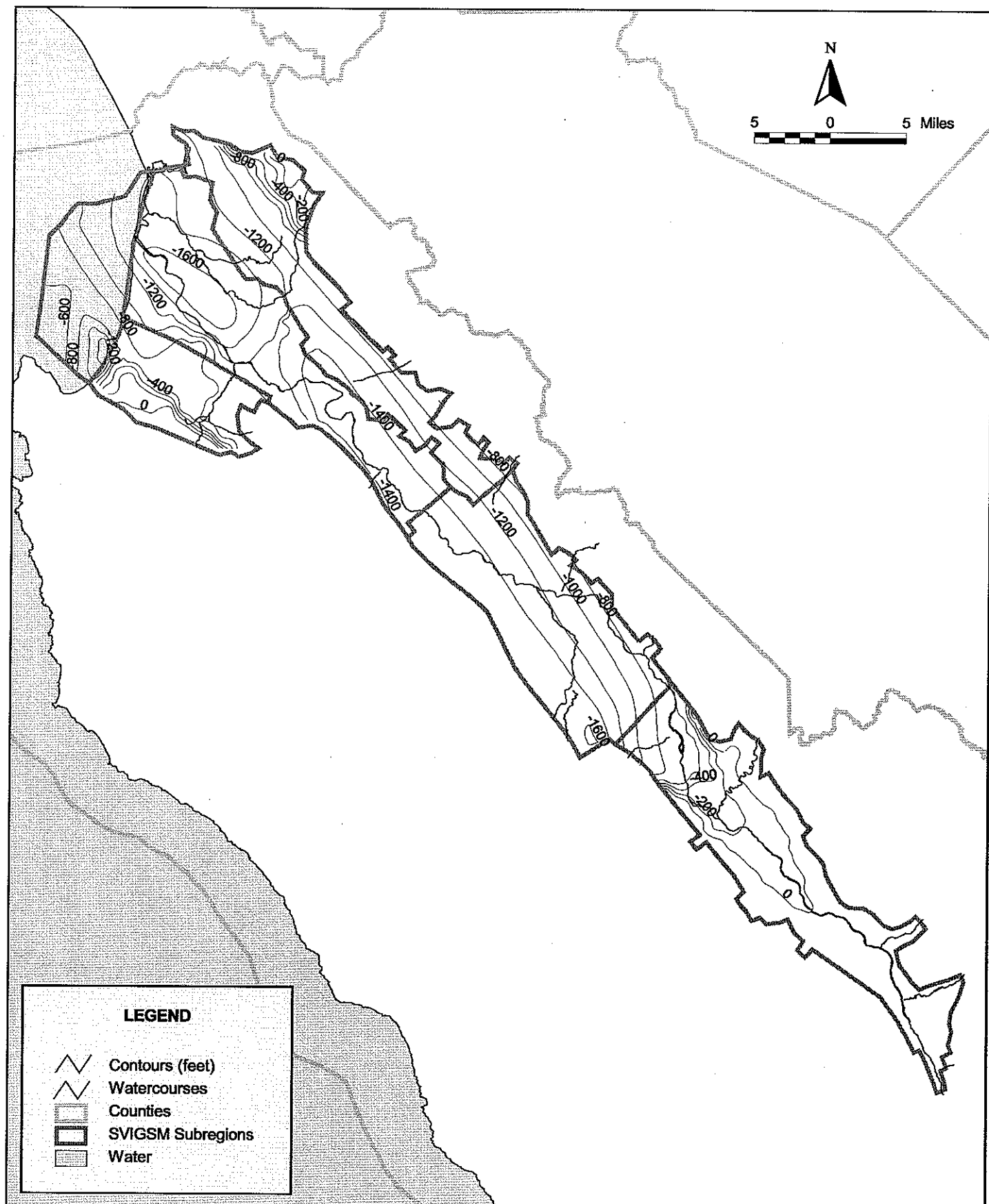
As discussed previously, the Salinas River groundwater system was conceptually viewed as a three-layer aquifer system in the Pressure Subarea, a two-aquifer system in the East Side and Forebay Subareas, and a single aquifer in the Upper Valley. The deep aquifers or its hydrogeologic extensions were present in all subareas except for the Upper Valley. All data regarding the deep aquifers has been reviewed, analyzed, and incorporated into a new interpretation of the deep aquifers. Based on this new interpretation, the deep aquifers are better represented as two distinct aquifers. The new interpretation was included in the SVIGSM stratigraphy database. The SVIGSM revised stratigraphy data was developed using a Geographic Information Systems (GIS) process of contouring thickness and bottom elevation data, then attributing those contoured values to specific SVIGSM nodes; this process was discussed in Section 2 of this report.


Figures 3.4 through 3.8 illustrate the changes that have been made to the deep aquifers' geology and hydrogeology. Figure 3.4 shows the bottom elevation contours of deep aquifers prior to the recent study. Figure 3.5 shows the bottom elevation contours of upper deep aquifer (the Paso Robles Formation) as a result of this study's findings. Figure 3.6 shows the bottom elevation contours of the lower deep aquifer (the Purisima Formation). In order to properly simulate the hydraulic connection and leakance between the upper and lower deep aquifers, a 10-Ft aquitard is assumed between these layers. The thickness of this aquitard is not based on geologic data and information; rather it is for modeling purposes to provide better control in model calibration and simulation. Figures 3.7 and 3.8 show the total aquifer system for old stratigraphy interpretation and the new stratigraphy interpretation, respectively. Note that the total thickness of the revised deep aquifers is approximately 500 to 1,000 feet greater than the original thickness in the model. Without proper changes to the hydraulic conductivity distribution in the model, this additional thickness would impact the transmissivity of the aquifer system; this impact will be discussed in the next section.

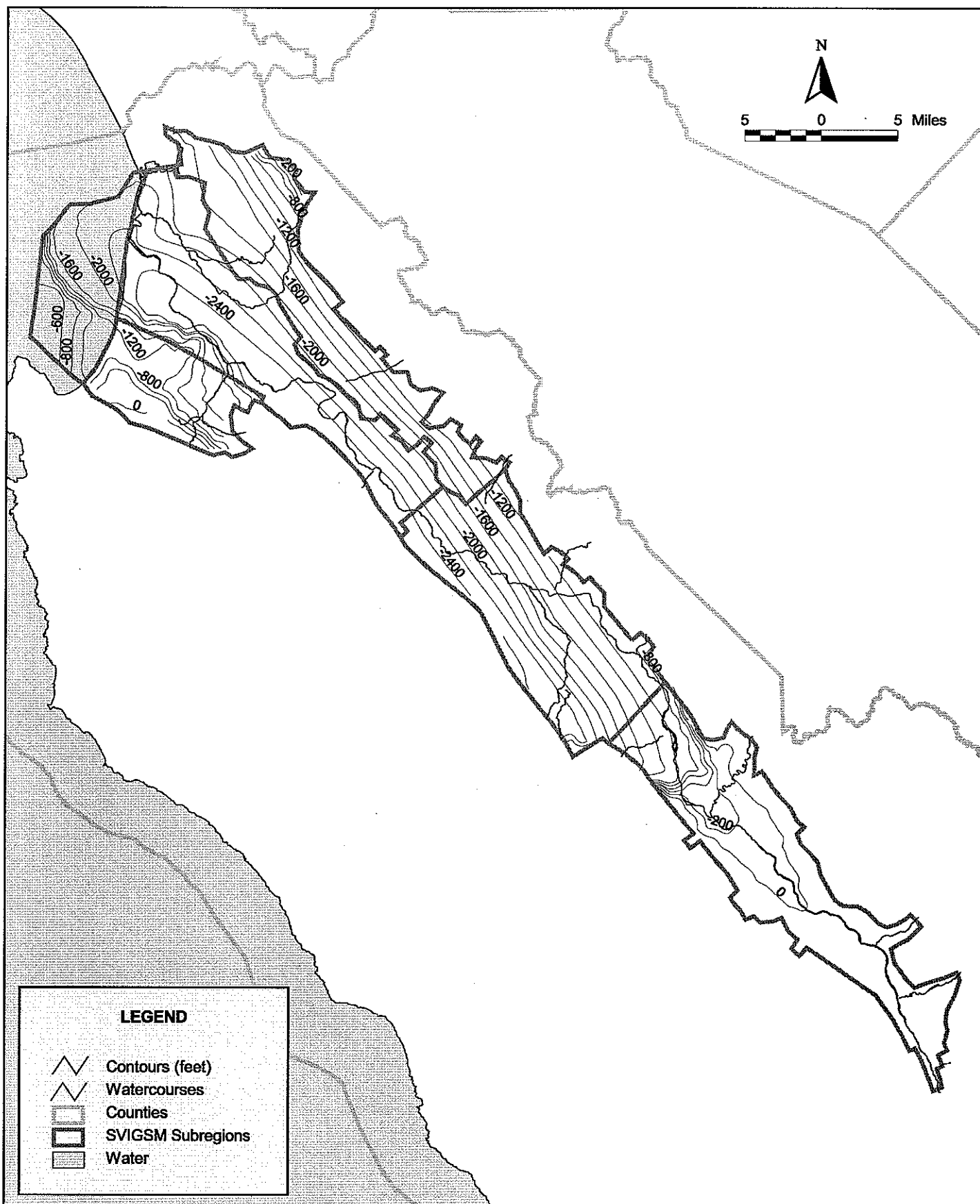
Several stratigraphic cross-sections were developed for the revised model aquifer system. Figure 3.9 shows the location of geologic cross-sections developed as part of this effort; Figures 3.10a through 3.10h are the geologic cross-sections themselves..




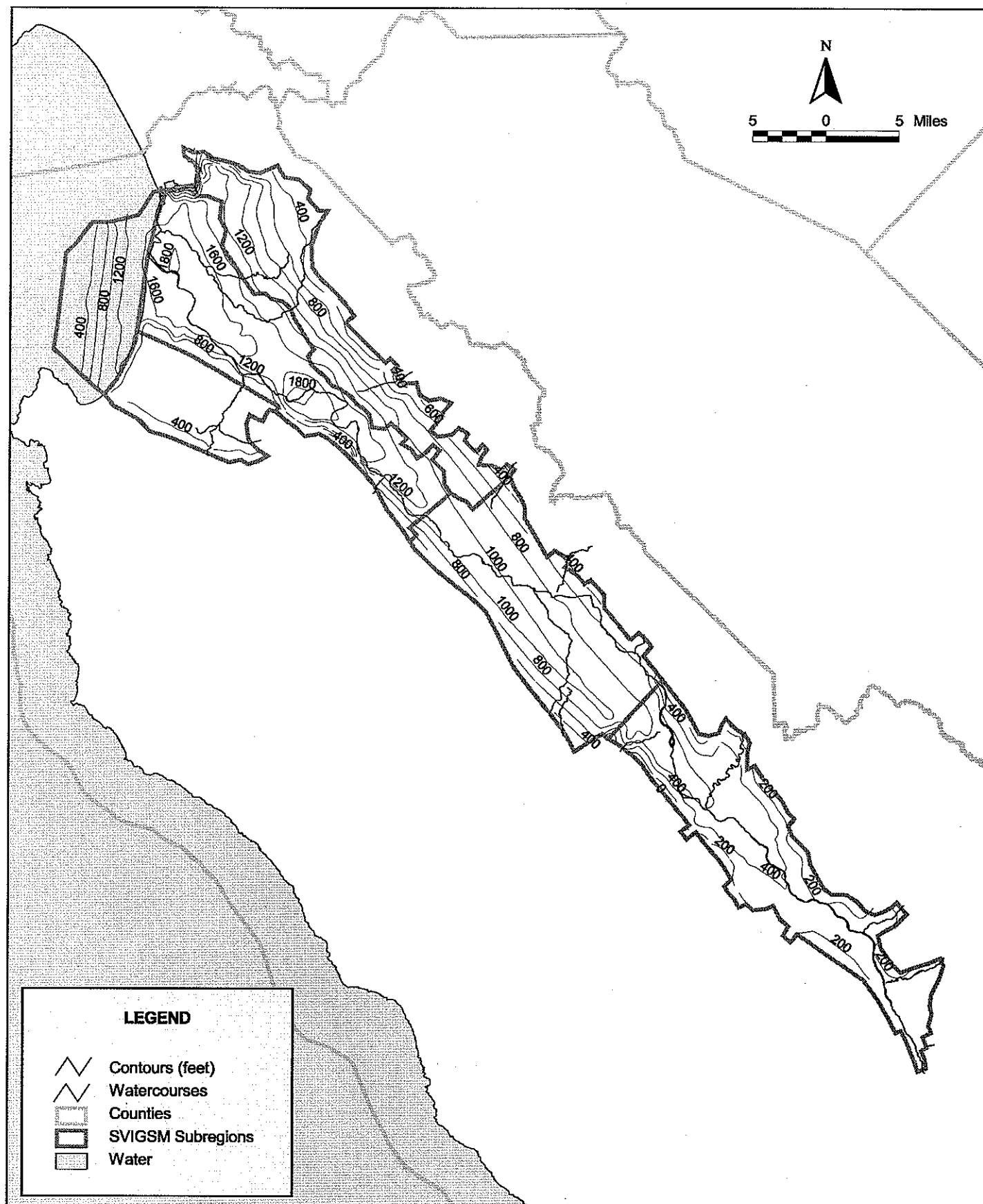
	<p>MARINA COAST WATER DISTRICT DEEP AQUIFER INVESTIGATIVE STUDY</p> <p>Bottom Elevation of Original Model Layer 3</p>	<p>MAY 2003</p> <p>FIGURE 3.4</p>
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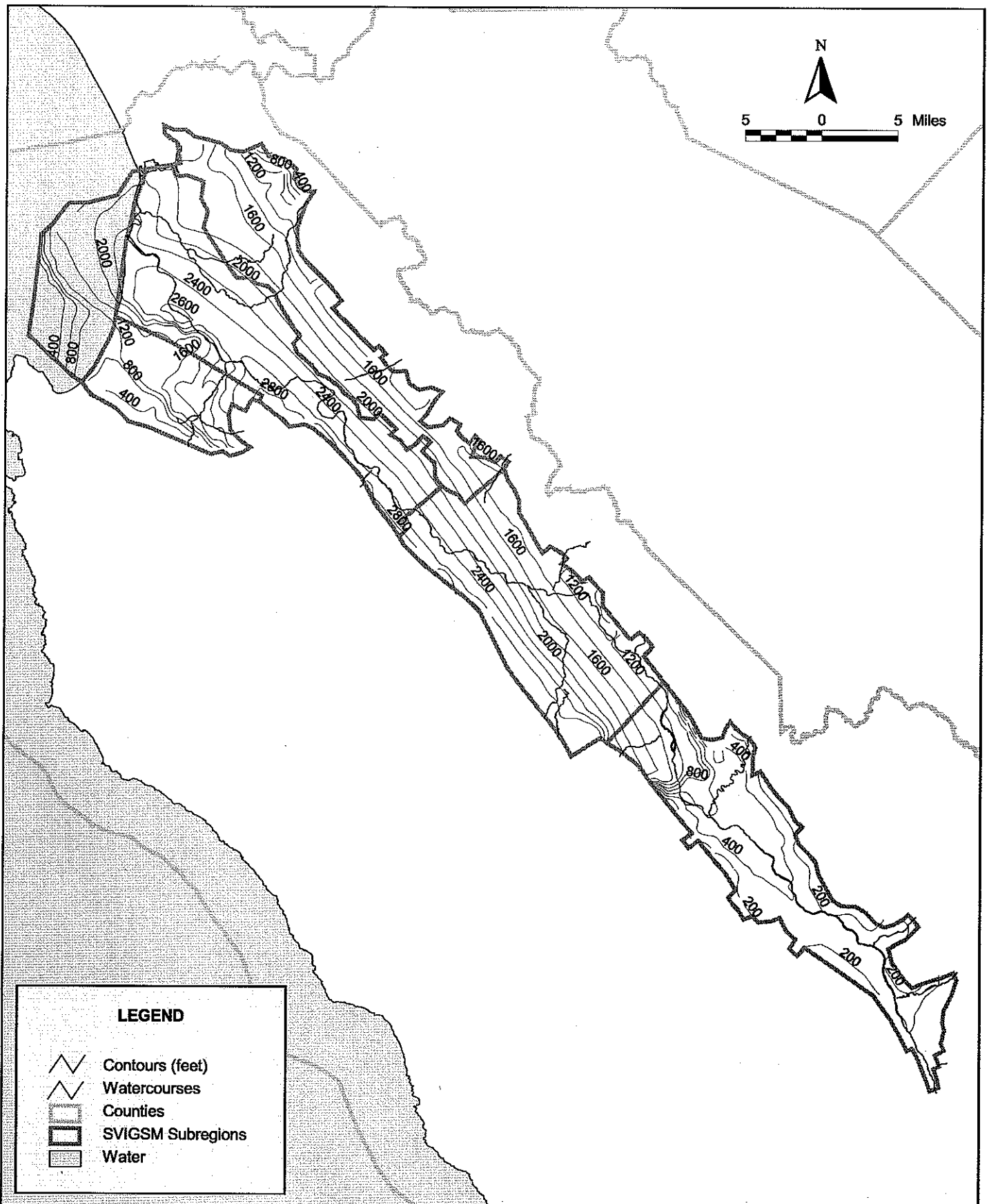
 <p>Water Resources & Information Management Engineering, Inc.</p>	<p>MARINA COAST WATER DISTRICT DEEP AQUIFER INVESTIGATIVE STUDY</p> <p>Bottom Elevation of Revised Model Layer 3</p>	<p>MAY 2003</p> <p>FIGURE 3.5</p>
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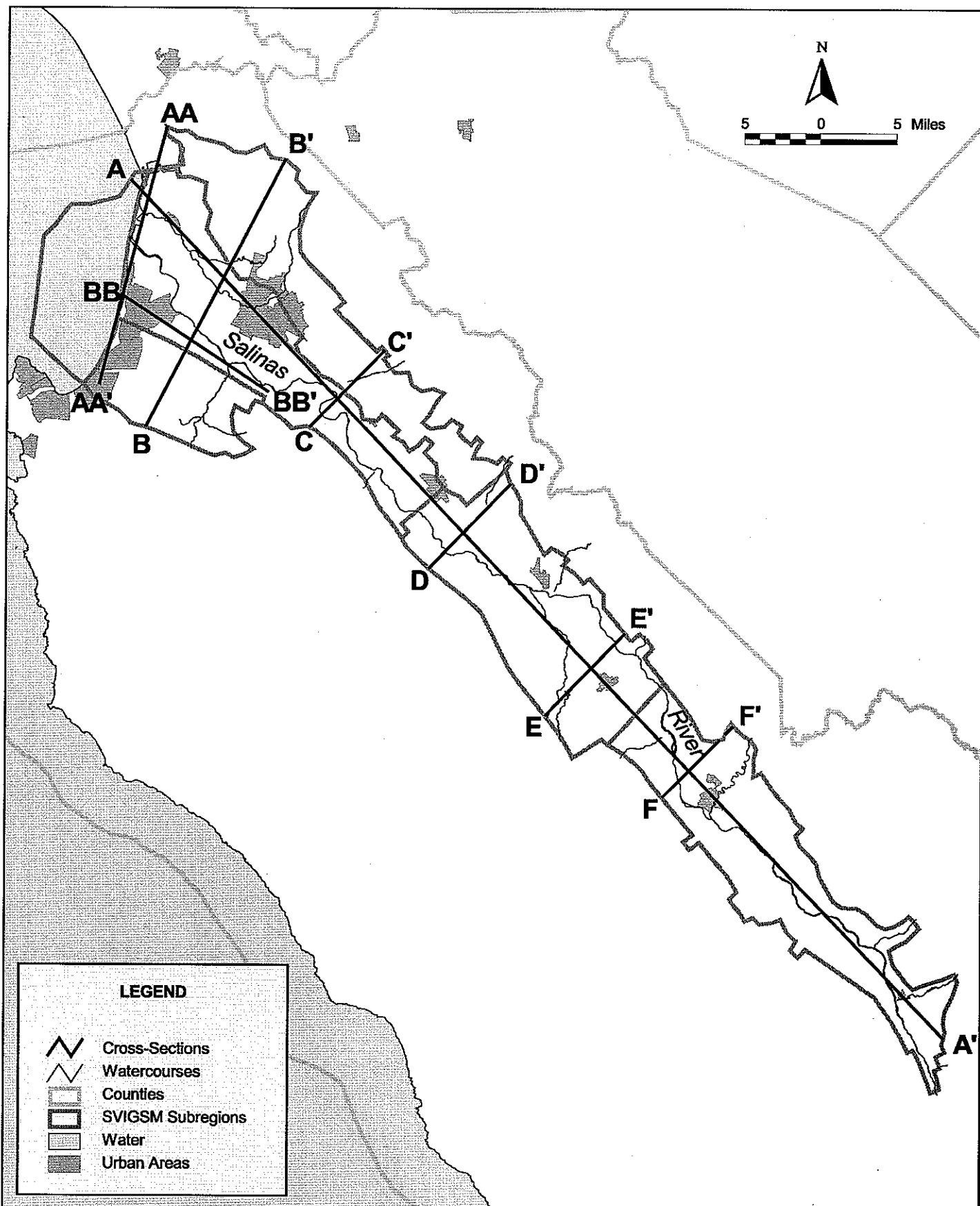



 ORIME Water Resources & Information Management Engineering, Inc.	MARINA COAST WATER DISTRICT DEEP AQUIFER INVESTIGATIVE STUDY Bottom Elevation of Model Layer 4	MAY 2003
		FIGURE 3.6

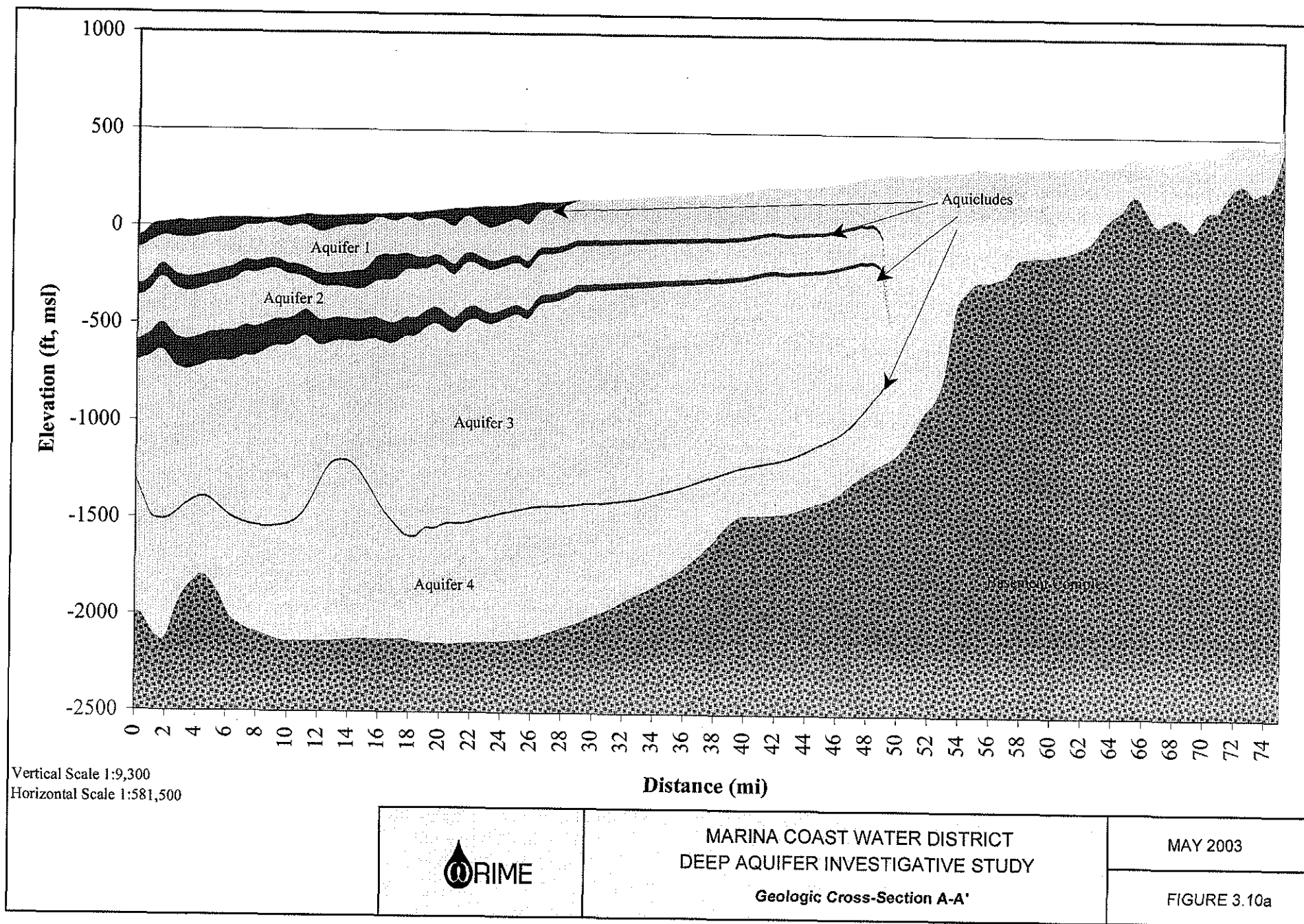


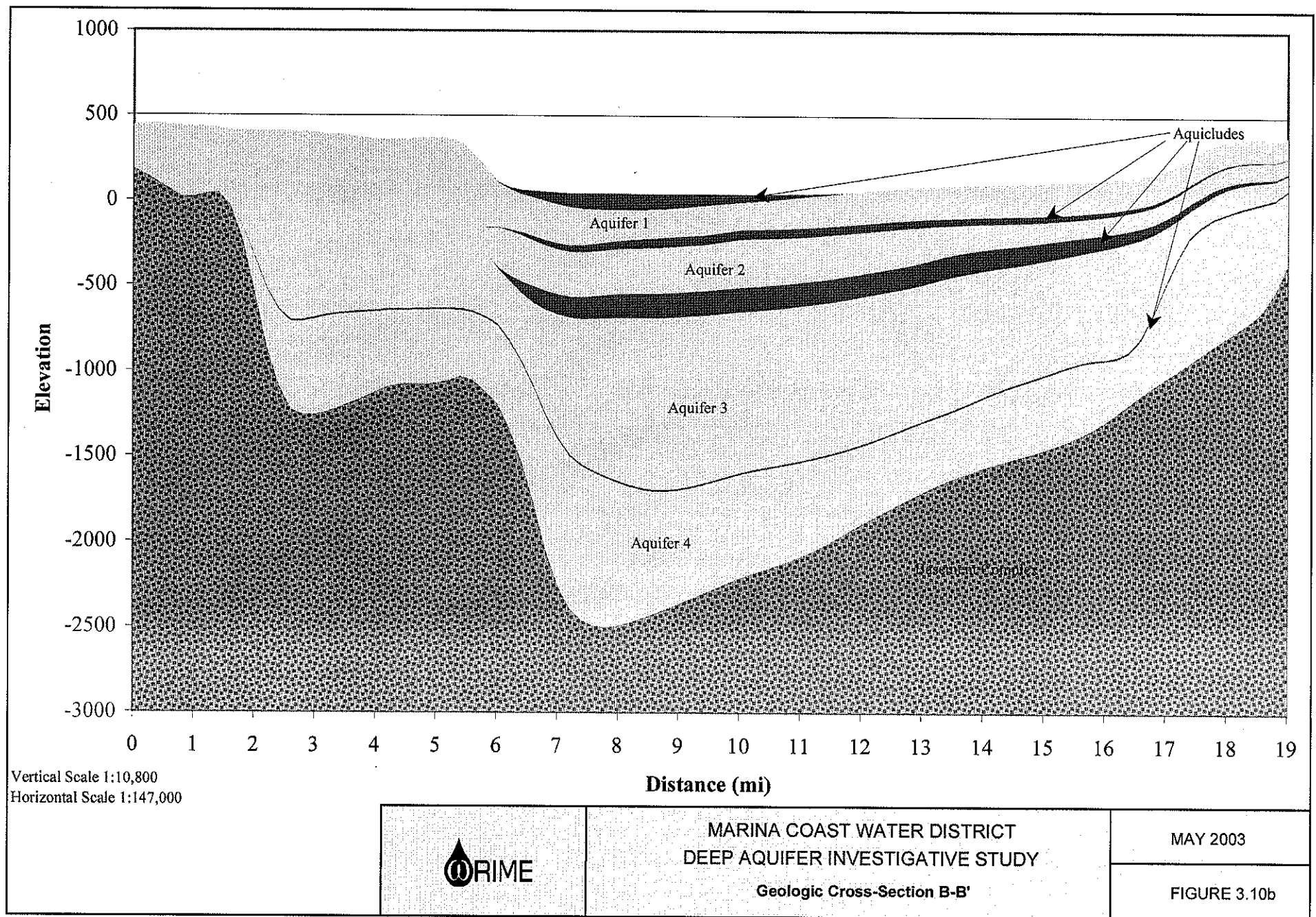
 WRIME Water Resources & Information Management Engineering, Inc.	MARINA COAST WATER DISTRICT DEEP AQUIFER INVESTIGATIVE STUDY Aquifer System Thicknesses for Original Model	MAY 2003
		FIGURE 3.7

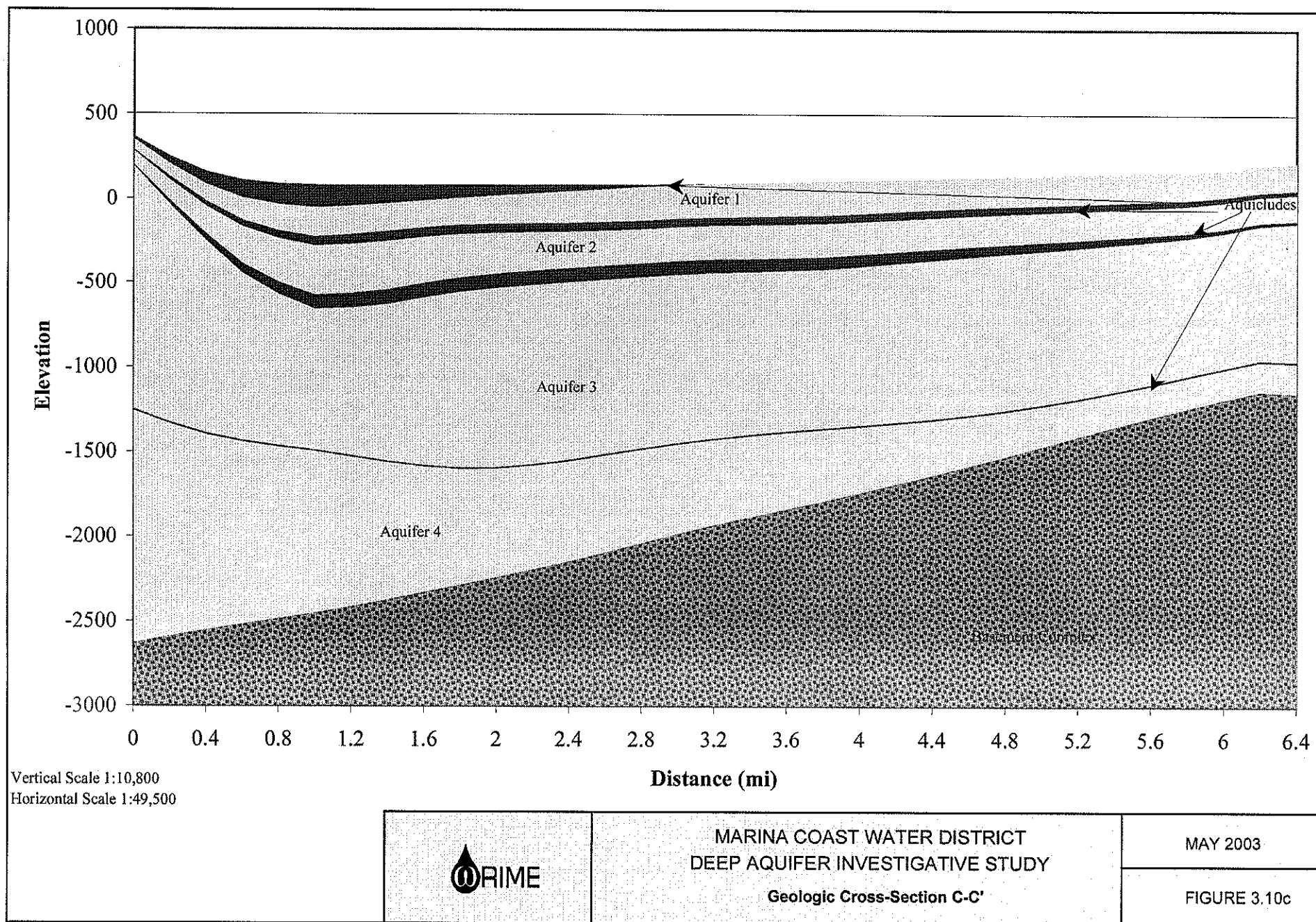


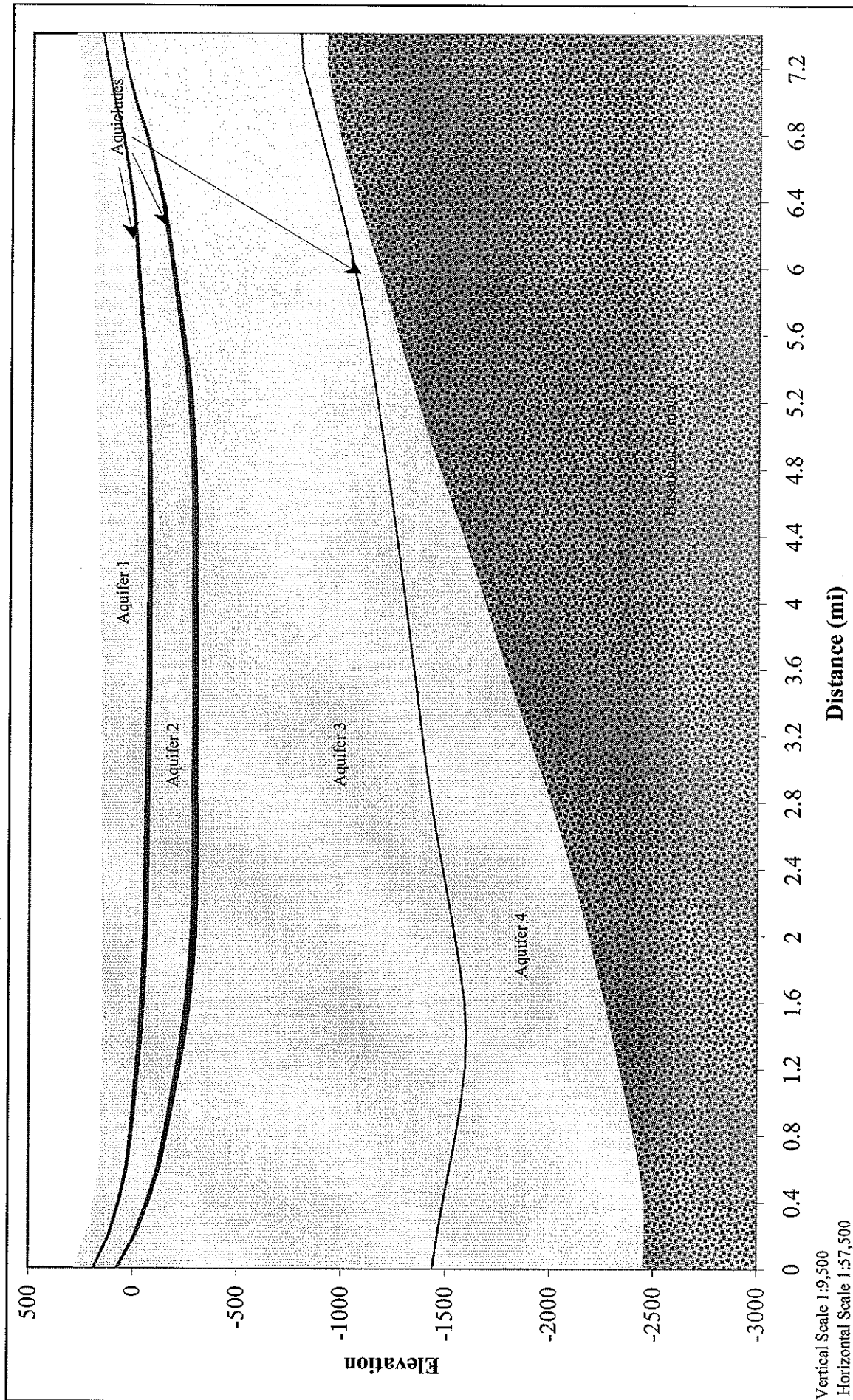


 <p>Water Resources & Information Management Engineering, Inc.</p>	<p>MARINA COAST WATER DISTRICT DEEP AQUIFER INVESTIGATIVE STUDY</p> <p>SVIGSM Geologic Cross-Section Location Map</p>	<p>MAY 2003</p> <p>FIGURE 3.9</p>
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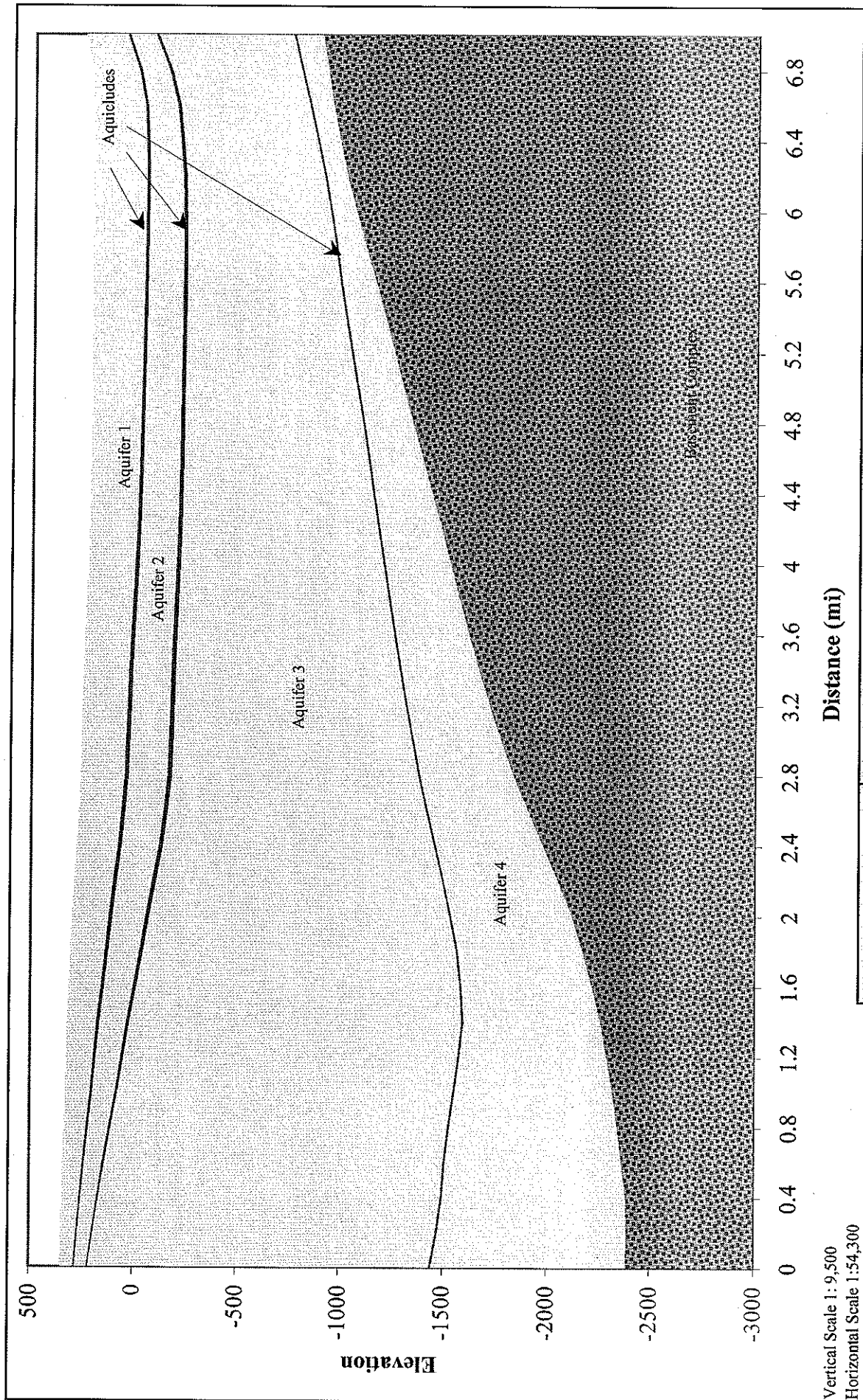



**MARINA COAST WATER DISTRICT
DEEP AQUIFER INVESTIGATIVE STUDY**

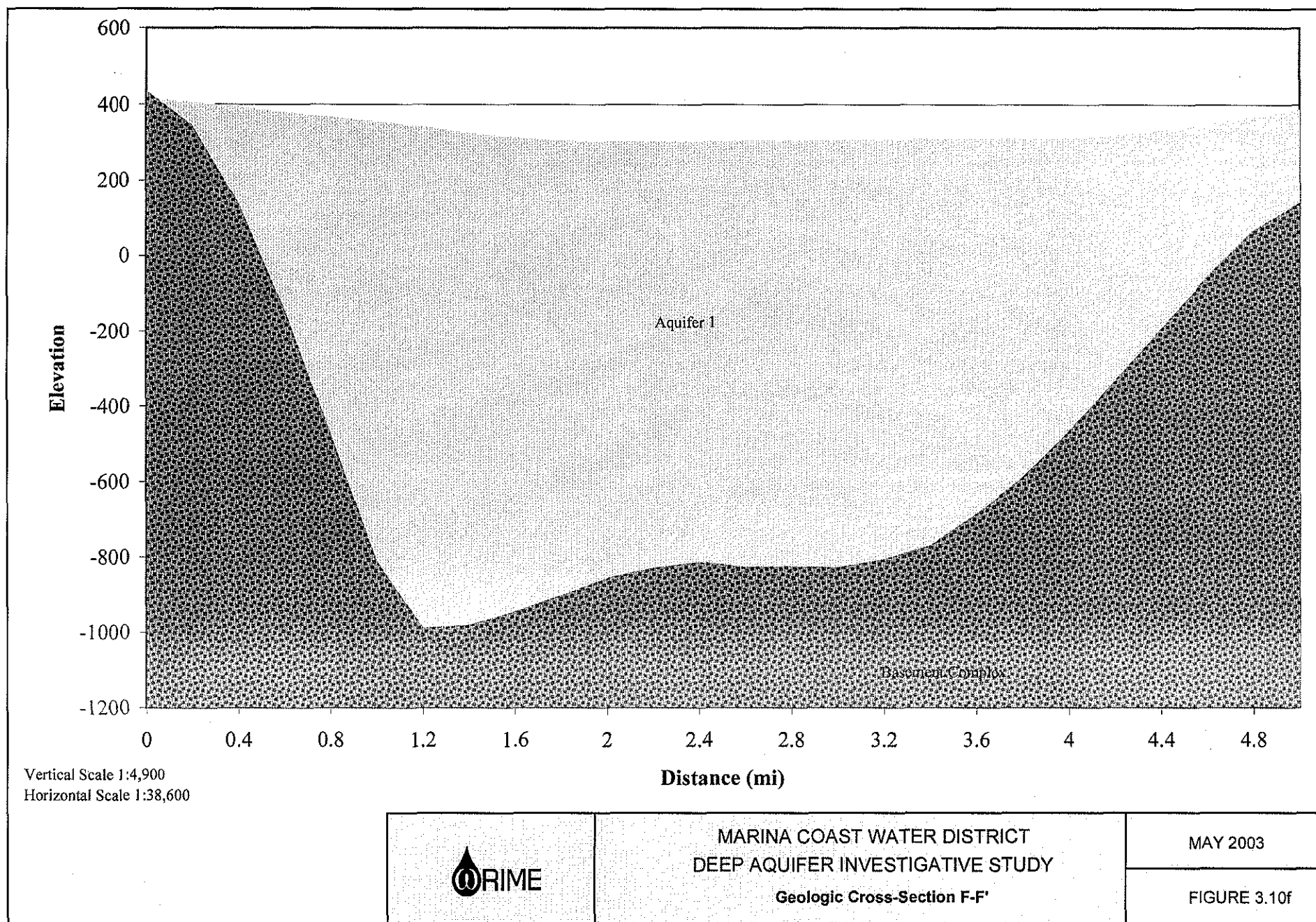
Geologic Cross-Section D-D'

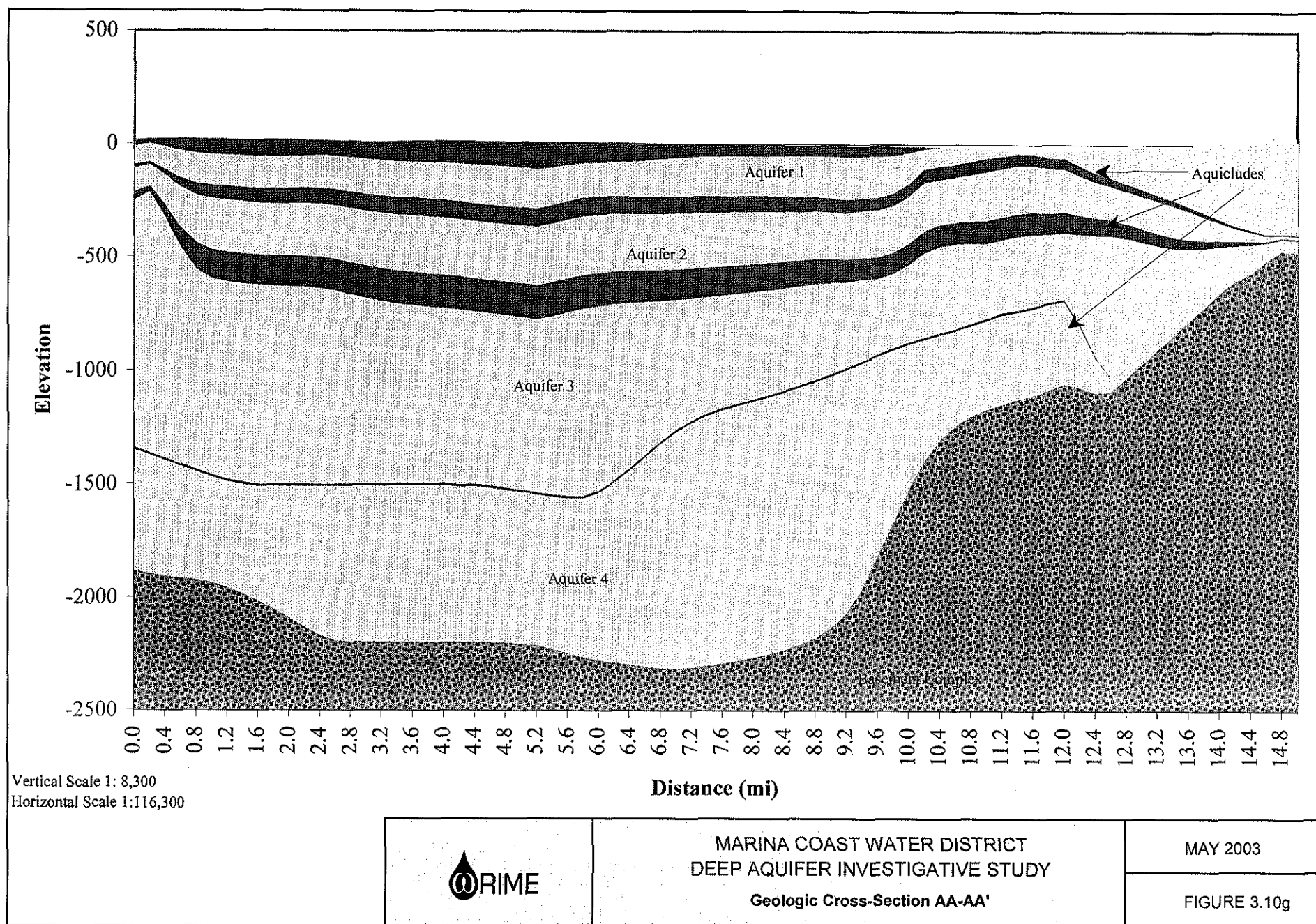
MAY 2003

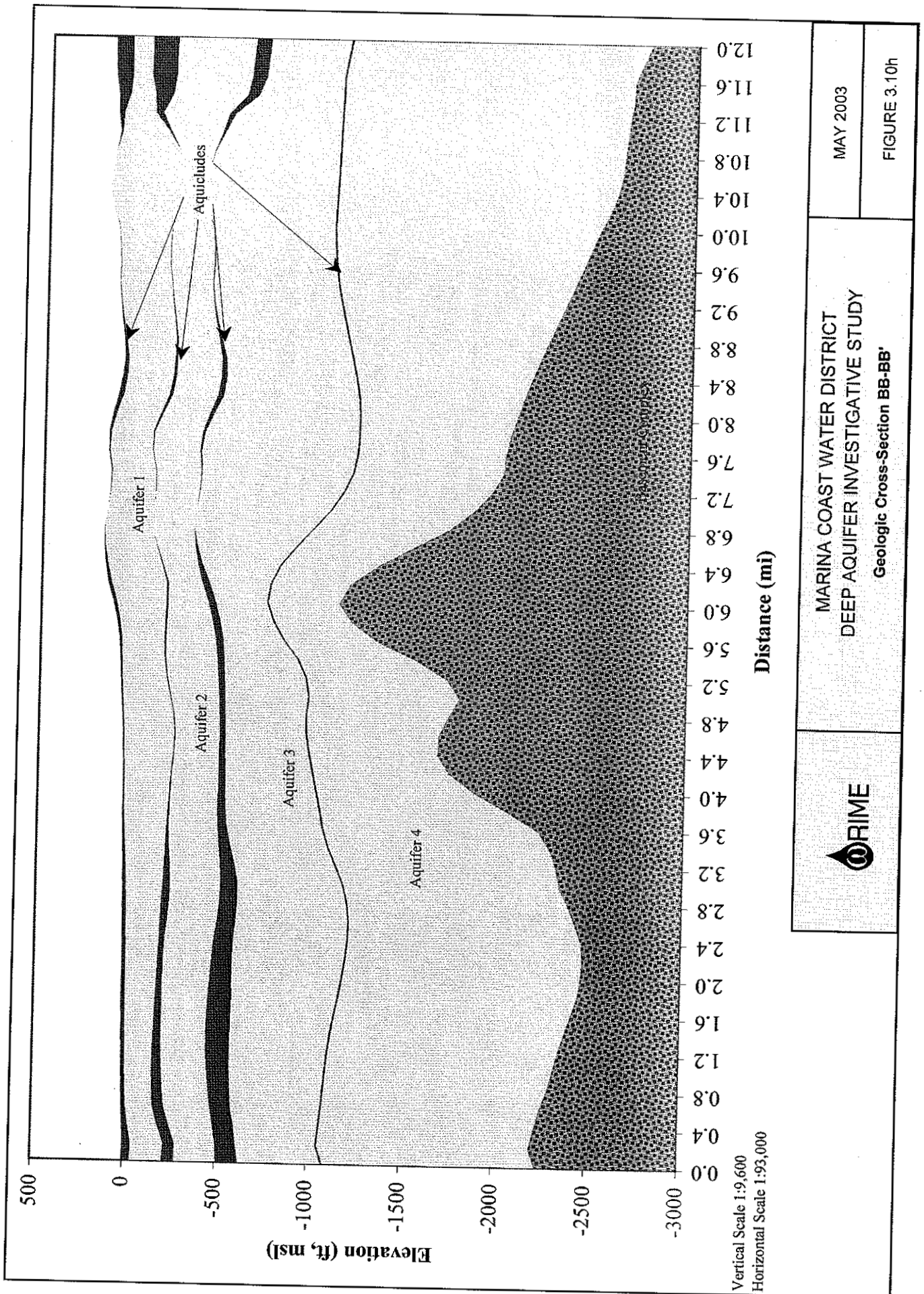
FIGURE 3.10d



MAY 2003	MARINA COAST WATER DISTRICT DEEP AQUIFER INVESTIGATIVE STUDY Geologic Cross-Section E-E'	
FIGURE 3.10e		







MAY 2003

FIGURE 3.10h

MARINA COAST WATER DISTRICT
DEEP AQUIFER INVESTIGATIVE STUDY

Geologic Cross-Section BB-BB'



Based on Figures 3.4 and 3.5, the lowest elevation of the deep aquifers and upper deep aquifer is approximately 1,600 feet below mean sea level (msl). It can be concluded that the two aquifers have a similar lowest elevation. The shape of the aquifers has changed substantially, though. The deep aquifers originally pinched out at the sides of the valley. In comparison, the upper deep aquifer does not pinch out and has a bottom elevation of over 1,500 feet msl along the western boundary of the SVIGSM. In addition, the location and degree of outcrops of the upper and lower deep aquifer in the Monterey Bay is now different enough that the rate of simulated subsurface flow across the coastline in the deep aquifers is also now different. This change in the outcrop condition and its associated hydraulic effects in the deep aquifers also affects the hydraulic conditions in the 400-foot and 180-foot aquifers along the coastline, such that the simulated subsurface flow rates are expected to be different in these aquifers, because the aquifer system geometry, corresponding volume, and aquifer parameters have substantially changed. From Figure 3.7, the lower deep aquifer has a similar shape to the upper deep aquifer and their lowest bottom elevation is in excess of 2,400 feet below msl. Figures 3.8 and 3.9 show that the aquifer system thickness has increased by over 2,400 feet in some areas. However, due to low storage coefficients in the lower deep aquifer, the added thickness in the lower deep aquifer does not necessarily equate to larger storage volume and higher yield from this formation.

RELIZ FAULT MODIFICATIONS

At the time of developing the original SVIGSM, the King City (Reliz) fault was understood to impede groundwater flow between the Pressure subarea and Fort Ord. As such, a row of finite elements between the Pressure subarea and Fort Ord were assigned a low hydraulic conductivity. Review of hydrogeologic data and groundwater levels across the fault, conducted as part of this study, suggests that although the Reliz fault has deformed units as young as the Paso Robles Formation, the fault itself does not appear to affect groundwater flow. Based on this work, the fault conditions (low hydraulic conductivities, approximately 1.1×10^{-2} ft/day) were removed from the SVIGSM database, and hydraulic conductivities comparable to ones in the neighboring elements were assigned to the fault elements (ranging from 5 to 30 ft/day).

COASTAL BOUNDARY CONDITIONS

The SVIGSM finite element network includes the portion of the Monterey that overlies the Salinas basin aquifer systems. The grid nodes in this part of the model network are assigned as general head boundary condition such that proper hydraulic gradient at the coastline is simulated. This hydraulic gradient was adjusted during model calibration so that the simulated groundwater heads at the coastal wells in the 180-foot, 400-foot, and the deep aquifer wells (in the Castroville area) are reasonably close to the observed groundwater heads in these wells.

This general head boundary condition accounts for changes in hydraulic head due to seawater density relative to fresh water. As a result of changes in the stratigraphy of deep aquifers in this study, the sensitivity of simulated groundwater levels to this boundary condition was evaluated, and as a result no changes to this boundary condition was necessary.

SVIGSM RECALIBRATION

Due to changes in the stratigraphic conditions of the deep aquifers, the following is a list of parameters that were changed as part of the recalibration effort.

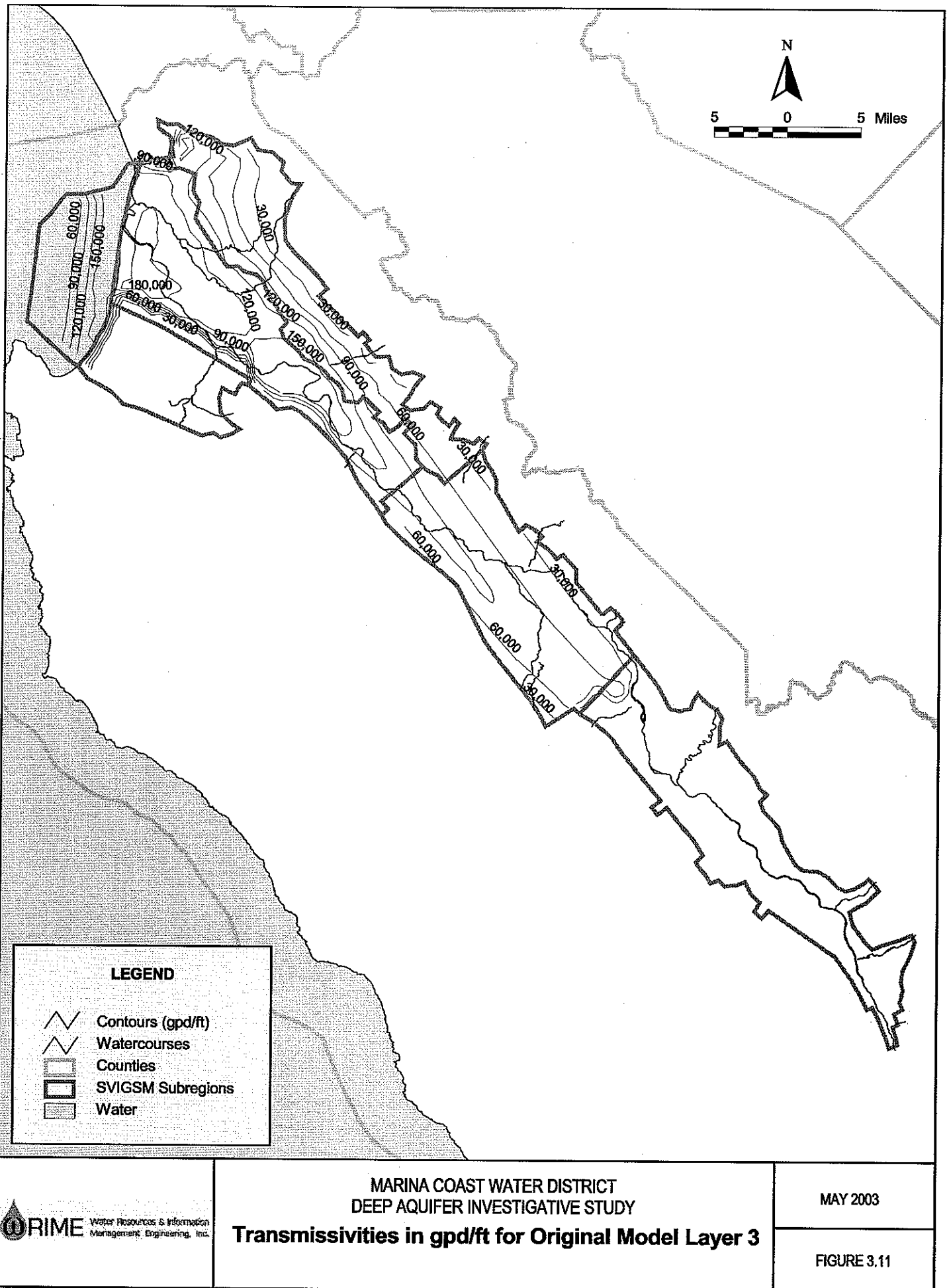
1. Horizontal hydraulic conductivity,
2. Storativity of the deep aquifers,
3. Vertical hydraulic conductivity of the aquitard above upper deep aquifer, and between the upper and lower deep aquifers; and
4. Streambed Parameters

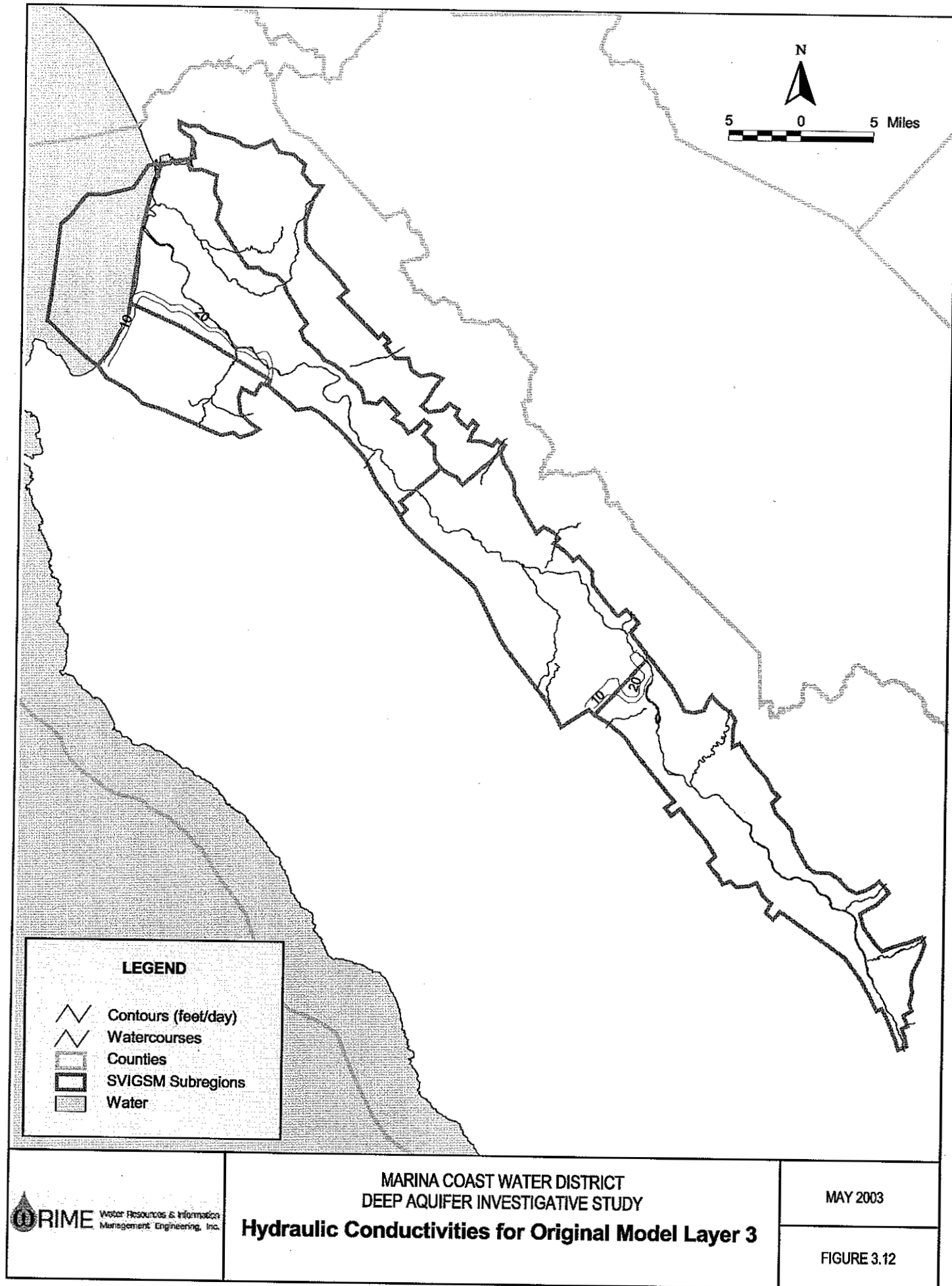
Following is a brief discussion of the modifications:

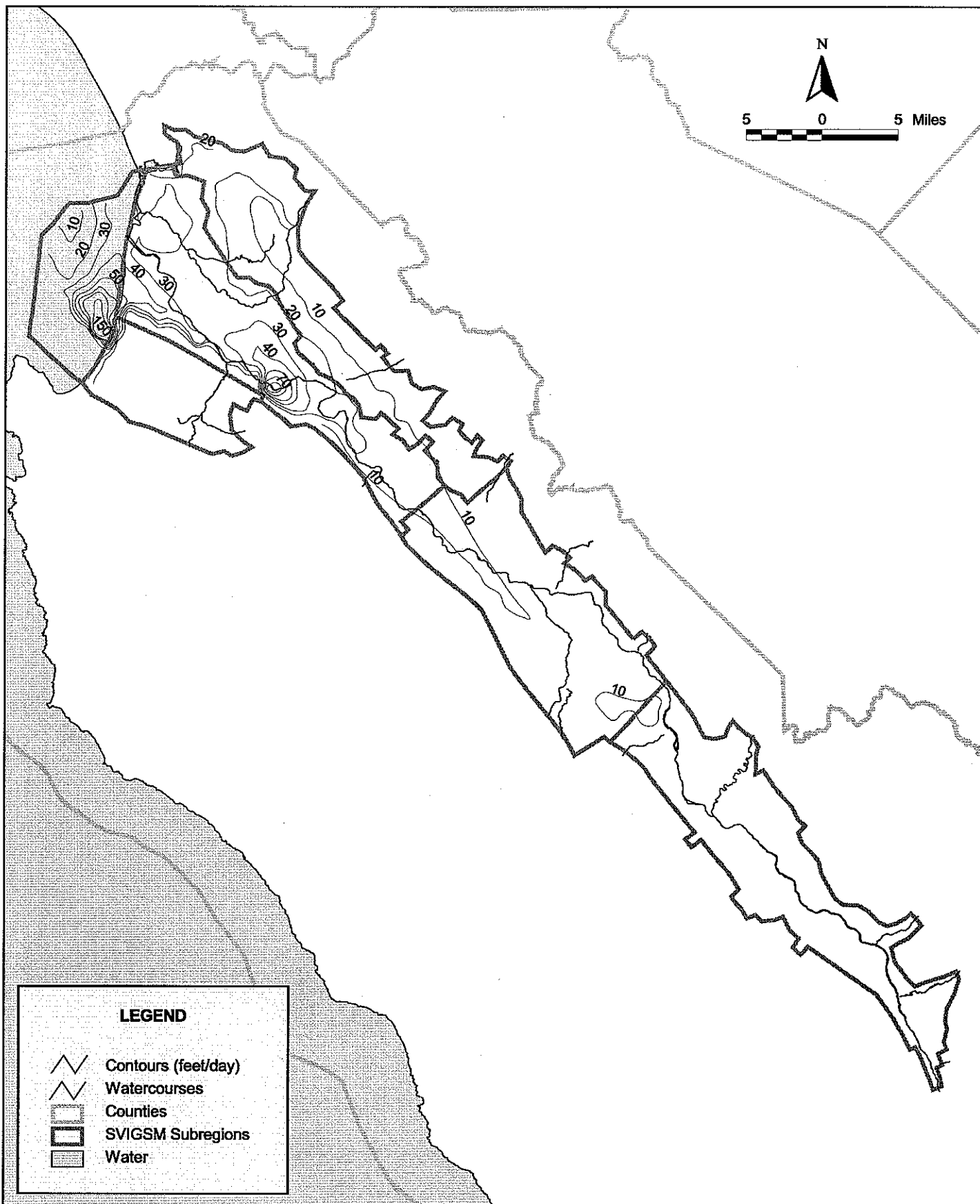
Horizontal Hydraulic Conductivity


The model hydraulic conductivity parameters are adjusted to bring the model into calibration. Because the transmissivity values for the deep aquifers in the original model was based on model calibration with observed groundwater heads, the goal of this recalibration effort was to preserve the range of original transmissivity values. In addition, Table 2.2 provides additional set of data for model recalibration. Therefore, the changes to the model hydraulic conductivity values were first achieved by replacing the original parameters with equivalent ones, so that the total transmissivity of each model layer remained about the same as in the three-layer model. It was assumed that the transmissivity of model layer 3 (upper deep aquifer) and layer 4 (lower deep aquifer) are similar. Figure 3.11 shows the transmissivity for Layer 3 in the original model. Figures 3.12 and 3.13 show the hydraulic conductivity for Layer 3 in the original and revised models, respectively. Figure 3.14 shows the hydraulic conductivity for Layer 4 in the revised model. Subsequently, additional localized refinements were made to incorporate information from Table 2.2 into the model.

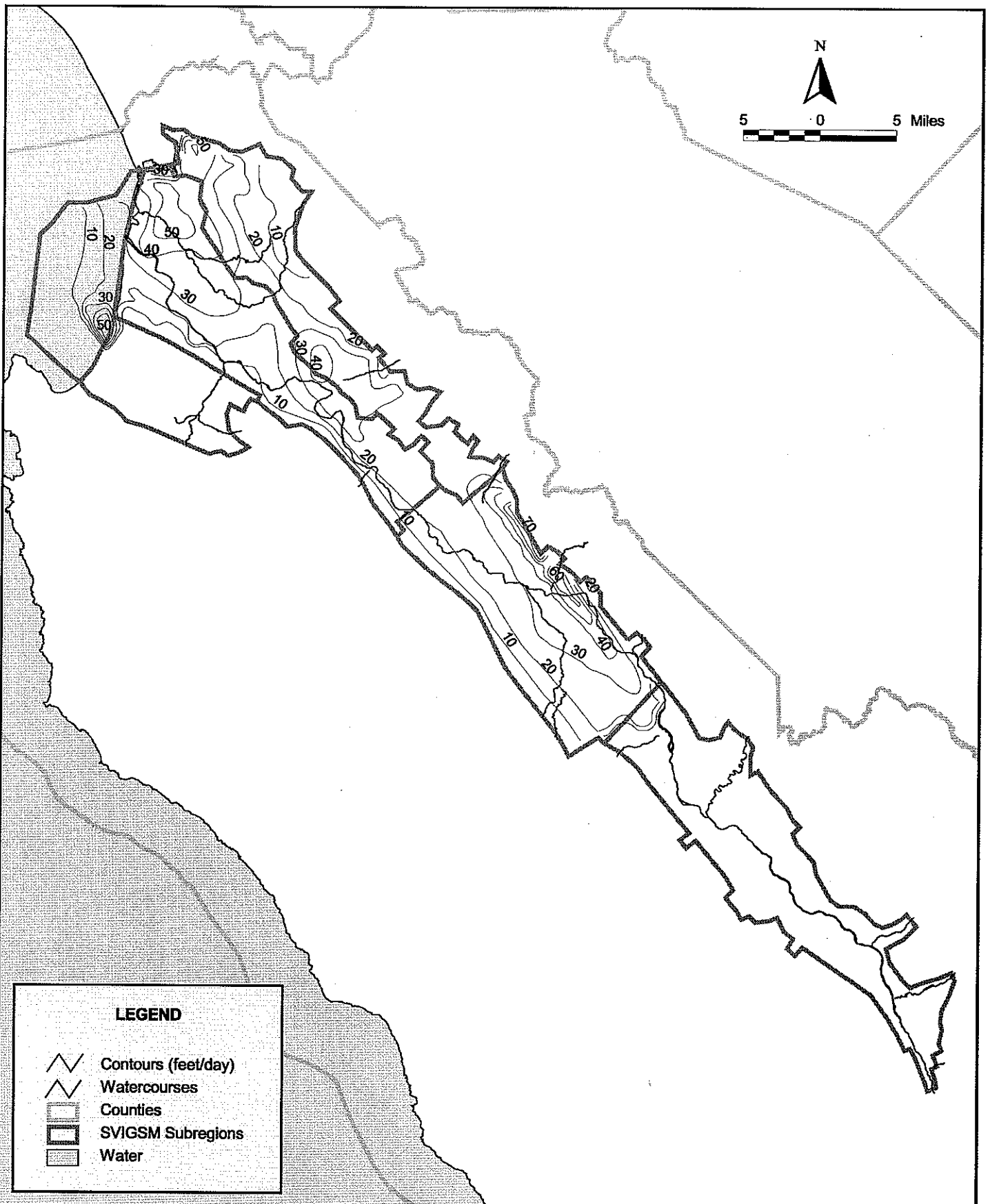
Based on the contour maps of saturated thickness from Thorup, and as discussed in Section 2 of this report, the total saturated thickness of the aquifer system in the Upper Valley area is more in the revised model than in the original model. As such, an equivalent hydraulic conductivity for the one-layer aquifer system in the Upper Valley was also developed based on the same







 <p>Water Resources & Information Management Engineering, Inc.</p>	<p>MARINA COAST WATER DISTRICT DEEP AQUIFER INVESTIGATIVE STUDY</p> <p>Hydraulic Conductivities for Revised Model Layer 3</p>	<p>MAY 2003</p> <hr/> <p>FIGURE 3.13</p>
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method as used in the deep aquifers system. Figures 3.15 and 3.16 show the hydraulic conductivities of the original model and the revised model layer 1.

Storativity of Deep Aquifers

The changes in the thickness of the deep aquifers from the original model require modifications to the storativity parameters so that seasonal responses of the simulated groundwater levels are similar to those in the observed groundwater level data. The storage coefficient in the 3-Layer SVIGSM was 5×10^{-5} . The storage coefficient of the deep aquifers was reduced by approximately one order of magnitude, such that the resulting Storage coefficient ranges from 1×10^{-6} to 5×10^{-6} . These changes were focused on the northwestern area of the model.

Vertical Hydraulic Conductivity of Aquitards

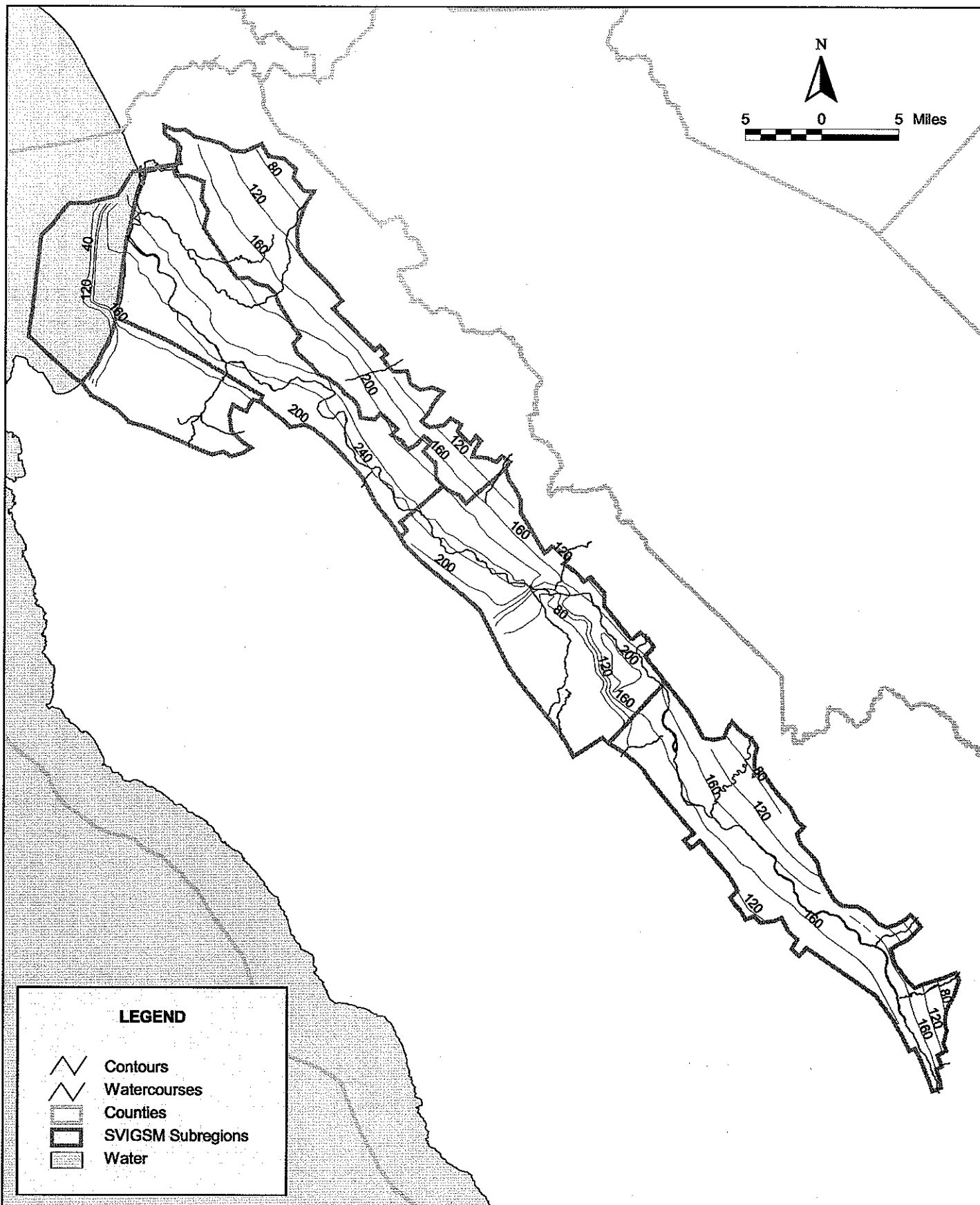
As a result of changes to the thickness of the upper deep aquifer, the hydraulic connection between the upper deep and the 400-foot aquifers need to be revised. The vertical hydraulic conductivity for the aquitard above the upper deep aquifer is modified to ensure that the model leakage between the 400-foot and the upper deep aquifer remains approximately the same as the original model. The vertical hydraulic conductivity in the MCWD area is 3.6×10^{-3} ft/day and the aquitard thickness ranges from about 50 to 150 feet in and around MCWD.

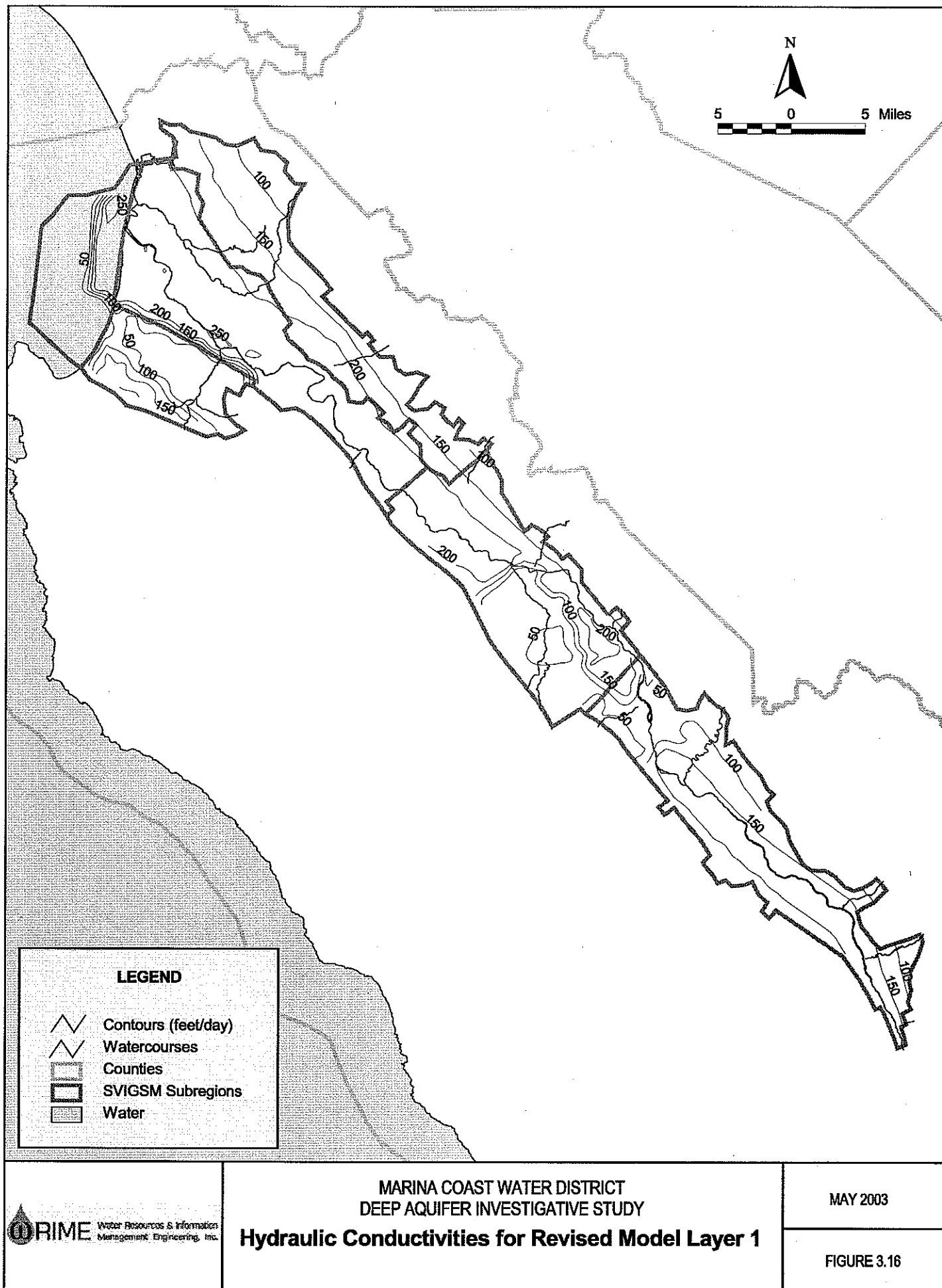
As discussed in Section 2 of this report, the observed groundwater heads in wells 10, 11, and 12 indicate that there may be a separation in hydraulic connection between the upper and lower deep aquifers. In order to simulate this condition, as well as calibrate the model to the observed groundwater heads at these wells, a 10-Ft aquitard is assumed between the upper and lower deep aquifers. This aquitard thickness is merely to add calibration control for modeling purposes, and is not based on any hydrogeologic information. The vertical hydraulic conductivity between the upper and lower deep aquifers, in the MCWD area, is 3.6×10^{-4} ft/day

Streambed Parameters

Average annual streamflow depletions in the previous version of the SVIGSM were compared with the updated version of SVIGSM. Due to changes in hydraulic conductivity of model layer 1, the streamflow depletions of the two model versions did not match. Hydraulic conductivity values of the streambed were modified so that a better match of simulation streamflow depletion values was achieved. The following represents the changes made to the streambed hydraulic conductivities from the original model:

1. Salinas River conductivities were increased in the Upper Valley subarea;





2. Arroyo Seco River conductivities were slightly reduced in the Forebay Subarea; and
3. Salinas River conductivities in the Pressure Subarea above El Toro Creek were increased.

As a result of the recalibration efforts, there was a better match of simulated groundwater levels with the previously simulated groundwater levels and with observed groundwater levels. Figures 3.17a through 3.17d show the distribution of residuals for each subarea over the simulation period. Figures 3.18a through 3.18e show the distribution of errors in the simulated and historic groundwater levels in the entire model area as well as in each subarea. The distributions of residual groundwater levels show the percentage of residuals within the specified ranges. Again, a higher percentage of residuals near zero and one that is more centered on zero indicate a better simulation of historical conditions. Model performances for the entire model area and each subarea are summarized below based on these statistical evaluations. A comparison of Figures 3.2a–3.2d and 3.18a–3.18e indicates that quality of model calibration in the revised version of SVIGSM is as good as or better than the original version.

Model Area. Nearly all simulated groundwater levels (approximately 91%) for the entire model area are within 20 feet of observed groundwater levels. Approximately 80% of simulated groundwater levels are within 10 feet of observed groundwater levels. These are better statistical results than what was determined in the previous version of SVIGSM.

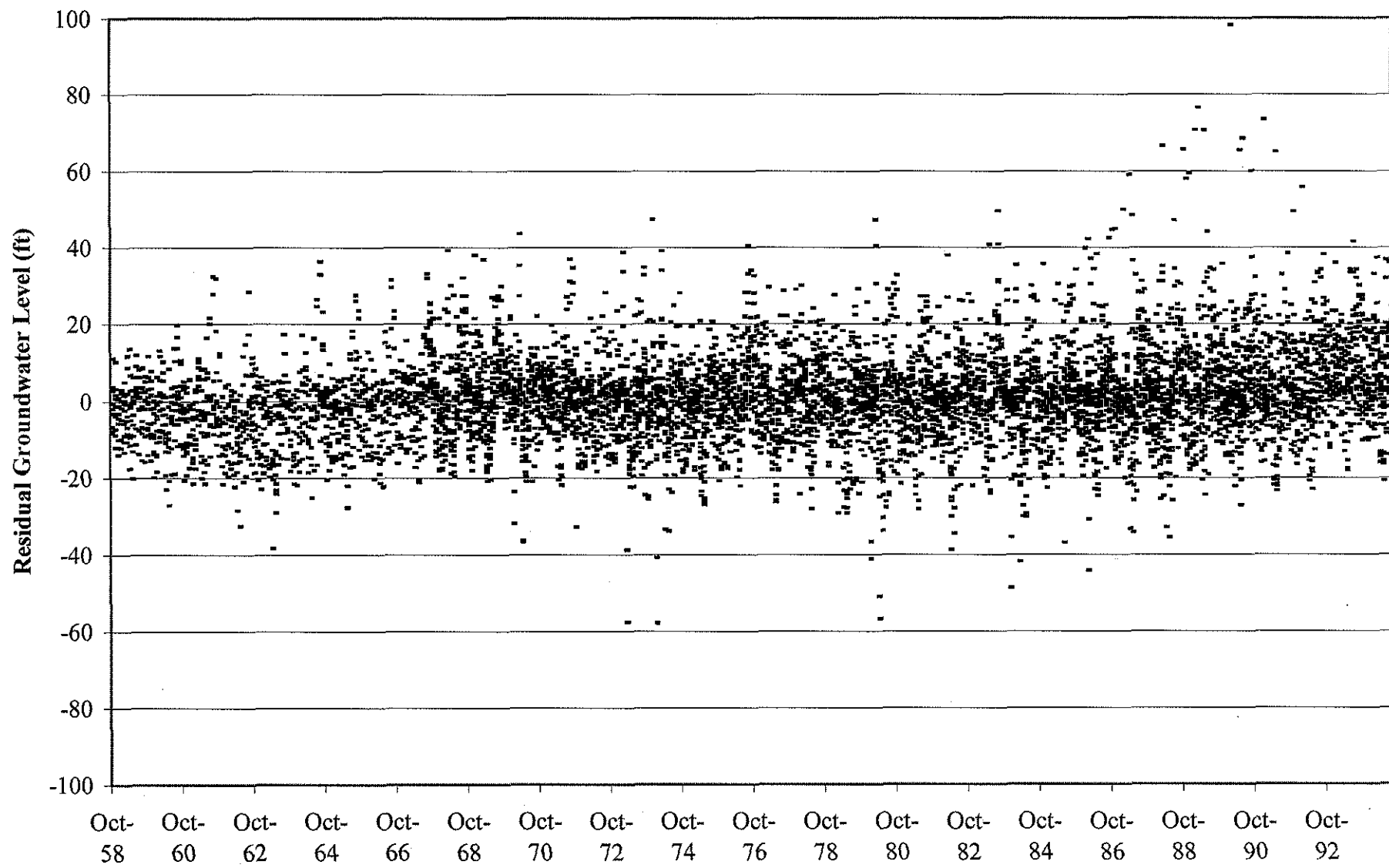
Pressure Subarea. The majority of the simulated groundwater levels (approximately 80%) lie within 10 feet of observed groundwater levels.

East Side Subarea. Distributions of the residuals show that approximately 55% of simulated groundwater levels are within 10 feet of observed groundwater levels. This is consistent with the previous SVIGSM version.

Forebay Subarea. The distribution of residuals shows good calibration between simulated and observed groundwater levels. Overall, 75% percent are within 10 feet of each other. The distributions appear to be normally shaped except for the Forebay deep aquifers that show a bias of the model in underestimating groundwater levels. These results are not as good as the statistical results from the previous SVIGSM version.

Upper Valley Subarea. Simulated groundwater levels tend to match observed groundwater levels. All simulated values are within 20 feet of observed groundwater levels.

Figure 3.2 shows the location of the calibration wells, including the MCWD production wells. Figures 3.19 through 3.21 show the hydrographs for each of the wells. These Figures indicate

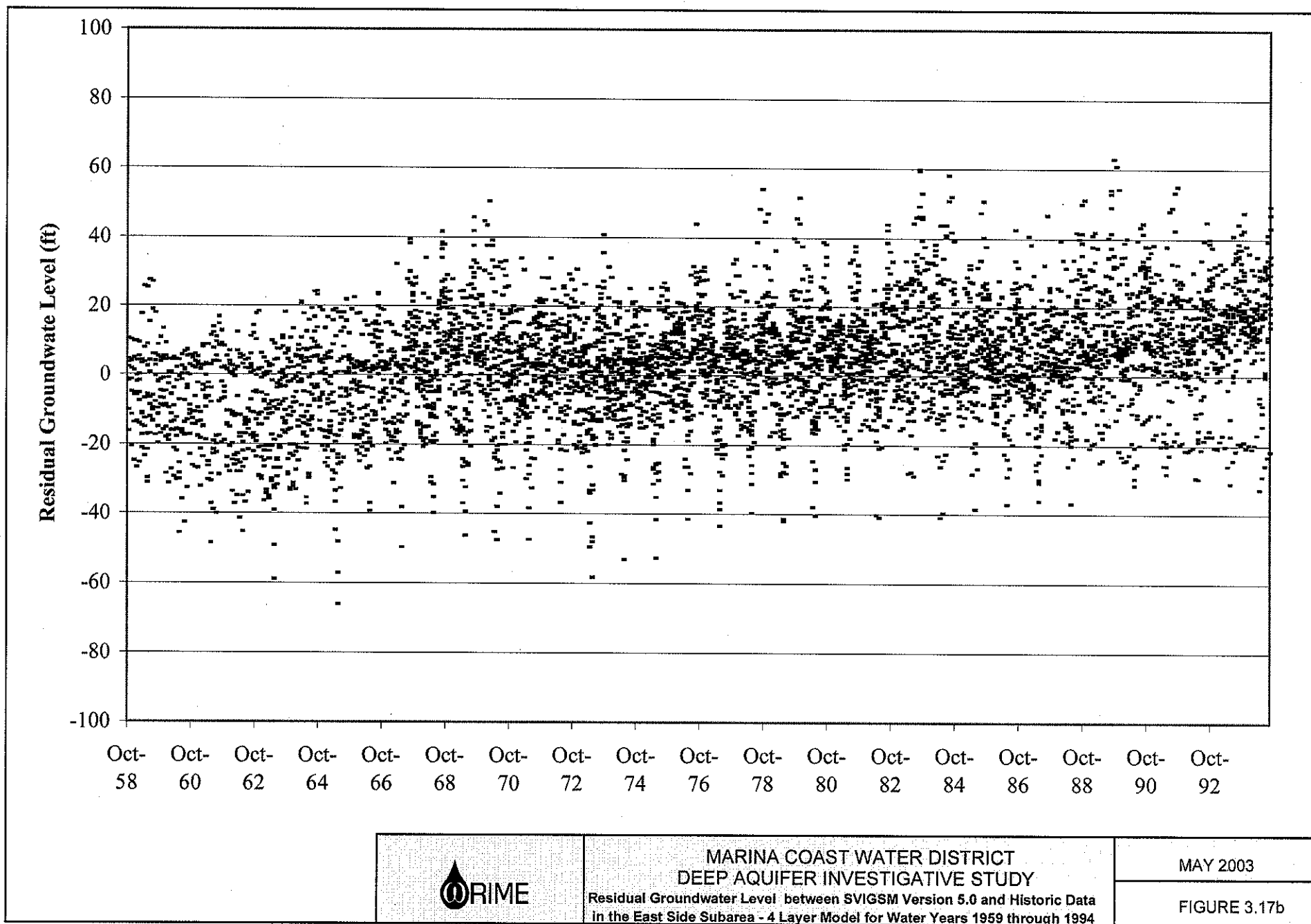


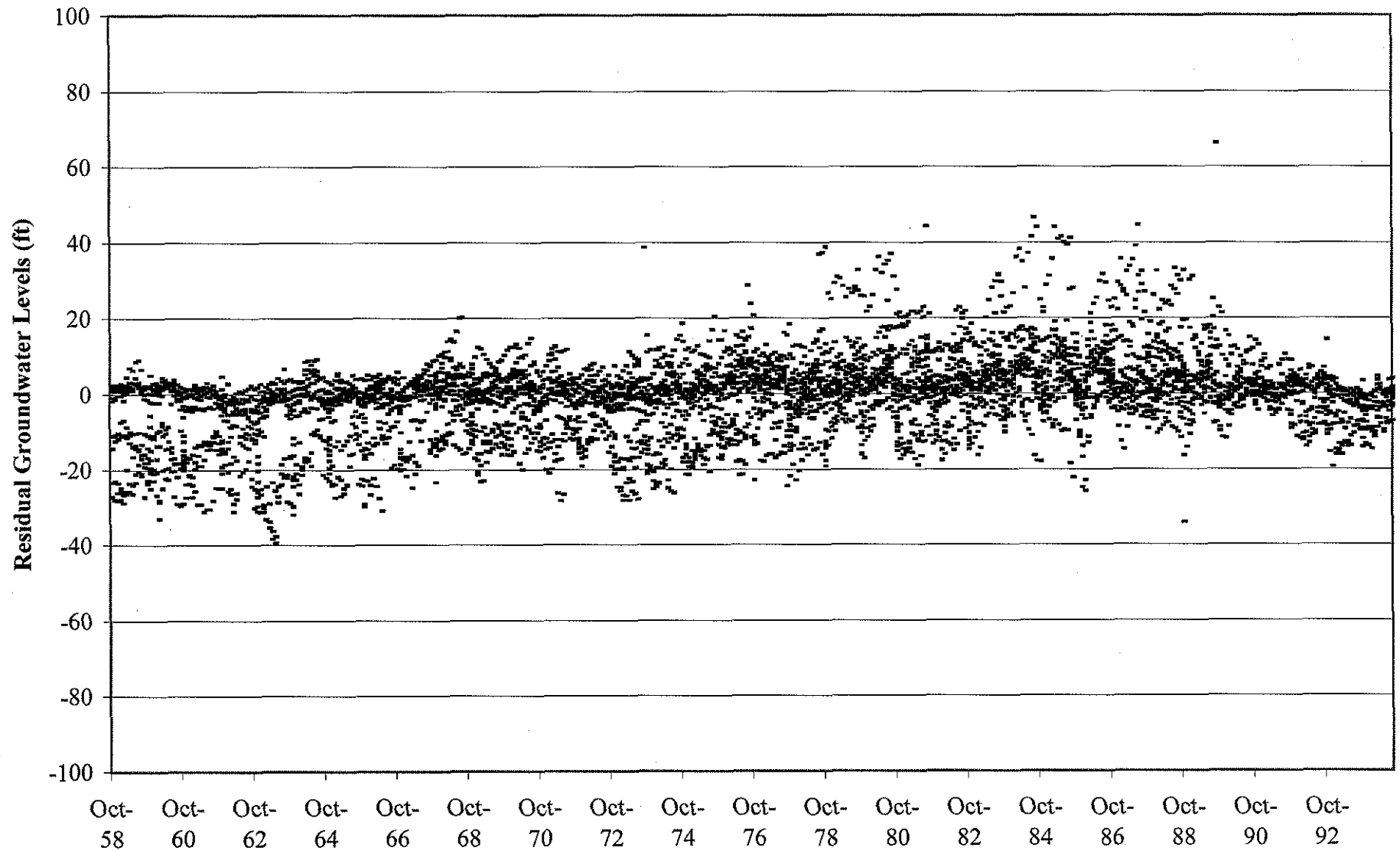
MARINA COAST WATER DISTRICT
DEEP AQUIFER INVESTIGATIVE STUDY

Residual Groundwater Level between SVIGSM Version 5.0 and Historic Data
in the Pressure Subarea - 4 Layer Model for Water Years 1959 through 1994

MAY 2003

FIGURE 3.17a

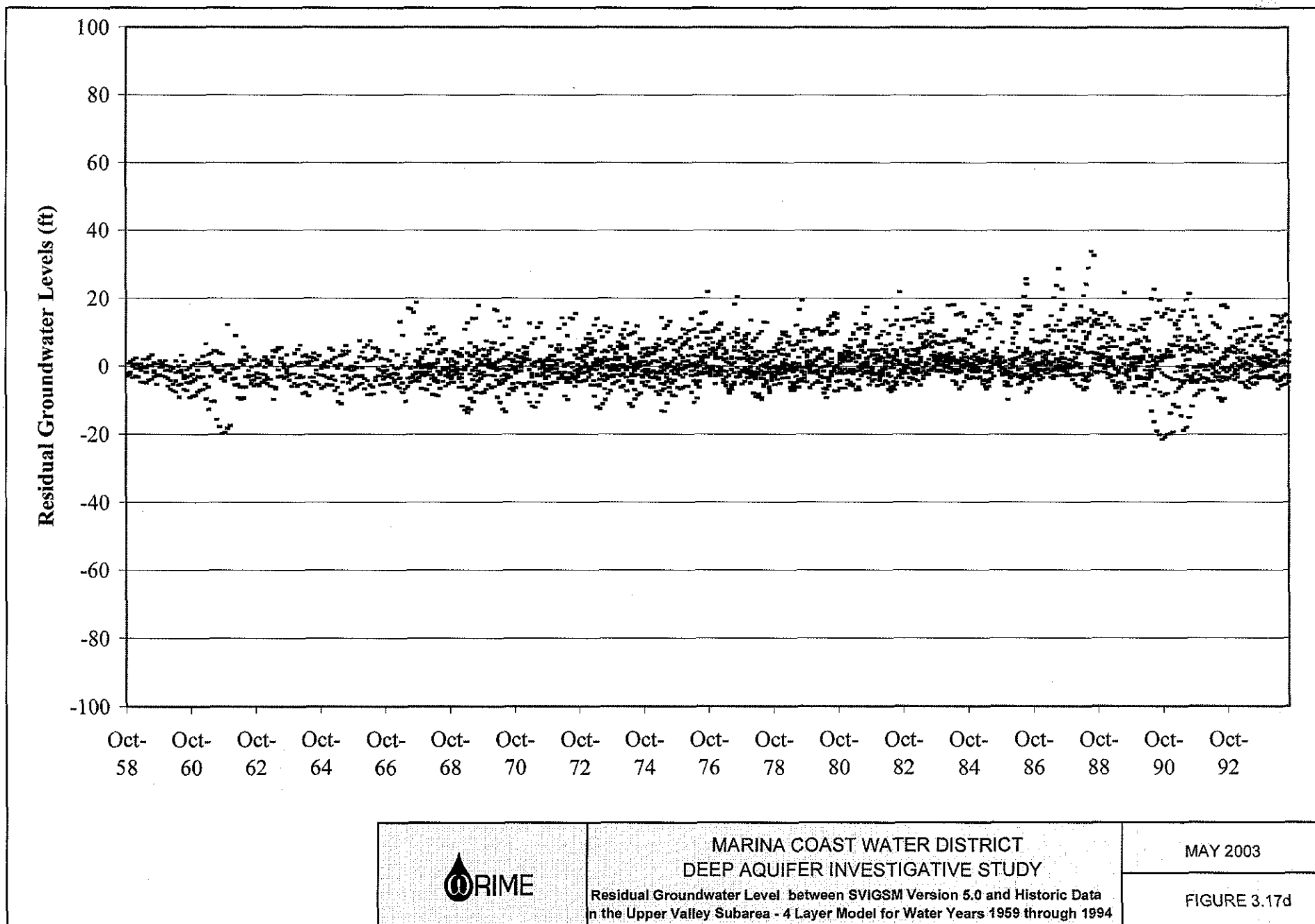


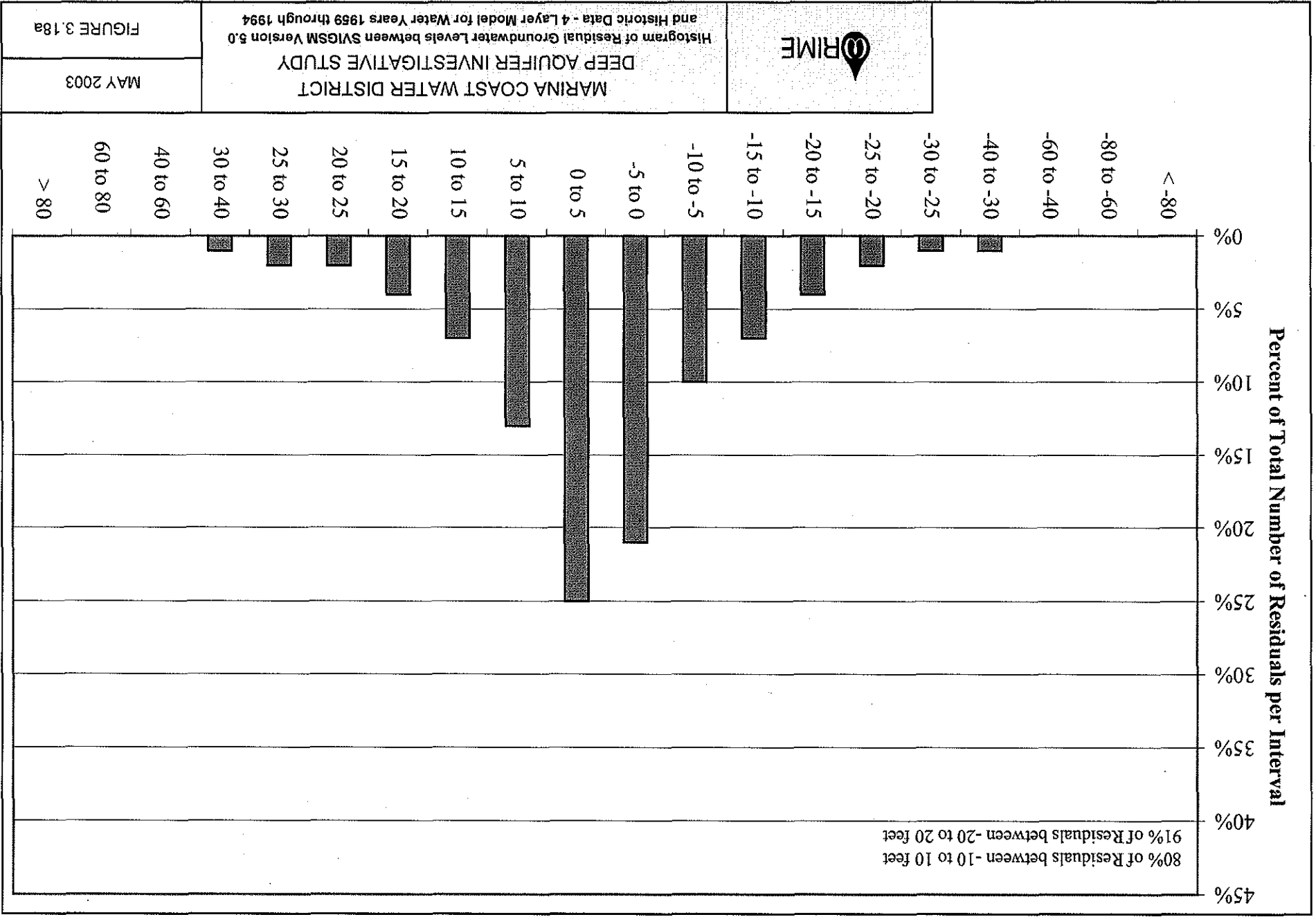


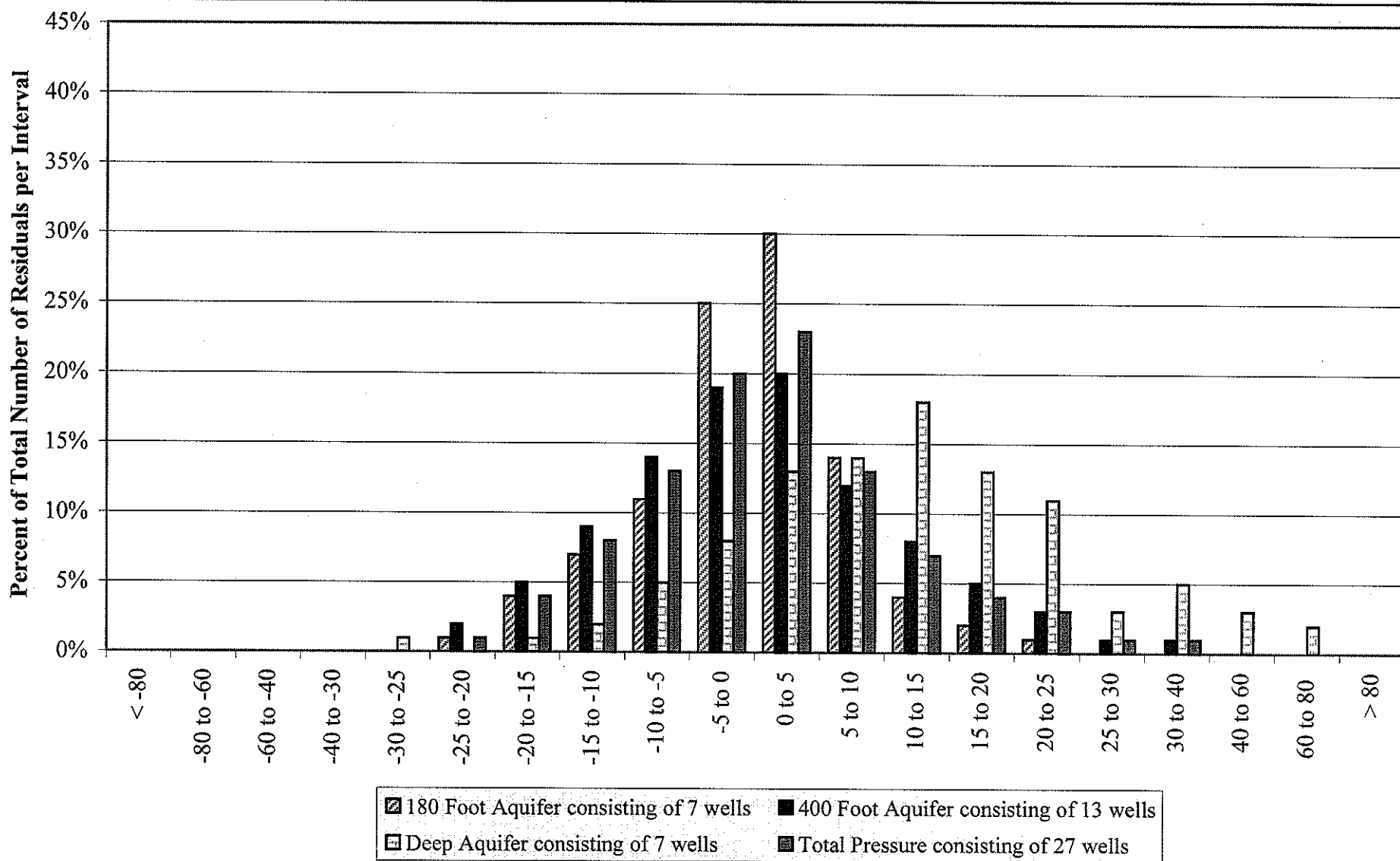
MARINA COAST WATER DISTRICT
 DEEP AQUIFER INVESTIGATIVE STUDY
 Residual Groundwater Level between SVIGSM Version 5.0 and Historic Data
 in the Forebay Subarea - 4 Layer Model for Water Years 1959 through 1994

MAY 2003

FIGURE 3.17c





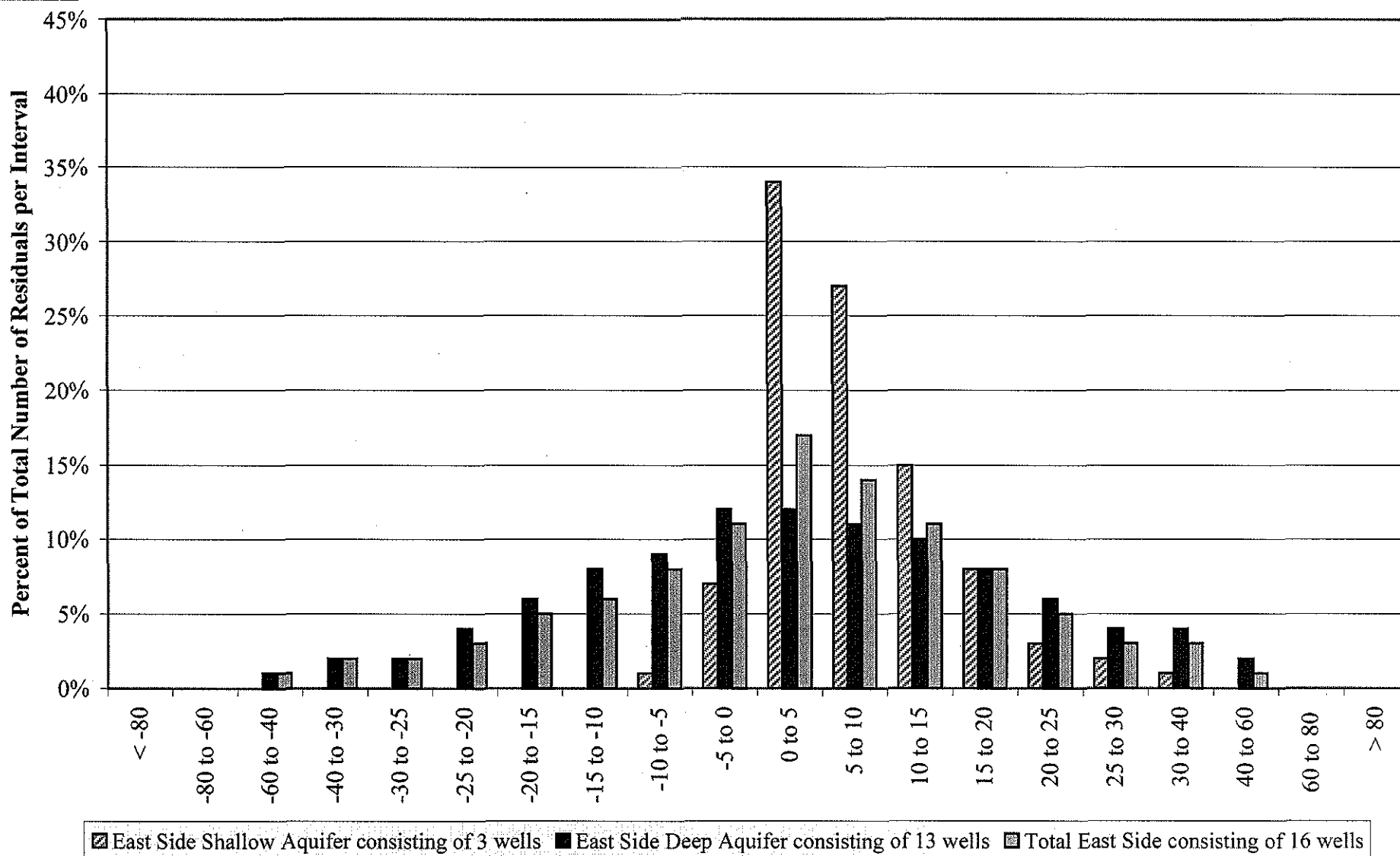


MARINA COAST WATER DISTRICT
DEEP AQUIFER INVESTIGATIVE STUDY

Histogram of Residual Groundwater Levels between SVIGSM Version 5.0 and
Historic Data in Pressure Subarea - 4 Layer Model for Water Years 1959 through 1994

MAY 2003

FIGURE 3.18b

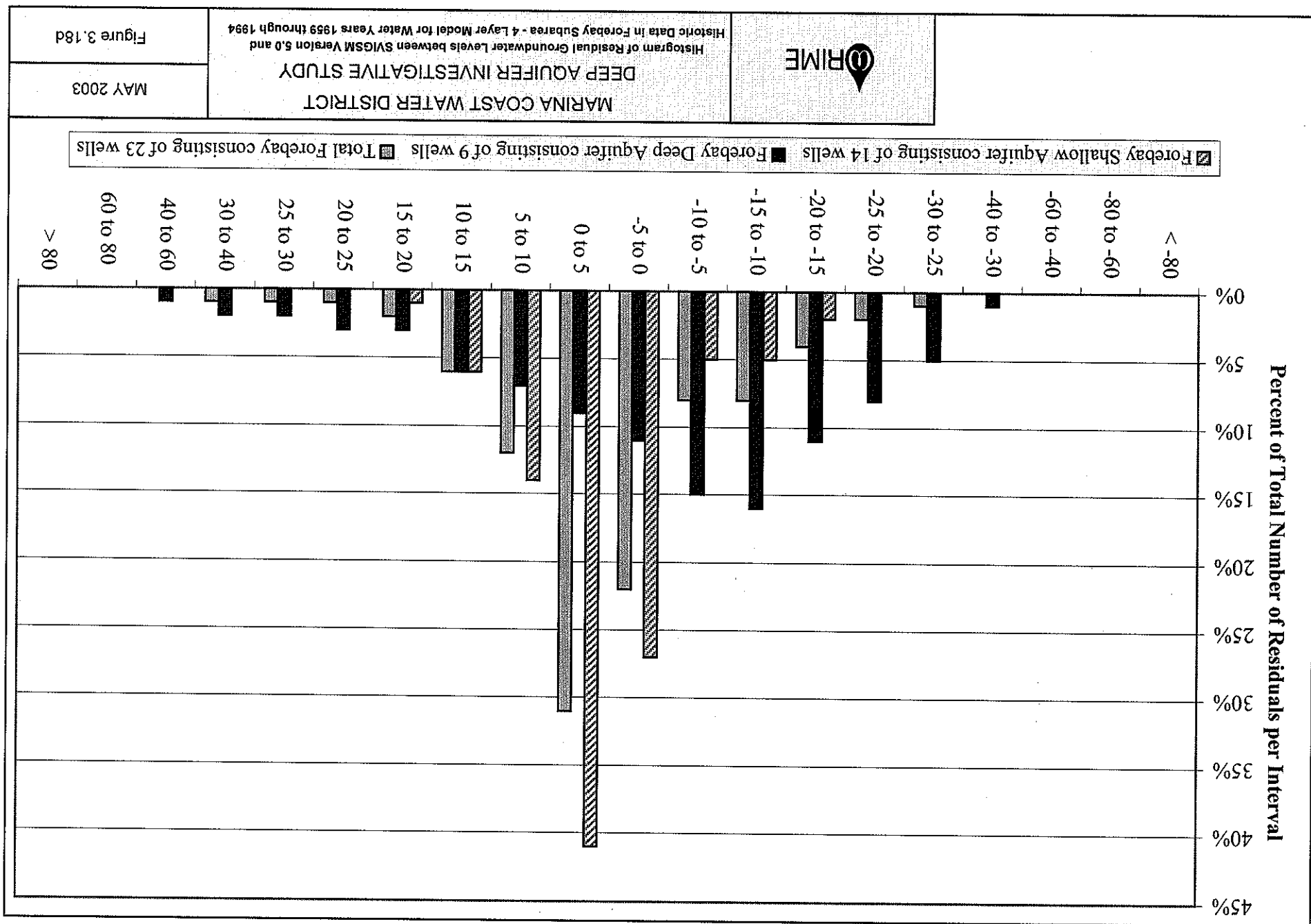


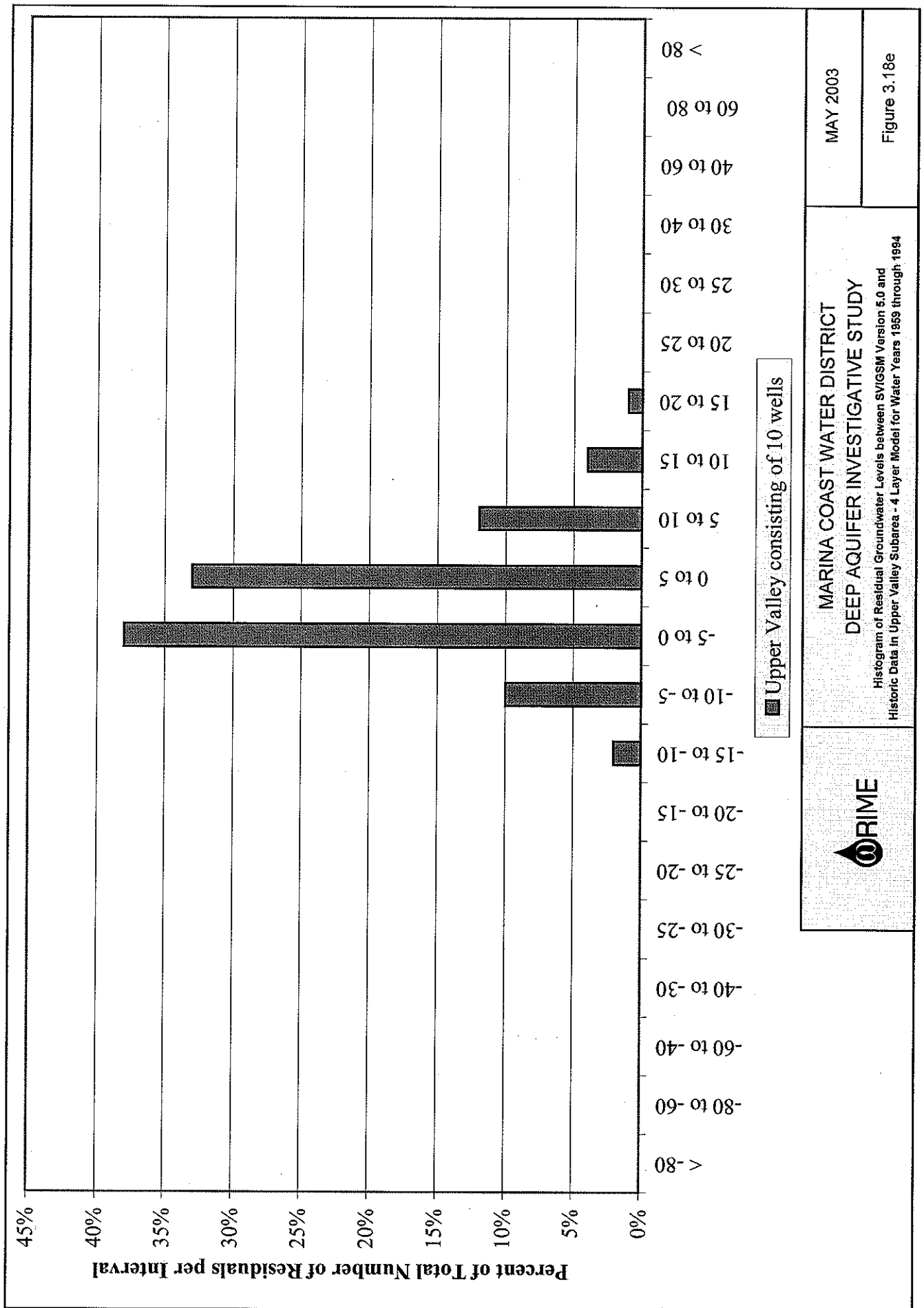
MARINA COAST WATER DISTRICT
DEEP AQUIFER INVESTIGATIVE STUDY

Histogram of Residual Groundwater Levels between SVIGSM Version 5.0 and
Historic Data in East Side Subarea - 4 Layer Model for Water Years 1959 through 1994

MAY 2003

FIGURE 3.18c





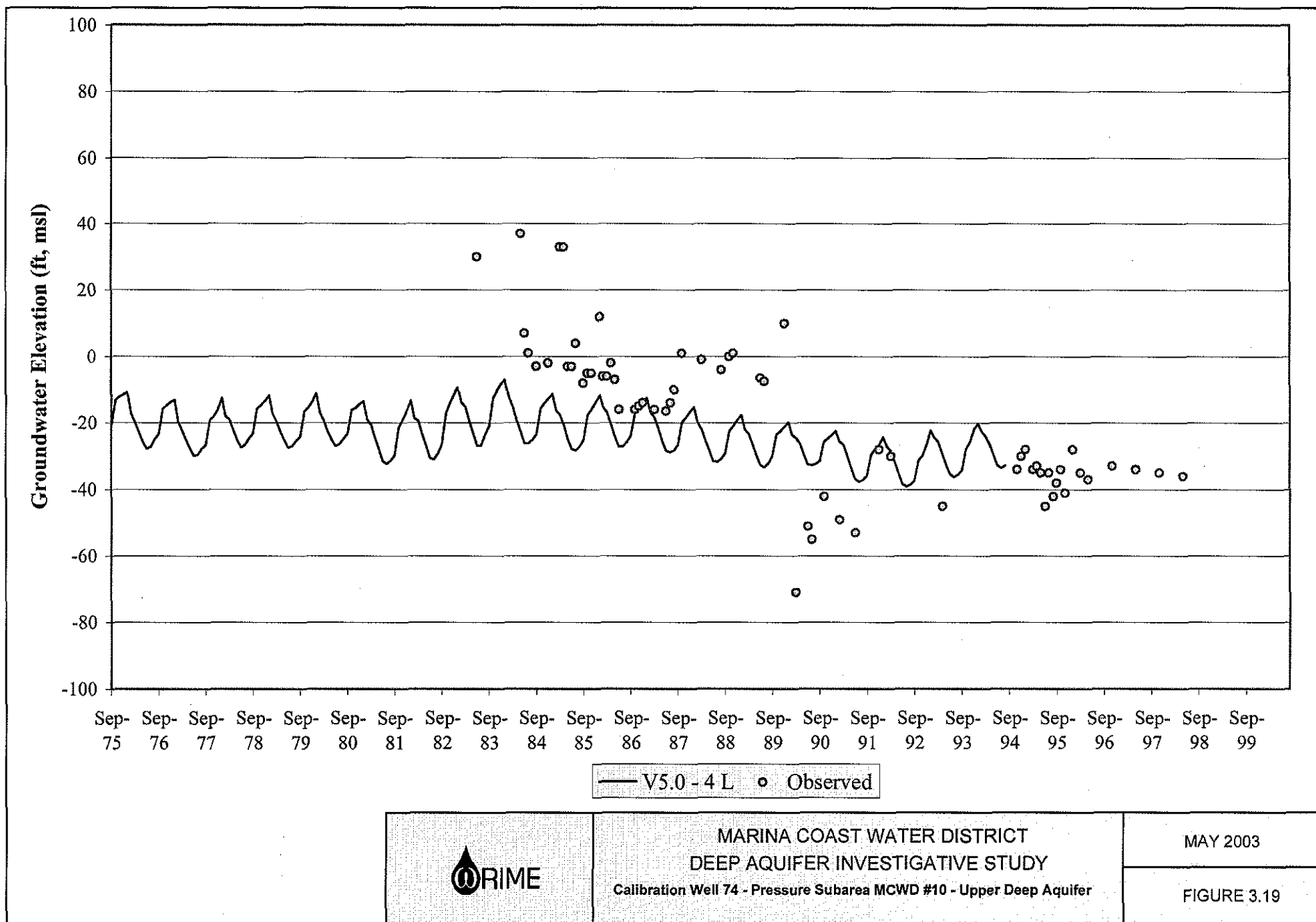
MAY 2003

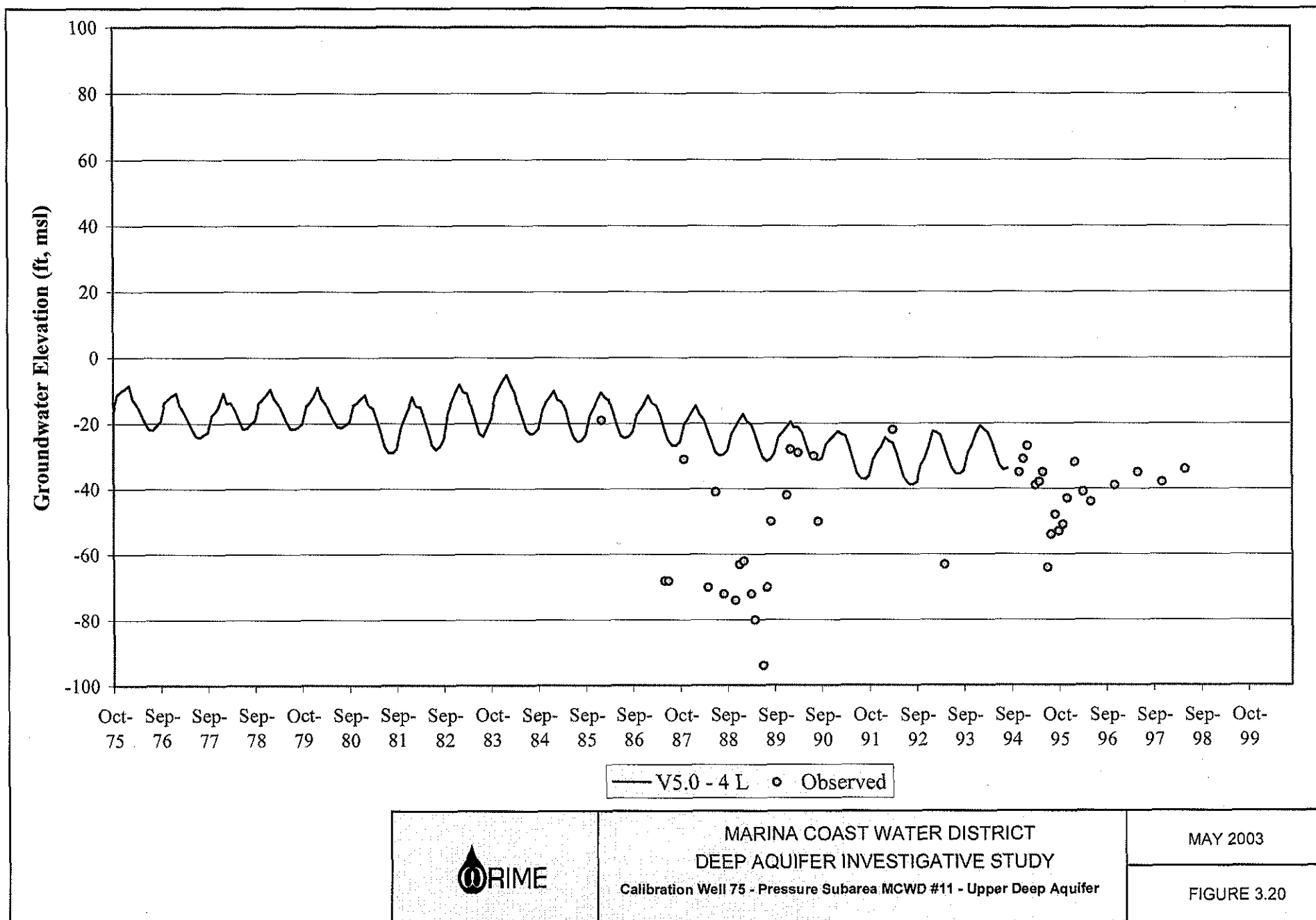
Figure 3.18e

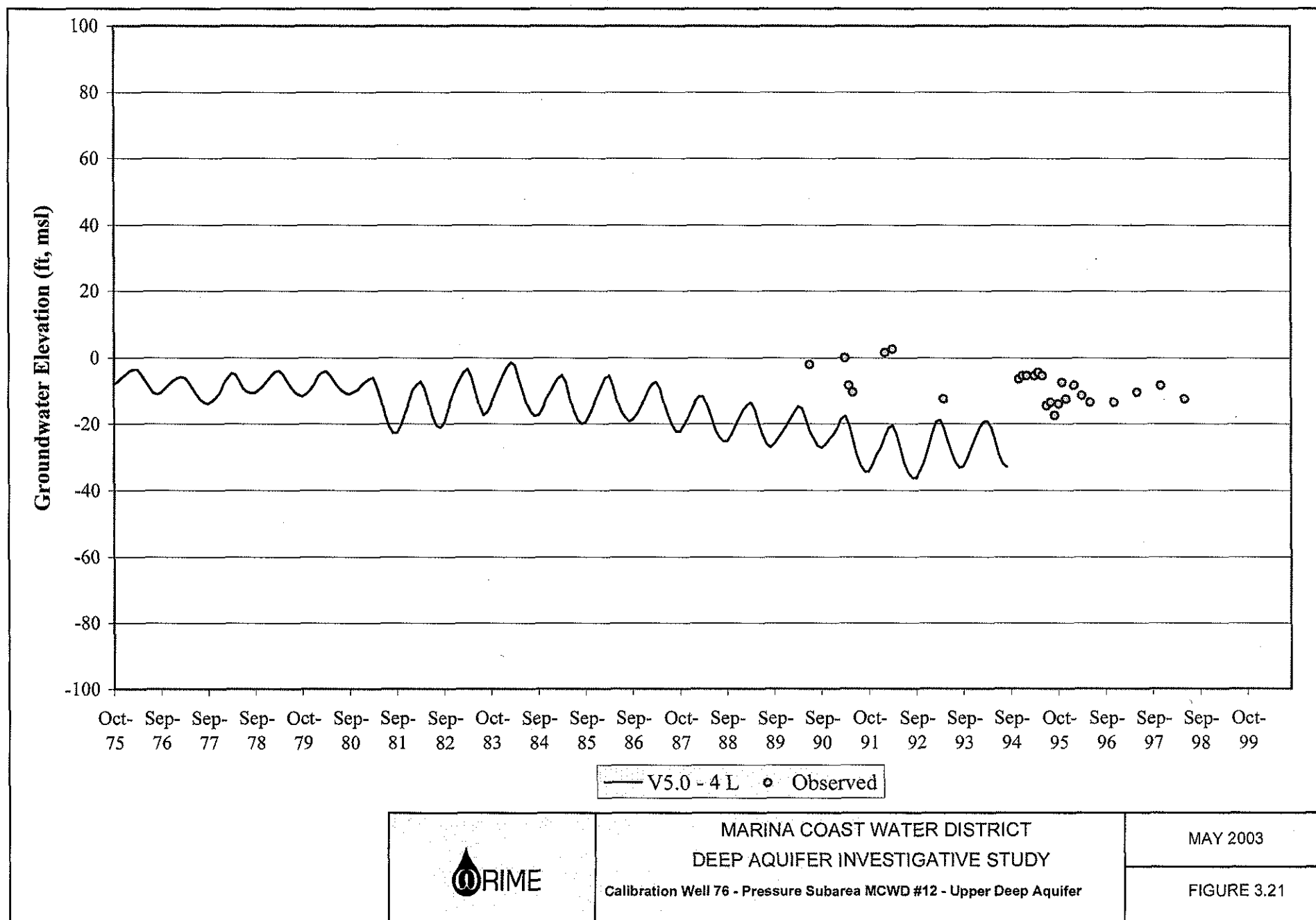
**MARINA COAST WATER DISTRICT
DEEP AQUIFER INVESTIGATIVE STUDY**

Histogram of Residual Groundwater Levels between SYGSM Version 5.0 and
Historic Data in Upper Valley Subarea - 4 Layer Model for Water Years 1959 through 1994









that the model is reasonably simulating the annual trends as well as the seasonal fluctuations in the MCWD wells although the levels may not match. It is noteworthy that these wells are currently assigned as pumping wells in the model. As such, the simulated groundwater heads potentially represent dynamic heads.

BASELINE CONDITION

The baseline conditions developed for the Salinas Valley Water Project were adopted for this effort. The following are changes made to the baseline conditions scenario:

1. Updated stratigraphy data were included;
2. Updated groundwater pumping for MCWD was simulated using MCWD wells at a rate of approximately 2,400 AFY;
3. MCWD wells 10 and 11 pump from Layer 3 and accounts for 73% of groundwater production and Well 12 pumps from Layer 4 and accounts for 27% of groundwater production; and
4. Updated aquifer and streambed parameters were included.

The baseline conditions were simulated and used in the Water Supply Reliability and Safe Yield analysis.

DEFINITION

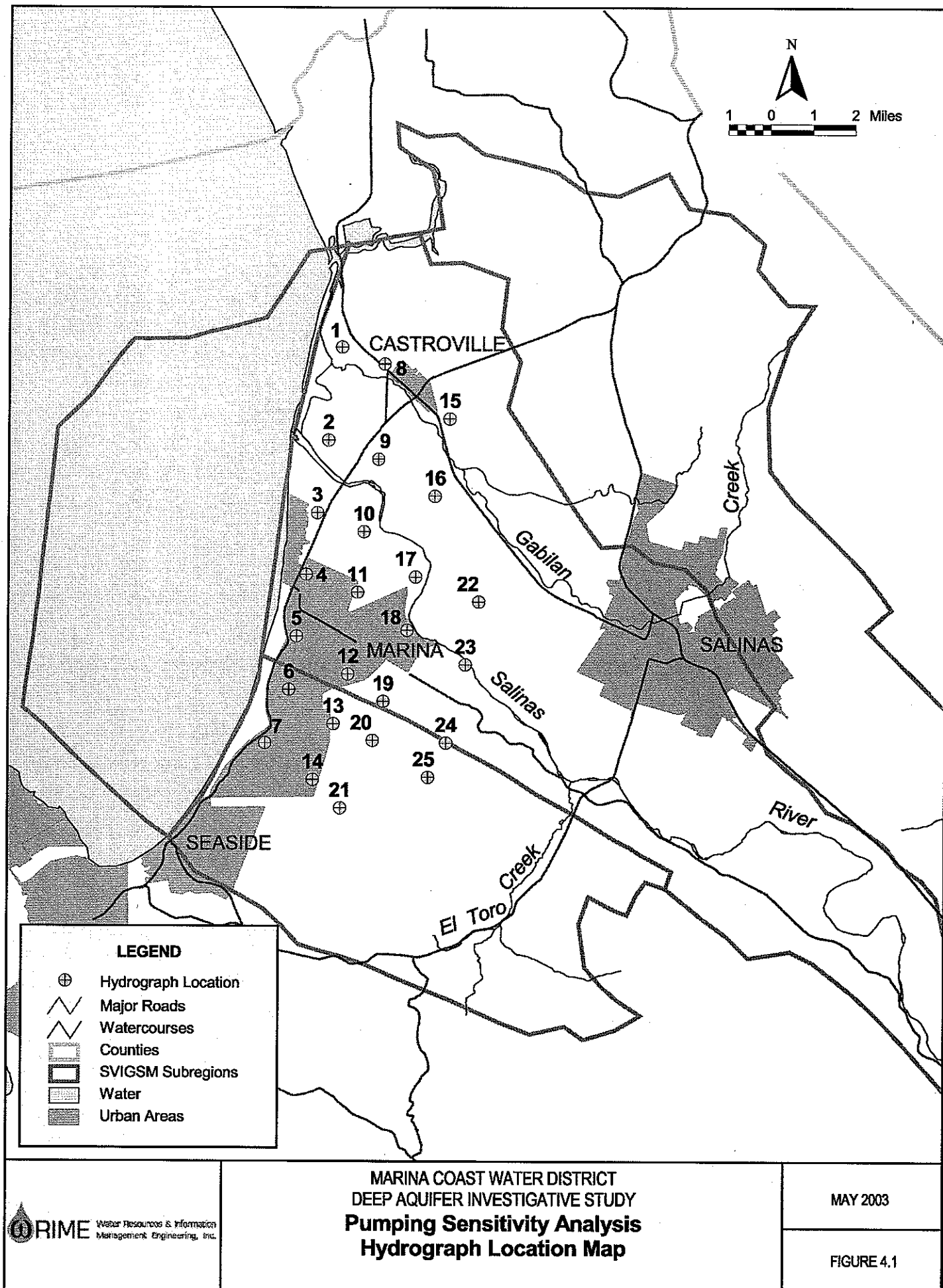
The textbook definition of "safe or sustainable yield" of an aquifer system is the average annual withdrawal that can be taken from the groundwater system without causing a long-term degrading effect in the quantity or quality of the groundwater. This limited definition assumes that the groundwater system is an isolated system without interaction with the surface water processes, such as a stream system. Moreover, the definition is not applicable to an integrated and multi-layered groundwater system in which the operation of one layer affects the groundwater levels in the adjacent layers. In general, safe or sustainable yield may depend on the following factors:

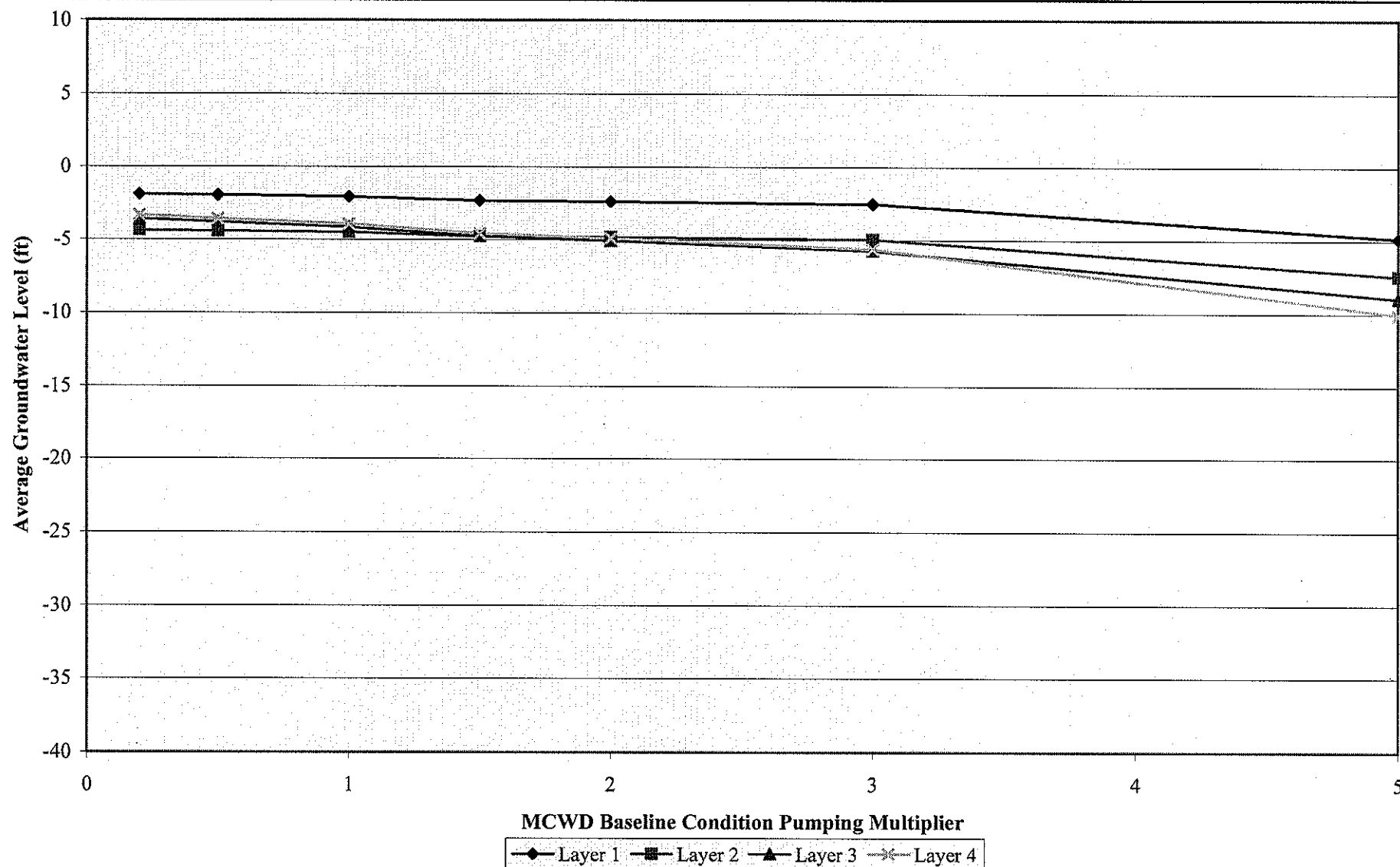
1. The hydrologic period considered to estimate the safe yield;
2. The importance of the groundwater system as a source of supply, compared to other potential sources; and
3. The degree of tolerance in the degradation of quality or decline in quantity of groundwater.

Therefore, a more practical definition for the safe or sustainable yield of a multi-layered and integrated aquifer system is the average annual withdrawal from the aquifer layer or the aquifer system, such that the long-term quantity and quality of the aquifer system as a whole is not degraded.

SAFE YIELD ANALYSIS

To evaluate the safe or sustainable yield of the deep aquifers, a set of response curves are developed to represent the impacts of changing groundwater pumping in MCWD wells. The baseline groundwater pumping at the three MCWD wells is 2,400 AFY; 1,750 AFY from layer 3, and 650 AFY from layer 4. These curves relate changes in MCWD baseline groundwater pumping in the following: 1) average groundwater levels in each layer; 2) groundwater flow across the coast; and 3) vertical groundwater flow between the aquifer layers. In order to monitor the changing groundwater levels in the coastal areas, a set of monitoring locations were assigned in the model. Figure 4.1 shows the locations of 25 points used to monitor changing groundwater levels over time. Figures 4.2 through 4.5 show the response of average groundwater levels to changes in MCWD baseline groundwater pumping.





Baseline conditions occur
when x-axis is equal to 1

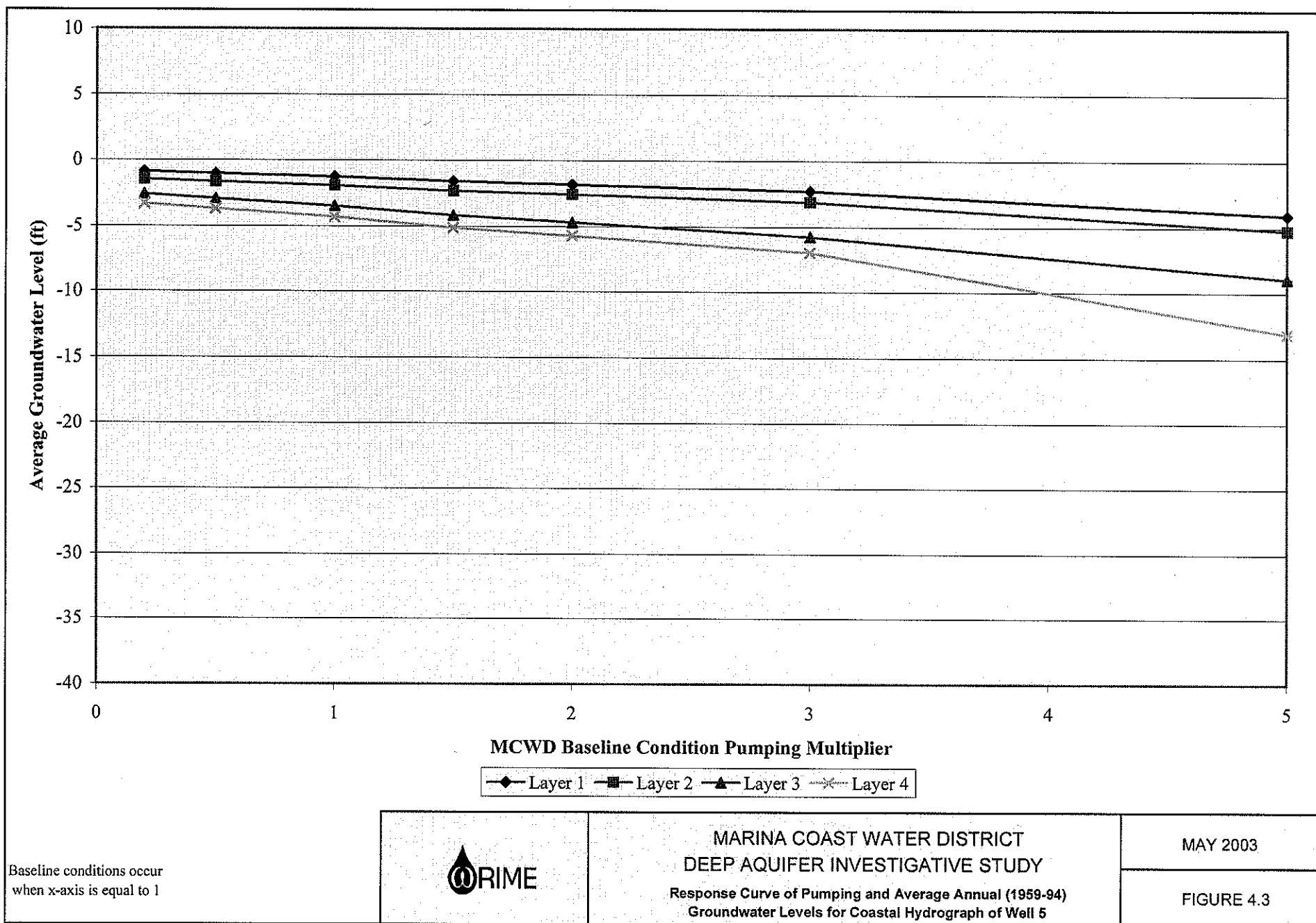


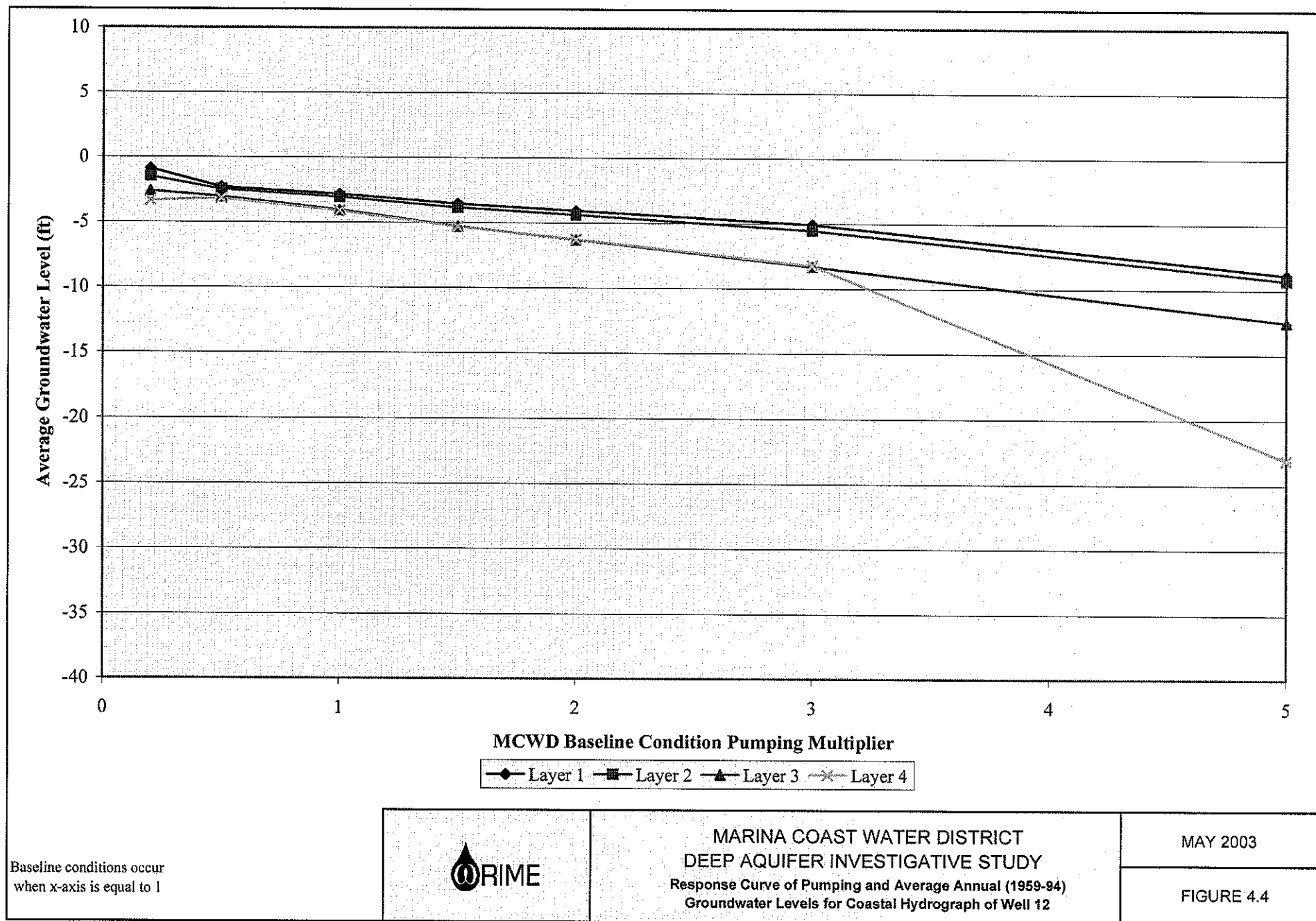
**MARINA COAST WATER DISTRICT
DEEP AQUIFER INVESTIGATIVE STUDY**

Response Curve of Pumping and Average Groundwater Levels
for Coastal Hydrograph Locations per Aquifer

MAY 2003

FIGURE 4.2





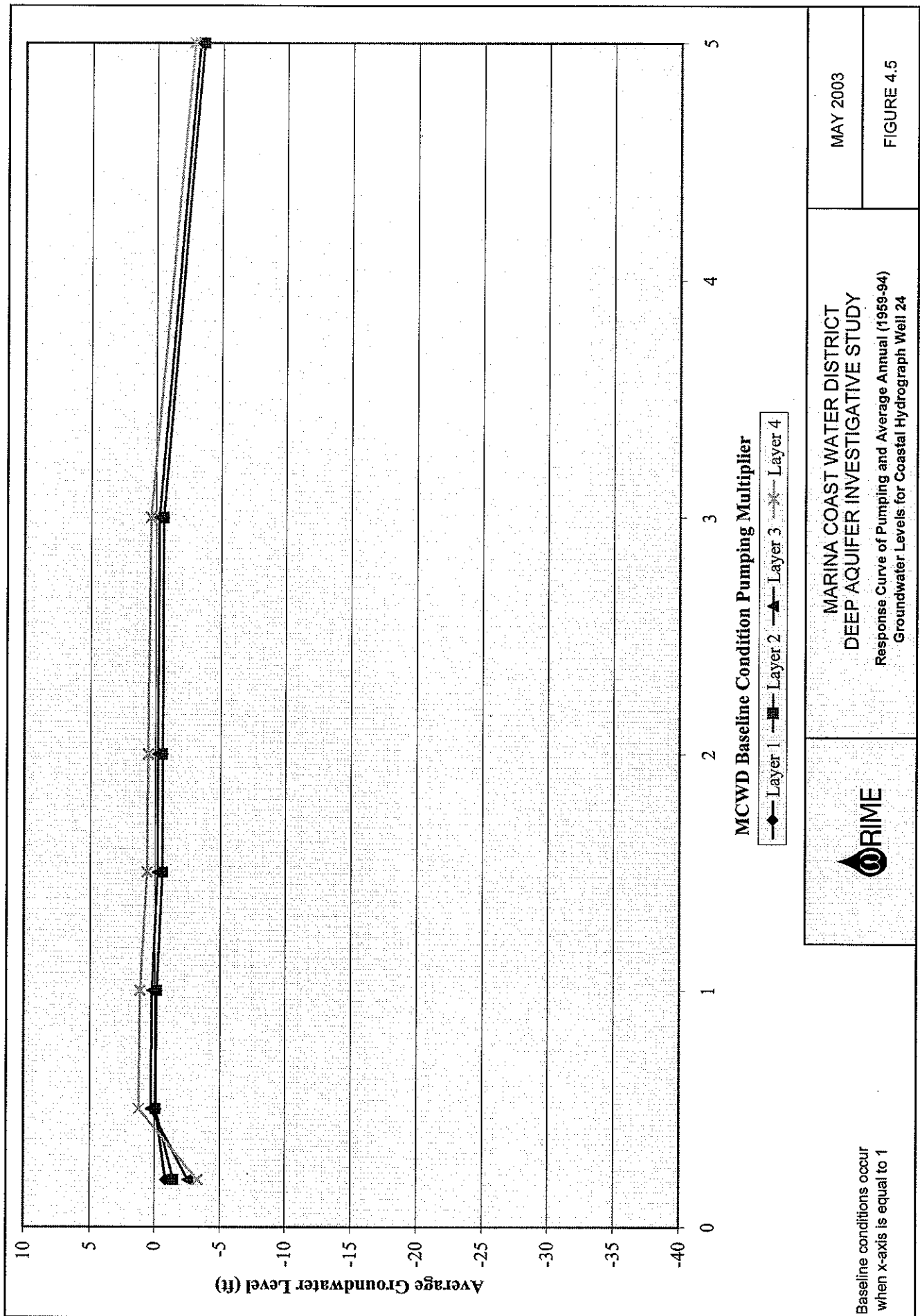


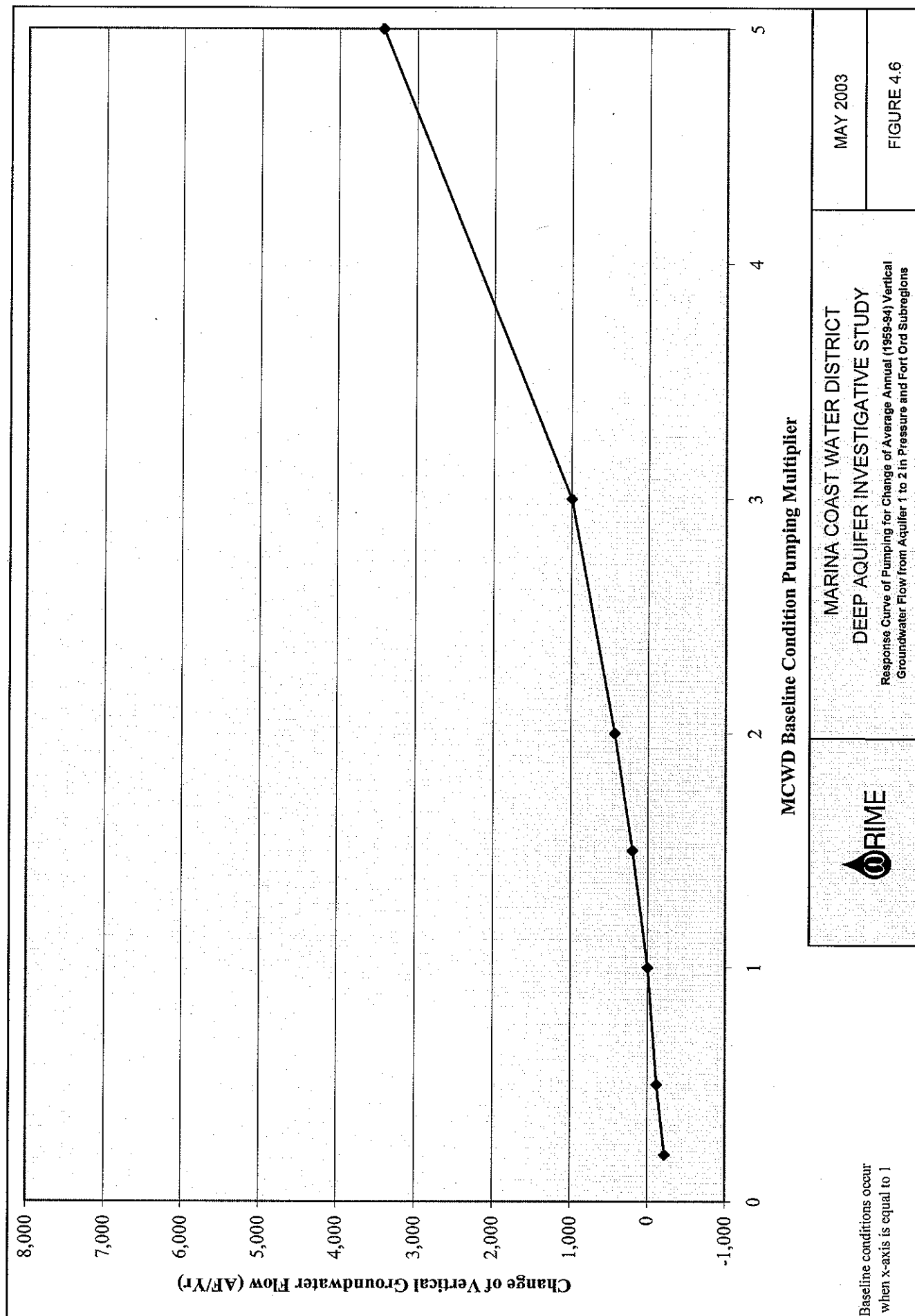
Figure 4.2 shows the response of the groundwater system as an average of all 25 hydrograph locations for each layer. Figures 4.3 through 4.5 show average groundwater levels, per layer, for three selected locations. All the figures indicate that groundwater heads will continue to decline in almost all aquifer layers if groundwater production from the deep aquifers is increased significantly from baseline levels.

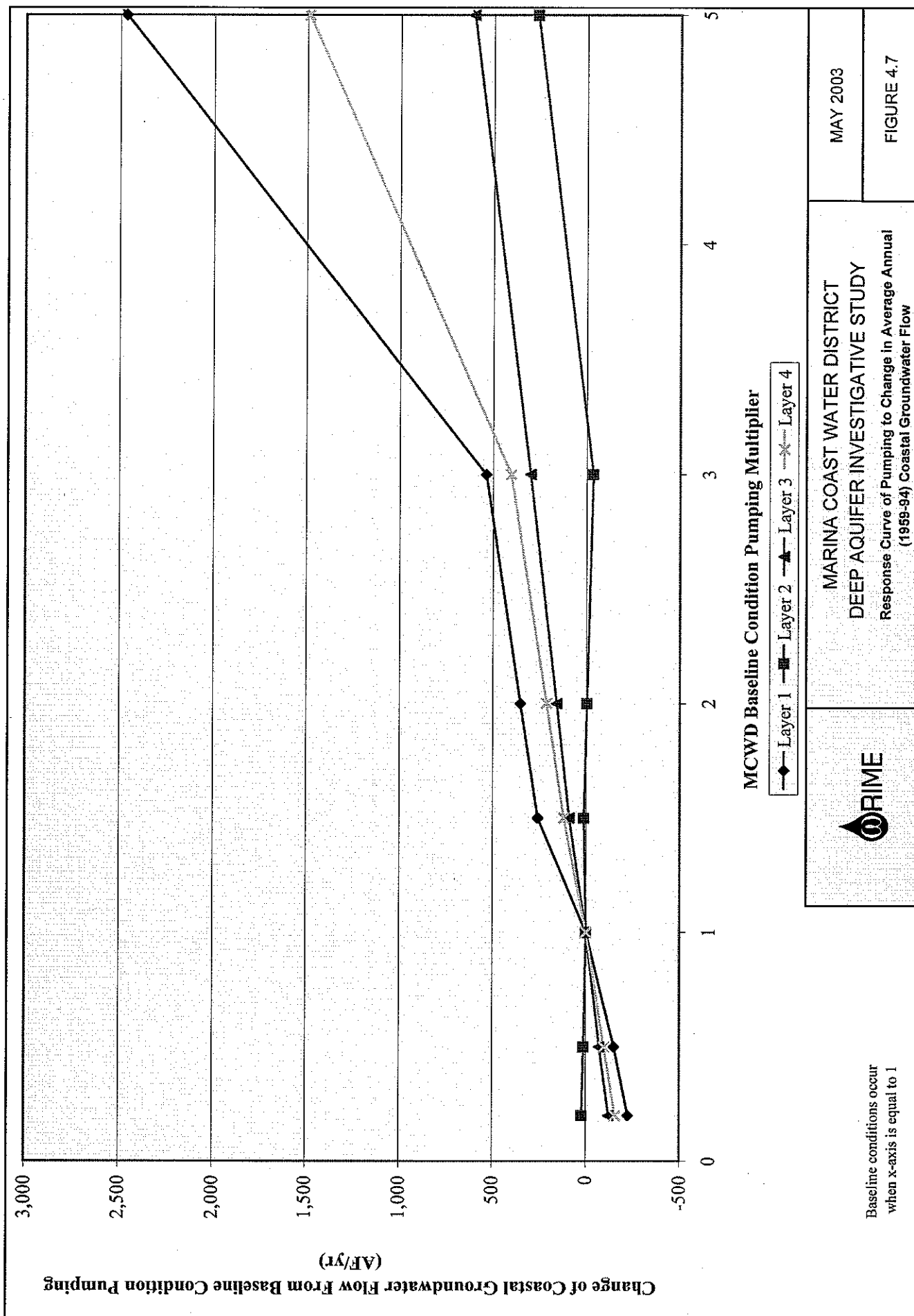
Figure 4.6 shows the response of vertical groundwater flow to changes in baseline pumping. In general, as pumping increases there is an increase in vertical flow from Aquifer 1 to Aquifer 2.

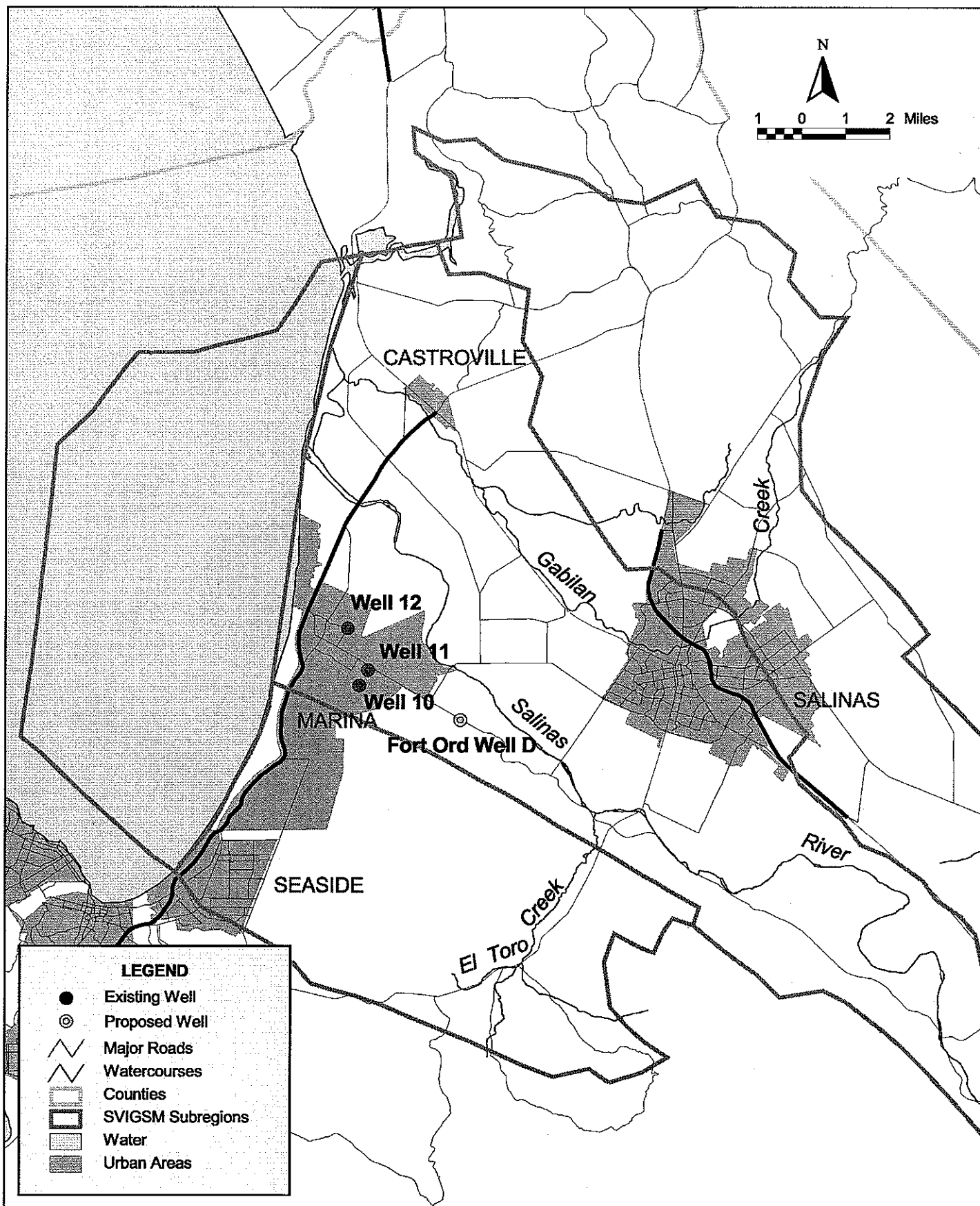
Figure 4.7 shows the change in coastal groundwater flow from the baseline conditions because of changes in baseline groundwater pumping. In this case, the coastal subsurface flows are used as a surrogate for rate of seawater intrusion. In general, the inland groundwater flow towards the coast increases with groundwater pumping increases. It should be noted that increases in the coastal flows in the 180-foot aquifer and the deep aquifers are larger than those in the 400-foot aquifer. This may be due to the fact that increases in deep aquifers groundwater pumping induce more inland subsurface flux in the deep aquifers, as well as more downward flow of groundwater from the 400-foot aquifer. However, the 400-foot aquifer is also rapidly replenished by leakage from the 180-foot aquifer. Therefore, the net change in the 400-foot aquifer may not be as significant, even though the 180-foot aquifer appears to take a greater toll in seawater intrusion because of its substantially higher transmissivities.

POTENTIAL WATER SUPPLY ALTERNATIVES

In light of the varying range of safe or sustainable yield from the deep aquifers, and in order to analyze a set of realistic water supply options for the interim and/or long-term needs of MCWD, three alternative scenarios have been developed and analyzed. The focus of this analysis is to evaluate the impacts of these alternatives on the groundwater levels and inland subsurface flow across the coastline. Table 4.1 defines the three potential water supply scenarios that are analyzed. These scenarios are defined in coordination with the water supply master plan project, currently ongoing. These alternative groundwater supply options focus on maintaining the current groundwater production from MCWD Well Nos. 10, 11, and 12. Further, the additional supplies to meet the future needs of Marina and/or Fort Ord may come from a combination of the upper deep aquifer or 400-foot aquifer from a possible well further south along Reservation Road (in the vicinity of Well 32). Figure 4.8 shows the existing and proposed MCWD groundwater production wells. Increased pumping from Layer 4 is not considered a viable alternative given the lack of potential yield. These alternatives are presented to show the range of alternatives that can be evaluated using the updated SVIGSM. They do not necessarily represent the actual water supply scenarios that the MCWD may be considering in their water supply master plan.








 <p>Water Resources & Information Management Engineering, Inc.</p>	<p>MARINA COAST WATER DISTRICT DEEP AQUIFER INVESTIGATIVE STUDY MCWD Existing and Proposed Groundwater Production Well Location Map</p>	<p>MAY 2003</p>
		<p>FIGURE 4.8</p>

Table 4.1 Baseline Condition and Potential Water Supply Alternatives

Alternative	Description
Baseline	SVWP Baseline assumptions consisting of: 1995 land and water use; Castroville Seawater Intrusion Project is operational; 17,500 AFY of future deliveries to San Luis Obispo County from Nacimiento Reservoir; and MCWD present level of groundwater pumping (2,400 AFY) from existing wells
Alternative 1	MCWD Baseline condition pumping 2,400 AFY from deep aquifers + 1,400 AFY from MCWD upper deep aquifer wells (no change in lower deep well)
Alternative 2	2,400 AFY from deep aquifers + 1,400 AFY from MCWD upper deep aquifer wells (no change in lower deep well) 4,200 AFY from upper deep aquifer at Well 32
Alternative 3	2,400 AFY from deep aquifers + 1,400 AFY from MCWD upper deep aquifer wells (no change in lower deep well) 4,200 AFY from 400-foot aquifer at Well 32

Table 4.2 compares the average groundwater levels, per aquifer, for the 25 coastal monitoring locations.

Table 4.2 Comparison of Average Groundwater Levels (ft, MSL) per Aquifer for Coastal Monitoring Locations

	Aquifer 1	Aquifer 2	Aquifer 3	Aquifer 4
Baseline	-2.1	-4.5	-4.1	-3.9
Alternative 1	-2.5	-4.9	-4.9	-4.7
Alternative 2	-4.1	-6.7	-7.5	-7.1
Alternative 3	-4.2	-6.9	-6.8	-6.5

Table 4.3 compares the relative impact of the alternatives to the baseline conditions in terms of average annual coastal flux.

Table 4.3 Difference in Average Annual Coastal Groundwater Flow (AFY) Between Supply Alternative and Baseline Conditions for Each Aquifer

	Layer 1	Layer 2	Layer 3	Layer 4
Alternative 1	455	61	137	103
Alternative 2	1,663	273	367	390
Alternative 3	1,620	305	349	323

Table 4.4 shows a comparison of average annual vertical groundwater flow between Aquifers 1 and 2 in the Pressure and Fort Ord subareas.

Table 4.4 Comparison of Average Annual Vertical Groundwater Flow (AFY) between Aquifers 1 and 2 in the Pressure and Fort Ord Subareas

Scenario	Aquifers 1 and 2 (AF)	Aquifers 2 and 3 (AF)	Aquifers 3 and 4 (AF)	Difference in Vertical Flow Change from Baseline Condition		
				Aquifers 1 and 2 (AF)	Aquifers 2 and 3 (AF)	Aquifers 3 and 4 (AF)
Baseline	-60,114	167	2,601	0	0	0
Alternative 1	-61,044	-885	2,733	-929	-1,052	132
Alternative 2	-63,760	-3,984	3,216	-3,646	-4,152	614
Alternative 3	-64,558	-163	3,009	-4,443	-331	407

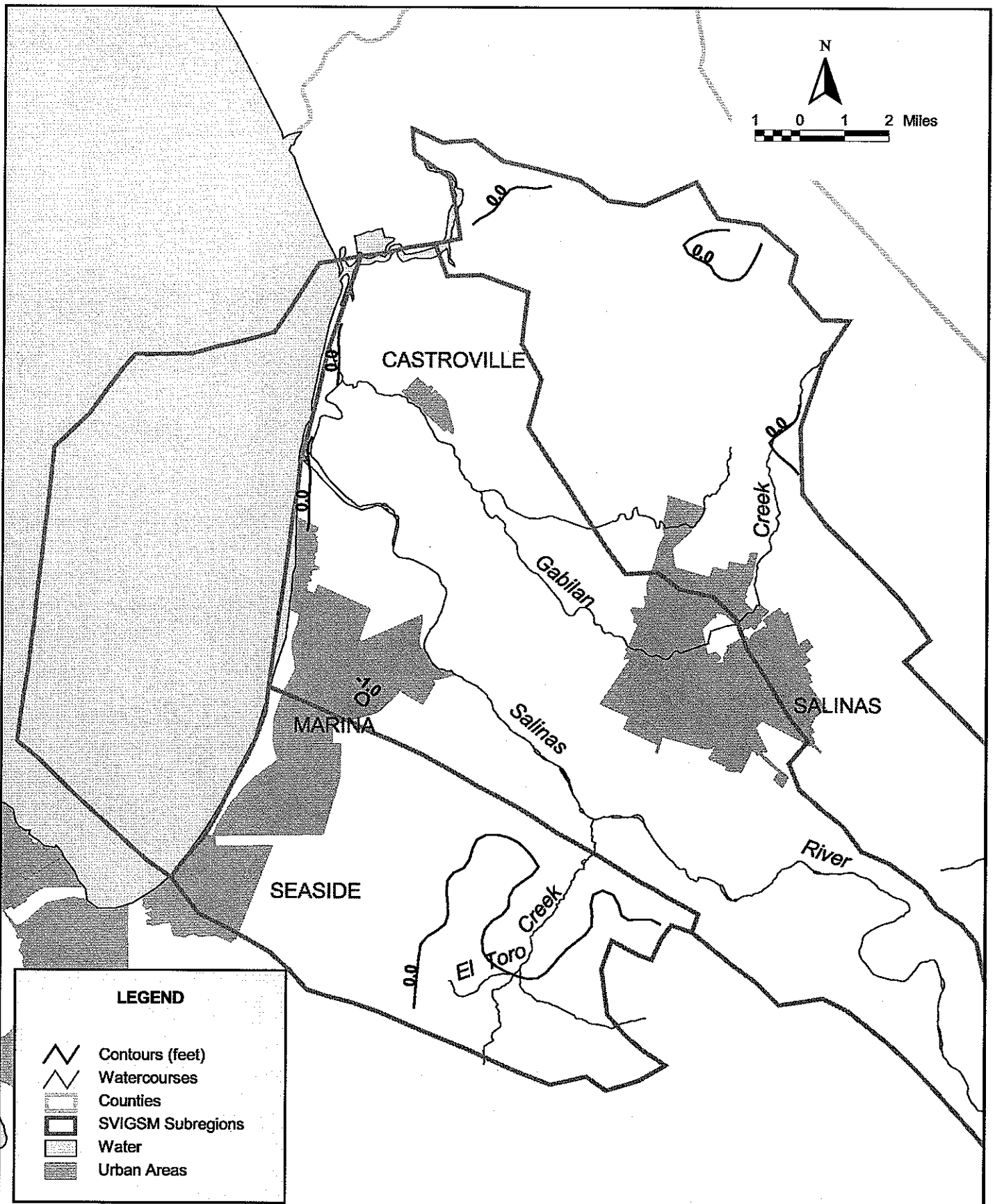
*Positive Values Indicate Upward Flow

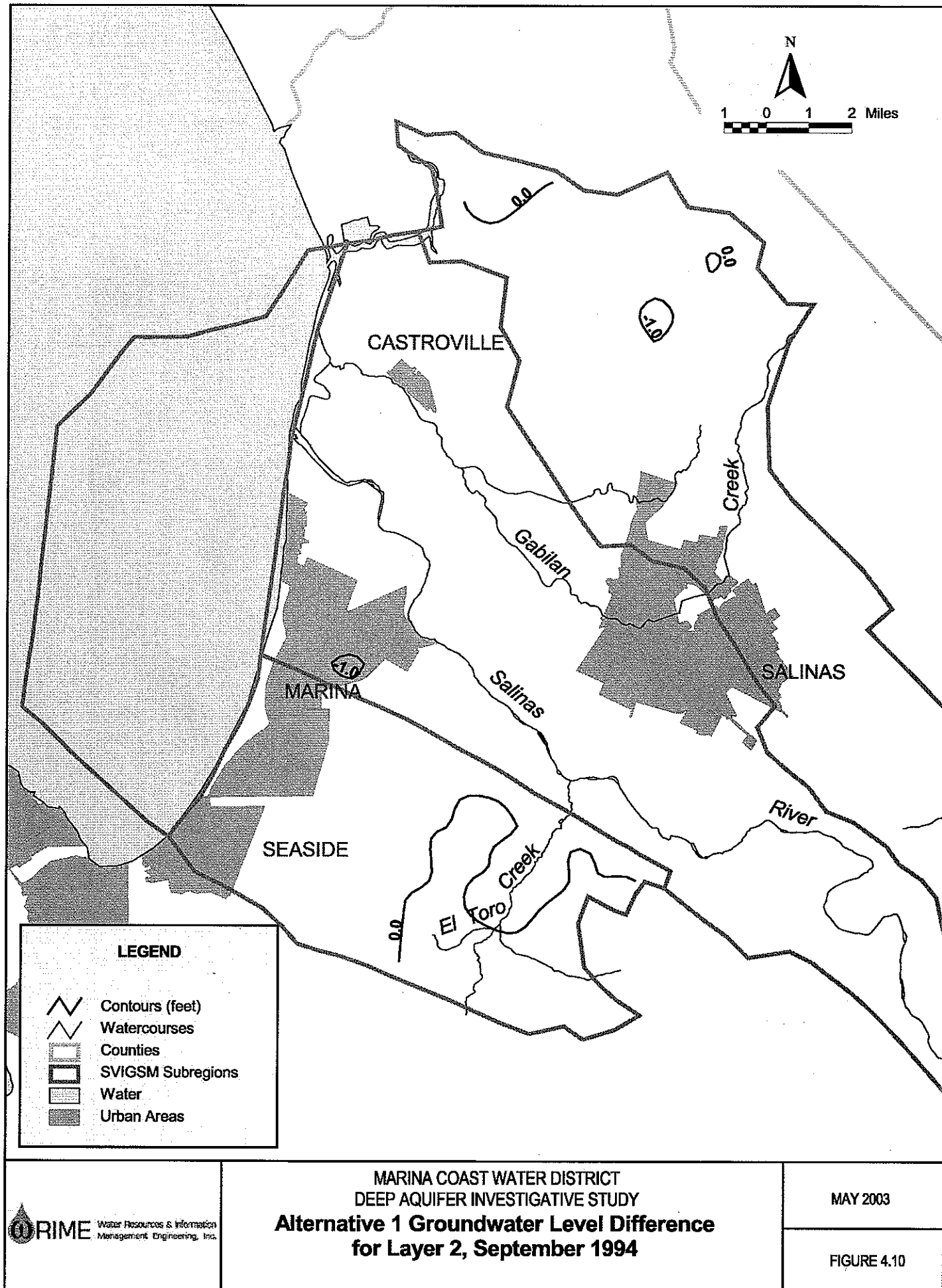
Figures 4.9 through 4.20 show September 1994 drawdowns in groundwater heads in various aquifer layers as a result of each alternative groundwater pumping scenario.

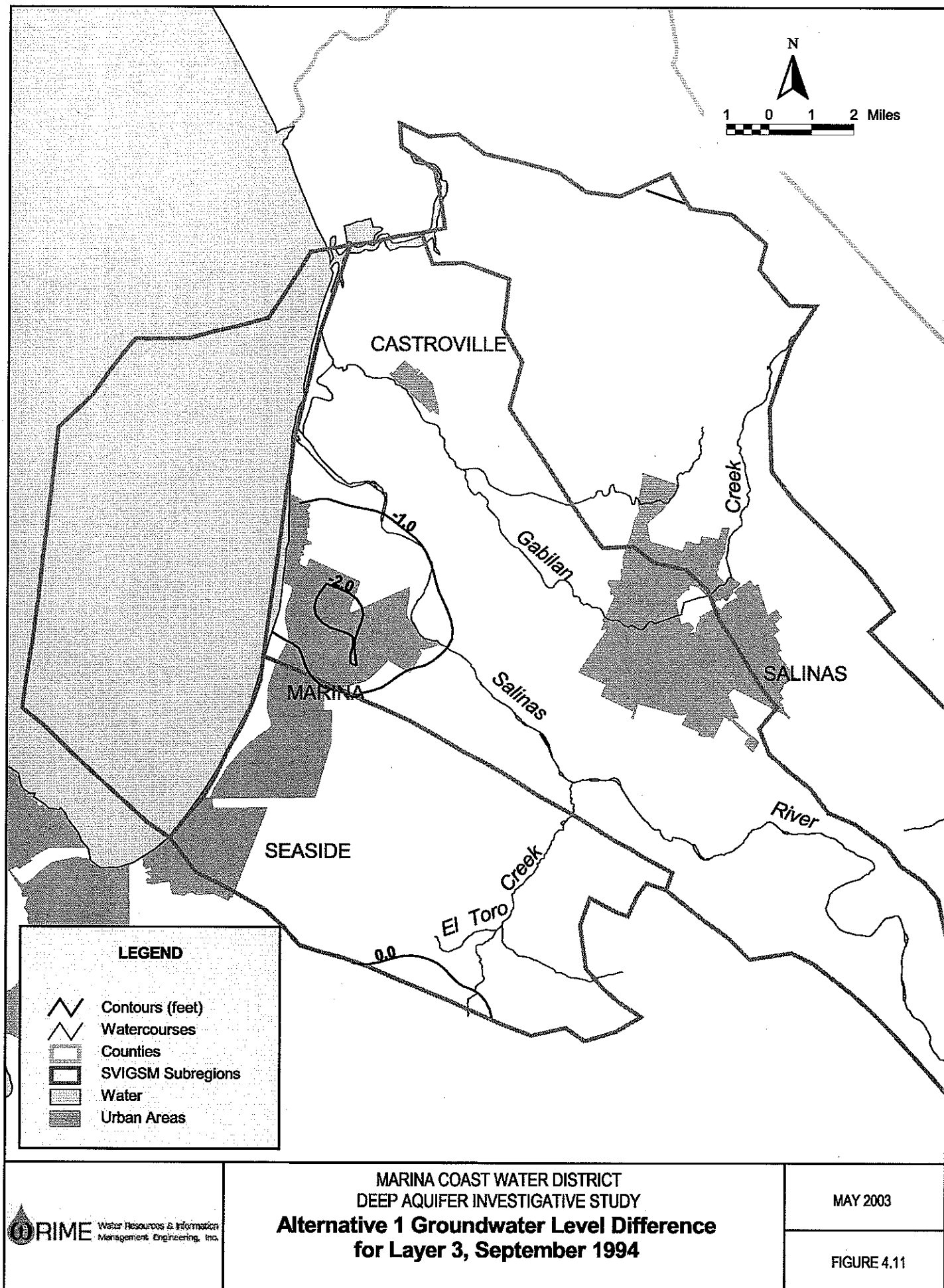
Figures 4.9 through 4.12 show the results of long-term pumping under Alternative 1. These figures indicate that the increased long-term MCWD pumping rate in the deep aquifers would cause approximately a 2-foot drawdown in the upper deep aquifer, with much lesser impacts on the other aquifers

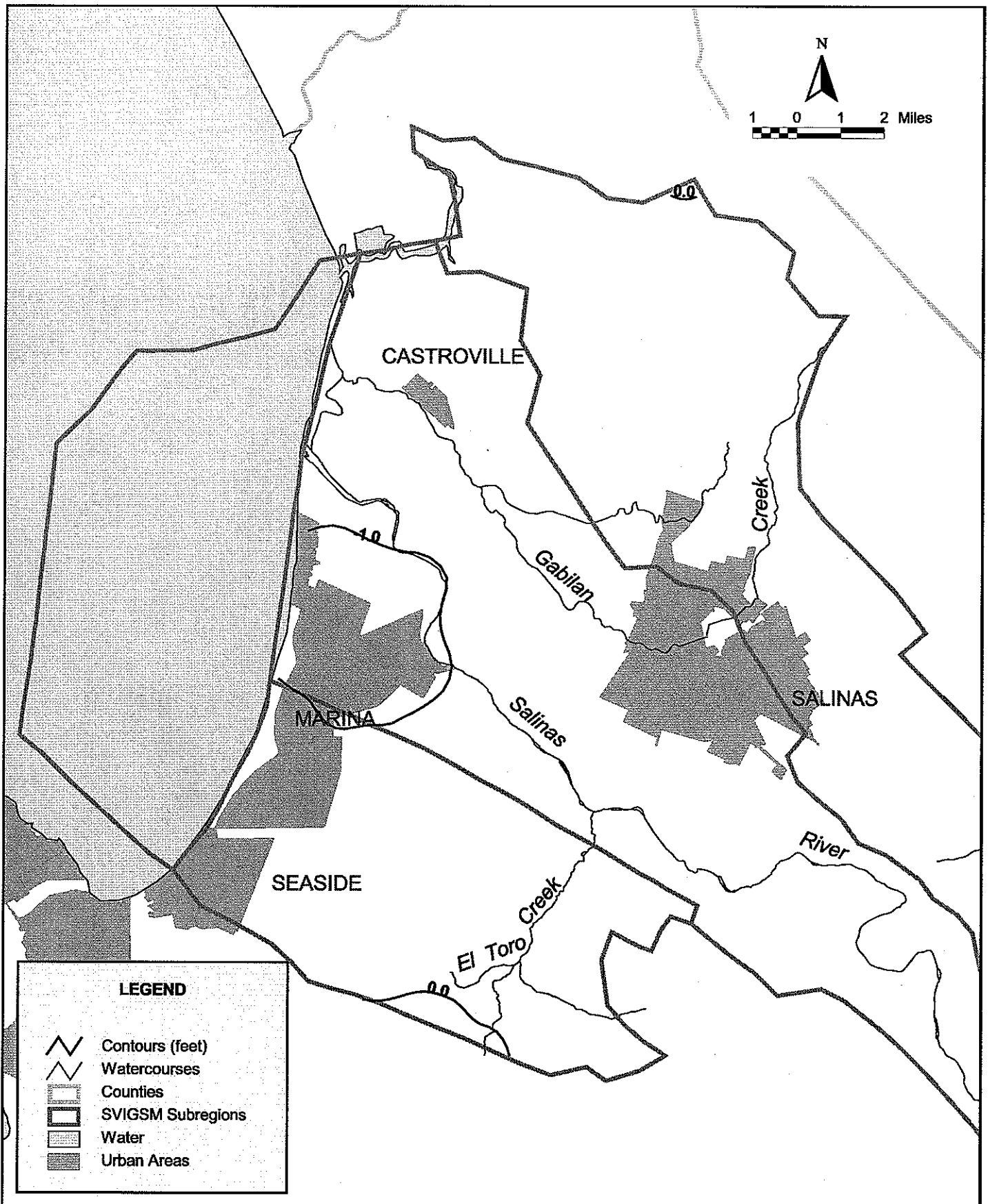
Figures 4.13 through 4.16 show the results of long-term pumping under Alternative 2. This alternative is designed to evaluate the effects of additional groundwater production in the upper deep aquifer from the existing MCWD wells, as well as a potential new well further inland, drilled in the upper deep aquifer along Reservation Road. The figures indicate that the additional MCWD pumping from existing wells plus the new well cause approximately 9 feet of decline in the upper deep aquifer groundwater head levels with up to 4 feet and 2 feet of additional decline in groundwater heads in the 400-foot and 180-foot aquifers, respectively.

Figures 4.17 through 4.20 show the results of long-term pumping under Alternative 3. This alternative is designed to evaluate the effects of additional groundwater production in the upper deep aquifer from the existing MCWD wells, as well as a potential new well further inland, drilled in the 400-foot aquifer along Reservation Road. The figures indicate that the additional MCWD pumping from existing wells plus the new well cause approximately 4 feet of decline in the upper deep aquifer groundwater head levels with up to 6 feet and 5 feet of additional decline in groundwater heads in the 400-foot and 180-foot aquifers, respectively.

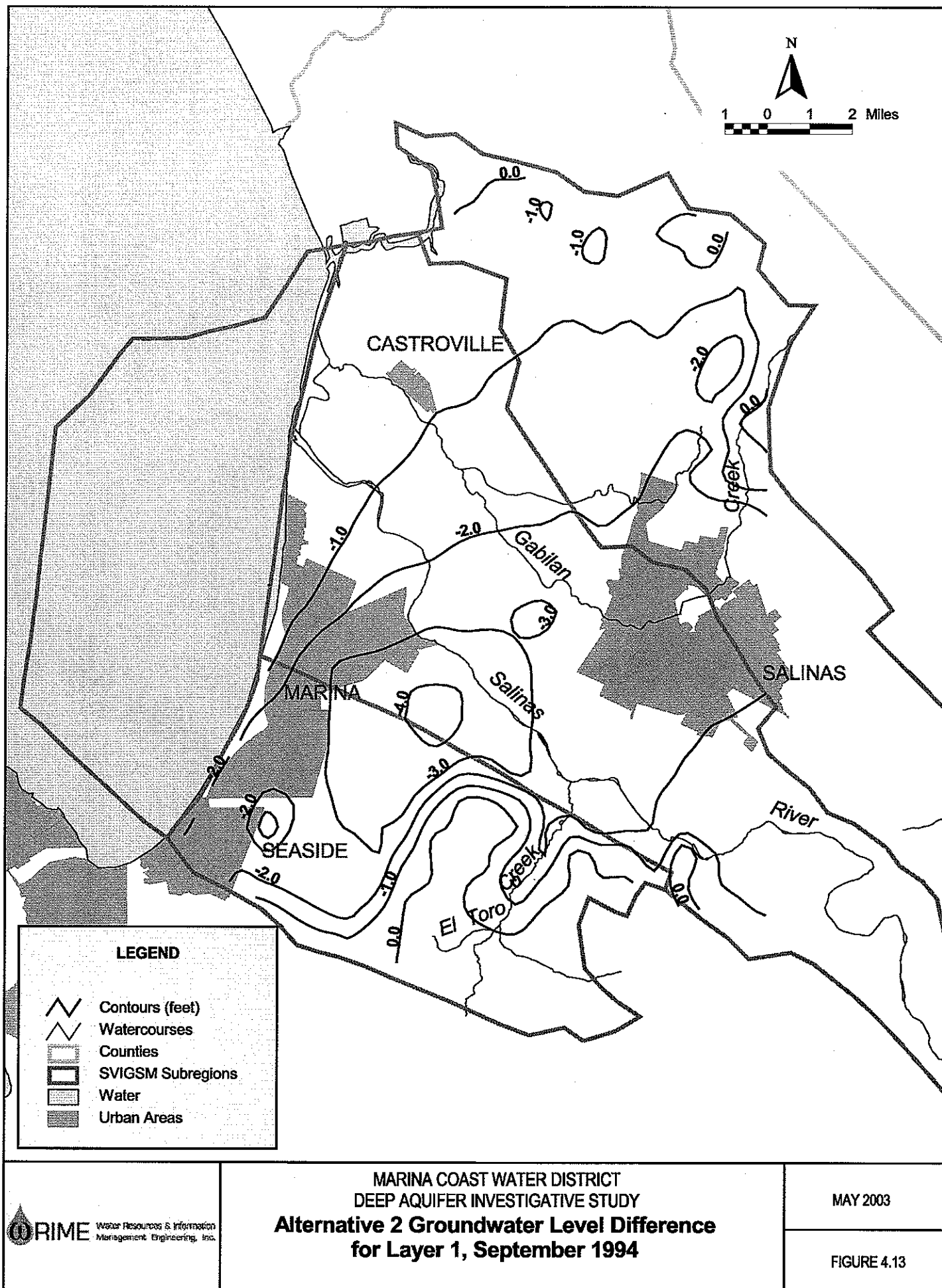


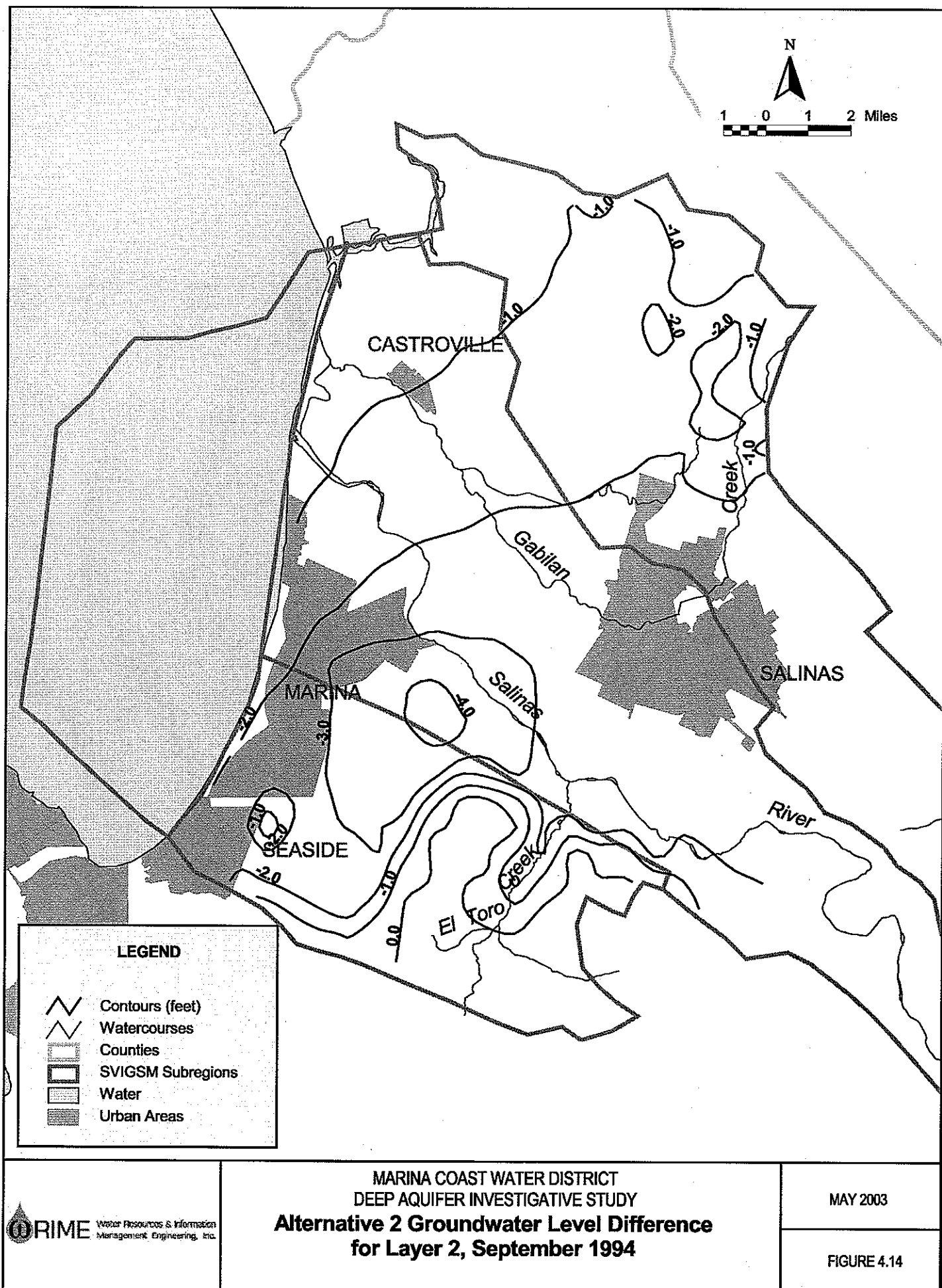


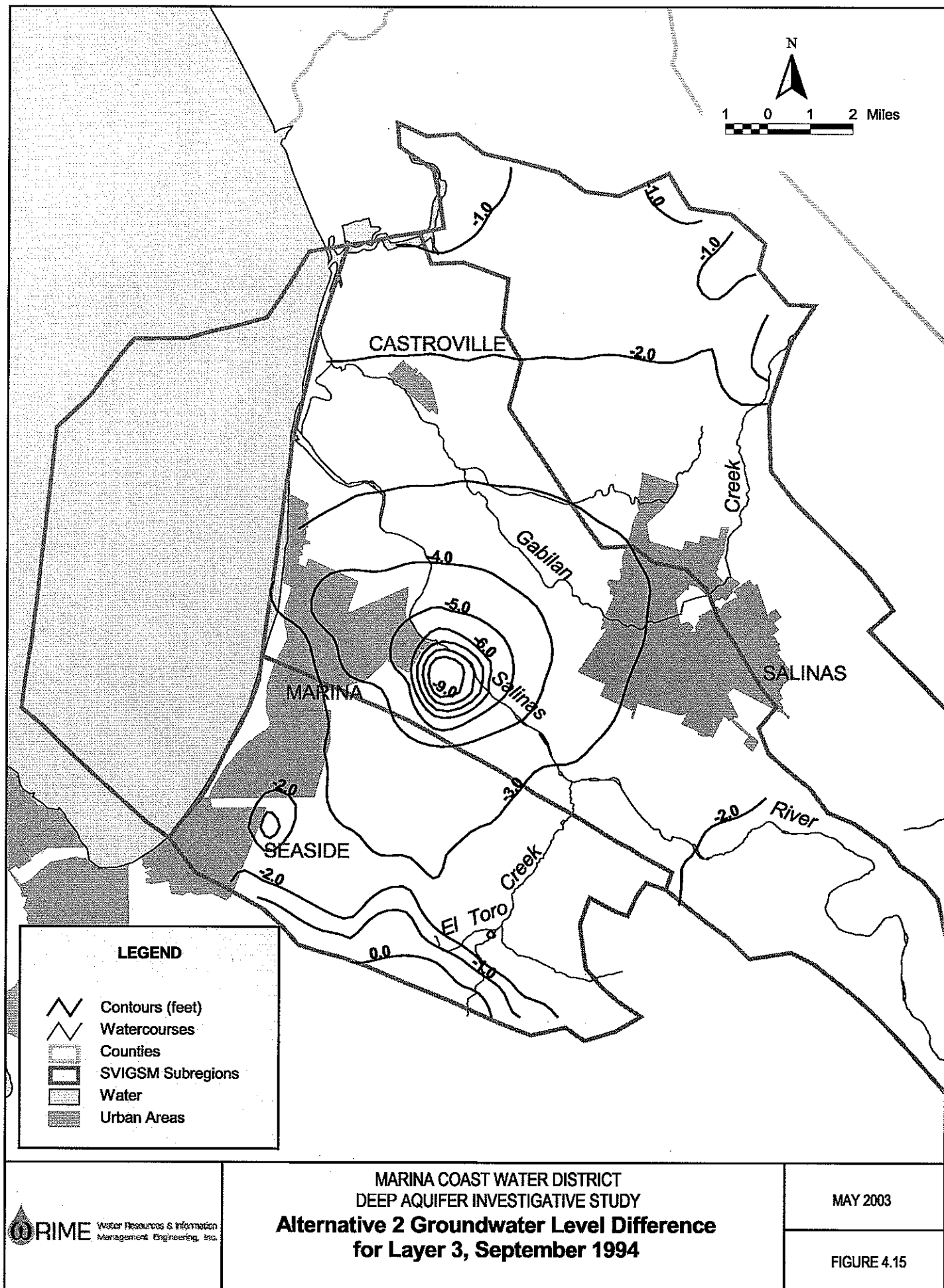


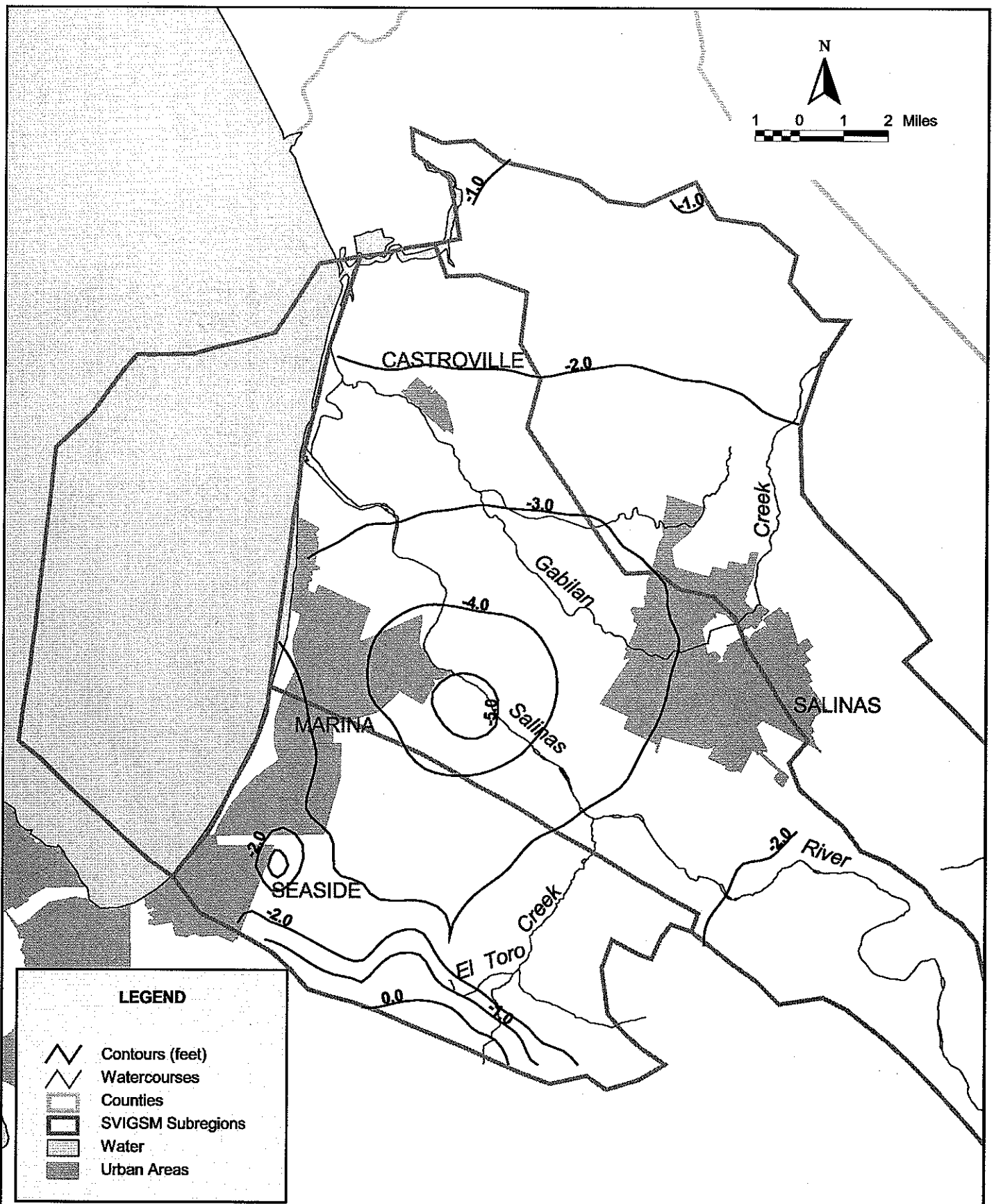


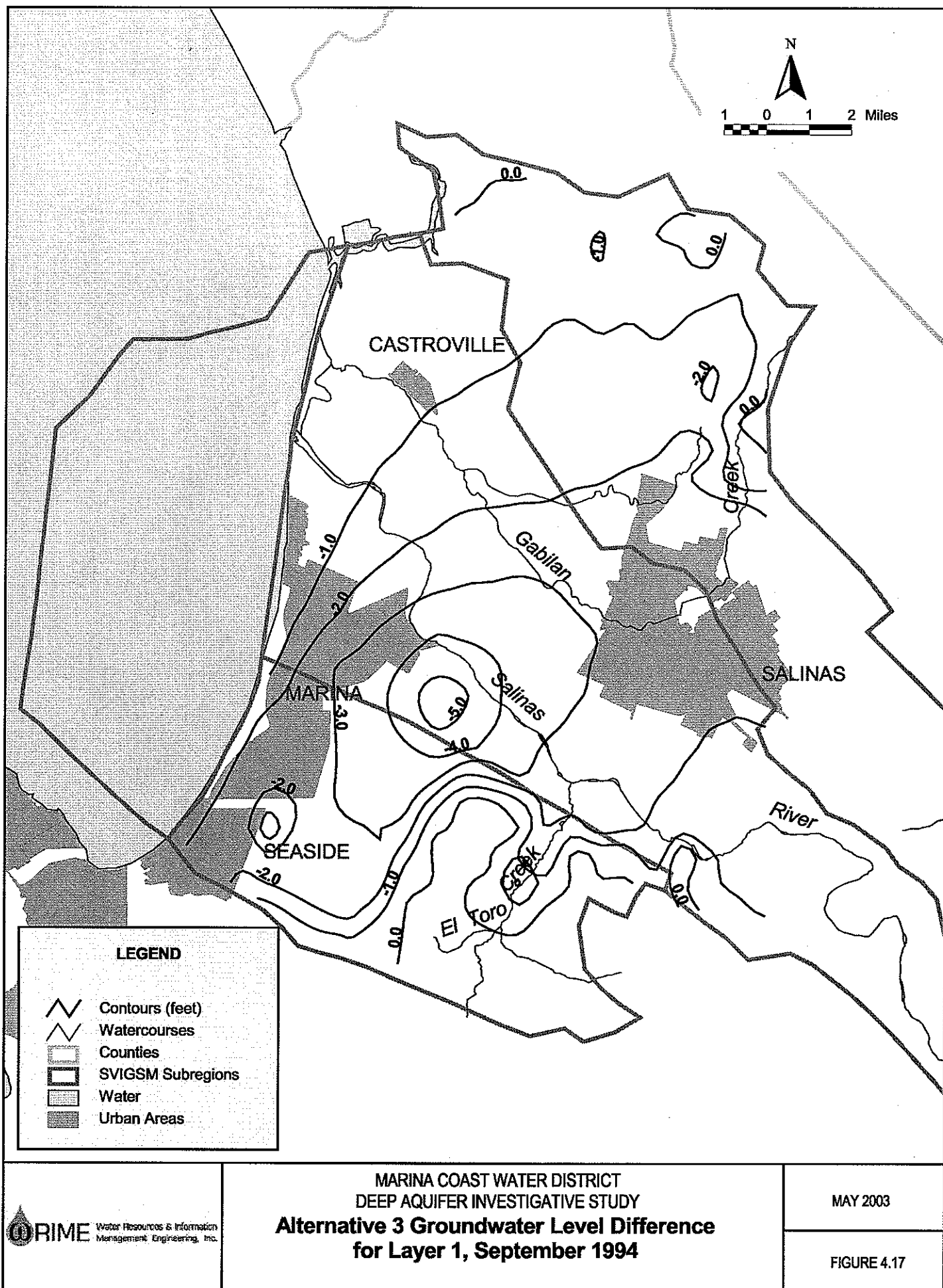
	<p>MARINA COAST WATER DISTRICT DEEP AQUIFER INVESTIGATIVE STUDY Alternative 1 Groundwater Level Difference for Layer 4, September 1994</p>	MAY 2003
		FIGURE 4.12

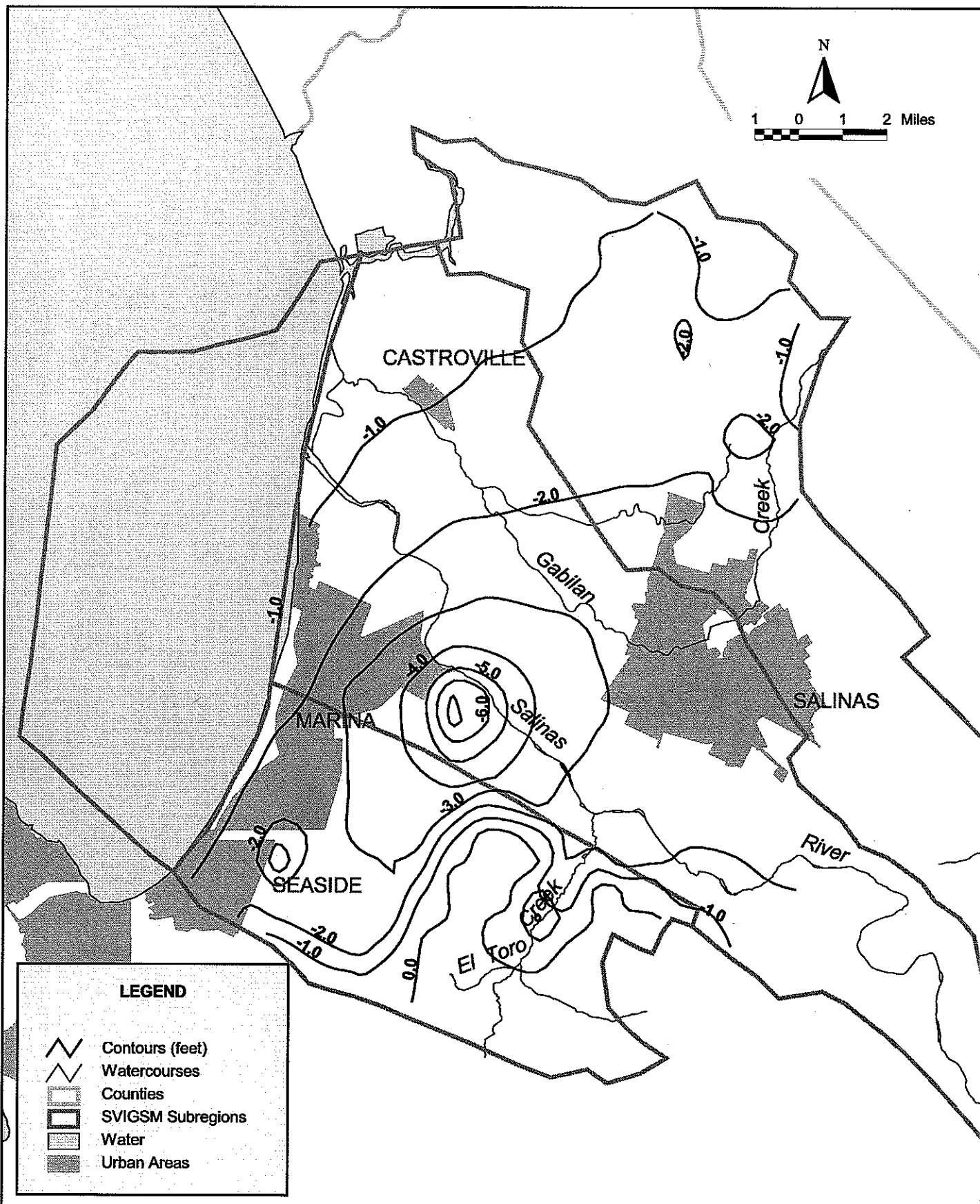


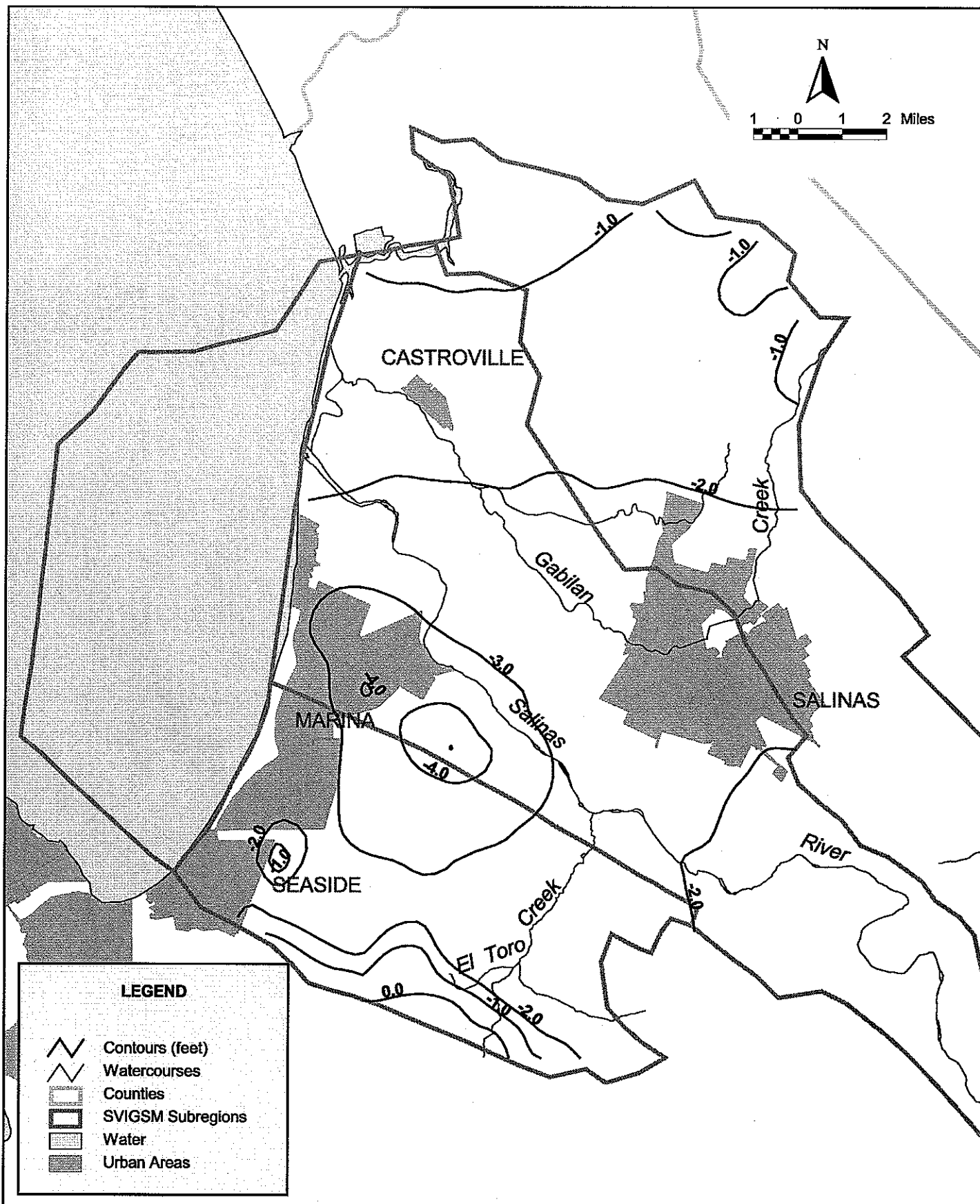


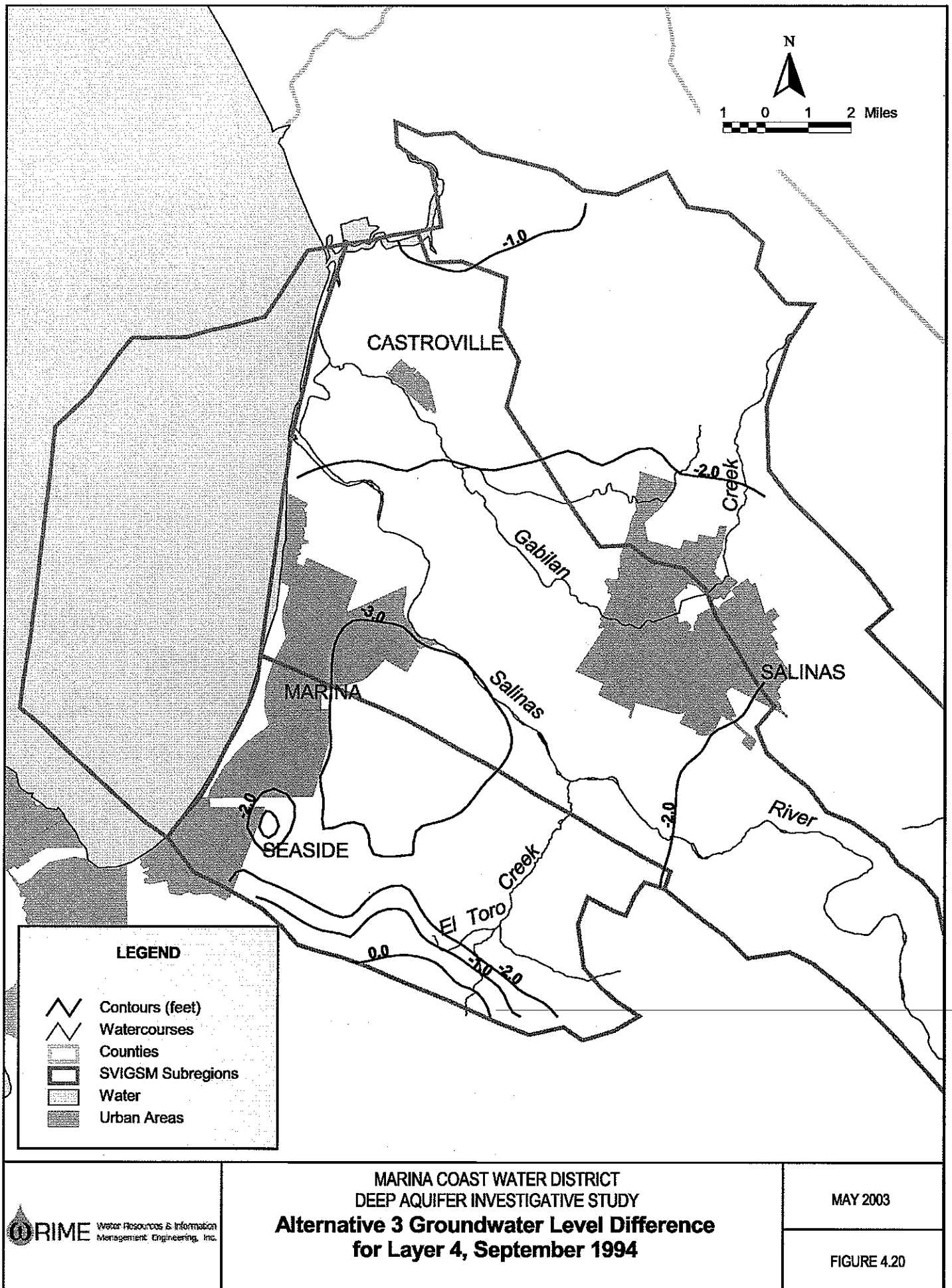












The findings of this study can be divided in to three categories:

- Data assessment and analysis,
- Hydrologic modeling and analysis, and
- Water supply reliability.

DATA ASSESSMENT AND ANALYSIS

- Geologic, hydraulic, and geochemical data all suggest the “deep aquifer” to be two distinct aquifers.
- The uppermost aquifer of the “deep aquifer” is comprised of continental deposits assigned to the Paso Robles Formation. The lowermost aquifer is assigned to the marine Purisima Formation.
- MCWD’s Well Nos. 10 and 11 produce from the Paso Robles Formation while Well No. 12 produces from the Purisima Formation. The “deep aquifer” wells in the Castroville area are completed in the Paso Robles Formation.
- Water levels in the Marina area deep aquifers have been substantially below mean sea level since the initiation of extractions.
- The areal distribution and stratigraphic location of the Paso Robles and Purisima Formations limit recharge to leakage from overlying aquifers. Water level records from MCWD’s wells support this conclusion. Static water level curves from all of the MCWD wells appear to be stabilized, suggestive of equilibrium with recharge.
- Piezometric head in the Purisima Formation is higher than in the overlying Paso Robles Formation. Extractions from Paso Robles may be supported by leakage from both overlying and underlying sediments.
- Although water levels are chronically below mean sea level, there is no evidence of water quality degradation.
- The geologic setting may provide a buffer against seawater intrusion, allowing for the maintenance of water levels below mean sea level. However, storage coefficients suggest that the volume of groundwater in storage in the lower aquifers is small. Increased production would likely come from increased leakage.

- The Purisima Formation is relatively isolated hydraulically from the overlying Paso Robles Formation near the coast.
- As currently configured, the hydrogeologic model incorporated into SVIGSM is not consistent with a two-layer deep aquifer system. Adding a fourth layer and incorporating the current understanding could possibly improve the model.

HYDROLOGIC MODELING AND ANALYSIS

- The SVIGSM was updated to IGSM version 5.0.
- The SVIGSM deep aquifers system is divided into two distinct aquifers, an upper deep aquifer representing the Paso Robles formation, and the lower deep aquifer representing the Purisima formation. The revised SVIGSM, therefore, has four hydrostratigraphic units, among them the 180-foot and the 400-foot aquifer systems.
- The SVIGSM groundwater pumping data in the Marina Coast area is revised to represent the historical groundwater production records of the MCWD at their well sites.
- The SVIGSM is recalibrated so that the aquifer hydraulic conductivities in the deep aquifers, as well as the single aquifer layer in the Upper Valley area, represent an equivalent hydraulic conductivity with similar transmissivity values as in the original SVIGSM 4.18.
- The revised model depicts the observed groundwater levels equal to or better than the original model, and produces water budget estimates similar to the original model.

WATER SUPPLY RELIABILITY

- The updated SVIGSM was used to develop response curves on the sensitivity of groundwater heads and subsurface flows across the coastline to changes in MCWD groundwater pumping.
- The response curves indicate that additional increases in the deep aquifers groundwater pumping in the coastal areas may induce additional reduction in the groundwater heads, and subsequently additional landward subsurface flows across the coastline. The results also indicate that the increase in coastal subsurface flows occurs at a much more rapid pace in the 180-foot aquifer than in the 400-foot aquifer, due to substantially higher transmissivities.
- The results of alternative potential groundwater supply alternatives indicate that the increase in inland groundwater pumping (in the vicinity of Reservation

Road) has a much lesser impact on the groundwater level declines, as well as a lesser effect on the coastal subsurface flows.

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MARINA COAST WATER DISTRICT

2010 URBAN WATER MANAGEMENT PLAN



Prepared by

Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS

June 2011

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MARINA COAST WATER DISTRICT

2010 URBAN WATER MANAGEMENT PLAN



Board of Directors

William Lee, President
Dan Burns, Vice-President
Howard Gustafson
Kenneth K. Nishi
Jan Shriner

Prepared by

Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS
3239 IMJIN ROAD, SUITE 129
MARINA, CA 93933



June 2011

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Table of Contents

Section 1 - Plan Preparation	1
1.1 Background	1
1.2 Public Participation in Plan Development	1
1.3 Agency Coordination	2
1.4 Plan Adoption	3
1.5 Plan Implementation	3
Section 2 - System Description	4
2.1 District Location, History and Operations	4
2.2 Climate	8
2.3 Population	9
2.4 Demographic Factors	10
Section 3 - Water Demands	12
3.1 Current Water Use	12
3.2 Projected Water Demands	13
3.2.1 Central Marina Service Area	13
3.2.2 Ord Community Service Area	14
3.2.3 Demand Projection Methodology	15
3.2.4 Summary Demand Projections	17
3.3 Predicted Water Demand by Sector	19
3.3.1 Lower Income Housing Demands	19
3.4 Water Conservation Baseline and Targets	21
3.5 Plan for Meeting Urban Conservation Targets	24
Section 4 - Water Supplies	26
4.1 Water Sources	26
4.2 Groundwater	26
4.2.1 Salinas Valley Groundwater Basin	26
4.2.2 Basin Management	30
4.2.3 Integrated Regional Water Management Plan	32
4.2.4 Seawater Intrusion	32
4.2.5 Groundwater Contamination and Control	37
4.2.6 Salinas Valley Water Project	40
4.3 Water Transfer Opportunities	43
4.4 Future Water Supply	43
4.4.1 Water Augmentation for Ord Community Supplies	45
4.4.2 Regional Desalination Project	46
4.4.3 Surface Water Supplies	47
4.4.4 Future Water Supply Assessments and Written Verifications of Supply	47
4.5 Desalinated Water	48
4.6 Recycled Water	49
Section 5 - Water Supply Reliability and Water Shortage Contingency Planning	53
5.1 Water Supply Reliability - Single and Multiple Dry Year and Demand Comparison ..	53
5.2 Water Quality Impacts on Reliability	53
5.3 Water Quality Monitoring	53
5.4 Water Production System Reliability	55

5.5	Water Shortage Contingency Plan	56
5.5.1	Actions in the Event of a Catastrophic Interruption	56
5.5.2	Stages of Action, Mandatory Provisions, Reduction Methods	57
5.5.3	Penalties or Charges for Excessive Use	57
5.5.4	Revenue and Expenditure Impacts	58
5.5.5	Mechanism to Determine Actual Water Use Reductions – Monitoring Procedures	58
5.6	Drought Planning	59
Section 6 -	Conservation and Demand Management Measures	60
6.1	Introduction	60
6.2	Summary of Measures Currently Under Implementation	60
6.3	Description and Status of Demand Management Measures	60
6.3.1	DMM 1 - Water Survey Programs for Single-Family and Multi-Family Residential Customers.	61
6.3.2	DMM 2 - Residential Plumbing Retrofit	62
6.3.3	DMM 3 - System Water Audits, Leak Detection and Repair	63
6.3.4	DMM 4 - Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections	64
6.3.5	DMM 5 - Large Landscape Conservation Programs and Incentives	64
6.3.6	DMM 6 - High-Efficiency Washing Machine Rebate Programs	65
6.3.7	DMM 7 - Public Information Programs	66
6.3.8	DMM 8 - School Education Programs	66
6.3.9	DMM 9 - Conservation Programs for Commercial, Industrial, and Institutional (CII) Accounts	67
6.3.10	DMM 10 – Wholesale Agency Assistance	68
6.3.11	DMM 11 - Conservation Pricing	68
6.3.12	DMM 12 - Conservation Coordinator	68
6.3.13	DMM 13 - Water Waste Prohibition	69
6.3.14	DMM 14 - Residential Ultra-Low Flow Toilet Replacement Programs	69
6.4	Funding and Legal Authority	70
6.5	Existing Conservation Savings, Savings Measurement, and Effects on Ability to Further Reduce Demand	70
Section 7 -	Completed UWMP Checklist	72

Appendices

- A. Resolution of Urban Water Management Plan Adoption
- B. References
- C. Land Use Forecast and Water Demand Projections by Jurisdiction
- D. Notices and Letters to Public Agencies
- E. Technical Memoranda
 - 1. Population Estimates Used for MCWD 2010 Urban Water Contingency Plan
 - 2. MCWD Water Conservation Targets for UWMP
 - 3. Water Shortage Contingency Plan Review
 - 4. 2010 Census Adjustment to UWMP Tables
- F. Water Shortage Contingency Plan with Resolution of Adoption

- G. DWR Table I-2, Urban Water Management Plan Checklist organized by subject
H. Comments Received on the Draft Plan

List of Tables

Table i	Acronyms Used in this Report.....	iv
Table ii	Units of Measure Used in this Report	iv
Table 1.1	Coordination with Appropriate Agencies	2
Table 2.1	Local Evapotranspiration Rates	9
Table 2.2	Historic Population	9
Table 2.3	Projected Population	10
Table 3.1	Water Deliveries in 2005	12
Table 3.2	Water Deliveries in 2010	12
Table 3.3	Water Supply Assessments Used to Update the UWMP.....	15
Table 3.4	Water Demand Factors Applied in the UWMP	16
Table 3.5	Water Demand by Jurisdiction (afy).....	18
Table 3.6	Water Demand by Sector (afy)	19
Table 3.7	Lower Income Housing Demands (afy).....	21
Table 3.8	Per Capita Water Demands	23
Table 3.9	District Baseline and Targets	24
Table 3.10	Projected Per Capita Water Demands	24
Table 4.1	Groundwater Production (acre-feet)	26
Table 4.2	Groundwater Allocations	32
Table 4.3	Ord Community Groundwater Shortfalls	44
Table 4.4	Projected Demand by Source, Minimum Recycled Use (afy).....	44
Table 4.5	Projected Demand by Source, Maximum Recycled Use (afy)	44
Table 4.6	Recycled Water Allocations (afy).....	45
Table 4.7	Non-Potable Water Demand Projections (ac-ft/yr)	51
Table 5.1	Water Shortage Contingency Plan - Stages of Action.....	57
Table 5.2	Water Shortage Contingency – Penalties and Charges.....	58
Table 5.3	Potential Revenue Impacts of Implementation of WSCP.....	58
Table 6.1	Summary of DMM Implementation	61

List of Figures

Figure 2.1	MCWD Vicinity Map.....	6
Figure 2.2	MCWD Service Areas	7
Figure 2.3	Local Climate Averages	8
Figure 4.1	Salinas Valley Groundwater Basin.....	28
Figure 4.2	Historic Seawater Intrusion by Year	34
Figure 4.3	Historic Seawater Intrusion by Year	35
Figure 4.4	Groundwater Contamination Plumes	39

Table i. Acronyms Used in this Report

Acronym	Description
afy, ac-ft/yr	Acre-feet/year
ccf, hcf	Hundred cubic feet
gpd	Gallons per day
gpcd	Gallons per capita day, or gallons per person per day
mgd	Million gallons per day
BMP	Best management practice
CAW, CalAm	California American Water Company
CDPH	California Department of Public Health
CSUMB	California State University – Monterey Bay
DMM	Demand management measure
DWR	California Department of Water Resources
FORA	Fort Ord Reuse Authority
LAFCO	Local Agency Formation Commission
MCWD, District	Marina Coast Water District
MCWRA	Monterey County Water Resources Agency
MPWMD	Monterey Peninsula Water Management District
MRWPCA	Monterey Regional Water Pollution Control Agency
OMC	Ord Military Community
POM	Presidio of Monterey
SB	California Senate Bill
SRDP	Salinas River Diversion Project
SVWP	Salinas Valley Water Project
SVGB	Salinas Valley Groundwater Basin
UCMBEST	University of California Monterey Bay Education, Science and Technology Center
UWMP	Urban Water Management Plan

Table ii. Units of Measure Used in this Report

Unit	Equals
1 acre-foot	= 43,560 cubic feet = 325,851 gallons
1 cubic foot	= 7.48 gallons
1 CCF	= 100 cubic feet = 748 gallons
1 MGD	= 1,000,000 gallons/day = 1,120 acre-feet / year

Section 1 - Plan Preparation

1.1 Background

The California Water Code, Division 6, Part 2.6, Section 10610 et. seq. (California Urban Water Management Planning Act) requires any municipal water supplier serving over 3,000 connections or 3,000 acre-feet of water per year (afy) to prepare an urban water management plan.

In adopting the Urban Water Management Planning Act, the state declared as policy that:

- a) The management of urban water demand and efficient use of water shall be actively pursued to protect both the people of the state and their water resources;
- b) The management of urban water demands and efficient use of urban water supplies shall be a guiding criterion in public decisions;
- c) Urban water suppliers shall be required to develop water management plans to actively pursue the efficient use of available supplies.

Through the Urban Water Management Planning Act, the state recognizes that water is a limited, though renewable, resource and that a long-term reliable supply of water is essential to protect the economy. It also recognizes that, while conservation and efficient use of water is a statewide concern, planning for this use is best done at the local level. Therefore each supplier is required to submit its plan to the State Department of Water Resources.

In preparing this 2010 Urban Water Management Plan (UWMP), the Marina Coast Water District (MCWD) reviewed its 2005 and 2000 UWMPs, schedule of water conservation best management practices actions and other supply development actions. The economic downturn that occurred in late 2007 and continues through today greatly delayed the projected redevelopment of the former Fort Ord, as is reflected in the updated demand projection tables in this report.

1.2 Public Participation in Plan Development

MCWD has encouraged public participation in the development of this Urban Water Management Plan. Notice of plan development was placed on MCWD's website in February 2011. MCWD's Water Conservation Commission, a public advisory group which helps shape MCWD's conservation programs, was also notified. MCWD also updated its water shortage contingency plan, which was reviewed in a public meeting of the Commission. Following Commission review, the water shortage contingency plan was reviewed in a public meeting of the MCWD Board of Directors and adopted (see Appendix F).

On April 27, 2011 the draft UWMP was made available for public inspection at MCWD's offices and at local libraries. A public hearing was held for the plan on May 10, 2011 as noted in the resolution reproduced in Appendix A.

1.3 Agency Coordination

The Urban Water Management Planning Act modified under SB 1518, effective January 1, 2003, requires MCWD to notify affected land use jurisdictions of plan development and provide an opportunity to review the draft plan. Copies were sent to each affected land use jurisdiction and the Monterey County Water Resources Agency (MCWRA). A notice of hearing for the draft UWMP was sent to all land use jurisdictions it serves including the cities of Marina, Monterey, Seaside, and Del Rey Oaks, UCMBEST, CSUMB and Monterey County (see Table 1.1). MCWD has also coordinated with the MCWRA, through which MCWD jointly holds trust responsibility for groundwater resources MCWD uses to serve customer demands. Additionally, MCWD notified the Fort Ord Reuse Authority of the plan's development and availability. Copies of these notices are in Appendix D.

MCWD will provide each of the land use jurisdictions above and the California State Library with a copy of the final plan. A final copy of the plan and appendices will be posted on the MCWD website: www.mcwd.org.

Table 1.1 Coordination with Appropriate Agencies

Coordinating Agencies	Participated in developing the plan	Commented on the draft	Attended public meetings	Was contacted for assistance	Was sent a copy of the draft plan	Was sent a notice of intention to adopt	Not involved/ No information
MCWRA					X	X	
City of Marina	X	X			X	X	
City of Seaside					X	X	
City of Del Rey Oaks	X				X	X	
City of Monterey	X				X	X	
County of Monterey (RDH)	X				X	X	
U.S. Army	X				X	X	
CSUMB	X				X	X	
UCMBEST	X				X	X	
State Parks	X				X	X	
FORA	X			X	X	X	
CalAm					X	X	
MRWPCA					X	X	
MPWMD		X			X	X	
General Public			X				

1.4 Plan Adoption

The 2010 Urban Water Management Plan was adopted by the Marina Coast Water District Board of Directors on June 14, 2011. A copy of the resolution approving the plan is included in Appendix A.

1.5 Plan Implementation

The District has adopted policies and procedures that facilitate implementation of the plan, with many of the actions already in progress:

- The District Code of Ordinances includes mandatory prohibitions on water waste, water shortage contingency actions, and enforcement provisions.
- MCWD prepares Water Supply Assessments and Written Verifications of Supply for proposed projects and provides them to the land use jurisdiction.
- MCWD reviews project plans compared to water allocations made by the land use jurisdictions. If a development's proposed connections exceed the allocated supply, MCWD contacts the affected jurisdiction to resolve the discrepancy before allowing the connections in question.
- MCWD monitors new developments to ensure the average water demand does not exceed the water allocation made by the land use jurisdiction, and works with project owners and the affected jurisdiction when water uses habitually exceeds the allocation.
- New water supply projects as reflected in this plan are in the approved Capital Improvements Program. MCWD has entered into formal agreements with Monterey County Water Resources Agency, Monterey Regional Water Pollution Control Agency and California American Water for the regional desalination project and the urban recycled water project, as discussed in Section 4.
- MCWD has a full-time water conservation staff that provides customer assistance and manages the rebate programs discussed in Section 6.

Section 2 - System Description

2.1 District Location, History and Operations

The Marina Coast Water District is located on the coast of the Monterey Bay at the northwest end of the Salinas Valley (Figure 2.1). The District was formed in 1960 to provide potable water service to all residential, commercial, industrial, environmental, and fire protection uses in the unincorporated community of Marina. The original boundary was coincident with the Marina Fire District. In 1970, MCWD constructed a wastewater treatment plant and installed a wastewater collection system to serve the community. The City of Marina incorporated in 1975, but MCWD remained separate. In 1991, MCWD constructed a pilot recycled water system, providing tertiary treated wastewater for irrigation of public streetscapes and parks near the wastewater plant. This system operated only until 1992, when the wastewater collection system was connected to the regional wastewater system operated by the Monterey Regional Water Pollution Control Agency. The Marina wastewater treatment plant was retired, and MCWD now provides wastewater collection services only, with treatment performed at the regional plant. In 1996, MCWD constructed a seawater desalination facility to explore the feasibility of extracting seawater through shallow wells along the beach. MCWD's current Local Area Formation Commission (LAFCO) service area encompasses 3.2 square miles, and its sphere of influence encompasses an addition 2.4 square miles.

The District also provides potable water delivery and wastewater conveyance services within the boundaries of the former Fort Ord Army Base, known as the Ord Community. The Ord Community lies to the southeast of the City of Marina and the District's Central Marina service area (see Figure 2.2). The Ord Community encompasses a 44 square mile area, of which about 20 square miles is designated for redevelopment, with the balance being parks and open space.

In 1991 the former Army base was downsized and realigned pursuant to the Defense Base Closure and Realignment Act of 1990, with closure in 1994. Portions of the base were retained for use by the U.S. Army under the control of the Presidio of Monterey (Presidio Annex), with the balance being converted to civilian use under the guidance of the Fort Ord Reuse Authority (FORA), a public agency created for this purpose by the State of California. FORA's membership includes the land use jurisdictions encompassed by the former Fort Ord lands and others on the Monterey Peninsula. FORA is governed by a 13-member board with representatives from the following jurisdictions:

- City of Carmel
- City of Del Rey Oaks
- City of Marina
- City of Monterey

- City of Pacific Grove
- City of Salinas
- City of Sand City
- City of Seaside
- County of Monterey

The Base Reuse Plan also included provisions for three institutions of higher learning:

- California State University, Monterey Bay (CSUMB)
- University of California, Monterey Bay Environmental Science and Technology Center (UCMBEST)
- Monterey Peninsula College

FORA has the statutory authority to provide for public capital facilities, including but not limited to, water and wastewater facilities on the former Fort Ord. However, FORA has a limited statutory life and needed a reliable, long-term entity to provide public services to the area.¹ In May 1997, the FORA Board approved the preparation of a Public Benefit Conveyance (PBC) application to the federal government for transfer of the water distribution and wastewater collection systems to MCWD. In June 1997, the U.S. Army and MCWD signed a caretaker agreement authorizing MCWD to operate the water and wastewater collection systems. In February 1998, MCWD and FORA executed an agreement for water and wastewater facilities, providing for the ownership and operation of water and wastewater facilities acquired from the federal government for the benefit of FORA. The Water and Wastewater Oversight Committee of the FORA Board oversees the operation of these facilities by MCWD. Title for these systems was transferred to MCWD in 2001, and the systems were subsequently interconnected. In 2007, MCWD combined the water system permits for the Central Marina and Ord Community service areas into a single California Department of Public Health permit.

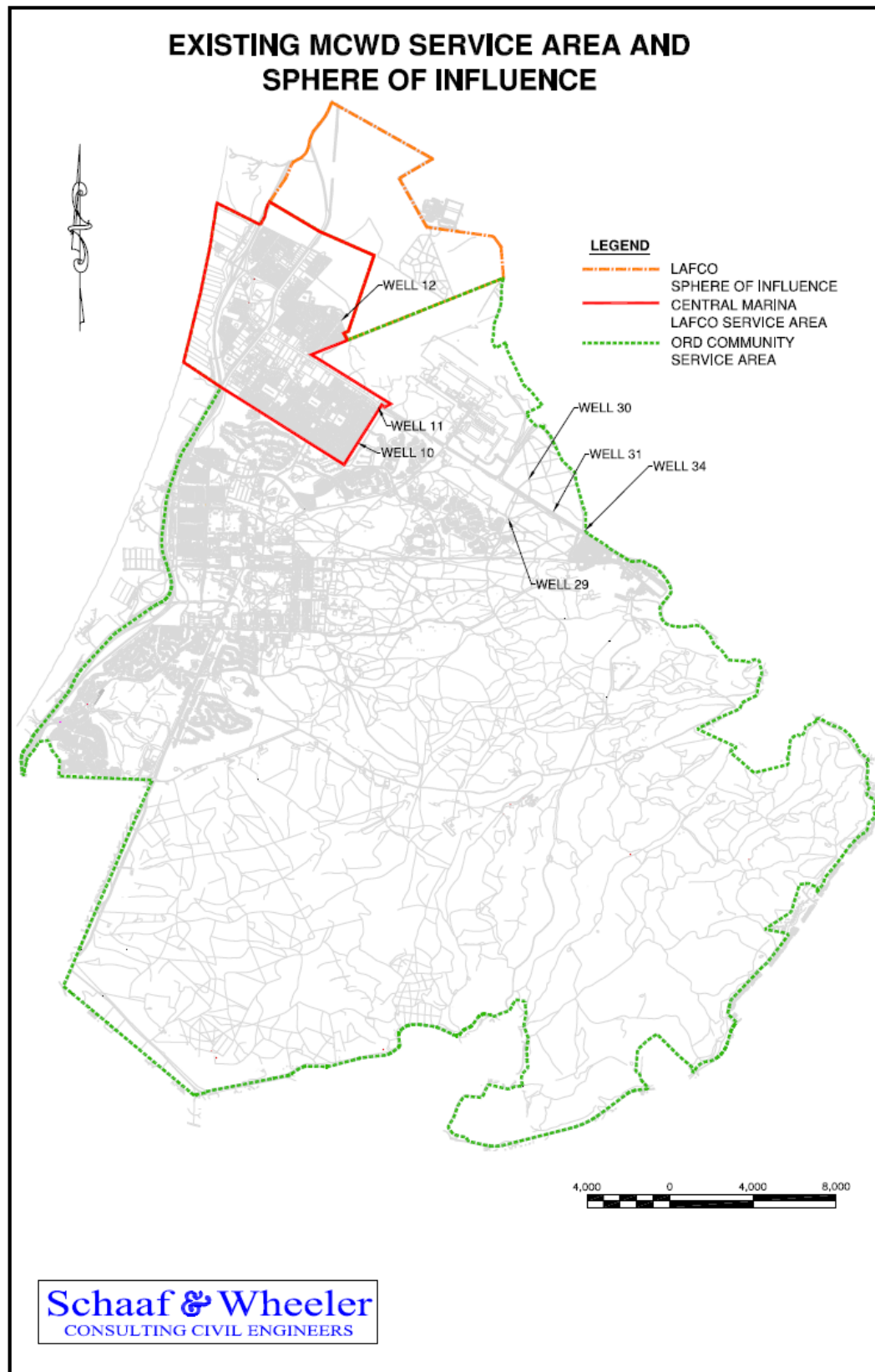
The FORA Board retains the authority to allocate Salinas Valley groundwater supplies as provided for under an agreement between the federal government and the Monterey County Water Resources Agency (MCWRA) dated September 1993. This agreement provides for groundwater extraction rights of 6,600 afy, an amount consistent with the former average groundwater use at Fort Ord while under military operation. Consistent with this agreement, MCWD operates the Ord Community service area under a separate water allocation and cost center.

¹ Pursuant to Government Code 67700, FORA will sunset on June 30, 2014. To the extent water allocation functions of FORA need to be continued, additional legal arrangements among the land use jurisdictions on the former Fort Ord and the MCWD will be necessary.

Figure 2.1 MCWD Vicinity Map

Marina Coast Water District Vicinity Map



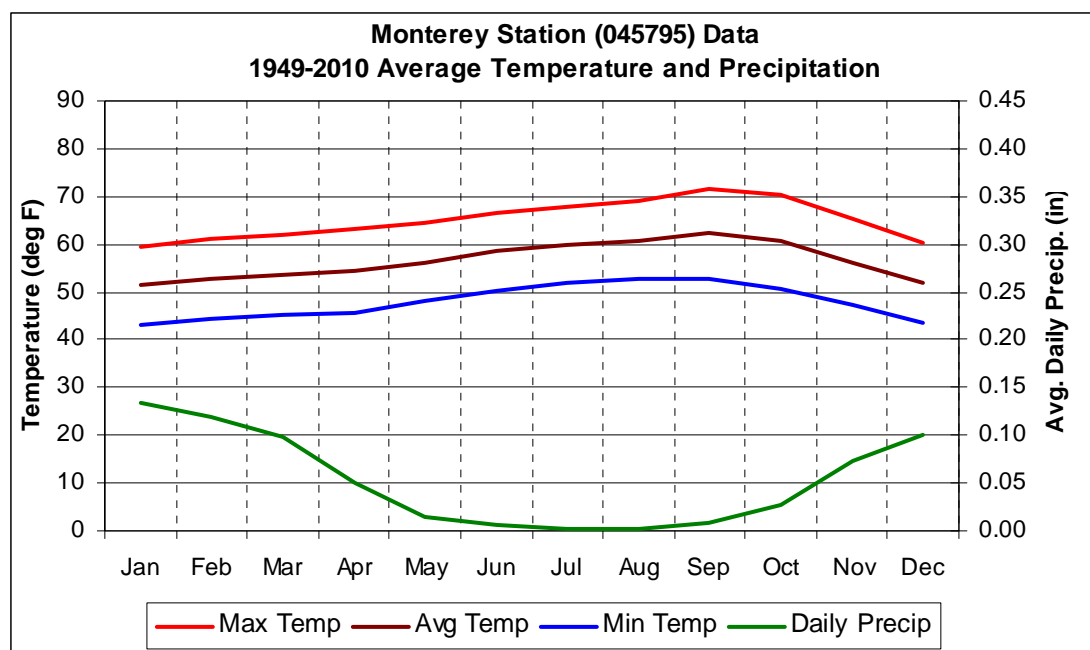
Figure 2.2 MCWD Service Areas

Service to the Ord Community is provided exclusively under the 1998 agreement with FORA. In 2006, the Local Agency Formation Commission (LAFCO) of Monterey County published the Municipal Services Review of the Monterey Peninsula Area, and stated that MCWD may pursue annexation of the Ord Community. At some indeterminate date, MCWD, FORA and LAFCO may consider a formal annexation of all or portions of the former Fort Ord into the District. No formal decisions have yet been made.

2.2 Climate

Marina has a cool summer-type Mediterranean climate with precipitation falling exclusively as rain, predominantly between October and May. The nearest official weather station is seven miles away in Monterey, California. Average climate data from this station from 1949-2010 is depicted in Figure 2.3.

Figure 2.3 Local Climate Averages



The moderating effect of the Pacific Ocean and its relatively cold water allows for mild summertime temperatures in Marina. This effect suppresses summertime irrigation demands for landscaping as compared to inland locations, especially when advection fog moves in from the Pacific Ocean, enveloping the immediate coast in response to heating inland. Unlike inland locations, summertime temperatures generally peak in September rather than July.

Peak summertime temperatures usually occur when high pressure is resident in the Great Basin (Santa Ana conditions), allowing for an offshore flow and compressional heating of the atmosphere.

Precipitation averages about 20 inches annually. Table 2.1 depicts monthly average evapotranspiration (ET_o) at the nearest California Irrigation Management Information System (CIMIS) stations. Note that the ET_o rate increases the more distant from the coast.

Table 2.1 Local Evapotranspiration Rates (inches)

City	CIMIS Station ID	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ET _o
Castroville	19	1.4	1.7	3.0	4.2	4.6	4.8	4.0	3.8	3.0	2.6	1.6	1.4	36.2
Monterey	89	1.7	1.8	2.7	3.5	4.0	4.1	4.3	4.2	3.5	2.8	1.9	1.5	36.0
Salinas North	116	1.2	1.5	2.9	4.1	4.6	5.2	4.5	4.3	3.2	2.8	1.5	1.2	36.9

2.3 Population

MCWD historically served only the City of Marina, which incorporated in 1975. In 1997, the District began providing service to the Ord Community under agreement with FORA. Table 2.2 depicts MCWD's growth from 1960 to 2010. Between 1920 and 1970, population increases for Marina were quite steady. From 1970 to 1980 the population nearly tripled. Growth rates moderated in the 1980s, with the population reaching a near-term peak in 1990. With the closure of Fort Ord as a military base in 1994, the City and MCWD experienced a decline in population. A longer discussion of historic population can be found in Appendix E.

Table 2.2 Historic Population

Service Area	1960	1970	1980	1990	2000	2010
City of Marina*	3,310	8,343	20,647	26,436	18,927	19,718
Ord Community**					14,886	10,762
Total	3,310	8,343	20,647	26,436	33,813	30,480

Source: U.S. Census Bureau

*City of Marina totals include the portion of the city within the Ord Community

**Ord Community totals excludes the City of Marina portion. Ord population shown only for period served by MCWD.

With redevelopment of the Fort Ord lands, population growth is expected to return, with population projections shown in Table 2.3. These projections include redevelopment of the Ord Community, including portions of the cities of Seaside, Del Rey Oaks, and Monterey, campuses for the University of California and California State University, and lands remaining under the jurisdiction of the County of Monterey within the boundaries of the former Fort Ord.

Table 2.3 Projected Population

Service Area	Existing*	2010**	2015	2020	2025	2030
Ord Community	13,646	15,350	24,888	33,995	39,028	43,438
Central Marina	16,834	16,834	18,483	23,723	25,333	26,449
Total	30,480	32,184	43,371	57,718	64,361	69,887

* 2010 Census, actual service area populations.

** Values reflect 2010 census total plus the projected year 2010 development

The above projections are based upon the existing population plus the anticipated occupancy of new residential development, as projected in Section 3. A more detailed discussion of the methodology can be found in Appendices C and E. The projected totals are significantly lower than those in the 2005 Urban Water Management Plan (e.g., the 2005 Plan total projected population for 2025 was 98,700 persons versus 64,361 with this 2010 Plan) due to the economic downturn that dramatically slowed the pace of redevelopment in the Ord Community. Some of that development has been deferred beyond the 20-year planning horizon of this report.

2.4 Demographic Factors

Three industries have historically driven the local economy: agriculture in the Salinas Valley, tourism along the Pacific Coast and the Monterey Peninsula, and the military with bases at Fort Ord, the Presidio of Monterey and the Naval Postgraduate School. The closure of Fort Ord in 1994 greatly reduced the military contribution, but that has been replaced by higher education on the former Fort Ord. California State University – Monterey Bay is the largest campus within the Ord Community, which also contains the smaller campuses of Monterey College of Law and Monterey Peninsula College. The University of California Monterey Bay Education, Science and Technology Center is located at the Marina Airport. Brandman University and Golden Gate University also operate satellite campuses in the local area.

Tourism and recreation are significant portions of MCWD's current and future customer base. Central Marina currently has hotels and visitor-serving commercial sectors, as well as Marina State Beach. The Ord Community has Fort Ord Dunes State Park and approximately 24 square miles of open space managed by the Bureau of Land Management. The existing Bayonet and Blackhorse Golf Courses are being developed by the City of Seaside into a resort community. The City of Del Rey Oaks plans to add a golf resort to their portion of the Ord Community.

Within the District's service area there is a high percentage of residential use (95% of customer accounts, 85% of total water sales). This high percentage results in a low per capita water demand. Residents have historically worked on the former Fort Ord, as well in the nearby urban centers of Monterey, Salinas and the more distant San Jose/Silicon Valley; or in the agricultural industry of rural Monterey County.

As Central Marina and the Ord Community are redeveloped, a mix of commercial, office and light industrial uses are proposed, which will increase the average per capita water demand rate.

Industries with high water-use are anticipated to be constrained due to the limited water supply available to the jurisdictions.

Section 3 - Water Demands

3.1 Current Water Use

Marina Coast Water District has two separate service areas: Central Marina, which encompasses the portion of the City outside the former Fort Ord, and the Ord Community. All water service connections in the Central Marina area are metered. Fort Ord did not have individual service meters while it was an active military base, and portions of the housing areas within the Ord Community remain without meters. Water meters continue to be installed in areas of the Ord Community in phases by the various property owners. Water use by customer type for calendar year 2005 is shown in Table 3.1, and year 2010 is shown in Table 3.2. The water use in the Ord Community without meters is estimated at 0.33 acre-feet/year per residential connection.

Table 3.1 Water Deliveries in 2005

Water use sectors	Central Marina		Ord Community		Ord Non-metered		Total
	# Cust.	Ac-Ft	# Cust.	Ac-Ft	# Cust.	Ac-Ft	Ac-Ft
Single family	3,243	898.8	378	126.6	1,230	410.0	1,435.4
Multi-family	239	575.4	973	362.8	1,425	475.0	1,413.2
Commercial	210	235.5	43	49.3			284.9
Industrial	0	0.0	3	4.1			4.1
Institutional/governmental	25	88.0	96	242.6			330.6
Landscape	63	119.5	63	283.0			402.5
Agriculture	0	0.0	0	0.0			0.0
Other	0	0.0	0	0.0			0.0
Total	3,780	1,917.2	1,556	1,068.3	2,655.0	885.0	3,870.5

Table 3.2 Water Deliveries in 2010

Water Use Sectors	Central Marina		Ord Community		Ord Non-metered		Total
	# Cust.	Ac-Ft	# Cust.	Ac-Ft	# Cust.	Ac-Ft	Ac-Ft
Single family	3,305	829.8	1,011	200.8	601	210.0	1,240.6
Multi-family	251	505.0	1,385	592.4	600	200.0	1,297.4
Commercial	234	232.5	70	95.4			327.9
Industrial	0	0.0	3	6.7			6.7
Institutional/governmental	25	67.9	136	214.6			282.6
Landscape	72	107.9	105	705.6			813.5
Agriculture	0	0.0	0	0.0			0.0
Other	0	0.0	0	0.0			0.0
Total	3,887	1,743.2	2,710	1,815.5	1,201.0	410.0	3,968.7

Two significant undeveloped areas north of Central Marina: Armstrong Ranch and the CEMEX (formerly RMC Lonestar) Property. A portion of the Armstrong Ranch has been annexed into the District and the City of Marina and is currently slated for predominantly residential urban development. No development plans currently exist for the CEMEX Property. MCWD currently serves minor domestic uses on the Armstrong Ranch, and in the future, MCWD will serve

municipal and industrial demands as they may occur on these properties. Present agricultural demands are met via private wells.

MCWD began providing water for irrigation of Bayonet/Blackhorse Golf Courses in Seaside in 2010. Prior to this, the City of Seaside provided irrigation supply from wells within the Seaside Groundwater Basin, which was the source of supply for this demand at the time the former Fort Ord closed.

3.2 Projected Water Demands

3.2.1 Central Marina Service Area

In October 2000, the City of Marina adopted a comprehensive General Plan laying out future land use over a 20-year planning horizon to the year 2020. The General Plan was amended in 2005 and 2006, and the housing element was updated in 2009. In the adopted General Plan the City's population (anticipated to expand into current spheres of influence) is projected to be 38,800 by 2020². This includes increases in both Central Marina and the City's portion of the Ord Community. The economic downturn that began in 2007 has delayed much of this redevelopment by five to ten years. The Marina General Plan estimates water consumption for the City will average 7,720 afy based upon the projected land uses and population. It also includes portions of the Ord Community that are either within the City limits or within its adopted and proposed spheres of influence. These areas include portions of the UCMBEST Center and CSUMB, which have specific allocations of water under the FORA Reuse Plan.

The City's average per-capita water demand is low, and has been trending downward for the last ten years due to aggressive water conservation programs. Per capita demands will continue to be affected by conservation efforts, future land use changes as well as increases in density of housing use (persons/unit). Marina has had a historically low job-to-housing balance ratio due, in part, to the fact that the City has been a bedroom community to the former Fort Ord, Monterey and San Jose areas. The General Plan will allow for greater balance in jobs-to-housing. This trend will tend to increase the average per capita water consumption, as more commercial and industrial activity will occur relative to population. If density of housing use increases, this would have an opposite influence, suppressing per capita demand.

In the 2005 UWMP, the City of Marina forecasted planned development through 2025. These plans within the City of Marina include 276 single-family homes, 1,050 hotel rooms and 102,000 square feet of retail uses. The City is currently working on their Downtown Vitalization Specific Plan. Under this plan, the City projects the addition of 380,000 square-feet of commercial space and 2,400 new multi-family dwelling units, targeting a pedestrian friendly downtown. The draft specific plan is reflected in this UWMP.

² This population includes an estimated 3,400 residents of the existing Fredericks-Schoonover Park, a housing area in Marina's sphere of influence.

Marina's General Plan accounts for growth within portions of the Armstrong Ranch, which was annexed into the City in 2007. The Marina Station Development Project on the Armstrong Ranch comprises 1,464 residential units and about 856,000 square feet of retail, office and light industrial space. Development density will be constrained by the available water supply as provided under the 1996 Annexation Agreement and Groundwater Mitigation Framework for Marina Area Lands, annexing the Armstrong Ranch lands to the MCWRA Zones 2 and 2A. According to that agreement, the Salinas Basin groundwater allocation for the Armstrong Ranch is 920 afy. This is further discussed in Section 4.

Similarly, the CEMEX Property, for which there are no near-term development plans, has a groundwater allocation under the annexation agreement of 500 afy, corresponding to current estimated use on the property. If CEMEX were to be developed for visitor-serving or recreation uses, it could only occur after the year 2020 pursuant to the Urban Growth Boundary Initiative. Planned development in these areas is included in the subtotals discussed in Section 3.2.4.

3.2.2 Ord Community Service Area

The Fort Ord Reuse Authority developed the Draft Fort Ord Reuse Plan in 1996, and released the associated Draft Environmental Impact Report (DEIR). This plan and DEIR assessed the impacts of planned reuse on the environment, including demand for utility services. The DEIR noted that at full build out, some 40 to 60 years in the future, water demands for Ord Community lands would be 18,262 afy, or 11,662 afy in excess of current potable water supply now available to the lands under groundwater allocations from the Salinas Valley groundwater basin. Recognizing that plans did not exist to accommodate this excess demand, it was concluded in the DEIR that the Reuse Plan had a significant unavoidable environmental impact. It was also stated that the 7,000 acre-foot water use on the former Fort Ord lands (6,600 Salinas Basin, 400 Seaside Basin) provided sufficient supplies to allow for expected redevelopment through 2015.

In adopting a Final EIR, Reuse Plan and Master Resolution governing redevelopment of former Fort Ord lands to civilian uses, FORA agreed to constrain redevelopment on former Fort Ord lands by limiting the number of new residential housing units to 6,000 until the Reuse Plan is reassessed, and additional water supplies identified. FORA further recognized that the supply of Salinas Basin groundwater available to serve redevelopment, or reuse, projects is limited by a 1993 agreement with the MCWRA. Under that 1993 Agreement, 6,600 afy of Salinas Basin groundwater is available for use on Ord Community lands. Since the closure of Fort Ord, that total quantity of water has been allocated between FORA and the U.S. Army, with FORA sub-allocating its share of this Salinas Basin groundwater supply to its member land-use jurisdictions to support redevelopment projects within the Ord Community. FORA manages its groundwater allocation and sub-allocations through a Development and Resource Management Plan that annually tracks water use.

In 2010 and 2011, as part of this UWMP update, MCWD surveyed land use jurisdictions responsible for development decisions within the Ord Community Service area for their development plans through the year 2030. Where used in this plan, individual responses from the Cities of Marina, Seaside, Del Rey Oaks and Monterey, the County of Monterey, CSUMB, UCMBEST, and the U.S. Army are detailed in Appendix C. These responses were correlated with the City of Marina General Plan Housing Element, City of Seaside General Plan Housing Element, the City of Seaside's Implementation Plan, 2007-2012, Seaside-Fort Ord Redevelopment Project Area, and the Monterey County General Plan.

3.2.3 Demand Projection Methodology

The primary method for developing future water demands in this Plan is through consolidating information from approved Specific Plans and the associated Water Supply Assessments, when available. Water supply assessments have been prepared per the requirements of SB 610 for the developments listed in Table 3.3. These documents contain detailed estimates of water demand for residential, commercial and irrigation use type, and are used as the basis of water supply allocation by the land use jurisdiction to the projects.

Table 3.3 Water Supply Assessments Used to Update the UWMP

Development	Jurisdiction	Year Prepared
Cypress Knolls	Marina	2006
Dunes on Monterey Bay (University Villages)	Marina	2007
Marina Heights	Marina	2003
Marina Station	Marina	2006
Resort at Del Rey Oaks	Del Rey Oaks	2007
Seaside Main Gate	Seaside	2007
East Garrison	Monterey County	2004
Whispering Oaks Business Park	Monterey County	2010

Where water supply assessments do not exist, land-use development forecasts were used. California State University Monterey Bay and the U.S. Army – Ord Military Community provided projections from their approved master plans. The City of Marina provided information on the proposed Downtown Vitalization Specific Plan. The projections provided by the other land use jurisdictions for areas outside specific plan areas reflect planning estimates based on the approved General Plans. The anticipated additional land uses in various categories were tabulated by year, and demands were calculated by applying water use factors for those uses. These factors (see Table 3.4) are general in nature and ultimate actual use can vary significantly, especially among the broad categories of commercial and industrial uses.

MCWD modified its District Code in August 2005 to require additional conservation measures in the construction of new development and remodeling. These new requirements include incorporation of hot water recirculation systems and high efficiency clothes washers for residential units, and zero-use urinals for non-residential construction. These residential

requirements are expected to achieve the State water conservation goal of an average indoor per capita consumption rate of 55 gallons per person per day.

It has been observed that during the development process and in the preparation of water supply assessments and written verifications of supply, more sophisticated forecasts are made by disaggregating indoor and outdoor uses when the proposed land use data is sufficient to support such analyses. These assessments generally result in lower projected water demands than the general methods used in this Plan. In a long-term forecast such as provided here, the precise types of uses and plot plans that will be constructed and maintained over the long term cannot be precisely known. As development proceeds, market forces will dictate the specific land uses within non-residential zones and refined plans for residential uses will allow for more detailed consumption projections. The Urban Water Management Planning Act recognizes this fundamental nature of demand forecasting in requiring updated Urban Water Management Plans every five years. In the case of MCWD, where development in the next twenty years is expected to dramatically change the nature of the community and more than double its population and water demands, these periodic updates will be critical to MCWD's ability to plan for future demands as they are identified.

Table 3.4 Water Demand Factors Applied in the UWMP

Land Use	Units	Multiplier
SF Residential (< 5 units / acre)	dwelling unit	0.5
SF Residential (5-8 units / acre)	dwelling unit	0.33
Residential (8-15 units / acre)	dwelling unit	0.25
Multi family (> 15 units / acre)	dwelling unit	0.25
Hotel, Motel and Timeshares	unit	0.17
Retail	square-feet	0.00021
Restaurant*	square-feet	0.00145
Office / R&D	square-feet	0.000135
Other Commercial	square-feet	0.0003
Light Industrial	square-feet	0.00015
Governmental	square-feet	0.0003
Institutional	square-feet	0.0003
Schools (K-12)*	square-feet	0.0003
Higher Education*	square-feet	0.0003
Landscape (non-turf)	acre	2.1
Landscape (turf)	acre	2.5

* typical per seat factor converted to square-feet

3.2.4 Summary Demand Projections

The projected water demands in this Urban Water Management Plan are lower than those in the 2005 UWMP. This reduction is due to a number of factors.

First and foremost, the economic downturn that began in 2007 severely slowed the pace of redevelopment in the Ord Community. Five residential developments were under construction in 2007: East Garrison in Monterey County, Dunes on Monterey Bay and Marina Heights in Marina, Seaside Resort in Seaside and Doe Park (formerly Stilwell) Housing in the Ord Military Community. Of these, only Doe Park was completed. The other developments are not expected to resume construction until 2012 at the earliest. Similarly, most of the other development within the Ord Community has been delayed. Full reuse of the former Fort Ord may not occur until 2030 or later, versus the previous prediction of full reuse before 2020. Deferred projects include the golf resort near the Marina Airport, the Seaside east housing developments, and 2 million square-feet of projected office/research and development space within UCMBEST.

The second factor responsible for the lower water demand is the change from using broad demand factors applied to land development forecasts, upon which the 2005 UWMP was based. Many of the specific plans have since been completed, and this forecast is based upon the more detailed water supply assessments.

The third factor contributing to reduced water demand is that housing within CSUMB and portions of the Ord Military Community are now metered, and data shows that actual water use is lower than previously estimated. The remaining non-metered accounts are being addressed as part of the phased upgrading of family housing within the Ord Military Community.

Table 3.5 depicts the total expected growth in demands from all currently expected development and population growth through 2030. Demand values reflect current demands plus the projected development within each jurisdiction. Included for comparison are the existing allocations of groundwater supply by jurisdiction, which are explained in Section 4.

Table 3.5 Water Demand by Jurisdiction (afy)

	Jurisdiction	2009*	2010	2015	2020	2025	2030	Allocation
Ord	CSUMB	621	403 ¹	441	631	754	778	1,035
	Del Rey Oaks	0	0	326	527	527	527	243
	City of Monterey	0	0	0	92	92	92	65
	County of Monterey	4	4	627	1,087	1,087	1,087	710
	UCMBEST	2	2	93	276	474	474	230
	City of Seaside	430	792 ²	1,130	1,351	1,664	2,093	1,012
	U.S. Army	658	752	792	838	997	997	1,577
	State Parks and Rec.	0	0	12	18	20	25	45
	Marina Ord Comm.	280	281	812	1,537	1,738	1,739	1,625 ³
	Marina Sphere	10	10	10	10	10	10	10
	FORA Strategic Res.	0	0	0	0	0	0	0
	Assumed Line Loss	71	348	348	348	348	348	348
Marina	Armstrong Ranch	0	0	0	550	680	680	920
	RMC Lonestar	0	0	0	0	0	500	500
	Marina Central	1,962	1,962	2,324	2,630	2,746	2,864	3,020
Subtotal - Ord		2,076	2,592	4,591	6,715	7,712	8,172	6,900
Subtotal - Marina		1,962	1,962	2,324	3,181	3,426	4,044	4,440
Total		4,038	4,554	6,915	9,896	11,137	12,216	11,340

*Actual demands from calendar year 2009

1. 2010 demands for CSUMB reflect 100% metered use

2. Demands for Seaside include Seaside Resort Golf Course starting in 2010

3. Allocation includes 1325 afy groundwater and 300 afy existing desalination plant

It should be noted that in 2010, the District began providing Salinas Valley groundwater for landscape irrigation at Seaside Resort (Bayonet and Blackhorse Golf Courses). This demand had been previously met with Seaside basin groundwater, from existing wells owned by the City of Seaside. As discussed in Section 4, the District plans to supply recycled water for urban landscape irrigation in the near future. This early conversion to MCWD supply from the City's allocation of Salinas Valley groundwater allowed the City of Seaside to reduce their pumping from the Seaside Aquifer, as part of that basin's management plan. When the recycled water system is completed and delivering recycled water to Seaside Resort, the City may reallocate that potable supply to another project.

Table 3.5 shows that the current groundwater allocation for Central Marina is sufficient to meet projected demands through 2030. The City's Downtown Vitalization Specific Plan is projected for build-out by the year 2040, and will require the development of additional water supply for that service area by 2035. The Ord Community is projected to exceed its current Salinas Valley groundwater allocation by the year 2020, with some jurisdictions exceeding their sub-allocations by 2015. This is discussed in detail in Section 4, Water Supply.

3.3 Predicted Water Demand by Sector

Table 3.6 shows the projected water consumption by use sector in the period 2010-2030.

Table 3.6 Water Demand by Sector (afy)

Water use sectors	Existing*	2010	2015	2020	2025	2030
Single family	1,479	1,365	2,191	3,249	3,577	3,881
Multi-family	1,353	1,353	1,714	2,196	2,532	2,769
Commercial	347	348	1,262	2,010	2,290	2,319
Industrial	6	6	113	297	387	887
Institutional/Governmental	300	303	374	435	609	614
Landscape	422	814	897	1,308	1,327	1,330
Agriculture	0	0	0	0	0	0
Other (provision for loss)	131	364	364	400	416	416
Total	4,038	4,554	6,915	9,896	11,137	12,216

* Actual demands for 2009

Note: Provision for loss includes both Central Marina and the Ord Community

3.3.1 Lower Income Housing Demands

The Water Code requires water suppliers to document water demand projections for lower income single family and multi-family housing within their UWMPs. Lower income is defined in Section 50079.5 of the Health and Safety Code as less than 50% of the area median household income.

The housing elements of the general and specific plans for the land use jurisdictions served by MCWD all include Affordable Housing requirements. Affordable Housing, as required in the California Redevelopment Law and specified within Monterey County, includes four income levels: very low, low, moderate and workforce. Only the first two levels, very low income and low income, must be reported separately in the UWMP. The following discussion explains how the current and projected lower income housing water demands were estimated.

The City of Marina has a significant amount of existing affordable housing. Within the Central Marina Service Area, the City has 258 low and very low income multi-family units, and 2 single-family ownership units. Within the Ord Community, the City has 542 affordable housing units, of which 409 are low and very low income. All of the existing units are multi-family duplex, four-plex or apartments. The City requires new residential development of twenty or more units to include a minimum of 20% affordable housing. Within that 20%, 6% must be very low income, 8% must be low income and 6% must be moderate income. Based on approved specific plans, lower income projections for the City include 102 town homes and 23 single family homes in Marina Station, 116 apartments in Cypress Knolls, 108 apartments and 53 duplexes in the Dunes on Monterey Bay, and 205 apartments within Marina Station. Of the 200 proposed dwelling units within the TAMC Transit Oriented Design development, 14% or 28 units are assumed to be lower income. Infill development is projected for Central Marina, but it is

unknown if any projects will exceed the 20 dwelling threshold requiring an affordable component.

The City of Seaside currently has 41 affordable multi-family units in the Ord Community, of which 36 are designated for lower income households. An additional 10 existing units will be restricted to low and moderate income housing in 2012, of which 5 are assumed to be low income. Within the current housing projection, the City will require 25 affordable single family units in Seaside Resort to be affordable, and 72 affordable units elsewhere in the Ord Community. Of this, 68 units, or 67%, are assumed to be lower income.

Monterey County requires 20% of all residential development or redevelopment to be affordable housing. Within that 20%, 6% must be very low income, 8% must be low income and 6% must be moderate income. Workforce housing requirements are then assigned on a project by project basis. Within the East Garrison Development, 196 low and very low income housing units are identified in the project specific plan, greatly exceeding the minimum requirement. The proposed Monterey Horse Park has not reached the point of having a draft specific plan or EIR, so we have assumed that 14% of the proposed 482 housing units, or 67 units, will be lower income. Please note that the County may opt to consider the Ord Redevelopment Area collectively, which will reduce the actual Horse Park requirement.

UCMBEST is expected to develop 330 multi-family and 200 single family units within the Ord Community, in unincorporated areas within the Marina Sphere of Influence. For these projects, we have assumed that 14% of the units will be restricted for lower incomes, as required by both the County and City.

The City of Del Rey Oaks has not yet developed its portion of the Ord Community. In the Environmental Impact Report for the Resort at Del Rey Oaks, 138 affordable apartment units (multi-family) are identified. We estimate 97 of those units will be lower income, based on the Monterey County ratio of 70% of affordable being low or very low income.

Two institutional entities within the Ord Community, CSUMB and the U.S. Army, provide housing within the Ord Community for their students and employees. Because the assignment of this housing is governed by different rules than the California Redevelopment Law, we have assumed it to be workforce housing (and not low income) for the purpose of this report.

For projects with an approved Water Supply Assessment (WSA), the projected water demands were based upon the demand rates for the applicable type of housing unit in the WSA. For existing housing units and all other projected development, demands were estimated using the multi-family residential demand factor of 0.25 acre-feet per year. The time-phasing of lower income housing was assumed to match that of the larger development. The results are shown in Table 3.7.

Table 3.7 Lower Income Housing Demands (afy)

	Jurisdiction	Existing*	2010	2015	2020	2025	2030
Ord	CSUMB		0	0	0	0	0
	Del Rey Oaks		0	24	24	24	24
	City of Monterey		0	0	0	0	0
	County of Monterey		0	43	80	80	80
	UCMBEST		0	3	14	26	26
	City of Seaside	9	9	27	30	74	134
	U.S. Army		0	0	0	0	0
	State Parks and Rec.		0	0	0	0	0
	Marina Ord Comm.	102	102	285	415	559	699
	Marina Sphere		0	0	0	0	0
Marina	Armstrong Ranch		0	0	48	55	55
	RMC Lonestar		0	0	0	0	0
	Marina Central	65	65	85	105	119	133
Subtotal - Ord		111	111	383	563	763	963
Subtotal - Marina		65	65	85	153	174	188
Total		176	176	469	716	937	1,151

*Existing demands estimated at 0.25 AFY/EDU

3.4 Water Conservation Baseline and Targets

The Water Conservation Act of 2009 (SBx7-7) requires each retail urban water supplier to establish baseline daily per capita water demand and water conservation targets, as outlined in California's 20x2020 Water Conservation Plan. The plan establishes a statewide goal of reducing average per capita water demand by twenty percent by the year 2020. The State estimated the average statewide demand for 2005 at 192 gallons per capita day (gpcd), with a statewide conservation target of 154 gpcd in 2020. An interim statewide target of 173 gpcd (ten percent reduction) by the year 2015 was also established. In the 20x2020 Plan, regional baselines and targets were also established.

The Marina Coast Water District is in the Central Coast Hydrologic Region. The regional baseline water demand was estimated to be 154 gpcd, the lowest in the state. The regional conservation targets are 139 gpcd by the year 2015, and 123 gpcd by the year 2020.

The Department of Water Resources (DWR) published detailed methodologies as to how baselines and targets are to be calculated. Baseline per capita water demands are calculated as a ten-year average water consumption rate for a period ending not earlier than December 31, 2004 and not later than December 31, 2010. This is calculated as gross annual water demand divided by average annual population. Water suppliers may choose any consecutive ten-year period within the allowable window, corresponding to calendar years, fiscal years or other standard reporting intervals. Once established, the baseline demand must be used for compliance

reporting in 2015 and 2020, and the same reporting year (calendar, fiscal, etc.) must be used. If the system-wide average water demand is 100 gpcd or less, the water supplier is not required to achieve additional conservation savings.

Historic water demand for MCWD is shown in Table 3.8. Annual population values were estimated using estimates from the California Department of Finance, as detailed in Appendix E. As can be seen, MCWD's average water demand has been at or below the regional 2020 target of 123 gpcd since 2009. The 10-year averages ending in 2004 and 2005 were not considered in selecting a baseline period, due to the large population changes in the mid-1990's when Fort Ord closed. Of the remaining periods, MCWD selected the period ending December 31, 2008, for calculating the baseline water demand, which is 133.3 gpcd. This period includes years with and without construction activity in the Ord Community, and is considered a more representative median than the lower value in later years.

Per Section 10608.20 of the Water Code, there are four methodologies available for calculating compliance targets, as listed below. A more detailed discussion of the methods and analysis are included at Appendix E.

- Method 1: Eighty percent of the water supplier's baseline per capita water use.
- Method 2: Per capita daily water use estimated using the sum of performance standards applied to indoor residential use; landscaped area water use; and commercial, industrial, and institutional uses.
- Method 3: Ninety-five percent of the applicable state hydrologic region target as stated in the State's April 30, 2009, draft 20x2020 Water Conservation Plan.
- Method 4: An approach developed by DWR and reported to the Legislature by December 31, 2010. The proposed method uses conservation Best Management Practices (BMP) as prescribed by the California Urban Water Conservation Council (CUWCC). This method is similar to Method 2, but requires more detailed information on current water uses.

Table 3.8 Per Capita Water Demands

Year	Central Marina			Ord Community			System-Wide		
	Marina Pop.	Annual Water Use (MG)	Daily Per Capita (gals)	Ord Pop.	Annual Water Use (MG)	Daily Per Capita (gals)	Daily Per Capita (gals)	10-year Average (gpcd)	5-year Average (gpcd)
1995	16,685	657.6	108	5,000	913.0	500	198		
1996	16,465	690.5	115	7,796	811.4	285	170		
1997	16,586	699.6	116	10,593	838.7	217	155		
1998	17,128	606.1	97	11,119	679.7	167	125		
1999	17,331	730.4	115	11,327	780.6	189	144		
2000	17,574	749.4	117	16,239	772.7	130	123		
2001	17,715	744.6	115	11,701	726.0	170	137		
2002	17,781	751.5	116	11,867	696.2	161	134		
2003	17,805	712.1	110	11,808	698.7	162	131		
2004	17,876	737.0	113	11,757	789.5	184	141	145.8	
2005	17,672	715.1	111	11,805	649.6	151	127	138.6	
2006	17,509	582.1	91	11,645	817.5	192	132	134.8	
2007	17,493	528.6	83	11,572	958.3	227	140	133.3	134.0
2008	17,706	597.4	92	11,827	739.3	171	124	133.3	132.7
2009	17,852	639.2	98	11,891	676.5	156	121	130.9	128.7
2010	18,057	568.1	86	12,043	778.5	177	123	130.9	127.9

* Annual population values based upon CA Dept. of Finance estimates.

Water suppliers may select any of the four methods to calculate compliance water demand targets. They must also calculate the maximum allowable target, and select the lower of the two. The alternate maximum method consists of calculating a five-year average water consumption rate for a period ending not earlier than December 31, 2007 and not later than December 31, 2010. The 2020 conservation target must be less than or equal to 95% of the 5-year base daily per capita usage. MCWD selected the period ending December 31, 2008, for its 5-year baseline period, as reflected in Table 3.9.

Water demands within the District are already significantly below the state and regional averages due to aggressive water conservation practices. Therefore, MCWD has elected to use Method 3, which is a goal of 5% below the regional target. As seen in Table 3.9, the maximum allowable target is greater than the Method 3 target, so the Method 3 target may be used. The interim (2015) target is the average of the 10-year baseline and the 2020 target.

Table 3.9 District Baseline and Targets

Description	Year	Amount
Baseline Water Demand	2008	133 gpcd
Maximum Target (95% of 5-year baseline)	2020	126 gpcd
Method 3 Target (95% of Regional Target)	2020	117 gpcd
Interim Target	2015	125 gpcd

3.5 Plan for Meeting Urban Conservation Targets

Table 3.10 shows the total projected water demands for the District, the projected population and the resulting per capita water demands. The average demand per person increases in the future due to the projected non-residential development. Population projections are based upon the projected housing developments and the associated persons per unit in the respective specific plans. Where specific plans do not exist, the average persons per unit for the City or census tract were used. Population tables are included in Appendix C.

Table 3.10 Projected Per Capita Water Demands

	2010	2015	2020	2025	2030
Projected Demand (AFY)	4,553	6,913	9,895	11,136	12,214
Projected Recycled Water (AFY)*	0	780	1,359	2,514	2,960
Net Potable Demand (AFY)	4,553	6,133	8,536	8,622	9,254
Projected Population	32,184	43,371	57,718	64,361	69,887
Projected demand per person (gpcd)	126.3	126.2	132.0	119.6	118.2
Water Use Targets (gpcd)	0	125	117	117	117
Projected Target Exceedance (gpcd)	0	1.2	15.0	2.6	1.2

*Based on 2006 Basis of Design Report, includes Project Phase 2

To reduce per capita demands below the compliance targets, the District has four strategies, in addition to the on-going water conservation efforts:

- First, MCWD is implementing an urban recycled water project for landscape irrigation.
- Second, the design standards for new construction exceed the State's plumbing code requirements.
- Third, the remaining non-metered customers will be metered and have a financial incentive to reduce water use.
- Finally, the phased redevelopment of the Ord Community will include the replacement of a significant amount of water distribution system that is over 50-years old. These replacements should reduce system water losses but are not reflected in this table.

As seen in the bottom line of Table 3.10, Projected Target Exceedance, these measures will come close to achieving the conservation targets, but additional effort will be required. A portion of the Projected Target Exceedance may be realized through pipeline loss reduction (the demand projections include a provision for 348 afy of loss, while the actual loss in 2009 was under 100

afy). Also, the projection of predominantly non-residential development in the 2015-2020 time period causes per capita demands to peak in 2020, but the actual development schedules may differ. MCWD will monitor annual water demand, and adjust incentive programs as needed to meet the conservation targets.

The use of recycled water to serve non-potable demands is a conservation measure recognized in the 20x2020 State Conservation Plan. As detailed in Section 4, MCWD included recycled water in the Regional Urban Water Augmentation Program, completed the project design and CEQA documents in 2007, and has only deferred implementation due to the economic slow-down which has delayed redevelopment of the Ord Community. As shown in Table 3.10, the project is expected to provide 780 afy in 2015, and increase by phases to 2,960 afy in 2030.

MCWD has adopted design guidelines and standards that exceed the state plumbing code requirements for water conserving fixtures, codified in Section 3.36 of the District Ordinances. New residential development is required to include high-efficiency toilets, hot-water recirculation systems, and when provided, clothes washers must meet high efficiency standards. Non-residential development must include waterless urinals and HET or dual-flush toilets. All landscapes over 2,500 square-feet are separately metered and must meet the requirements of the State's model water-efficient landscape ordinance.

In 2010, CSUMB installed water meters in the final section of their faculty and student housing area such that no unmetered water accounts remain within CSUMB's jurisdiction. MCWD has seen a reduction in water demand in this area, now that the occupants are billed directly for their water use.

The final jurisdiction on Fort Ord with non-metered accounts is the Ord Military Community. The Army is removing and replacing their older housing areas by phases, and when complete, all housing units will be metered. The POM garrison staff is investigating the cost benefit of installing meters in some existing areas, due to the cost savings they would realize.

Section 4 - Water Supplies

4.1 Water Sources

The primary source of water supply for the Marina Coast Water District is the Salinas Valley Groundwater Basin, described in detail in Section 4.2. Both Central Marina and the Ord Community Service areas have relied upon this source of supply since the areas were initially developed. The District owns and operates its production wells, and does not purchase wholesale water supply.

Table 4.1 depicts recent groundwater production for the Central Marina and Ord Community service areas. Note that well capacity is not included in the table. MCWD has redundant well pumping capacity to accommodate maintenance shut-downs during peak days.

Table 4.1 Groundwater Production (acre-feet)

Year	Central Marina	Ord Community	Total (ac-ft)
2001	2,285	2,228	4,513
2002	2,306	2,137	4,443
2003	2,185	2,144	4,330
2004	2,262	2,423	4,685
2005	2,195	1,994	4,188
2006	1,786	2,509	4,295
2007	1,622	2,941	4,563
2008	1,833	2,269	4,102
2009	1,962	2,076	4,038
2010	1,744	2,389	4,133

The three water production wells in the Central Marina service area are in the Deep Aquifer, as described in Section 4.2.1. MCWD is currently the only significant user of the Deep Aquifer. The three wells in the Ord Community service area are in the 400-foot Aquifer. MCWD is currently adding a new well in the Deep Aquifer in the Ord Community.

Additionally, MCWD has a seawater desalination plant located at its main office adjacent to Marina State Beach. This facility is not currently in use, but has a design capacity of 300 acre-feet per year. It is discussed in Section 4.4.

4.2 Groundwater

4.2.1 Salinas Valley Groundwater Basin

Potable water for MCWD's Marina and Ord Community service areas comes from wells developed in the Salinas Valley Groundwater Basin.³ This groundwater basin underlies the Salinas Valley from San Ardo to the coast of Monterey Bay and is divided into four

³ See Figure 2.2 for well locations.

hydrologically linked subareas: Pressure, East Side, Forebay and Upper Valley (Figure 4.1). MCWD's wells for both its Marina and Ord Community service areas are located within the Pressure Subarea of the Salinas Valley Groundwater Basin. (See Figure 2.2 for well locations and Figure 4.1 for basin subareas).

The basin in the Pressure subarea is further divided into three distinct aquifers, consisting of aerially extensive, horizontally continuous, deposits of sand and gravel that exist at various depths below ground surface in the subarea. These three aquifers are commonly referred to as the 180-Foot, 400-Foot and Deep aquifers. The 180-Foot and 400-Foot aquifers derive their names from the average depth below the valley floor at which the water bearing sand and gravel deposits are encountered. The Deep Aquifer consists of an aggregation of all sand and gravel deposits that exist below the 400-Foot Aquifer including the Aromas Sand, the Paso Robles Formation and the Purisima Formation, not all of which are hydraulically connected.

The 180-Foot Aquifer extends from Monterey Bay to Chualar beneath the Salinas Valley and westward from the valley under northern Ord Community and Central Marina. South of Chualar and in the Forebay area, the distinction between the 180-Foot and 400-Foot aquifers becomes less defined as the aquitards that separate them become discontinuous.

The 400-Foot Aquifer is comprised of geological materials assigned to older alluvium deposits and Aromas Sand. The aquifer system is present beneath the northern Salinas Valley and also extends westward beneath the northern portions of the former Fort Ord and Central Marina. In the Forebay area, the 400-Foot Aquifer locally blends with the 180-Foot Aquifer receiving recharge from the Salinas River through the overlying deposits.

The Deep Aquifer System consists of two geologic formations – the Paso Robles and the underlying Purisma Formations. These formations are aerially extensive, stretching throughout the Salinas Basin and to the north and south. The lowermost unit extends to the north outcropping in Soquel and to the south where it grades into the Santa Margarita Formation, an important aquifer in the Seaside Basin. Although slightly arbitrary in definition, the Deep Aquifer is commonly believed to begin at depths of approximately 600 feet below sea level and extend to depths of 2,000 or more feet in some locations. Non-water bearing Monterey Shale that constitutes the bottom of the Salinas Groundwater Basin underlies the Deep Aquifer system.

Figure 4.1 Salinas Valley Groundwater Basin⁴⁴ Source: MCWRA 2009 Groundwater Summary Report

Studies by the United States Geological Survey indicate that Deep Aquifer water in the vicinity of Marina is not of recent origin. Uncorrected Carbon 14 dating of water from a test well in the vicinity of Marina's Deep Aquifer wells indicates the water is between 22,000 and 31,000 years old. The ancient nature of this water raises the possibility that recharge to this aquifer may be insufficient to sustain current pumping, but monitoring well data at the Marina Airport⁵ indicates the aquifer is subject to seasonal variations similar to the upper aquifers. Recent stratigraphic analyses have indicated that these aquifers are connected hydraulically, with water from the 180-foot and 400-foot aquifers recharging the Deep Aquifer.⁶

Because the overlying clay layers isolate the aquifer systems in the Pressure Subarea from potential surface water recharge, most importantly the Salinas River, the primary mechanism for recharge is from lateral flow from the adjacent subareas. This means that most recharge for the aquifer systems in the Pressure Subarea comes from lateral flow from either the Eastside or Forebay Subareas. Additionally, the deeper aquifers are believed to be recharged in whole or in part by water that has moved through the overlying aquifers (i.e., flow from the 180-Foot Aquifer partially recharges the 400-Foot Aquifer that in turn partially recharges the Deep Aquifer). Most of the recharge for the Pressure Subarea derives from the Forebay Subarea due to the presence of the Salinas River and MCWRA's active management of Nacimiento and San Antonio reservoir releases to maximize river recharge.

In a healthy condition, Salinas Basin groundwater would move through the basin and into the Monterey Bay through subsurface freshwater outcrops. As a result of basin-wide pumping, water levels in the Pressure and East Side subareas have declined over time, contributing to a decrease in the amount of groundwater moving toward and into Monterey Bay. The other basin subareas – Forebay and Upper Valley – tend to recharge rapidly and recover historic groundwater levels each year. The result has been a reversal of the seaward gradient. The basin currently experiences a landward gradient of seawater (intrusion), where the seawater has contaminated coastal aquifers and wells. While historic groundwater pumping throughout the basin created the overdraft, only the basin's coastal areas adjacent or near to the Bay suffer from seawater intrusion. Seawater intrusion is further discussed in Section 4.2.4.

The Salinas Valley Groundwater Basin has been in an overdraft condition with seawater intrusion of about 8,900 afy at its coastal margins.⁷ MCWD's groundwater withdrawals are about 4,600 afy, or less than 1.0 percent of total annual basin withdrawals of about 511,000 afy⁸. Other than MCWD, only a small number of wells tap the deep aquifer, some of which also draw from

⁵ MCWD Well 34 Basis of Design Report, Martin B. Feeney, PG, September 2009

⁶ Deep Aquifer Investigation Study, WRIME, 2003.

⁷ Salinas Valley Water Project Engineer's Report, RMC, 2003.

⁸ 2009 Groundwater Summary Report, MCWRA, 2010

the 400-Foot aquifer. Prior to receiving recycled water for crop irrigation, some agricultural lands in the Castroville area pumped water from the Deep Aquifer. These agricultural wells are currently used to meet supplemental needs during peak summer demands periods and are also part of the monitoring network overseen by MCWRA. Delivery of recycled water has contributed to a recovery in groundwater levels in this area, and completion of the Salinas Valley Water Project in 2010 should further reduce groundwater pumping to sustainable levels.

4.2.2 Basin Management

Two regional water management agencies have jurisdiction over groundwater production in the vicinity of MCWD. The MCWRA is responsible for regulation and supply of water from the Salinas groundwater basin, which is MCWD's source of water supply. The Salinas Valley Groundwater Basin has not been adjudicated. The Monterey Peninsula Water Management District (MPWMD) is responsible for regulation and supply of water from the Seaside Groundwater Basin, which was formally adjudicated in 2006. These two basins are adjacent to each other under Ord Community lands. MCWD recognizes the jurisdiction of the two regional groundwater management entities, and so has not independently developed a groundwater management plan pursuant to Water Code § 10750.

Where groundwater basins are in or projected to be in overdraft, the Water Code requires UWMPs to provide detailed descriptions of efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition. In the Salinas Basin, an urban water supplier like MCWD that accounts for less than 1 percent of total basin pumping, cannot by itself eliminate or remedy a condition that results from basin-wide activities. MCWD can and does work cooperatively with MCWRA, and is taking actions to protect and preserve its ability and right to access groundwater, and to augment groundwater supplies with new sources of supply. MCWD is developing a Seawater Desalination Project and a Recycled Water Project, as discussed in Section 4.4.

MCWRA has been and is currently working to eliminate basin overdraft and seawater intrusion. The current program builds upon action taken in the 1940s when MCWRA's predecessor agency, the Monterey County Flood Control and Water Conservation District, initiated development of the Nacimiento and San Antonio dams and reservoirs to augment water resources within the County. From the time it was formed, MCWD has cooperated with the MCWRA to further water resources development within the Salinas Valley.

In 1991 and 1992, MCWRA developed and approved the Monterey County Water Recycling Projects to deliver recycled wastewater for irrigation use in the Castroville area, so that groundwater pumping could be reduced in that area. The project is commonly referred to as the Castroville Seawater Intrusion Project (CSIP). In the project, recycled water is produced and used along the coast in lieu of pumping groundwater for agricultural irrigation. The project has operated successfully since 1997, reducing basin overdraft and seawater intrusion.

To fully eliminate basin overdraft and seawater intrusion, MCWRA's Salinas Valley Water Project (SVWP) was developed (see Section 4.2.6). The project included modifying the spillway at Nacimiento Reservoir, adjusting the operations of Nacimiento and San Antonio reservoirs to increase releases into the Salinas River, and construction of the Salinas River Diversion Project near Marina. Water diverted from the river is added to the CSIP distribution system, further reducing the volume of coastal groundwater pumped for agriculture. The projects were completed in 2010, and are in their first full year of operation. MCWRA modeling concludes that this component will eliminate basin overdraft and intrusion.

MCWD is within MCWRA Zones 2/2A, zones of benefit and assessment for the Nacimiento and San Antonio Reservoirs. Both the Army and MCWD entered into agreements with MCWRA, which allows MCWD to participate in and benefit from MCWRA's regional basin management planning process. Under the terms of the Army's Agreement (assumed by MCWD in 2001), MCWD may provide up to 6,600 afy of Salinas Valley Groundwater to the Ord Community. This amount is about equal to the historic demand from Army uses at Fort Ord. Of this, MCWRA requires that not more than 5,200 afy may be pumped from the 180-Foot and 400-Foot aquifers, to reduce the risk of seawater intrusion. When Fort Ord closed, the Army retained 1,577 afy of this allocation to meet the needs of the Ord Military Community. The Fort Ord Reuse Authority sub-allocated the remaining groundwater supply among the land use or land owning jurisdictions on the Ord Community as shown in Table 4.2. This table also includes groundwater supply available to MCWD under its agreement with MCWRA. MCWD may provide up to 3,020 afy of Salinas Valley Groundwater to customers in the City of Marina, outside of the Ord Community. Additionally, two adjacent major private properties within the City of Marina's LAFCO sphere of influence – the Armstrong Ranch and the Lonestar property – were included in the agreement and are approved for annexation to MCRWA's Zones 2 and 2A. The groundwater available for those properties is included in Table 4.2.

Table 4.2 Groundwater Allocations

	Jurisdiction	Allocation
Ord	CSUMB	1,035
	Del Rey Oaks	243
	City of Monterey	65
	County of Monterey	710
	UCMBEST	230
	City of Seaside	1,012
	U.S. Army	1,577
	State Parks and Rec.	45
	Marina Ord Comm.	1,325
	Marina Sphere	10
	FORA Strategic Res.	0
	Assumed Line Loss	348
Marina	Armstrong Ranch	920
	RMC Lonestar	500
	Marina Central	3,020
	Subtotal - Ord	6,600
	Subtotal - Marina	4,440
	Total	11,040

4.2.3 Integrated Regional Water Management Plan

In 2005, the Monterey County Water Resource Agency, the Marina Coast Water District and the Castroville Water District formed the Salinas Valley Water Management Group to spearhead regional planning for the Salinas Valley Region of Monterey County. In May 2006, they published the Salinas Valley Integrated Regional Water Management Functionally Equivalent Plan. The plan outlined regional goals, objectives and strategies in the areas of water supply, water quality, flood protection and environmental enhancement. Strategies in the Functionally Equivalent Plan that addressed water supply were the Salinas Valley Water Project, the MCWD Eastern Distribution System and the City of Soledad Water Recycling Project. The Salinas Valley Water Project addresses basin overdraft, and is discussed in Section 4.2.6 of this report. The MCWD Eastern Distribution System is a long-term plan to relocate District wells further inland, outside the areas affected by seawater intrusion. This project does not add additional groundwater supply. The City of Soledad Water Recycling Project would add tertiary treatment to the City's wastewater plant, producing Title 22 recycled water for agricultural and urban irrigation. Additional projects were considered in the Functionally Equivalent Plan for future implementation.

4.2.4 Seawater Intrusion

While sufficient production capacity (versus water availability) to meet the projected ultimate demand within MCWD's service area can be provided, there is concern that seawater intrusion

may eventually degrade water quality in MCWD's Marina and Ord Community service areas and render it unfit for domestic water supplies without further treatment, such as desalination. Similarly, there has been concern that hazardous substance contamination detected at the former Fort Ord might adversely affect the quality of water MCWD is serving within its Marina and Ord Community service areas (discussed in Section 4.2.5). As discussed below, both concerns are being actively managed to ensure ongoing protection of the quality of MCWD's groundwater sources of supply.

Seawater intrusion in the 180-Foot and 400-Foot aquifers is tracked using chloride concentration. A chloride concentration of 500 milligrams per liter (mg/L) is the short-term California Department of Public Health Secondary Drinking Water Standard for chloride and is used as a measure of impairment of water. The line of chloride concentration (isohaline) of 500 mg/L water is used as the basis for determining the seawater intrusion front as shown on Figure 4.2 and Figure 4.3. As can be seen in the figures, seawater intrusion has been recorded for over 50-years. Wells within the intruded areas were progressively moved further inland or into deeper aquifers.

Historically, MCWD supplied its Marina service area with water from 11 wells (MCWD-1 through MCWD-9, and two replacement wells) screened in the 180-Foot and 400-Foot aquifers. Between 1960 and 1992, some of those wells indicated varying degrees of seawater intrusion and were replaced, first moving from the 180-Foot aquifer to the 400-Foot aquifer, and later moving to the Deep Aquifer. The District currently has three wells in the Deep Aquifer, MCWD-10, MCWD-11 and MCWD-12, constructed in 1982, 1985 and 1989 respectively. These wells are depicted in Figure 2.2.

The U.S. Army's original wells serving the former Fort Ord were located in the Main Garrison area near Marina. When wells indicated varying degrees of seawater intrusion, the Army in 1985 installed four wells further inland. Located near the intersection of Reservation and Blanco Roads in Marina (Figure 2.2), the wells draw from the 180-Foot and 400-Foot Aquifers (well numbers FO-29, FO-30, FO-31 and FO-32). Well FO-32 suffered a screen failure and was shut down in the late 1990s. The remaining three wells are currently supplying MCWD's Ord Community service area.

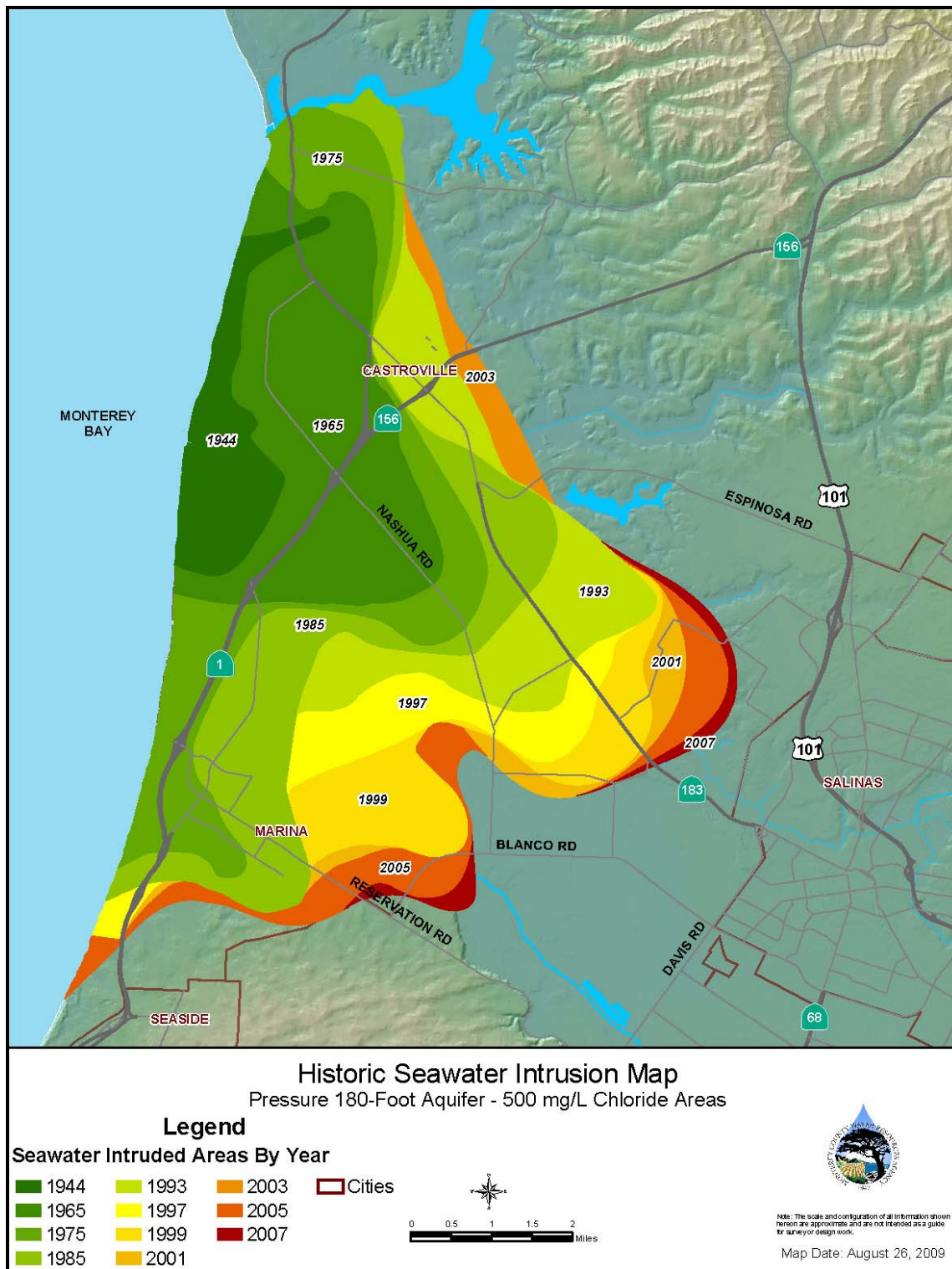
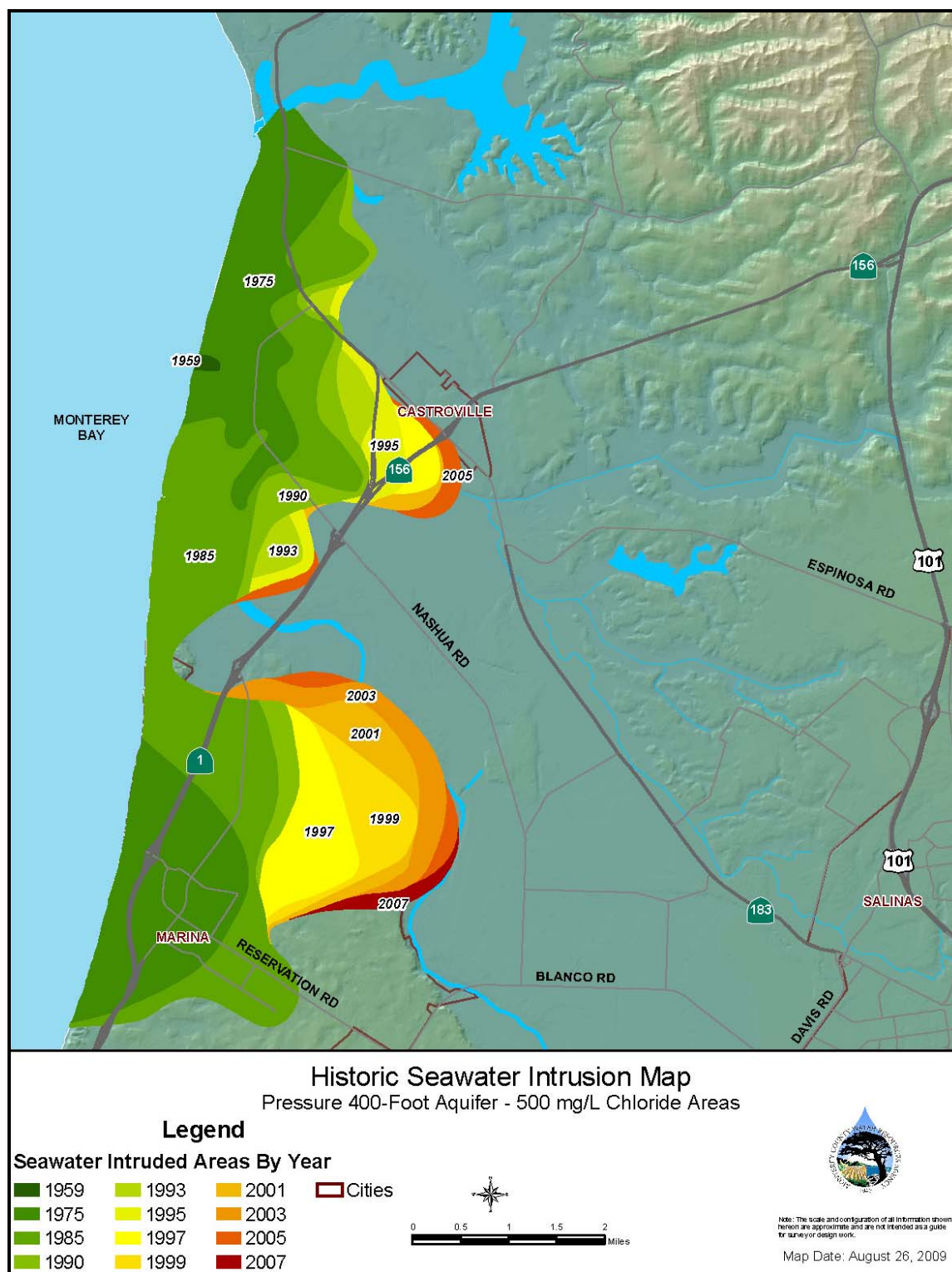
Figure 4.2 Historic Seawater Intrusion by Year⁹⁹ Source: MCWRA website

Figure 4.3 Historic Seawater Intrusion by Year¹⁰¹⁰ Source: MCWRA website

Recent studies for MCWRA indicate that the seawater intrusion front continues to migrate inland in the vicinity of Marina and the Ord Community. Continued pumping from the 180-Foot Aquifer threatens the wells currently supplying the Ord Community. MCWD's Water System Master Plan identifies the need for a phased replacement of these wells. Additional data on the migration and extent of seawater contamination can be found in the Final Report Hydrogeologic Investigation of the Salinas Valley Basin in the Vicinity of Fort Ord and Marina, Salinas Valley California, April 2001.

There is some concern that the Deep Aquifer may become affected by seawater intrusion. MCWD operates a monitoring well installed between Monterey Bay and the Marina production wells. That monitoring well serves as an early warning system to identify any seawater intrusion that might later affect MCWD's production wells, located further inland. That early warning would provide advance notice to install or begin operating one or more back-up wells to replace any potential future loss of production capacity.

It should be noted that water from the deep wells contains acceptable levels of chloride and total dissolved solids, which should not be misinterpreted as a sign of seawater intrusion. This natural salinity does not prevent the use of this water for municipal demands. The levels of chloride (average 79 mg/L) and total dissolved solids (average 380 mg/L) have not increased in the 25-years MCWD has operated the deep wells.

Another concern is that the Deep Aquifer may be connected to, and affect seawater intrusion in, the upper aquifers. Preliminary findings regarding the Deep Aquifer in the Ord Community area indicate that there is some vertical connectivity between the Deep Aquifer and the overlying aquifers. According to the Deep Aquifer Investigative Study, WRIME, May 2003, increased pumping of the Deep Aquifer would be expected to increase the rate of seawater intrusion in the middle and upper aquifers, but to a lesser extent than if the increased pumping occurred in the middle or upper aquifers. In that report, WRIME modeled the effect of increasing groundwater pumping from the Deep Aquifer by two to five times the baseline rate of 4,800 afy. The model predicted that, in the absence of other actions to control seawater intrusion, the landward flow of groundwater would increase as a result.

In 2008, that model was updated by Geoscience Support Services, Inc¹¹, and WRIME¹² to analyze the Regional Desalination Project (discussed in section 4.4.2). In those studies, the pumping of seawater-intruded groundwater from the 180-Foot Aquifer was modeled using 10-wells (Geoscience) and 5-wells (WRIME). Both studies concluded that pumping intruded

¹¹ North Marina Ground Water Model, Evaluation of Potential Projects, July 25, 2008

¹² Groundwater Modeling Simulation of Impacts for Monterey Regional Water Supply Project, 20,000 AFY Desalination Pumping Scenario, October 29, 2008

groundwater from the 180-Foot Aquifer along the coast would halt and eventually reverse the landward flow of seawater-intruded groundwater in the upper aquifer.

MCWD is adding a new well (FO-34) which will be in the Deep Aquifer. The selection of this source of supply was based upon data from new Deep Aquifer monitoring wells constructed in the last decade, water production and quality data from MCWD's Marina wells, and water quality data for the upper aquifers from MCWD's Fort Ord wells.¹³ As indicated in the above studies, the use of this aquifer would have less impact on regional seawater intrusion than completing a well in the upper aquifers.

MCWD is fully cooperating with the MCWRA's program to actively manage and protect the long-term availability of the Salinas Valley groundwater resource. Existing management efforts, reviewed above, include the successful implementation of the Castroville Seawater Intrusion Project and implementation of the annexation agreements that limit groundwater pumping and provide assessment revenue supporting MCWRA's activities to augment Basin water supplies. Those activities include ongoing operation of Nacimiento and San Antonio reservoirs to maximize groundwater recharge through dry-season storage releases that percolate through the Salinas River's streambed. As described in more detail in Section 4.2.6 below, those activities also include the MCWRA's development, approval and implementation of the Salinas Valley Water Project to permanently end seawater intrusion.

4.2.5 Groundwater Contamination and Control

The former Fort Ord was identified by the U.S. Environmental Protection Agency (EPA) as a National Priority List federal Superfund site on the basis of groundwater contamination discovered on the installation in 1990. The facility was listed "fenceline to fenceline," all 28,000 acres. Initial investigations pinpointed 39 sites of concern in addition to two Operable Units (the Fritzsche Army Airfield Fire Drill Pit and the Fort Ord landfill) which had been investigated during the 1980s. The sites of concern included motor pools, vehicle maintenance areas, dry cleaners, sewage treatment plants, firing ranges, hazardous waste storage areas, and unregulated disposal areas. An additional two sites were added during the investigation process: one, a defueling area located at Fritzsche Army Airfield; the other, a fire drill burn pit in East Garrison. In all, 43 sites were investigated.¹⁴

In 2001, trichloroethylene (TCE), a cleaning solvent, was detected by the Army in one of the three water supply wells at the former Fort Ord. Subsequently, upon the transfer of ownership of the well to MCWD, MCWD also detected the presence of TCE in June 2002. TCE levels detected are below the Maximum Contaminant Levels (MCL) for potable use. The contamination is coming from an abandoned landfill and a fire training pit that were formerly

¹³ MCWD Well 34 Basis of Design Report, Martin B. Feeney, PG, September 2009

¹⁴ www.Fortordcleanup.com Mactec Engineering and Consulting, Inc.

used by the Army, but are now closed. The Army has responded to the landfill contamination problem by installing extensive groundwater cleanup systems to remove the contamination and prevent its further migration. The Army has also been monitoring groundwater quality at the former Fort Ord for a number of years to better understand the location and movement of groundwater contamination caused by the closed landfills.

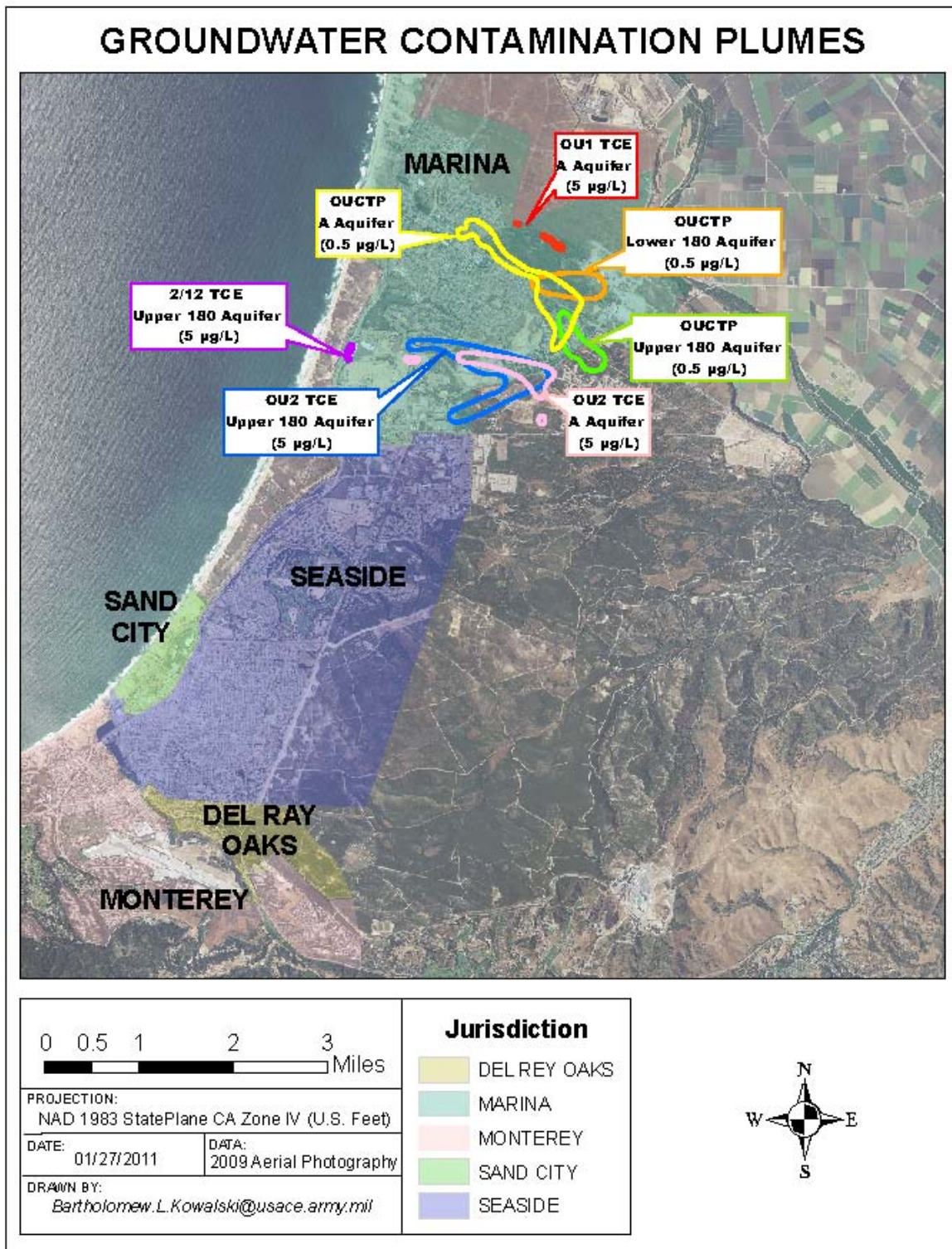
The amount of TCE in one well was 0.53 to 0.81 µg/L (parts per billion)¹⁵. State and federal safe drinking water MCL standards for TCE are set at 5.0 parts per billion, or approximately ten times higher than detected. Detection of TCE, even at the low concentration levels, was reported by MCWD, as required by law, to the California Department of Public Health (DPH). No additional action was deemed necessary by DPH because the concentration levels are well below the MCL of 5.0 parts per billion. Both MCWD and the Army regularly monitor the former Fort Ord wells to assess concentration changes. The 2009 TCE detections in the Ord Community wells ranged from non-detect to 1.3 parts per billion. TCE detections have been intermittent since the initial detection in 2001.

MCWD continues to monitor the affected well, and all other wells, for TCE and other contaminants on a regular basis. Any changes in contaminant plume migration due to increased MCWD pumping will be monitored and appropriate actions taken. MCWD maintains close coordination with the U.S. Army Corps of Engineers, who manages groundwater cleanup efforts on the former Fort Ord. The Corps of Engineers recently published an update to their mitigation program, depicted in Figure 4.4.

The Defense Department is required by law to clean up contamination to below allowable contaminant levels set by the State Department of Public Health as a public health protection measure. Groundwater samples are taken quarterly and compiled in annual status reports. Additionally, all data is summarized in documents known as five-year reviews. It is expected that final groundwater cleanup may take another 30 years to complete. Additional information on groundwater cleanup and other base contamination remediation actions can be found at www.fortordcleanup.com.

Because Fort Ord is on the National Priority List, section 9604(i) of the federal Superfund law (Comprehensive Environmental Response Compensation and Liability Act, or “CERCLA”) requires the federal Agency for Toxic Substances and Disease Registry (“ATSDR”) to complete an assessment of whether any hazardous substances at the site pose a threat to human health. ATSDR analyzed whether hazardous substances released at Fort Ord might threaten human health by contaminating drinking water wells serving Marina and Ord Community. ATSDR’s final health assessment concludes as follows:

¹⁵ EPA test method 524.2 is accurate to +/- 20%.

Figure 4.4 Groundwater Contamination Plumes¹⁶¹⁶ Source: U.S. Army Corps of Engineers, Fort Ord Office

- There are no detections of groundwater contaminants at levels of health concern in the presently “active” drinking water wells on Ord Community. The water at Ord Community is safe to drink. Because the drinking water wells currently in use in the Ord Community are located far from sources of contamination, drilled to deep aquifers that are not likely to be contaminated, and monitored regularly, the Ord Community’s drinking water supply should be safe to drink in the future.
- Because the concentration of groundwater contamination detected in the past in the Ord Community and Marina drinking water wells was low and the duration of exposure was short, adverse health effects will not likely result.
- The water supplied by drinking water wells presently used by Marina is safe to drink. Further, because Marina’s drinking water wells are drilled to deep aquifers and the quality of the water is monitored regularly, Marina’s drinking water should be safe to drink in the future.

See ATSDR Public Health Assessment, Fort Ord, Marina, Monterey County, California (Community Health Concerns and Potential Pathways of Exposure).

The Salinas Basin has experienced nitrate contamination, a pollutant coming primarily from animal confinement activities (dairies, feedlots) and from irrigated agriculture, sewage treatment plant effluent and septic tanks. This contaminant is a concern, particularly in upper reaches of the 180-Foot Aquifer. Although certain wells in the Salinas Valley have exceeded the state health standard of 45 mg/L of nitrate as NO₃, nitrate levels in the 400-Foot Aquifer are low due to intervening clay layers between the 180-Foot and 400-Foot aquifers.

No nitrate contamination is evident in, or in the vicinity of, any of the MCWD’s wells. Due to the location of the nitrate sources at or near the ground surface, remote from MCWD’s wells, with contamination in only the upper reaches of the shallowest, 180-Foot Aquifer, nitrate contamination does not pose a threat to MCWD’s sources of groundwater supply.

4.2.6 Salinas Valley Water Project

MCWRA has maintained and operated Nacimiento and San Antonio reservoirs since they became operational in 1957 and 1967, respectively. The operation of both reservoirs has been, and continues to be, for two primary hydrologic functions: flood control and conservation, i.e. the storage and release of runoff to regulate Salinas Valley groundwater recharge through the Salinas River.

On June 4, 2002, the MCWRA adopted a basin-wide program, known as the Salinas Valley Water Project (SVWP or Project), to continue addressing water supply issues in the Salinas Valley groundwater basin. MCWRA’s adoption of the SVWP followed its certification of a Final Environmental Impact Report on June 4, 2002. The Project’s documentation including the Final

Engineers Report and complete Environmental Impact Report can be accessed at: http://www.mcwra.co.monterey.ca.us/welcome_svwp_n.htm.

The objectives of the SVWP are:

- Halting seawater intrusion;
- Continuing conservation of winter flows for recharge of the Salinas Valley basin through summer releases;
- Providing flood protection;
- Improving long-term hydrologic balance between recharge and withdrawal; and
- Providing a sufficient water supply to meet water needs through the year 2030.

The SVWP was specifically developed to provide for the long-term management and protection of groundwater resources in the Salinas Valley groundwater basin by: (1) providing a source of water to the Basin by reoperating Nacimiento and San Antonio reservoirs and capturing water via a seasonal surface diversion structure to provide water for agriculture; and (2) maintaining present conservation release practices to recharge the groundwater basin. To do that, the SVWP includes the following components:

- Modification of Nacimiento Dam spillway;
- Reoperation of Nacimiento and San Antonio reservoirs;
- Salinas River recharge, conveyance and diversion;
- Distribution/delivery of water; and
- Delivery area pumping management.

The Project includes operation and maintenance of the Nacimiento and San Antonio reservoirs, modification of the spillway at Nacimiento Dam, and installation of a rubber inflatable dam on the Salinas River to allow for capture of about 10,000 acre-feet (ac-ft) of dry weather flows to be made available for in lieu of groundwater pumping for irrigation.

The Salinas Valley Project anticipates that current demands on the basin will decline by about 20,000 afy by 2030 due to urban and agricultural conservation efforts, conversion of agricultural lands and some crop shifting.¹⁷ This overall decline is expected to occur despite a near doubling of the population served by the Salinas Valley groundwater basin, from 188,949 in 1995 to 355,829 in 2030. This population growth will increase urban demands by about 40,000 afy.

¹⁷ Salinas Valley Plan 1998, p. 3-15

Additional water to balance basin recharge with withdrawals will be provided through capture and diversion of reservoir releases down the Salinas River, otherwise lost to the ocean; additional recycled water from the Monterey County Recycled Water Projects; and modification of the spillway at Nacimiento Reservoir, which will allow reoperation of this reservoir and the San Antonio Reservoir, producing the additional system yield. In total, by 2030 an additional yield of 37,000 afy is expected.

Funding for the Salinas Valley Water Project under a special property assessment was subject to a vote of property owners by mail-in ballot in accordance with Proposition 218. Results of the vote were announced on April 8, 2003. Parcel ballots were returned with an 85 percent weighted voting of assessed valuation voting yes, far greater than the majority plus 1 percent required for approval.

A final Environmental Impact Report/Environmental Impact Statement for the Project was certified in June of 2002. The Project was constructed in 2008 to 2010, and the Salinas River Diversion Facility was placed in operation in April 2010.

The Salinas Valley Water Project is projected to halt seawater intrusion in the Pressure subarea of the Salinas Basin based on the 1995 pumping baseline.¹⁸ However, given the lack of full understanding of the relationship between the Salinas Basin as a whole, and the Pressure subarea in the vicinity of the former Fort Ord, it is uncertain whether this outcome will be borne out at currently expected levels of pumping increases in the coastal margins of the Pressure subarea. MCWRA has also acknowledged that the Project as currently constituted may not halt intrusion in the long run and that additional surface water deliveries into the coastal region through a third phase of the Plan might be needed. MCWRA intends to monitor the effects of the implementation of the Plan and pursue additional remedies as needed if seawater intrusion is not arrested. The MCWD will participate in this monitoring and evaluation process to assure SVWP modifications are made as necessary to assure that its water supplies are protected from seawater intrusion.

The State Water Resources Control Board has also been closely monitoring the MCWRA's ongoing efforts to stop seawater intrusion in the Salinas Valley Groundwater Basin and has provided almost \$7 million in funding to the MCWRA for development of this seawater intrusion solution. After reviewing the technical documents assessing the beneficial effect of the Salinas Valley Water Project on seawater intrusion, the SWRCB concluded "that seawater intrusion can be stopped."¹⁹

¹⁸ Salinas Valley Water Project Draft EIR/EIS, Section 5.3.2.

¹⁹ Salinas Valley Water Project Final EIR at page 2-129

4.3 Water Transfer Opportunities

MCWD does not share a boundary with other wholesale or retail water suppliers on its west, north or eastern boundary, but it does share boundaries with Seaside Municipal Water System and the California American Water Company – Monterey Service Area (CAW) along MCWD's southern boundary. Under current law, water supply from the Salinas Valley Groundwater Basin cannot be exported to customers in other basins. Therefore, any connections made must be for emergency use only or of a "zero-balance type" (volume added must equal volume withdrawn),.

In 2006, the District investigated the possibility of interconnecting with the Seaside Municipal Water System at a point near Seaside High School. Proposed was an emergency-only connection, for use in the event of large fire demands or catastrophic system failures. Although not constructed at the time, the possibility of a future emergency connection still exists.

In 2008-2009, the District constructed a new water main in General Jim Moore Blvd to serve the southern portion of the Ord Community, particularly Del Rey Oaks which is at the southern end of General Jim Moore Blvd. At that time, CAW was working with the Monterey Peninsula Water Management District to develop an aquifer storage and recovery project for the Seaside Groundwater Basin, with injection wells located at the northern end of General Jim Moore Blvd. A joint-use agreement was entered into by MCWD and CAW for this new pipeline. Under the agreement, both agencies meter the amount of water added to and taken from the pipeline. The system must be managed to a net zero-balance in accord with current law.

Additional transfer opportunities exist within Zone 2/2A of the Salinas Valley Groundwater Basin. MCWD could purchase the rights to existing groundwater supplies currently used elsewhere in the Salinas Valley and transfer the water to the District service area. This would require curtailment or reduction of well pumping on the donor land to allow increased pumping from District wells. Such transfers would have to be performed on a willing-seller, willing-buyer basis and with the cooperation of the Monterey County Water Resources Agency.

4.4 Future Water Supply

Looking at the projected demands in Table 4.3, the total Ord Community groundwater supply of 6,600 afy falls short of the total 2030 Ord Community demand of 8,172 afy by 1,572 afy. Considering only at those jurisdictions with shortfalls, the Ord Community shortfall becomes 2,428 afy (calculated as the sum of the jurisdictional shortfalls). In the 2005 UWMP, the 20-year projected demand for the Ord Community exceeded the available groundwater supply by 5,304 afy (= 11,904 - 6,600). The 2010 reduction in the projected shortfall is due to redevelopment projects pushed out beyond the 20-year planning horizon, due to the economic downturn. As in the 2005 UWMP, the Central Marina service area is not projected to exceed its current SVGB groundwater allocation within the planning period.

Table 4.3 Ord Community Groundwater Shortfalls

Jurisdiction	2030 Demand	Allocation	Shortage
CSUMB	778	1,035	0
Del Rey Oaks	527	243	284
City of Monterey	92	65	27
County of Monterey	1,087	710	377
UCMBEST	474	230	244
City of Seaside (Ord Portion)	2,093	1,012	1081
U.S. Army	997	1,577	0
State Parks and Rec.	25	45	0
City of Marina (Ord Portion)	1,739	1,325	414
Marina Sphere	10	10	0
FORA Strategic Res.	0	0	0
Assumed Line Loss	348	348	0
Total	8,172	6,600	2,428

As discussed in the following subsections, MCWD has been actively working towards developing additional water supplies to meet the needs of the Ord Community. This new supply will come in the form of recycled water for urban landscape irrigation and desalinated water for potable demand.

Two future scenarios are shown in the Table 4.4 and Table 4.5. Table 4.4 shows the minimum (Phase 1) use of recycled water, as described in the Environmental Impact Report for the Regional Urban Water Augmentation Project. The total amount of new supply projected in the year 2030 is 2,515 afy ($= 1,359 + 1,156$).

Table 4.4 Projected Demand by Source, Minimum Recycled Use (afy)

	2010	2015	2020	2025	2030
Groundwater	4,554	6,134	8,262	9,053	9,701
Recycled Water	0	780	1,359	1,359	1,359
Desalinated Water	0	0	275	725	1,156

Table 4.5 shows the maximum use of recycled water by customers (Project Phases 1 and 2). The total amount of new supply projected in the year 2030 is 3,306 afy ($= 2,960 + 346$), which reduces groundwater pumping from the SVGB. In both tables, the desalination supply is the net potable shortfall after recycled water is supplied. Expanded tables showing demands by jurisdiction are in Appendix C.

Table 4.5 Projected Demand by Source, Maximum Recycled Use (afy)

	2010	2015	2020	2025	2030
Groundwater	4,554	6,134	8,262	8,260	8,909
Recycled Water	0	780	1,359	2,514	2,960
Desalinated Water	0	0	275	363	346

4.4.1 Water Augmentation for Ord Community Supplies

MCWD's water supply plans include utilizing a combination of recycled water and desalination to meet its future demands as identified in the Fort Ord Base Reuse Plan. These plans are further described in MCWD's Environmental Impact Report for the Regional Urban Water Augmentation Project (RUWAP), certified in October 2004, and later amended in October 2006 and February 2007. The RUWAP proposes to provide an additional water supply of 2,400 acre-feet per year (AFY) for the Ord Community area (also known as the former Fort Ord military base) as identified in the Fort Ord Reuse Plan.

The Water Augmentation Project as evaluated in the EIR consists of two distinct alternatives and one hybrid alternative. One alternative considers wastewater recycling becoming the augmentation supply, another where desalination forms the supply, and a third alternative where equal amounts of recycled and desalinated water are produced (1,500 afy desalination, including incorporation of the currently idle desalination plant producing 300 afy and 1,500 afy recycled supply). These alternatives are discussed in further detail below.

On June 10, 2005, the MCWD and FORA boards of directors endorsed the "hybrid alternative" from the October 2004 Regional Urban Water Augmentation Project EIR and directed the staffs to begin scoping to develop specific plans for the additional 2,400 afy of supply to MCWD, with 300 afy of recycled water available to the Monterey Peninsula. The hybrid alternative includes a recycled water component and a desalinated water component. In 2007, the EIR was amended to increase the recycled water component to a maximum of 1,727 afy (1,427 for the Ord Community plus 300 afy for the Monterey Peninsula), with the total project remaining at 2,400 afy. Also in 2007, the Fort Ord Reuse Authority allocated the project's recycled water component among the land use jurisdictions in the Ord Community, as shown in Table 4.6.

Table 4.6 Recycled Water Allocations (afy)

Jurisdiction	Allocation
CSUMB	87
Del Rey Oaks	280
City of Monterey	0
County of Monterey	134
UCMBEST	60
City of Seaside (Ord Portion)	453
U.S. Army	0
State Parks and Rec.	0
City of Marina (Ord Portion)	345
Assumed Line Loss	68
Total	1,427

4.4.2 Regional Desalination Project

The Water for Monterey County Coalition (formerly called the Monterey Regional Plenary Oversight Group (REPOG) or the Monterey Regional Water Supply Reliability Collaboration), was formed in 2007 with the goal of developing a comprehensive water resource plan for the Monterey Region. To accomplish this goal, the UCSC Center for Integrated Water Research (CIWR), and later the Strategic Economic Applications Company, facilitated a series of meetings with all interested parties. The objective was to have the various interested parties collaborate on a solution, or perhaps several complementary solutions, to supplying the water needs of the Monterey Region in a cost-effective and sustainable way. Representatives from government entities, water agencies, non-governmental organizations, citizen groups, and private firms attended the regional dialogue meetings, which were open to the public. Residents from different areas in Monterey County also attend regularly. These meetings were initially funded by MCWD as part of the public outreach effort for the RUWAP. The funding base expanded to include MCWRA and MRWPCA as partners in the project, and ultimately included the California Public Utilities Commission – Division of Ratepayer Advocates (CPUC-DRA). Information on the meetings can be found at <http://ciwr.ucsc.edu/monterey/index.html>. This working group continued to meet on a regular basis until 2010, when the EIR for the Coastal Water Project was completed.

Early in this process, it became apparent to the participants that while the initial capital costs are very high for water supply projects such as urban recycled water use or seawater desalination, the marginal costs of adding capacity are significantly lower. The working group investigated the possibility of expanding the proposed RUWAP facilities to include customers in other jurisdictions. Areas considered included the Monterey Peninsula for recycled water supply and the North Monterey County – Granite Ridge area for potable supply. The Seaside Groundwater Basin aquifer storage and recovery (ASR) project being developed by MPWMD was also discussed.

Concurrent with the REPOG effort, California American Water Company (CAW) completed the initial planning and environmental assessment of the Coastal Water Project (CWP). This project was intended to supply 12,500 afy to meet the needs of the Monterey Peninsula, as a replacement for water supply from the Carmel River. CAW had been ordered to reduce pumping from the river under State Water Resources Control Board Order 95-10. The project included a 10 mgd seawater desalination plant to be located north of Marina along the Monterey Bay. Because CAW is a private company, the CPUC-DRA was the CEQA lead agency for the project EIR.

Seeing an opportunity for efficiency through combined efforts, MCWD, CAW, MCWRA and CPUC worked cooperatively to study and include a regional desalination facility in the CWP EIR as an alternative project to the CAW-only desalination facility. As discussed later under desalination, the regional alternative became the preferred project in the final EIR, which was published in October 2009 and certified in 2010. MCWD has entered into agreements with

MCWRA, CAW and MRWPCA to facilitate the construction of this facility. In the final EIR for the Coastal Water Project, projected demands for the Marina Coast Water District reflected the 2,400 afy of new water supply and 300 afy of replacement desalinated seawater supply identified in the earlier RUWAP EIR.

4.4.3 Surface Water Supplies

The District is located along the Salinas River, and MCWD Board of Directors has considered purchasing surface water rights in the Salinas River Basin as a means of meeting long-term (beyond 2030) demands. MCWD has previously been in negotiations with a senior (pre-1914) water right holder. No decisions have been made as to the purchase of surface water supplies, but that option potentially is available to meet additional demands beyond the 20-year planning horizon. Also, a second phase of the SVWP, examined at a program level in the SVWP EIR, calls for surface water to be made available to coastal urban water agencies in the future.

4.4.4 Future Water Supply Assessments and Written Verifications of Supply

In the Ord Community the approved FORA Base Reuse Plan limits the amount of planned development by the land use jurisdictions. If that limitation were lifted, and the long-term development that is projected by the land use jurisdictions beyond the current limits now imposed by the Base Reuse Plan were permitted and constructed in the future, additional water supplies beyond the planned 2,400 afy Regional Urban Water Augmentation Project would be required. On June 10, 2005, the MCWD and FORA board of directors endorsed the “hybrid alternative” from the September 2004 Regional Urban Water Augmentation Project EIR. This Project need is consistent with water required by the existing Fort Ord Base Reuse Plan. The 2030 net supply imbalance is 2,428 afy, of which 2,400 afy may be met under the RUWAP EIR. The potable component of the Augmentation Project will be allocated by FORA among its member land-use jurisdictions, just as FORA allocated its share of the 6,600 ac-ft of Salinas Valley groundwater and Phase 1 recycled water among its member land-use jurisdictions. No assumption is made here regarding reallocation of groundwater within the Ord Community, as each jurisdiction may foresee development beyond the 20-year planning horizon of this report. While Phase 2 recycled water supply was projected in Table 4.4 for illustrative purposes, formal allocation by FORA or its successor agency would be required before such water could be provided. MCWD will continue to track actual development’s consumption of water against estimates in order to plan supplemental supplies as may be necessary.

The water augmentation supply is expected to be on-line by 2016. MCWD has not considered this supply to be “available” in its written verifications of supply because it does not meet the legal requirements to support tract map approvals, building permits or will-serve letters under SB 221. MCWD currently issues water supply verifications under the requirements of SB 221 and will-serve letters based on final subdivision map phases considering only that water which is currently available (SVGB and Marina desalination supply), up to the point where a given land

use jurisdiction's allocation is fully allocated to projects. For purposes of this UWMP and requirements of SB 610 water supply assessments, the water augmentation supply is considered available for planning purposes within the 20 year time frame of the UWMP.

4.5 Desalinated Water

The District owns a small seawater desalination plant located at its former wastewater treatment plant site on Reservation Road between Dunes Drive and the Monterey Bay. The source water for the plant comes from a shallow well located on Marina State Beach. This was constructed as a pilot facility, used to verify that adequate seawater supply could be produced from beach wells, and to test the use of beach injection wells for the disposal of brine (the salty water that remains after potable supply is separated from seawater using reverse osmosis). The Monterey Bay is a national marine sanctuary, so open ocean intakes and discharges were not allowed.

This plant is considered an available supply in the context of this UWMP, and SB 610 and 221. It is currently idle; however, the supply from the plant could be restored to function, if necessary²⁰. The plant is scheduled to be replaced when a larger desalination facility is constructed, as described below. The supply is currently allocated to the Ord Community under an agreement with three developers in the Marina portion of the Ord Community.

Under its Regional Urban Water Augmentation Project, MCWD evaluated replacing this plant with a larger facility capable of producing up to 3,000 afy of potable water per year. Of the 3,000 afy, 2,400 afy was proposed to augment the future needs for Ord Community, 300 afy was replacement for the current plant's capacity; and an additional 300 afy was considered to help satisfy demands on the Monterey Peninsula, outside of MCWD's service area. In the final EIR for the Regional Urban Water Augmentation Project, the desalination portion was reduced to 1,500 afy, with 1,200 afy for the Ord Community and 300 afy to replace the existing Central Marina plant.

In 2006, California American Water Company (CAW) began the preliminary design of their Coastal Water Project, which would provide up to 11 million gallons per day (12,320 afy) for their Monterey Service Area, in order to reduce withdrawals from the Carmel River and the Seaside groundwater basin. Two sites were considered, one in Moss Landing at the former National Refractory site, and one in North Marina adjacent to the Monterey Regional Water Pollution Control Agency (MRWPCA) regional wastewater treatment plant. The MRWPCA site was preferred because of the existing deep ocean outfall that may be used for brine disposal. MCWD had a pre-existing purchase option for land on the Armstrong Ranch adjacent to the MRWPCA plant, which facilitated an agreement between the two agencies. MCWD subsequently purchased the land.

²⁰ In the 2007 MCWD Desalting Plant Condition Assessment prepared by CH2M-Hill, the time required to rehabilitate the existing plant was estimated at 12 to 16 months.

MCWD has entered into an agreement with the MCWRA and CAW to jointly develop a Regional Desalination Facility, to be located adjacent to the MRWPCA treatment plant, with an initial capacity of 10 mgd. The source water for the plant will be seawater-intruded groundwater from the 180-Foot Aquifer. This provides a source of supply that does not involve an open ocean intake. Wells in the intruded portion of the 180-Foot Aquifer will both capture seawater that is entering the aquifer, and mitigate the existing intrusion. MCWRA will construct and operate the well-field, which will extend beyond MCWD's LAFCO Boundary. Because a portion of this supply is Salinas Valley groundwater which cannot be provided to customers outside MCWRA Zones 2/2A, MCWD will be required to take that portion of the plant yield. Initially, CAW will take the full desalinated seawater yield. When the potable demands in the Ord Community exceed the available groundwater allocation, MCWD may take desalinated seawater (in addition to the groundwater component), up to the limits established in the CWP EIR. This project is in the preliminary design phase, and is expected to be let as a design-build contract in early 2012.

4.6 Recycled Water

MCWD collects wastewater in its two wastewater collection systems serving the City of Marina and the Ord Community, and conveys it to an interceptor operated by the Monterey Regional Water Pollution Control Agency (MRWPCA). The wastewater is then conveyed to the MRWPCA regional treatment plant (RTP) northeast of Marina. Wastewater is treated to secondary treatment standards at the RTP facilities and that water not designated for further treatment and recycling is discharged via an ocean outfall. Water designated for further treatment is conveyed to the adjacent Salinas Valley Reclamation Plant (SVRP) that currently produces about 14,000 ac-ft of tertiary-treated recycled water meeting the standards of Title 22 of the California Code of Regulations. The recycled water is delivered to the Castroville Seawater Intrusion Project (CSIP), irrigating farmland in the greater Castroville area, reducing demands on Salinas Valley groundwater and retarding seawater intrusion in that area. While MCWD has senior rights to recycled water through its agreement with the MRWPCA, MCWD does not currently use recycled water within its two service areas.²¹

The Marina Coast Water District has two points of connection to the regional wastewater collection system. Central Marina connects via a dedicated pump station. The total flow at that station was approximately 1,300 afy in 2010. The Ord Community connects via a gravity pipeline with a metering flume. The total flow at the flume was just under 1,000 afy in 2010. As redevelopment occurs and water use increases, a portion of the increased wastewater flows may be made available as recycled water for urban use. The SVRP is capable of producing an

²¹ MCWD was the first agency to contract for recycled water with the MRWPCA, preceding subsequent contracts by others for recycled water supply.

average of 29.6 mgd of recycled water or about 33,000 afy. However, as agricultural demands are seasonal, this capacity cannot be fully utilized year round. To increase water yield based on current wastewater flows, storage capacity to capture winter flows for summertime use would be required. As wastewater flows increase due to urban development, additional recycled water may be produced. The SVRP currently produces 14,000 afy.

In 1989, MCWD entered into an annexation agreement with MRWPCA. This agreement established MCWD's first right to receive tertiary treated wastewater from the SVRP. MCWD has the right to obtain treated wastewater from MRWPCA's regional treatment plan equal in volume to that of the volume of MCWD wastewater treated by MRWPCA and additional quantities not otherwise committed to other uses. As a result, both Central Marina and the Ord Community have a right to the recycled water return flow. Although several methods of delivering recycled water from MRWPCA to Central Marina have been studied, none has yet been constructed. Detailed plans for the Ord Community recycled water delivery have been developed, as discussed below.

MCWD operated its own water reclamation facility from 1994 to 1997 under the California Regional Water Quality Control Board (RWQCB) Waste Discharge Requirement (WDR) No 91-95 and Monitoring Report No. 92-95. These water reclamation requirements specify the user sites, water quantity, water quality, and a monitoring and reporting program. In 1997 MCWD discontinued production at its water reclamation facility and directed the raw wastewater flow to the MRWPCA RTP under the annexation agreement.

MCWD and MRWPCA have been jointly pursuing an urban recycled water project,²² which forms the recycled water alternative in the Regional Urban Water Augmentation Project. Planning for this project found that a total of 1,727 afy could be made available for urban use without adding seasonal recycled water storage (Phase 1 Project). About 1,485 afy of recycled water demands would be met within MCWD. However, this level of recycled water supply would only be available under terms and conditions of Amendment No. 3 to the 1992 MRWPCA/MCWRA Agreement. The remaining 242 afy of the Phase 1 supply could be used in other jurisdictions on the Monterey Peninsula. Seasonal storage would allow recycled water, for which there would otherwise be little demand during the winter, to be made available for irrigation demands in warmer months, rather than discharging treated wastewater to the ocean. Projected Phase II demands that could be served through additional distribution lines and seasonal storage facilities could bring the total recycled water demand to about 3,000 afy, with 2,171 afy of demand that could be served within MCWD.

In 2006, the District began design of the recycled water system. In the Basis of Design Report, the projected non-potable water demands were recalculated, as shown in Table 4.7. Potential

²² Regional Urban Recycled Water Distribution Project Report, RBF, 2003.

Phase 1 uses generally included planned or existing landscapes along the recycled trunk main alignment, such as the existing Bayonet/Blackhorse Golf Course in Seaside, the sports fields at CSUMB, and the proposed golf resort in Del Rey Oaks. The total of existing irrigation demands (1,935 afy, see Table 4.7) exceeds the size of the Phase 1 project (1,427 afy, see Table 4.6), which targets customers along the main pipeline route. Potential Phase 2 uses generally included planned or existing landscapes that required construction of lateral pipelines from the trunk main. Potential customers identified but not included in the Phase 1 project may be included in the future Phase 2.

Construction of a recycled water distribution system was estimated to cost \$34 million in the 2006 Basis of Design Report. Therefore, the system should serve the maximum number of urban irrigation customers to minimize the per customer costs.

Table 4.7 Non-Potable Water Demand Projections (ac-ft/yr)

Jurisdiction	Phase 1	Phase 2	Total
CSUMB	202	109	311
Del Rey Oaks	338		338
City of Monterey			0
County of Monterey	47	614	661
UCMBEST	55		55
City of Seaside (Ord Portion)	806	140	946
U.S. Army		38	38
State Parks and Rec.		5	5
City of Marina (Ord Portion)	435	391	826
Marina Sphere			0
Marina Central	52	87	139
Subtotal	1,935	1,384	3,319
Outside MCWD	300	59	359
Total	2,235	1,443	3,678

Under the RUWAP EIR, the Recycled Water Project was resized to 1,727 afy, with 1,427 afy going to the Ord Community and 300 afy going to the Monterey Peninsula. Phase 2 of the project was not addressed in the EIR, but remains an available demand management strategy for both MCWD and California American Water.

MCWD, in coordination with the MRWPCA and MCWRA as part of its Water Augmentation Project, is currently planning a transmission line through Marina, the Ord Community, and into the City of Monterey. MCWD has constructed approximately four miles of recycled pipeline to date, taking advantage of opportunities to install pipelines while roads were being reconstructed by the Fort Ord Reuse Authority. MCWD has designed the remainder of the recycled water distribution system, and is awaiting funding and redevelopment water demands before

proceeding with the construction. MRWPCA is working with MPWMD and CAW regarding recycled water deliveries for the Monterey Peninsula.

Subject to Monterey County Department of Environmental Health and State Department of Public Health approval, MCWD requires the installation of recycled water pipelines to serve all recreational and common irrigated open space areas within new developments (MCWD Code § 4.28.030, Recycled Water Service Availability). This requirement is waived only when the land use jurisdiction indicates that future recycled water will not be allocated to a project. The City of Seaside has adopted a more restrictive standard, requiring residential front yards to be plumbed for future recycled water in addition to recreational and common areas.

Section 5 - Water Supply Reliability and Water Shortage Contingency Planning

5.1 Water Supply Reliability - Single and Multiple Dry Year and Demand Comparison

The Urban Water Management Planning Act requires a description of a water provider's supply reliability and vulnerability to shortage for an average water year, a single dry year or multiple dry years. Such analysis is most clearly relevant to water systems that are supplied by surface water. Since the bulk of MCWD's supply is groundwater and the remainder is from desalinated supply, short- and medium-term hydrologic events over a period of less than five years usually have little bearing on water availability. Groundwater systems tend to have large recharge areas. The Salinas Basin is aided by two large storage reservoirs, Nacimiento and San Antonio, providing about 700,000 ac-ft of storage. These reservoirs regulate surface water inflow to the basin shifting winter flows into spring and summer releases for consumptive use, which also allows for increased basin recharge. The Salinas Valley Water Project is expected to increase the average level of groundwater storage, moving the basin from a situation where average storage is declining to a net increase in storage of about 6,000 ac-ft annually. Provided groundwater is protected from contamination and long-term safe yields in the basin are respected, water is available annually without regard to short-term droughts. This is due to the large storage volume of the basin that can be utilized to offset annual variations in surface runoff. Therefore, MCWD's groundwater supply is fully available in annual average, single dry year and multiple dry years.

5.2 Water Quality Impacts on Reliability

The reliability of MCWD's water supplies relative to seawater intrusion and groundwater contamination are discussed at length in Section 4.2.4. Water quality and contamination monitoring programs are discussed in Section 4.2.5. While neither seawater intrusion nor groundwater contamination pose an immediate threat to water supply reliability, MCWD maintains active monitoring of intrusion and contamination status and participates in the analytical and management efforts undertaken by the Monterey County Water Resources Agency with respect to seawater intrusion remediation actions and by the U. S. Army Corps of Engineers relative to groundwater cleanup on the Former Fort Ord.

5.3 Water Quality Monitoring

Water quality monitoring and lab analysis is performed by Marina Coast Water District by its lab staff and under contract with state certified laboratories. Water samples from wells, water treatment plants, and point-of-use locations are collected and tested to assure water delivered to customers meets both state and federal standards. Results from water quality testing are published annually in MCWD's annual Consumer Confidence Report.²³ The quality of MCWD's

²³ See www.mcwd.org/water_quality.html.

water supplies meets the requirements of all current state and federal drinking water quality regulations.

Groundwater from the Marina and Ord water supply wells is disinfected with chlorine as a safeguard against microorganisms. In Marina, chlorine is also used to treat the naturally occurring sulfides at Well 12 that can cause odors.

MCWD's state-certified laboratory performs extensive water quality monitoring of the Marina and Ord drinking water supply. Regulations require weekly monitoring for coliform bacteria in the distribution system. The presence of coliform bacteria may indicate the presence of disease-causing organisms. One water sample from each of five sampling sites in Marina and from each of five in Ord is collected and analyzed each week. A different set of five is analyzed each week in a month for each water system. There are a total of 20 different sample sites in Marina and 20 different sample sites in the Ord Community from which water samples are collected.

To make sure that water quality is maintained from source to delivery, MCWD's laboratory also performs weekly monitoring of general physical and chemical parameters. Each week five water samples are collected from the Marina and Ord coliform sampling sites, from the Marina and Ord source wells and from the water reservoir in Marina. The water samples are tested for color, odor, turbidity, temperature, pH, conductivity, free chlorine residual and sulfides.

In addition, the Marina and Ord source wells are also tested for chloride, fluoride, nitrate, bromide and sulfate. The purpose of this monitoring is to detect any abnormal concentrations that might indicate problems within the system.

When in operation, the State requires the MCWD to monitor water quality at different stages of the Marina Desalination Plant treatment processes. Water samples are collected from the ocean (Monterey Bay), at the plant's seawater intake well and from its finished product water on a daily, weekly, monthly and quarterly schedule. Water samples are tested for coliform organisms, free chlorine residual, pH, turbidity, conductivity, total dissolved solids, temperature, chloride, sulfate, alkalinity, hardness and corrosive index. This monitoring program ensures that the desalination plant is operating properly and is producing water that meets or exceeds state and federal standards. As mentioned in Section 4.5, this plant is not currently in operation.

MCWD monitors for compliance over 110 constituents in drinking water in varying schedules. Many of these constituents are naturally occurring substances. The Marina and Ord source wells, Marina's reservoir and the desalination plant are tested for general minerals such as calcium, magnesium, hardness; inorganic chemicals such as arsenic, chromium and other metals; organic chemicals such as solvents, pesticides and herbicides; radioactivity including radon; asbestos and other chemicals that are still not regulated and have no state or federal standards. Regulations also require that MCWD test for disinfection (chlorination) by-products such as total trihalomethanes and haloacetic acids in the distribution system. Lead and copper are tested from

indoor water samples to check if materials used in home or building plumbing contribute to levels of lead and copper.

5.4 Water Production System Reliability

MCWD has undertaken specific measures to ensure its ability to supply water in the event that groundwater production is impaired by mechanical failure or any other potential problem, including water quality impairment.

In 2005, MCWD completed installation of the Ord/Marina Inter-Tie Project connecting the Ord Community water production and distribution system to the Central Marina water production and distribution system. The Ord/Marina Inter-Tie Project connected these two water systems that had been operated separately (each with three wells) into a single, six-well system that can be operated in an integrated manner to ensure physical production reliability for the system as a whole. The wells in Central Marina are in the Deep Aquifer, while the wells in the Ord Community are in the 180-Foot and 400-Foot aquifers. The connection added system redundancy, a basic emergency-response feature of many water systems. In 2007, MCWD combined the two water systems under a single permit from the California Department of Public Health.

Each of the five inter-ties connecting the Ord Community and Marina water systems is fitted with a bi-directional flow meter that continuously monitors and records the volume of water moving through each inter-tie, when it is being operated. These meters, combined with the existing meters on the wells, ensure a full accounting for all water produced by MCWD. The Supervisory Control and Data Acquisition (SCADA) system ensures that production of Salinas Valley groundwater delivered to the Ord Community remains within the 6,600 afy limitation imposed by the 1993 annexation agreement with the MCWRA, and that production of Salinas Valley groundwater delivered to Central Marina remains within the 3,020 afy limitation imposed by the 1996 annexation agreement with the MCWRA.

In 2007, MCWD completed the Marina Water System Master Plan for the combined system, which identified capital improvement projects required to improve reliability and meet the projected development demands. In 2008-09, MCWD replaced the D-Zone water tank with a larger reservoir, and replaced the E-Zone reservoir with a hydropneumatic booster pump station. The preliminary designs have been completed for new storage tanks in the A- and B- pressure zones. MCWD is awaiting the resumption of development activity to complete those projects.

MCWD is currently destroying Well 32 in the Ord Community, and constructing a replacement well (Well 34) on the same site into the Deep Aquifer. This maintains redundant capacity and reduces the risk of contamination at the well. Well 32 had been constructed in the 180-Foot and 400-Foot aquifers, which are experiencing seawater intrusion closer to the coast. Preliminary planning has begun on an additional well further inland along Reservation Road.

5.5 Water Shortage Contingency Plan

To prepare a water supplier for the event of a water shortage, including a drought or an emergency shortage, the Act requires an UWMP to include a Water Shortage Contingency Plan (WSCP). The WSCP needs to include the following specific elements:

- Actions to be undertaken by the water supplier to prepare for, and implement during, a catastrophic interruption of water suppliers (e.g., a regional power outage, an earthquake, or other disaster).
- Stages of action, including up to a 50-percent supply reduction, and an outline of specific supply conditions at each stage.
- Additional, mandatory provisions against specific water use practices during water shortages (e.g., street cleaning).
- Consumption reduction methods in the most restrictive (drought) stages for up to a 50 percent reduction in demand.
- Penalties or charges for excessive use, where applicable.
- An analysis of the impacts of each of the actions and conditions described in the WSCP on the revenues and expenditures of the urban water supplier and proposed measures to overcome those impacts.
- A draft water shortage contingency resolution or ordinance.
- Description of a mechanism for determining actual water use reductions pursuant to the WSCP.

The District Board of Directors adopted an updated Water Shortage Contingency Plan on June 14, 2011, in Resolution No. 2011-46. The updated WSCP adds specific restrictions on water use that may be implemented at the time of a water shortage. Stages of action and triggers were not changed from the previously adopted WSCP. The Resolution and WSCP are included in Appendix F. Article 3.36.050 of MCWD Code of Ordinances allows for enforcement of the WSCP.

5.5.1 Actions in the Event of a Catastrophic Interruption

MCWD developed and adopted an Emergency Response Plan (ERP) in 2007 for emergency and disaster occurrences with guidelines and agreements for cooperative efforts with other State and local agencies, as required by the State Department of Public Health. The ERP contains actions MCWD would initiate in the event of a catastrophic reduction in its water supply. Article 2.09, Local Emergency, of the District Code of Ordinances details the procedure for declaring an emergency and the procedures authorized for immediate response. MCWD conducts periodic table-top exercises with the emergency response offices of the jurisdictions it serves, and annual reviews of its emergency response plan.

5.5.2 Stages of Action, Mandatory Provisions, Reduction Methods

The District's Water Shortage Contingency Plan includes stages of action, mandatory provisions, and consumption reduction methods. Because the Salinas Valley Groundwater Basin supply is not drought susceptible, the triggers for the Stages of Action listed in Table 5.1 reflect mechanical failures and/or water quality concerns, which are more likely to impact MCWD. The mandatory provisions and consumption reduction methods for each stage are detailed in the Water Shortage Contingency Plan at Appendix F.

Table 5.1 Water Shortage Contingency Plan - Stages of Action

Stage No.	Water Supply Conditions			% Shortage
	System Malfunction	Exceed Chloride Standard?	VOC Standards	
1	10% shortage	Not threatened	Not exceeded w/blending	0 - 10
2	10% - 25% shortage	May be threatened	Not exceeded w/blending	10 - 25
3	25% - 35% shortage	Expected	Not exceeded w/blending <u>or</u> remaining capacity reduced by up to 25%	25 - 35
4	35% - 50% shortage	Expected	Not exceeded w/blending <u>or</u> remaining capacity reduced by up to 35%	35 - 50
5	>50% shortage	Expected	Not exceeded w/blending <u>or</u> remaining capacity reduced by up to 50%	>50

5.5.3 Penalties or Charges for Excessive Use

Article 3.36.050 of District Code of Ordinances provides for a system of notices and fees for violations. Article 3.36.060 also allows for recovery of costs incurred abating a violation. Violation of provisions of the WSCP shall be enforced under these parts of the MCWD Code.

Table 5.2 summarizes the penalties and charges detailed in Article 3.36.050. The Code does not currently include more stringent penalties or charges for higher stages of a water shortage, but the Board of Directors may consider additional penalties if an extended shortage should occur. Section 4 of the WSCP includes procedures for making appeals to the Board for relaxation of water use restrictions.

Table 5.2 Water Shortage Contingency – Penalties and Charges

Penalties or Charges	Stage When Penalty Takes Effect
<i>Penalty for excess use:</i> Written notice, date for correction	Applicable to all stages (i.e., not stage-specific)
<i>Charge for excess use:</i> \$100 administrative fee for 1 st notice; \$200 for 2 nd notice; \$500 for each additional violation within one (1) year.	
<i>Other:</i> Costs of abatement	
<i>Other:</i> Costs of enforcement	
<i>Other:</i> Civil penalty of 50% of abatement and enforcement costs.	

5.5.4 Revenue and Expenditure Impacts

Enforcement of the Water Shortage Contingency Plan is assumed to be covered by enhanced revenues from application of excess use charges and penalties. District reserves may be used temporarily should revenues remain below expectations. MCWD's rate structure is based upon adopted rate ranges and allows for modification of rates on short notice within those ranges. MCWD retains the ability to modify rates to meet all legitimate District needs. Revenue impacts from water sales losses are estimated as follows, based upon Tier 2 rates of \$2.35/hcf in Central Marina and \$2.86/hcf in the Ord Community, and recognizing approximately 10% of MCWD's customers are not metered as of 2010.

Table 5.3 Potential Revenue Impacts of Implementation of WSCP

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Assumed Reduction	10 percent	20 percent	30 percent	40 percent	50 percent
Water Sales Loss	\$ 454,664	\$ 909,329	\$1,363,993	\$ 1,818,658	\$ 2,273,322
Revenue Source: Pumping savings at \$135/af	\$ 53,569	\$ 107,138	\$ 160,707	\$ 214,276	\$ 267,845
Net Revenue Reduction	\$ 401,095	\$ 802,191	\$1,203,286	\$ 1,604,382	\$ 2,005,477
Percent of Total Annual Water System Revenue	5%	11%	16%	21%	27%

* Table based on FY2009-2010 water sales, \$7,501,854 for 3,970 acre-feet

5.5.5 Mechanism to Determine Actual Water Use Reductions – Monitoring Procedures

Implementing the WSCP is intended to reduce water use to levels specified by stage. Crucial to the implementation is determining how effective any enacted measures are in actually reducing water use.

The WSCP includes increasingly frequent reporting of water usage, based on daily O&M recording of production figures, to the MCWD Board per increasingly severe stages. The

monitoring, reporting, and subsequent analyses are meant to determine the extent of water use reductions. Furthermore, the WSCP includes provisions for the MCWD Board to alter WSCP actions at each stage (i.e., tighten restrictions) if usage reduction targets are not being met. Essentially, a feedback loop of monitoring, reporting, and action will be used to effectively implement the WSCP.

5.6 Drought Planning

As discussed in Section 5.1, the Salinas Valley Groundwater Basin is managed by MCWRA so as not to be susceptible to drought. However, the District is pursuing two sources of new water supply that are not drought susceptible: desalination of seawater-intruded groundwater and urban use of recycled water. Both of these projects are discussed in Section 4.

Section 6 - Conservation and Demand Management Measures

6.1 Introduction

Water conservation is defined as any action taken to reduce water consumption or loss of available supply for use, such as leaks in the production and delivery system prior to the customer's meter. Demand management refers to a subset of conservation methods a water supplier may undertake to reduce demand on the water system. The Urban Water Management Planning Act requires a description of 14 specified conservation and demand management measures that are described in the Memorandum of Understanding Regarding Urban Water Conservation in California (MOU), known as the Best Management Practices or BMPs. For those measures not being currently implemented or planned for implementation, an evaluation of those measures and a comparison against expanded or additional water supplies must be made. Preference in the act is given to those measures offering lower incremental costs than expanded or additional supplies. The act also requires that economic and non-economic factors, including environmental, social, health, customer impact and technological, be considered in the evaluation. However no specific guidance on evaluation methodology is given.

6.2 Summary of Measures Currently Under Implementation

MCWD signed the California Urban Water Conservation Council (CUWCC) MOU in 1991 and began implementing water conservation and demand management practices as part of its overall integrated water management program. Table 6.1 summarizes MCWD's water conservation program and the status of implementation of each demand management measure (DMM). MCWD's 2009-2010 CUWCC BMP Report is currently being prepared and will be available at the CUWCC website, www.cuwcc.org, once the on-line reporting system is updated.

6.3 Description and Status of Demand Management Measures

The Urban Water Management Planning Act under California Water Code Section 10631 (f)(1) requires a description of a water supplier's water demand management measures that are being implemented or are scheduled for implementation. It also requires an evaluation of water demand management measures specified in the act that are not currently being implemented or scheduled for implementation. As noted above, preference is given to implementing measures that offer lower incremental costs than expanded or additional water supplies.

MCWD is continually seeking to improve its conservation program and features that are cost-effective or otherwise are a wise investment in resource management. The District completed its Urban Water Conservation Feasibility Study in 2004, and has been implementing the recommendations by phases. In 2005, The District added a Water Conservation Specialist position to the staff, which greatly increased the capacity for customer assistance.

Table 6.1 Summary of DMM Implementation

Demand Management Measure	Implementation Status		
	Currently Implemented	Planned Actions	Recommendation
DMM 1 – Water Survey Programs for Residential Water Customers	Yes	MCWD will contact highest users	
DMM 2 – Residential Plumbing Retrofits	Yes		Link to DMMs 1, 3, 13 & 14; expand public awareness
DMM 3 – System Water Audits, Leak Detection, Repair	Yes	Automatic meter reading adds real-time leak monitoring	Continue annual audits.
DMM 4 – Metering with Commodity Rates	Yes		Review annually
DMM 5 – Large Landscape Conservation	Yes	Advertise ET controller program	Review annually
DMM 6- High-Efficiency Washing Machine Financial Incentives	Yes		Review annually
DMM 7 – Public Information	Yes		Address under-represented communities
DMM 8 – School Education	Yes		
DMM 9 – Commercial Industrial and Institutional Water Conservation	Yes	Increased outreach	Setting up water use budgets for customers
DMM 10 – Wholesale Agency Assistance (<i>not applicable to District</i>)	N/A		
DMM 11 – Conservation Pricing	Yes		Review annually
DMM 12 – Conservation Staff	Yes		
DMM 13 – Water Waste Prohibition	Yes		Expand public information
DMM 14 – Residential Ultra Low Flow Toilet Replacement	Yes		Set up database to track HET/ULFT replacements

6.3.1 DMM 1 - Water Survey Programs for Single-Family and Multi-Family Residential Customers.

Program Description: These programs generally involve sending a qualified water auditor to customer locations to audit water use. The survey includes both indoor and outdoor components. The indoor component includes checks for leaks, including toilets, faucets and meters; checking showerhead, toilet, aerator flow rates and offering/suggesting replacement of high-flow devices. The outdoor survey includes checks of the irrigation system and control timers, and review or development of a customer's irrigation schedule. MCWD requires a survey to be conducted upon transfer of property ownership. MCWD also provides residential customer surveys on an "as-requested" basis, in addition to directly contacting the highest residential users and offering a survey. Any customer who is concerned about high water bills can request an on-site survey.

Economic and Non-economic Factors: Surveys of this type have become common among agencies with demand management programs. Research on cost-effectiveness has shown that the long-term savings from these programs is lower than originally anticipated. Savings achieved

through these measures decay over time due to equipment failure, failure of the customer to consistently follow recommendations, and customer turnover. Savings decay rates average about 15 percent per year. Single-family surveys can be expected to initially save 15 gallons per day (gpd) per survey and multi-family about 6.5 gpd. Surveys are estimated to cost \$125 for a single-family residence and \$330 per multi-family residences covering an average of 10 units per survey (\$33/unit).²⁴ Agencies generally target high use accounts for surveys and, while customers who feel their water use is unexplainably high often opt for surveys, many customers are reluctant to avail themselves of a survey.

Cost-Benefit Analysis Results: A cost-benefit analysis is not required for the DMMs MCWD is implementing.

Recommendation, Implementation and Schedule: This program is operating at steady-state, and will continue with current staffing levels. MCWD will continue contacting residences with above average water use, as identified. When redevelopment resumes and the number of customer accounts increases, MCWD should reevaluate its conservation staffing levels.

Measures of Performance: In 2010, MCWD conducted 404 surveys for single-family residential customers and 40 surveys for multi-family residential customers.

6.3.2 DMM 2 - Residential Plumbing Retrofit

Program Description: Single and multi-family residences constructed prior to 1992 are to be identified and retrofitted with high-efficiency water fixtures, such as showerheads, faucets and toilets, if needed. The DMM also recommends an ordinance requiring low-flow fixtures in new construction and retrofits, which MCWD has included in Article 3.36 of their Code of Ordinances.

MCWD currently provides low-flow showerheads and installation assistance. An ordinance that requires low-flow showerheads in both new and retrofit construction was enacted in 1993. MCWD requires all residences to be retrofitted upon resale, with MCWD providing inspection for this requirement.

Article 3.36 of MCWD Code of Ordinances requires the installation of hot-water recirculation systems or point-of-use water heaters for new construction and renovation, which is an additional water saving measure not required in the State Plumbing Code.

Economic and Non-economic Factors: Offering or installing retrofit kits to pre-1992 homes has been a common program among water agencies with active conservation programs. Issues that must be considered are relatively high natural replacement levels for fixtures such as showerheads, and recognition that replacements heads already meet the federal 2.5 gpm

²⁴ California Urban Water Agencies Annual Report, 2000.

standard. All other factors being equal, retrofit programs, which reduce demands, are environmentally preferable over development of additional supplies or delivery of more water.

Cost-Benefit Analysis Results: Not required as this program is being implemented.

Recommendation, Implementation and Schedule: MCWD will continue to implement this DMM by associating it with other DMMs, particularly DMMs 1, 3, 13 and 14. This would reduce costs and increase participation. Increased outreach to expand public awareness of the program is also recommended.

Measures of Performance: In 2010, MCWD distributed 116 low-flow shower heads and 100 faucet aerators to single-family residential customers, and distributed 30 low-flow shower heads and 50 faucet aerators to multi-family residential customers.

6.3.3 DMM 3 - System Water Audits, Leak Detection and Repair

Program Description: The DMM requires conducting annual audits of the water distribution system to detect and correct any abnormalities, including leaks, faulty meters and unauthorized water users. A prescreening audit that covers metered water sales, other verifiable uses and total supply to the distribution system is used to determine the need for a full-scale audit. A full-scale audit is indicated if the uses divided by the supply is less than 0.9 (indicating a greater than 10 percent loss rate). In addition to the audits, water suppliers should notify the customer when it is believed that the leak may exist on the customer's side of the meter, and help the customer find and fix the leak. MCWD performs an annual prescreening system audit and responds to leaks or known trouble spots to make repairs and replacements as needed. A feature of the recently installed Automatic Meter Reading (AMR) equipment is that each AMR meter will identify if water is used for continuous periods in excess of two hours. Once alerted, District staff contact the customer and inform them of the possible leak.

Economic and Non-economic Factors: Prescreening audits comparing gross system production vs. sales is an accepted industry practice generally done on an annual basis. If results from this prescreening note excessive unaccounted water then a more detailed audit focusing on loss possibilities (system leakage, under-metering, illegal connections, fire flow water, and system flushing, etc.) is conducted. No significant social, environmental or technological factors are relevant for this activity.

Cost-Benefit Analysis Results: Not required as this program is being implemented.

Recommendation, Implementation and Schedule: MCWD audits both service areas annually. AMR meters are being installed throughout MCWD in a phased program, and required for all new customers.

Measures of Performance: In 2010, MCWD identified and repaired ten leaks in the distribution system.

6.3.4 DMM 4 - Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections

Program Description: This DMM requires metering of all water services. Currently, the Marina service area is fully metered. The Ord Community is not yet fully metered. CSUMB completed its metering retrofits in 2009. The Ord Military Community is replacing housing units in phases, and installing meters in all new units. 1,201 units of Army housing are still on flat-rate billing. Water conservation is also promoted through a tiered pricing system. Based on a water use budget, customers know the amount of water use required by their property. MCWD has a three-tiered pricing system in the Central Marina and Ord Community service areas.

Economic and Non-economic Factors: Meters are now required as a matter of state law and urban water providers such as the MCWD have until January of 2025 to be fully metered. Based on the pace of redevelopment and MCWD's capital improvement plans, MCWD expects to have metering completed well prior to this date.

Cost Benefit Analysis Results: Not required as this program is being implemented.

Recommendation, Implementation and Schedule: MCWD is coordinating with the Ord Military Community to identify opportunities to install meters in the existing housing areas. The water rate tiers and prices are reviewed annually during the budget review and approval process.

Measures of Performance: Over the past five years, over 1400 non-metered units have been converted to metered accounts. All metered accounts are billed on a volume basis.

6.3.5 DMM 5 - Large Landscape Conservation Programs and Incentives

Program Description: The purpose of this DMM is to provide a customer with a determination of how much water should be used to irrigate the land appropriately while maintaining conservation practices. The DMM is oriented toward three groups of customers who irrigate landscapes: those with dedicated irrigation meters, those with meters who serve a mix of irrigation and non-landscape uses, and new accounts with irrigation use. MCWD has a landscape specialist on staff who conducts site reviews and assistance visits with property owners/property managers. MCWD has adopted the Model Water Efficient Landscape Ordinance, and requires formal review and approval of all landscapes of 2,500 square-feet or larger.

MCWD has several programs for landscapes, including rebates for evapo-transpiration controllers, turf removal, moisture sensors, rain shut-off switches and drip irrigation systems. MCWD has two demonstration gardens with native drought-tolerant species, one in each service area.

Economic and Non-economic Factors: The general public often views large landscapes as water conservation targets. Generally, however, and especially where dedicated irrigation meters exist, large landscapes are more efficiently managed than landscapes that are part of a mixed use setting. Large landscapes usually benefit from professional management and the owner's

recognition of a direct correlation between the water bill and irrigation practices, which creates a financial incentive for conservation. Opportunity exists to improve irrigation efficiency. The California Irrigation Management Information System (CIMIS) operated by the California Department of Water Resources provides real-time evapo-transpiration (ET) and other climatic data available on the Internet to help manage irrigation demands. CIMIS data can be combined with water budgets for each landscape to allow irrigation managers to apply only the amount of water needed. Newer irrigation controllers can either be programmed to modify irrigation schedules based on programmable ET factors, or query CIMIS stations for real-time data and be linked to soil moisture sensors and rain shut-off devices that can precisely provide only the amount of irrigation needed. These devices are now required per MCWD's design guidelines, and have been shown to produce from 25-45 percent in landscape water savings over traditional irrigation timers, which are often not reset to follow annual climate changes.²⁵ Savings also accrue from the system's ability to automatically shut off irrigation zones when lines or sprinkler heads break or when there is significant rain. Such systems can also provide commercial or institutional customers with tremendous labor savings as they do not require human intervention to reset irrigation schedules to follow climate patterns or adjust for variations in precipitation. Savings can also accrue from lower fertilizer cost as off site runoff can be eliminated.

Cost-Benefit Analysis Results: Not required as this program is being implemented.

Recommendation, Implementation and Schedule: MCWD incentive programs should be reviewed annually as part of the budget review and approval process. As the Ord Community is redeveloped, MCWD should evaluate the staffing levels for assistance site visit.

Measures of Performance: In 2010, MCWD conducted 14 large landscape surveys, and paid incentive rebates for the installation of 73 irrigation control devices.

6.3.6 DMM 6 - High-Efficiency Washing Machine Rebate Programs

Program Description: Customers are provided with incentives to replace old washing machines with newer, more efficient models. MCWD provides a \$125 rebate to customers. The program is very successful, averaging 120 conversions each year. MCWD requires all new residential construction to include high efficiency washing machines in each unit, when washers are provided.

Economic and Non-economic Factors: The incremental cost of high efficiency washers (front loading, horizontal axis) has been about \$600 per unit over that of traditional, top load models. Cost differentials are coming down over time. Typical customers can save from \$50 to \$100 per year in energy, water and waste water costs. Water savings range from 14 gallons per day in

²⁵ California Urban Water Conservation Council, July 2003.

small single-family households up to over 100 gallons per day per unit in multi-family housing applications.²⁶

Cost-Benefit Analysis Results: Not required as this DMM is under implementation.

Recommendation, Implementation and Schedule: MCWD should review this rebate program annually during the budget review and approval process.

Measures of Performance: In 2010, MCWD paid incentive rebates for 167 high efficiency clothes washer installations.

6.3.7 DMM 7 - Public Information Programs

Program Description: MCWD provides water conservation information to the public through a wide variety of public outreach tools: information booths at conferences, fairs and community events; flyers, newsletters and billing inserts; video; website; and printed material to the media. MCWD has also partnered with the Water Awareness Committee of Monterey, California American Water Company and the Monterey Peninsula Water Management District to develop and distribute outreach material.

Economic and Non-economic Factors: This DMM cannot be reduced to quantitative terms but is considered an essential complement to other DMM measures and developing a water conservation consciousness and ethic among urban water users such that it is considered an essential practice.

Cost-Benefit Analysis Results: Not applicable.

Recommendation, Implementation and Schedule: The public information program could be expanded through outreach to under-represented communities and by providing current program information in the major languages found within MCWD.

Measures of Performance: In 2010, MCWD published 5 newsletters, 3 bill inserts, 6 landscape media items and had 4 media contacts. Additionally, MCWD co-hosted the Water Awareness Committee Training Seminar for smart irrigation controllers and sponsored booths at 3 events.

6.3.8 DMM 8 - School Education Programs

Program Description: This DMM is intended to promote water conservation within the local schools. MCWD has a part-time education consultant that assists in the development of the educational programs. Presentations and information – which include program handouts, Internet links and classroom activities – are provided directly to teachers for their use in the classroom. The program has been fully implemented in Marina and the Ord Community Service area, with 100% coverage of grades K to 3. A water-art program provides instruction in the importance of water conservation to all fourth grade classes in the service areas.

²⁶ California Urban Water Conservation Council, 2003.

Economic and Non-economic Factors: Like public information programs, school education programs are viewed as a basic element of a comprehensive urban conservation program.

Cost-Benefit Analysis Results: Not applicable.

Recommendation, Implementation and Schedule: Additional activities could be incorporated into the program. An example would be the establishment of an organic garden/outdoor classroom to teach students effective water management strategies as well as environmentally sound horticultural practices. The MCWD is developing water conserving gardens which can provide a venue for such instruction.

Measures of Performance: In 2010, MCWD reached 1,408 students with classroom presentations, 2,100 students through large group assemblies, and 40 students through field trips.

6.3.9 DMM 9 - Conservation Programs for Commercial, Industrial, and Institutional (CII) Accounts

Program Description: Under this DMM, conservation programs are to be tailored to the needs of CII customers' indoor and outdoor water uses. CII accounts often use water in ways and amounts substantially different than residential users. A water use survey is conducted and the customer is provided with an evaluation of water using apparatus and processes and recommended efficiency measures, expected payback period and available agency incentives. These customers are contacted within a year of the survey to discuss water use and water saving improvements based on the recommendations of the survey. All of MCWD rebate programs (toilet, landscape, clothes washer) are available to commercial as well as residential customers.

Economic and Non-economic Factors: Commercial and industrial audits in other regions have found most of the savings opportunity in the replacement of high flow toilets, as these toilets receive relatively high usage rates. The literature reveals that surveys for this sector have resulted in about 1.27 AF of savings per year against an average cost of \$1,200 per survey.

Cost-Benefit Analysis Results: Based upon the averages above and avoided costs for new supply to MCWD, typical CII surveys would have a benefit cost ratio of just over 5 to 1, assuming savings decay over a five year span.

Recommendation, Implementation and Schedule: MCWD is working to expand this program to its full potential. MCWD is performing site surveys of CII accounts and setting up water use budgets for the customers. CSUMB has used this service for assistance managing many of their large landscapes and facilities. CII accounts are eligible for District programs/rebates relating to plumbing retrofits and ultra-low flow toilet (ULFT) replacements. However, the low number of CII accounts limits estimates of District water savings.

Measures of Performance: In 2010, MCWD conducted one survey with a commercial customer and paid 7 incentive rebates to commercial customers.

6.3.10 DMM 10 – Wholesale Agency Assistance

Program Description: Assistance relationships between regional wholesale agencies and intermediate wholesale agencies as well as between wholesale agencies and retail agencies. This DMM does not currently apply to MCWD. When the Regional Desalination Project is constructed, MCWD may be considered a wholesale water supplier to the California American Water Company (CAW), although the project is being constructed jointly among three agencies. California American Water is currently a larger water supplier than MCWD with its own water conservation programs, and publishes an Urban Water Management Plan for its Monterey service area. It is not anticipated that MCWD will need to provide assistance to CAW, although the two agencies will continue to work together as part of the Water Awareness Committee of Monterey.

6.3.11 DMM 11 - Conservation Pricing

Program Description: Water conservation is encouraged through a pricing system that rewards customers who use less water with financial incentives, while high water users are charged a higher rate. MCWD is implementing this DMM through its two and three-tiered pricing system.

Economic and Non-economic Factors: Conservation pricing is often cited as a way to use market mechanisms to provide incentives for conservation. Water consumption, however, has a relatively inelastic demand relative to price, meaning as unit prices go up, unit demand does not correspond in a 1:1 linear fashion. This is due to a variety of factors. Only a portion of water use for a residence can be considered discretionary, generally a portion of landscape irrigation, excess showering periods and the like. At the point discretionary use has been wrung out of the system due to marginal costs of water, another rate tier is unlikely to reap much conservation savings. Additionally, California's Proposition 218 requires water rates to be developed on a cost of service basis. In other words, the top tier of the water rate must have a reasonable relationship to the avoided cost of service for marginal supply. Since MCWD is contemplating relatively expensive marginal supplies to meet new demands, meeting this test is not a concern at this point.

Cost-Benefit Analysis Results: Not required as this DMM is under implementation.

Recommendation, Implementation and Schedule: The pricing tiers and rates are reevaluated annually as part of MCWD budget review and approval process.

6.3.12 DMM 12 - Conservation Coordinator

Program Description: A water agency employee is assigned responsibility for oversight and implementation of water conservation practices. MCWD's water conservation coordinator works closely with local, regional and state boards to implement the DMMs that are effective for the community as well as the neighboring water districts to foster an effective working relationship

and provide continuity among the programs. MCWD also has a water conservation specialist, who conducts site surveys and assistance visits.

Economic and Non-economic Factors: Not applicable.

Cost-Benefit Analysis Results: Not required as this DMM is under implementation.

Recommendation, Implementation and Schedule: MCWD should review the staffing levels as the Ord community is redeveloped and the number of customers increases.

Measures of Performance: In 2010, MCWD employed a full-time water conservation coordinator and a full-time water conservation specialist.

6.3.13 DMM 13 - Water Waste Prohibition

Program Description: In 1993 MCWD enacted an ordinance addressing water waste and establishing limitations on how and when watering/irrigation can occur, and how water can be used outside. This section of MCWD Code was updated in 2004 and 2005 to add additional restrictions and incorporate the Model Water Efficient Landscape Ordinance.

Economic and Non-economic Factors: Not applicable.

Cost-Benefit Analysis Results: Not required as this DMM is under implementation.

Recommendation, Implementation and Schedule: MCWD should review and update this section of the District Code as new information becomes available from the State and the California Urban Water Conservation Council.

6.3.14 DMM 14 - Residential Ultra-Low Flow Toilet Replacement Programs

Program Description: MCWD's toilet replacement program offers a \$125 rebate for each toilet replaced with a high efficiency toilet. Over 3,000 toilets have been replaced under the program. Under the MCWD water waste ordinance, a residence must be completely retrofitted with ultra low flow toilets (ULFTs) at the time of sale, and all new construction must install high efficiency toilets (HET) (1.28 gpf or dual flush). This program includes CII customers.

Economic and Non-economic Factors: Toilet replacement programs have generally been the most successful of demand management measures statewide. A number of issues exist, however. Program cost-effectiveness varies by program design. Retrofits on resale ordinances are very inexpensive from MCWD's perspective as costs are shifted to the home buyers/sellers. This ordinance tends to be very unpopular with the real estate community and home sellers, however, as it can impede a sale due to timing and often requires replacing floor coverings around the toilet. Direct distribution programs have the highest cost-effectiveness but don't necessarily reach all potential customers. Rebate programs are generally effective but have a higher incidence of "free ridership" where some customers would be replacing a toilet anyway and receive the rebate. Regardless, savings for these programs have been shown to be 35-45 gallon

per replacement per day. Higher savings are found in higher density housing and commercial/industrial settings. Savings also persist as toilet life is generally about 25 years.

Given that the revised plumbing code allows for only 1.6 gal/flush toilet models to be purchased, it should be recognized that natural turnover in the range of 3-4 percent per year will eventually replace all of the older, high water use models. HET incentive programs accelerate these savings and can help defer or eliminate other capital investment needs.

Cost-Benefit Analysis Results: Not required as this DMM is under implementation.

Recommendation, Implementation and Schedule: MCWD currently tracks this rebate program in a spreadsheet. If the customer service billing database is upgraded, consider tracking this and other rebate programs by address in that database.

Measures of Performance: In 2010, MCWD paid incentive rebates for 84 high-efficiency toilets to single-family residential customers and for 38 high-efficiency toilets to multi-family residential customers.

6.4 Funding and Legal Authority

MCWD is committed to funding all cost-effective conservation programs. Additionally, MCWD will assess non-economic issues in addressing its conservation program, such as direct and indirect environmental and economic effects of conservation on entities other than MCWD and its customers. As a county water district, MCWD has the legal authority to implement conservation programs of its choosing.

6.5 Existing Conservation Savings, Savings Measurement, and Effects on Ability to Further Reduce Demand

MCWD has been active in promoting conservation and taking action to assure its implementation. Review of per capita demands for water indicates these efforts and resulting behavior of MCWD customers is having an effect. Per capita demand rates have been on a nearly consistent decline from an average of 144 gpcd in 1999 to 123 gpcd in 2010. Based upon an estimated population of 30,100, annual water savings are about 708 ac-ft.

The MCWD will continue to track per capita demand rates to assess overall savings, in addition to comparing water consumption of new residential development against households which have been retrofitted with conservation devices and unretrofitted households. The District will continually reassess rebate programs to address saturation rates and emerging technologies.

Conservation reductions have come primarily from improvements in water use technologies (low flow devices, irrigation controllers, etc.) and some from behavioral changes driven by increasing water rates and public education programs. These long-term savings reduce the ability of the MCWD to call upon water use reductions if necessary due to curtailment of supply from groundwater. This is known as demand hardening. Since long term improvements in efficiency have been effected, additional short-term savings would be harder to produce and would

necessarily come from cutbacks in use that could have more pronounced economic and aesthetic effects, especially if shortages were pronounced.

MCWD recognizes this vulnerability and is committed to acquiring additional supplies to insulate the community from such effect. In addition to ensuring that potable supplies remain reliable, MCWD is pursuing the use of recycled water for urban landscape irrigation. This is a recognized BMP for reducing potable water demand.

Section 7 - Completed UWMP Checklist

As a verification of plan completeness, the DWR Urban Water Management Plan checklist (Table I-2) has been completed and included at Appendix G.

LAW OFFICES OF
MICHAEL W. STAMP

Michael W. Stamp
Molly Erickson
Olga Mikheeva

479 Pacific Street, Suite One
Monterey, California 93940

Telephone (831) 373-1214
Facsimile (831) 373-0242

September 14, 2012

Via Hand Delivery

Dave Potter, Chair
Members of the Board of Directors
Fort Ord Reuse Authority
920 2nd Ave., Suite A
Marina, CA 93933

Re: September 14, 2012 meeting – revised agenda item 9e (Base Reuse Plan reassessment, formerly item 7e)

Dear Chair Potter and Members of the FORA Board of Directors:

This Office represents Keep Fort Ord Wild. Due to concern that meeting records may be destroyed by FORA, Keep Fort Ord Wild submits these written comments and will be supplementing them with oral presentation.

Keep Fort Ord Wild is concerned about the following broad categories:

1. There is no legal water for development at Fort Ord. The Salinas Valley Groundwater Basin is in overdraft. In an overdrafted basin, new groundwater cannot be appropriated.
2. The 6,600 AF relied upon by the Base Reuse Plan was not a legal transfer of water rights.
3. All Fort Ord water comes from Deep Aquifer:
 - a. ancient water not being recharged, not sustainable.
 - b. unknown quantity, could run out in the near future.
4. Even if the 6,600 AF transfer was legal, which it is not, Seaside and the County do not have enough paper water for their approved and planned developments.
5. The scoping report discussion of water demand are flawed.
 - a. Mere estimates of paper demand.
 - b. Fails to include potential demand of existing and future uses.
 - c. None of the water demand is capped or otherwise limited.

6. Significant issues that were raised in public comment on the draft reassessment scoping report were ignored in the final report.
7. The changes made in Chapter 3.0, "scoping report errata," are all attributed to public agencies or to staff. No changes are attributed to members of the public, or to public interest organizations. Despite the many valid comments and criticisms of the draft report which merited changes to the report, apparently all were rejected.

Because the scoping report data and analysis are flawed, the conclusions are flawed. These problems are significant. They are caused, at least in part, by the conflict of interest of the reassessment report preparer. These issues, along with other issues raised by the public during this process, render the Base Reuse Plan reassessment unreliable, and in violation of the settlement agreement with the Sierra Club as incorporated into the FORA Master Resolution.

Knowing that there is no legal water for development, the FORA Board should not perpetuate the policies of the existing Base Reuse Plan that rely on the 6,600 AF transfer. Further, the Board should require the reassessment process to acknowledge that the existing uses on Fort Ord are supplied by a limited water supply that is not quantified, not sustainable, and not reliable.


The FORA Board should require an objective and independent reassessment of the Base Reuse Plan, including a fair and balanced analysis of the issues raised by the public.

These comments are also submitted as comments on the draft scoping report for the reassessment. Please include them in the final report.

Thank you for the opportunity to comment.

Very truly yours,

LAW OFFICES OF MICHAEL W. STAMP



Molly Erickson

Geohydrology of a Deep-Aquifer System Monitoring-Well Site at Marina, Monterey County, California

By R.T. Hanson, Rhett R. Everett, Mark W. Newhouse, Steven M. Crawford,
M. Isabel Pimentel, *and* Gregory A. Smith

U.S. GEOLOGICAL SURVEY

Water-Resources Investigations Report 02-4003

Prepared in cooperation with the
Monterey County Water Resources Agency

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Sacramento, California
2002

U.S. DEPARTMENT OF THE INTERIOR

GALE A. NORTON, Secretary

U.S. GEOLOGICAL SURVEY

Charles G. Groat, Director

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For additional information write to:

District Chief
U.S. Geological Survey
Placer Hall, Suite 2012
6000 J Street
Sacramento, CA 95819-6129

Copies of this report can be purchased from:

U.S. Geological Survey
Information Services
Box 25286
Federal Center
Denver, CO 80225

CONTENTS

Abstract.....	1
Introduction	2
Description of Study Area	3
Land and Water Use.....	3
Geohydrology of The Salinas Valley	3
Approach to Investigation.....	6
Acknowledgments	6
Geohydrologic Description of DMW1	8
Geologic Data	8
Geophysical Data.....	12
Paleontologic Data.....	18
Hydrostratigraphy of DMW1 Site	18
Hydraulics.....	20
Water-Level Measurements	21
Hydraulic Properties	21
Water Chemistry	22
Chemical Characteristics of Water from Monitoring and Supply Wells	22
Source, Age, and Movement of Ground Water.....	23
Seawater Intrusion and Saline Ground Water	25
Summary and Conclusions	33
References Cited.....	34
Appendix 1: Cuttings and Core Descriptions for the DMW1 Monitoring Site.....	38
Appendix 2: Paleontologic Analyses for the DMW1 Monitoring Site.....	65
Appendix 3: Water-Chemistry Data for the DMW1 Monitoring Wells and Core Pore Waters	69

FIGURES

1. Map showing location of deep-aquifer system monitoring-well site in the Salinas Valley, at Marina, California	4
2. Map showing location of deep-aquifer system monitoring-well site and selected water-supply wells, Marina, California	5
3. Schematic diagram showing well construction and lithology for the deep-aquifer system, Marina, California	7
4. Photographs of cores 1 to 19 from the deep-aquifer system monitoring-well site, Marina, California	9
5–13. Graphs showing:	
5. Lithology and geophysical logs for the deep-aquifer system monitoring-well site, Marina, California.....	13
6. Acoustic and borehole inclinometer geophysical logs for the deep-aquifer system monitoring-well site, Marina, California	14
7. Multi-spectral natural gamma geophysical logs for the deep-aquifer system monitoring-well site, Marina, California	15
8. Geophysical logs for the deep-aquifer system monitoring-well site, Marina, California	17
9. Relation between chloride concentration and electromagnetic conductivity for core pore-water and well-water samples from the deep-aquifer system monitoring-well site, Marina, California	19
10. Trilinear diagram of major-ion chemistry for selected ground-water samples from the deep-aquifer system in the Salinas Valley, 1995, 1997, and 2000 with samples from DMW-1 wells, 2000.....	24
11. Ratios of chloride-to-boron, chloride-to-iodide, and chloride-to-bromide plotted against chloride for ground-water and surface-water samples in the Salinas Valley, California	26
12. Deuterium and oxygen isotope values for selected ground-water and surface-water samples from the Salinas Valley, California.....	29
13. Strontium-87/86 ratios plotted against strontium, and boron-11 plotted against chloride-to-boron ratios for selected wells in the Salinas Valley, California.....	30

TABLES

1. Summary of well completion for the deep-aquifer system monitoring-well site, Marina, California.....	8
2. Summary of slug-test estimates of hydraulic properties for the deep-aquifer system site, monitoring-well, Marina, California.....	22

CONVERSION FACTORS, VERTICAL DATUM, WATER-QUALITY INFORMATION, ABBREVIATIONS, AND WELL- NUMBERING SYSTEM

Multiply	By	To obtain
inch (in.)	25.4	millimeter
foot (ft)	0.3048	meter
mile (mi)	1.609	kilometer
square mile (mi ²)	2.590	square kilometer
acre-foot (acre-ft)	0.001233	cubic hectometer
cubic foot per second (ft ³ /s)	0.02832	cubic meter per second
foot per day (ft/d)	370.37037	millidarcy
foot per day per foot (ft/d/ft)	1	meter per day per meter
foot squared per day (ft ² /d)	0.0929	meter squared per day
gallon per minute (gal/min)	0.06308	liter per second

Temperature is given in degrees Celsius (°C), which can be converted to degrees Fahrenheit (°F) by the following equation:

$$^{\circ}\text{F} = 1.8(^{\circ}\text{C}) + 32.$$

Vertical Datum

Sea Level: In this report, “sea level” refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)--a geodetic datum derived from general adjustments of the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

Water-Quality Information

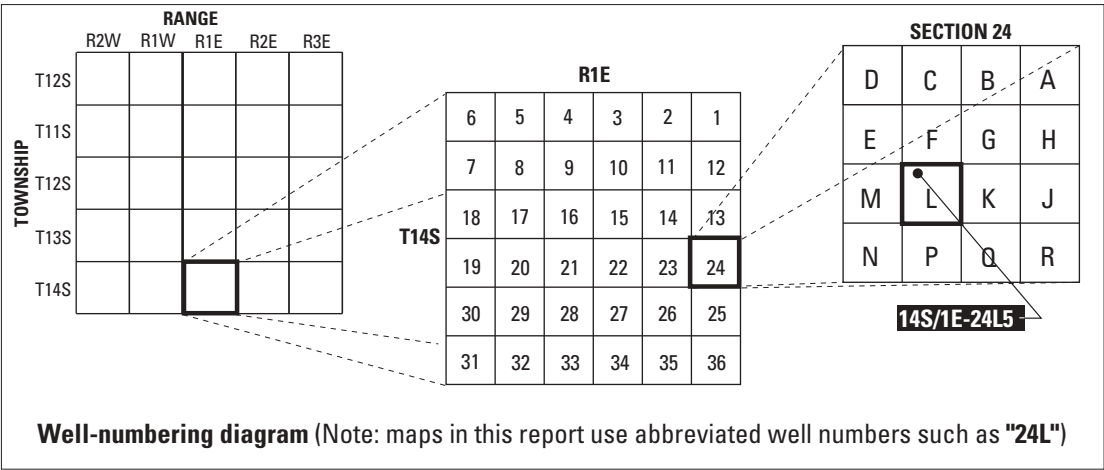
Concentrations of constituents in water samples are given in either milligrams per liter (mg/L) or micrograms per liter (µg/L). Milligrams per liter is equivalent to “parts per million” and micrograms per liter is equivalent to “parts per billion.” Selected constituents also are expressed in terms of millimoles, which is the concentration in milligrams per liter divided by the atomic weight of the element. Specific conductance is given in microseimens per centimeter at 25°C (µS/cm at 25°C). Tritium activity is given in picocuries per liter (pC/L). Carbon-14 data are expressed as percent modern carbon (pmc), and carbon-13 data are expressed in delta notation as per mil differences relative to the ratio of carbon-13 to carbon-12.

Abbreviations

cm	centimeter
DMW1	deep-aquifer system multiple-well monitoring site number 1
EM	electromagneticconductivity
EPA	U.S. Environmental Protection Agency
ft bls	feet below land surface
g/cm ³	gram per cubic centimeter
km/s	kilometer per second
km-g/s-cm ³	kilometer grams per second-centimeter cubed
MCL	Primary maximum contaminant level
MCWD	Marina Coast Water District
MCWRA	Monterey County Water Resources Agency
mmho/m	millimho per meter
per mil	part per thousand
PMC	percentage modern carbon
pvc	polyvinyl chloride
SMCL	Environmental Protection Agency secondary maximum contaminant level

Well-Numbering System

Wells are identified and numbered according to their location in the rectangular system for the subdivision of public lands. The identification consists of the township number, north or south; the range number, east or west, and the section number. Each section is further divided into sixteen 40-acre tracts lettered consecutively (except I and O), beginning with ‘A’ in the northeast corner of the section and progressing in a sunusoidal manner to ‘R’ in the southwest corner. Within the 40-acre tracts, wells are sequentially numbered in the order they are inventoried. The final letter refers to the base line and meridian. In California, there are three base lines and meridians; Humboldt (H), Mount Diablo (M), and San Bernadino (S). All wells in the study area are referenced to the Mount Diablo base line and meridian (M). Well numbers consist of 15 characters and follow the format 014S001E24L005M. In this report, well numbers (except in tables) are abbreviated and written 14S/1E-24L5. Wells in the same township and range are referred to by only their section designation, 24L5.



Geohydrology of a Deep-Aquifer System Monitoring-Well Site at Marina, Monterey County, California

By R.T. Hanson, Rhett R. Everett, Mark W. Newhouse, Steven M. Crawford, M. Isabel Pimentel, and Gregory A. Smith

ABSTRACT

In 2000, a deep-aquifer system monitoring-well site (DMW1) was completed at Marina, California to provide basic geologic and hydrologic information about the deep-aquifer system in the coastal region of the Salinas Valley. The monitoring-well site contains four wells in a single borehole; one completed from 930 to 950 feet below land surface (bls) in the Paso Robles Formation (DMW1-4); one 1,040 to 1,060 feet below land surface in the upper Purisima Formation (DMW1-3); one from 1,410 to 1,430 feet below land surface in the middle Purisima Formation (DMW1-2); and one from 1,820 to 1,860 feet below land surface in the lower Purisima Formation (DMW1-1). The monitoring site is installed between the coast and several deep-aquifer system supply wells in the Marina Coast Water District, and the completion depths are within the zones screened in those supply wells. Sediments below a depth of 955 feet at DMW1 are Pliocene age, whereas the sediments encountered at the water-supply wells are Pleistocene age at an equivalent depth.

Water levels are below sea level in DMW1 and the Marina Water District deep-aquifer system supply wells, which indicate that the potential for seawater intrusion exists in the deep-aquifer

system. If the aquifers at DMW1 are hydraulically connected with the submarine outcrops in Monterey Bay, then the water levels at the DMW1 site are 8 to 27 feet below the level necessary to prevent seawater intrusion. Numerous thick fine-grained interbeds and confining units in the aquifer systems retard the vertical movement of fresh and saline ground water between aquifers and restrict the movement of seawater to narrow water-bearing zones in the upper-aquifer system.

Hydraulic testing of the DMW1 and the Marina Water District supply wells indicates that the tested zones within the deep-aquifer system are transmissive water-bearing units with hydraulic conductivities ranging from 2 to 14.5 feet per day. The hydraulic properties of the supply wells and monitoring wells are similar, even though the wells are completed in different geologic formations.

Geophysical logs collected at the DMW1 site indicate saline water in most water-bearing zones shallower than 720 feet below land surface and from about 1,025 to 1,130 feet below land surface, and indicate fresher water from about 910 to 950 feet below land surface (DMW1-4), 1,130 to 1,550 feet below land surface, and below 1,650 feet below land surface. Temporal differences between electromagnetic induction logs indicate possible seasonal seawater intrusion

in five water-bearing zones from 350 to 675 feet below land surface in the upper-aquifer system.

The water-chemistry analyses from the deep-aquifer system monitoring and supply wells indicate that these deep aquifers in the Marina area contain potable water with the exception of the saline water in well DMW1-3. The saline water from well DMW1-3 has a chloride concentration of 10,800 milligrams per liter and dissolved solids concentration of 23,800 milligrams per liter. The source of this water was determined not to be recent seawater based on geochemical indicators and the age of the ground water. The high salinity of this ground water may be related to the dissolution of salts from the saline marine clays that surround the water-bearing zone screened by DMW1-3. The major ion water chemistry of the monitoring wells and the nearby MCWD water-supply wells are similar, which may indicate they are in hydraulic connection, even though the stratigraphic layers differ below 955 feet below land surface.

No tritium was detected in samples from the deep monitoring wells. The lack of tritium suggest that there is no recent recharge water (less than 50 years old) in the deep-aquifer system at the DMW1 site. The carbon-14 analyses of these samples indicate ground water from the monitoring site was recharged thousands of years ago.

INTRODUCTION

In the Salinas Valley, located in the central coastal area of California (fig. 1), extensive agriculture and subsequent urbanization has resulted in extensive ground-water development and seawater intrusion within the upper-aquifer system (California State Water Resources Board, 1953; California Department of Water Resources, 1973; Yates, 1988). As a result, local water purveyors in the Marina area have installed water-supply wells in the deep-aquifer system to help meet water-resource needs. Because the hydrogeology of the deep-aquifer system is not well understood, the U.S. Geological Survey, as part of a cooperative study with the Monterey County Water Resources Agency (MCWRA), drilled Deep Monitoring Well 1 (DMW1) at a site between the coast and several supply wells

that tap the deep aquifers within the Marina Coast Water District (fig. 1) (Hanson, 2001). This well, which includes four separate monitoring wells within the 2,000-foot-deep borehole, was installed during April and May 2000.

The purpose of this well and the related investigation was to help resolve several hydrogeologic issues regarding the deep-aquifer system that were identified by local agencies (M. B. Feeney, written commun., 1999). The hydrogeologic issues include

- (1) the continuity or connectivity of the aquifers that constitute the deep-aquifer system;
- (2) the age of the sediments that compose the deep-aquifer system;
- (3) the mechanism of recharge and age of ground water in the deep-aquifer system; and
- (4) the relation of water pressures in the deep-aquifer system to pressures in the submarine outcrops in Monterey Bay, the presumed source of seawater intrusion.

To address these issues, geologic, geophysical, hydraulic, and water-chemistry data were collected from the DMW1 borehole and monitoring wells to help answer the following specific questions about the deep aquifer systems in the Marina area:

- (1) What are the sources of recharge?
- (2) To what depth is ground water actively recharged?
- (3) At what rate does ground water move through the aquifers?
- (4) What is the nature of confining units between aquifers?
- (5) What is the source (or sources) of saline water?
- (6) How does the chemical composition of surface waters compare with the composition of ground waters?
- (7) What are the water-quality and chemical characteristics of the deep-aquifer system?
- (8) How do the aquifer systems penetrated by the monitoring wells correlate with those penetrated by the nearby deep-aquifer system supply wells?
- (9) Are the water-bearing units at site DMW1 hydraulically connected to the water-bearing units at the water-supply wells?

This report summarizes the geologic and hydrologic data collected at the DMW1 site, including possible relations with aquifers penetrated in nearby deep-aquifer system supply wells. A single monitoring-well site will not provide all the answers to

these questions, but will provide an initial basis for developing a geohydrologic framework of the deep-aquifer system and will guide further investigations of the deep-aquifer system in the Marina-former Fort Ord region of the Salinas Valley.

Description of Study Area

The Salinas Valley is a long, narrow trough extending about 70 mi northwest from the Monterey County line toward the southern part of Monterey Bay (fig. 1). The Salinas River drains an area of about 4,400 mi² in coastal central California.

The climate of the Monterey Bay region is characterized as mediterranean, with an average rainfall of about 22 in. in Watsonville and 14 in. in Salinas and adjacent coastal areas. The rainy season typically extends from November through April, and rainfall is greatest in the nearby mountains. The coastal climate is mild, and the average annual temperature is 14°C (58°F) in Salinas, California (National Oceanic and Atmospheric Administration, 2000).

The main population centers in the coastal region of the Salinas Valley include the city of Marina, the community of Castroville, Sand City, and the cities of Seaside and Monterey. The population of Marina has steadily declined during the last decade from 26,415 in 1990 to 17,471 in 1999 (U.S. Census Bureau, 2001). The former Fort Ord also was a major population center near Marina, and its closing may have contributed to this population decline. Inland, the city of Salinas represents the largest urban center in the largely agricultural-based Salinas Valley. In contrast to Marina, the population of Salinas has grown from 108,863 in 1990 to 123,607 in 1999 (U.S. Census Bureau, 2001).

Land and Water Use

The Marina and former Fort Ord region of the Salinas Valley is a mix of agriculture and urban land and water use (Templin and others, 1996). The main urban land-use area is the city of Marina, which, along with the surrounding urban areas, is served by ground water provided by the Marina Coast Water District (MCWD) (fig. 2). The surrounding agricultural areas are served by ground water pumped from individual wells owned by farmers. Most of the ground-water use in the vicinity of the DMW1 site is for urban water supply.

Until 1982, ground water was pumped from wells tapping the upper-aquifer system in the Marina area such as MCWD 9 that was completed to 588 ft below land surface (bls) in January 1979. By 1982, salinity and dissolved-solids concentrations were increasing in the “180-foot” and “400-foot” aquifers, and in 1983 MCWD completed its first deep-aquifer system water-supply well, well No. 10 (fig. 2) (Geoconsultants, Inc., 1983). The successful completion of this well was followed by the installation of two more deep-aquifer system water-supply wells, MCWD 11 and 12, in 1986 and 1989, respectively (Geoconsultants, Inc., 1986, 1989). Three other deep-aquifer system wells (Fontes No. 1, Mulligan Hill No. 1, and well No. 3, fig. 2) were previously completed just to the north of Salinas River between 1976 and 1983.

Geohydrology of the Salinas Valley

The Salinas Valley contains an extensive alluvial aquifer system bounded by bedrock mountains (fig. 1) and in part by the Zayante-Vergeles Fault zone on the northeast and by the fault zone that includes the Navy-Tularcitos, Chupines, Seaside, and Ord Terrace Faults (Wagner and others, 2000; Rosenberg, 2001) on the southwest (fig. 2). The alluvial deposits of the aquifer system are as great as 2,000 ft thick and are composed of river and sand dune deposits of Holocene and Pleistocene age that are underlain by the Aromas Sand and Paso Robles Formation of Pleistocene age. The Purisima Formation of Pliocene age underlies the Paso Robles Formation and the Aromas Sand. The Monterey Formation (shale) of Miocene age underlies the Purisima Formation and is, in turn, underlain by the granitic basement rocks (Green, 1970). The Monterey Formation and the granitic basement represent the relatively impermeable bedrock that underlies the regional alluvial aquifer systems.

In the Marina area, previous investigators (Geoconsultants, Inc., 1993) have grouped the water-bearing sediments into an upper- and a deep-aquifer system. The upper-aquifer system includes the shallow perched aquifer, the “180-foot” aquifer, the “400-foot” aquifer, and the “900-foot” aquifer. The Salinas Valley has undergone extensive ground-water development in the upper-aquifer system, which is locally composed of river channel and sand dune deposits of Holocene and Pleistocene age (Green, 1970). The term “400-foot” aquifer is extended in some parts of the Salinas Valley,

such as at Marina, to include sediments to depths as great as 700 ft bls. The base of the “400-foot” aquifer was previously delineated as the base of the Aromas Sand (Green, 1970). The underlying sediments that compose the basal part of the upper-aquifer system contain parts of the Paso Robles Formation (Green, 1970) and may locally be designated as the “900-foot” aquifer (Geoconsultants, Inc., 1993).

The geohydrologic framework of the deep-aquifer system in the Marina area remains uncertain and may represent a transition between terrestrial Pleistocene-age sediments deposited in re-incised channels along the ancestral Salinas River and shallow marine-shelf sediments that were aligned with and bounded by the southwestern side of the Marina “Trough” (Geoconsultants, Inc., 1993; fig. 3). Previous investigators delineated the deep-aquifer system as the interval between 1,300 and more than 2,000 ft bls (Geoconsultants, Inc., 1993) of Pleistocene-age deposits based on data from the MCWD deep-aquifer system water-supply wells. Quaternary-Tertiary undifferentiated sediments, which may be the Paso Robles Formation (Green, 1970), outcrop west of the monitoring-well site about 25,500 ft (4.8 mi) offshore (Wagner and others, 2000) at a depth of about 262 ft below sea level (fig. 1). These deposits may be hydraulically connected to the Paso Robles Formation at the DMW1 site. The Purisima Formation crops out on the southwestern side of the Monterey submarine canyon about 30,500 ft (5.8 mi) offshore (Wagner and others, 2000) from the monitoring-well site at a depth of about 295 ft below sea level (fig. 2). Additional geologic investigations, beyond the completion of the DMW1 site, are needed to establish this stratigraphic relation.

Approach to Investigation

During the drilling of 2,012-foot-deep multiple-well monitoring site, DMW1 (tables 1 and A1.1), cuttings were collected at regular intervals and cores at selected depths (appendix 1). Geophysical logs were run after reaching final borehole depth. Fossils contained in the cuttings and cores were used to establish the age of the sediments (appendix 2). Water extracted from cores from depths below 800 ft and

water sampled from the four monitoring wells were analyzed for general water chemistry (appendix 3), as well as constituents that would help determine the source, age, and movement of ground water in the deep aquifers. Each of the wells within the DMW1 borehole also was hydraulically tested to determine selected aquifer properties (table 2). The specific methods of data collection and analysis are summarized, in addition to the presentation of the data and results, in later sections and the appendices of this report.

All of these data and estimates of physical properties were integrated into a preliminary interpretation of the geohydrology of the DMW1 site, based on interpretations of the geologic, hydrologic, and geochemical conditions of the aquifers at the DMW1 site and correlations to conditions at the nearby MCWD deep-aquifer system water-supply wells. Because this study is largely limited to data obtained from one monitoring-well site, no broader or more detailed interpretations of the regional geology and hydrology for the coastal regions of the Salinas Valley were made as part of this study.

Acknowledgments

This study could not have been accomplished without the assistance of personnel from the Monterey County Water Resources Agency (MCWRA) and Marina Coast Water District (MCWD). Analysis and processing of core data was with the help of Bradley Carkin, Daniel Ponti, and Brian Edwards, U.S. Geological Survey, Menlo Park, California (appendix 1). James Gibbs, U.S. Geological Survey, Menlo Park, California, provided down-hole shear wave log analyses. Collin Williams, U.S. Geological Survey, Menlo Park, California, provided detailed temperature-log analyses. Kevin Knudsen (U.S. Geological Survey, Portland Oregon), provided additional multi-spectral gamma and electromagnetic conductivity logs. Charles Powell and Kristin McDougall, U.S. Geological Survey, Menlo Park, California, provided fossil identification (appendix 2). Michael Land, U.S. Geological Survey, San Diego, California, performed sampling and sample analysis of pore waters from the cores (appendix 4).

GEOHYDROLOGIC DESCRIPTION OF DMW1

The deep-aquifer system monitoring well (DMW1) site is located at the former wastewater-treatment facility and current (2000) offices of the Marina Water District at Marina State Beach (fig. 1), and is approximately 55.6 ft above sea level. The site contains four separate wells in a single borehole, each screened at a different depth below 800 ft and corresponding to the interval screened in a nearby MCWD deep-aquifer system water-supply wells. A schematic of the wells and the lithology of the DMW1 site are shown in figure 3, and general well construction information is provided in table 1. Water levels range from 58 to 73 ft bls. These water levels are all below sea level.

The DMW1 site includes a 14-inch-diameter steel casing installed to 98 ft bls in a 21-inch-diameter borehole and sealed from the bottom with cement as required by the well permit from the County of Monterey. A tightly fitting 10-inch-diameter polyvinyl chloride (PVC) casing was installed to a depth of 400 ft bls to help seal off the saline zones in the upper aquifer system. Within the screened interval of the monitoring wells, the borehole diameter varies from 9 7/8 to 7 7/8 inch, depending on the depth of the well. Monitoring wells DMW1-2, -3, and -4 are 2 inch inner diameter, schedule 80 PVC, each with a 20 foot, 1.2 x 0.02 inch slotted screen near the bottom. Well DMW1-1 is 3 inch diameter, schedule 80 PVC with a 40-foot screen near the bottom. The screened interval of each monitoring well is sand packed with a mixture

of coarse aquarium and number 3 Monterey sand, and bentonite pressure-grout seals separate the sand packs.

Geologic Data

The geologic data indicate multiple layers of coarse- and fine-grained sediments throughout the depth of the well (fig. 3). However, these layers are not homogeneous, as evidenced by the cores (fig. 4). Layers of fine-grained deposits increase in occurrence below a depth of 700 ft (fig. 3). Marine sediments, which are indicated by drill-cutting samples that contain shell fragments, start at about 1,005 ft bls and are present intermittently to 1,920 ft bls (table A1.1). Calcite crystals also are in the drill cuttings between 1,560 and 1,810 ft bls and may represent excess dissolved calcite that precipitated from pore water as the cuttings dried during storage.

A major change in color and type of sediments occur at 955 ft bls. In general, drill cuttings above 955 ft are a characteristic buff-to-tan color that contain no shell fragments, indicating that the sediments were deposited on land. Below 955 ft the deposits change to gray and contain shell fragments, indicating they were deposited in the ocean (table A1.1). The core photographs show that a major transition in color occurs between core 5 (937–942 ft bls) and core 7 (1,102–1,107 ft bls) (figs. 4, A3.1 in Appendix 1). Core 6 (1,042–1,046 ft bls) may represent a transition from land to ocean deposits; drill cuttings from 955 to 1,050 ft bls are characterized by tan-to-buff color and the presence of shell and wood fragments. The remaining cores represent sediments deposited in the ocean: The

Table 1. Summary of well completion for the deep-aquifer system multiple-well monitoring site, Marina, California

[ft., foot; bls, below land surface]

[Well site is located at latitude 36°41'57" and longitude 121°48'27", NAD 1927]

Local well name	State well number	Depth to top of perforations (ft bls)	Depth to bottom of perforations (ft bls)	Depth to water (ft bls) [6/13/00]	Altitude of water (ft above sea level) [6/13/00]
DMW1-4	14S/1E-24L5	930	950	58.6	−3.0
DMW1-3	14S/1E-24L4	1,040	1,060	73.0	−17.4
DMW1-2	14S/1E-24L3	1,410	1,430	56.4	−.8
DMW1-1	14S/1E-24L2	1,820	1,860	72.5	−16.9

material of cores 7 (1,102–1,107 ft bls) through 18 (1,732–1,737 ft bls) have an olive-gray color; the deepest core, core 19 (1,992–1,997 ft bls), has a green-gray color suggesting sediment deposition in a chemically reducing marine environment. Although weathered fragments of the Monterey Formation were encountered in some drill-cutting samples, the shales of the Monterey Formation were not penetrated to the total drilled depth of 2,012 ft at the DMW1 site.

Geophysical Data

The geophysical logging yielded additional information about the distribution of aquifers, fine-grained interbeds and confining units between aquifers, the relation of water quality with respect to depth, and the nature of ground-water flow and seawater intrusion. The following summaries identify the geologic and hydrologic features determined from the geophysical data collected at the DMW1 site (figs. 5, 6, 7, 8). These data are summarized in figure 5 along with the related stratigraphic and aquifer-system layering that was determined from these data (see the “Hydrostratigraphy of DMW1 Site” section of this report).

Geophysical logging was completed in the open borehole after the site was drilled, and additional logs were completed after well completion. The logs completed after drilling include caliper, bulk-natural gamma ray, 16-inch and 64-inch resistivity, self-potential resistivity, electromagnetic conductivity (EM), borehole inclinometer, temperature, and acoustic (figs. 5 and 6). Additional logs completed after well completion include multi-spectral natural gamma ray (fig. 7), EM (fig. 8), downhole shear-wave velocity (James Gibbs, U.S. Geological Survey, written commun., 2000) and temperature (Collin Williams, U.S. Geological Survey, written commun., 2001).

The figures shown in this report represent the final set of geophysical logs completed after drilling in May 2000 (figs. 5 and 6). Additional logs were completed in November 2000 to help assess the stratigraphy and the potential for seawater intrusion (figs. 7 and 8). The borehole inclinometer log indicates that the final drill hole is relatively vertical with

maximum inclinations of less than 1 degree to a depth of about 1,400 ft bls and less than 2 degrees from 1,400 to 2,000 ft bls.

The bulk-natural gamma-ray logs are used to help locate low permeability silt and clay layers that may be difficult to determine from conventional electric logs where saline water is present. These silt and clay layers represent potential confining units between aquifers. The bulk-natural gamma ray and EM logs and drill cuttings (fig. 5) indicate that substantial confining units occur from 100 to 110 ft, 330 to 410 ft, 480 to 550 ft, 660 to 710 ft, 720 to 910 ft, 950 to 1,030 ft, 1,060 to 1,170 ft, 1,380 to 1,400 ft, 1,430 to 1,700 ft, and 1,900 to 1,980 ft. These confining units are commonly very thickly bedded; below 1,005 ft they are marine fine-grained deposits that are typically saline and contain shell fragments (table A1.1). The bulk-natural gamma-ray log also shows seven distinctive peaks that may represent beds that can be used for future stratigraphic analysis of the aquifer systems in the Salinas Valley. These beds potentially represent chronostratigraphic markers that may correspond to stratigraphic layers at other well locations. The seven gamma peaks occur from 100 to 110 ft, 958 to 962 ft, 990 to 997 ft, 1,010 to 1,020 ft, 1,060 to 1,070 ft, 1,240 to 1,245 ft, and 1,685 to 1,700 ft bls (fig. 5). In addition, the multi-spectral gamma logs indicate that the shallowest gamma spike, at about 100 ft bls, is relatively enriched in thorium, whereas the spikes at about 1,025 and 1,075 ft bls are relatively enriched in potassium and uranium (fig. 7). These differences suggest a different origin in the radiogenic constituents that may represent a different origin for the clay layers.

The combination of spontaneous-potential, short- and long-normal resistivity, bulk-natural gamma ray, and EM logs (figs. 5 and 8) were used to identify the relative quality of water within aquifer zones. Lower resistivity in sandy zones (from drill cuttings and cores), combined with lower gamma-ray activity and higher EM conductance (figs. 5 and 8), indicates saline water in most water-bearing zones shallower than 720 ft bls and from about 1,025 to 1,130 ft bls (fig. 8). Whereas, higher resistivity in sandy zones, combined with relatively lower gamma-ray activity and lower EM conductance, indicates fresher water from about 910 to 950 ft bls (DMW1-4), 1,130 to

1550 ft bls, and below 1,650 ft bls. Potentially saline marine silt and clay layers occur at depths from about 1,025 to 1,130 ft bls and from 1,550 to 1,700 ft bls. (fig. 5).

Changes in water quality and especially seawater intrusion can be effectively monitored with the periodic acquisition of EM logs and water-quality samples. For example, the curvilinear relation (fig. 9) between log-chloride concentrations from pore-water samples and log-EM demonstrates that the EM appears to be more related to additional chloride concentration above a conductivity of about 150 mmho/m (millimhos per meter). The two sets of EM logs (fig. 8), May 27 and November 17, 2000, indicate ground water with some degree of salinity to about 1,180 ft bls. Based on differences in EM conductivity between the two logs, some changes in water quality probably occurred between May and November. In this report, peaks greater than 150 mmho/m in the EM-difference log were used to identify potential zones of increased salinity. As shown on figure 8, increases in salinity occur in five very narrow and discrete zones between 350 and 400 ft, at about 500 ft, and between 630 and 675 ft. The largest differences occur in the shallowest zone between 350 and 400 ft and may represent a small amount of seasonally driven seawater intrusion in the basal coarse-grained units of the “400-foot” aquifer. There are additional differences of less than 150 mmho/m in the EM-difference log from 675 to 700 ft and from 1,025 to 1,100 ft. However, synoptic water-chemistry samples combined with EM logs are needed to determine if these differences are increases in salinity due to chloride.

Paleontologic Data

Micro-fossil analyses of samples from cores and drill cuttings (appendix 2); (Kristin McDougall, U.S. Geological Survey, written commun., 2001) indicate that sediments from 1,152 to 1,660 ft bls are Pliocene in age and correspond to the Purisima Formation. These micro-fossils also indicate a marine shelfal environment on the deeper part of a submergence depth of 0 to 150 ft below sea level. The fine-grained mudstone of core 7 (1,102 to 1,107 ft bls) may represent the younger part of the upper Purisima Formation. These micro-fossils appear to be distinctly

different assemblages from the groups examined by Ingle (1985, 1986, 1989) from the MCWD water-supply wells 10, 11, and 12. These results suggest that the monitoring well and the water-supply wells penetrate sediments of different age and different depositional environment.

Mega-fossil identification (appendix 2; Charles Powell, U.S. Geological Survey, written commun., 2001) indicates that the sediments cored from DMW1 at a depth of about 1,317 ft bls are typical of the marine sediments of the Purisima Formation of Pliocene age (appendix 2). The identification of the two mega-fossil samples from cores 7 and 13 could not be used for a definitive geologic age or determination of the sedimentary environment. However, Powell (appendix 2) indicates that fossils from cores 7 and 13 are similar to those from the Purisima Formation. In addition, the identification of *Anadara trilineata* from core 14 (1,317 to 1,322 ft bls) indicates an age of late Miocene to late Pliocene and a marine environment of typical water depths of 0 to 150 ft below sea level. This fossil is common in the Purisima Formation.

Hydrostratigraphy of DMW1 Site

The hydrostratigraphy represents the geologic and hydrologic data collected at the DMW1 site. In addition, this hydrostratigraphy is part of the broader geohydrologic framework of the ground-water resources that represent the features of the Salinas Valley. The data from the DMW1 site has provided new information regarding the geologic and hydrologic relations of the aquifer systems in the Marina area of the Salinas Valley.

The upper-aquifer system at the DMW1 site was identified as the six depth-sequential aquifer-system units within the nonmarine sediments that extend to a depth of 955 ft bls, which is the base of the Paso Robles Formation (fig. 5). The upper-aquifer system constitutes the shallow perched aquifer in the dune sand, the “180-foot” and the “400-foot” aquifers within the older valley-fill alluvium and upper Aromas, and the “900-foot” aquifer in the lower Aromas and Paso Robles Formation (fig. 5). Though these depth-sequential aquifer-system units are referred to here as “aquifers,” they generally constitute heterogeneous assemblages of fine- and coarse-grained deposits.

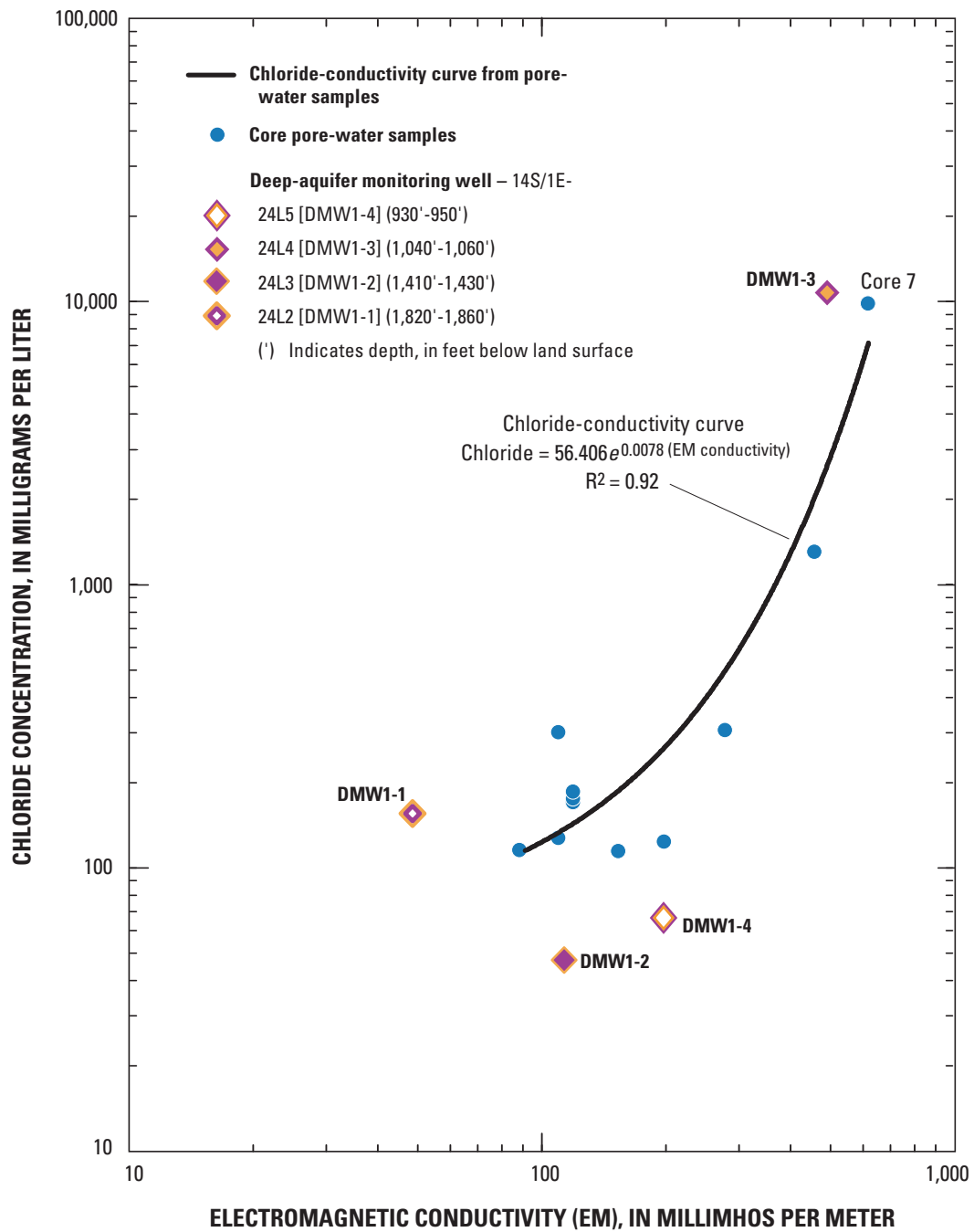


Figure 9. Relation between chloride concentration and electromagnetic conductivity for core pore-water and well-water samples from the deep-aquifer system monitoring-well site, Marina, California.

The deep-aquifer system at the DMW1 site is probably all within the Purisima Formation. The deep-aquifer system is identified in DMW1 as the aquifers within predominantly marine sediments that extend from the base of the Paso Robles Formation from a depth of 955 ft to more than 2,012 ft bls. Mega-fossil identification indicates that the sediments cored from DMW1 at a depth of about 1,317 ft bls are typical of the marine sediments of the Purisima Formation of Pliocene age (appendix 2). Micro-fossil identification also confirms that these deposits are from the Purisima Formation of Pliocene age (appendix 2). The geophysical logs from the DMW1 site indicate four groups of layers of sediment between 955 and 2,012 ft bls, which probably represent several erosional and depositional cycles within the Purisima Formation.

The geophysical and geologic data collected from this study has enabled the identification of 10 hydrostratigraphic units at the DMW1 site (fig. 5) that were modified from the preliminary classification by Green (1970).

UPPER-AQUIFER SYSTEM

- (1) **0 to 80 ft bls**—The dune sands of Holocene age may represent an extension of the Salinas Valley perched “A” aquifer that is bounded below by the Salinas Valley Aquiclude (Tinsley, 1975; Andrew Fisher, University of California at Santa Cruz, written commun., 2002)
- (2) **80 to 180 ft bls**—The “180-foot” aquifer composed of valley-fill alluvium of Holocene to Pleistocene age.
- (3) **180 to 250 ft bls**—The water-bearing units between the “180-foot” and the “400-foot” aquifers, which may be composed of additional valley-fill alluvium of Holocene to Pleistocene age.
- (4) **250 to 450 ft bls**—The upper part of the “400-foot” aquifers is composed of water-bearing sands and gravels, which may be equivalent to the upper Aromas Sand of Pleistocene age.
- (5) **450 to 670 ft bls**—The lower part of the “400-foot” aquifer is predominantly composed of water-bearing sands, includes a thin basal gravelly sand, and may represent the lower Aromas Sand of Pleistocene age.
- (6) **670 to 955 ft bls**—The basal part of the upper-aquifer system (also referred to as the “900-foot” aquifer in the Marina area) may

represent the terrestrial deposits of the Paso Robles Formation of late Pliocene to Pleistocene age. The shallowest monitoring well, DMW1-4, is screened at the bottom of this layer.

DEEP-AQUIFER SYSTEM

- (7) **955 to 1,380 ft bls**—The upper Purisima Formation of Pliocene age was identified by micro- and mega-fossils; the first shell fragments were encountered at 1,005 ft bls (appendix 2). The interval 1,030–1,045 ft bls is one of the few water-bearing units in this zone (bounded by silt and clay layers identified by natural gamma spikes 4 and 5 in figure 5); well DMW1-3 is screened in the zone bounded by the more radiogenic fine-grained layers. The interval 1,345–1,360 ft bls is another potential water-bearing zone in the upper Purisima Formation.
- (8) **1,380 to 1,700 ft bls**—The middle Purisima Formation is predominantly fine-grained marine deposits. On the basis of the resistivity log (fig. 5), the top of this unit is a regressive sequence (upward coarsening of sediment grain size) where the well DMW1-2 is screened in the water-bearing sediments near the top of this unit.
- (9) **1,700 to 1,975 ft bls**—The lower Purisima Formation is predominantly composed of sands. The deepest monitoring well, DMW1-1, is screened near the middle of this water-bearing unit.
- (10) **1,990 to 2,012 ft bls**—This interval is possibly part of the lower Purisima Formation. The unit is composed of silts and fine-grained sands of dark greenish gray to olive gray color that may be a water-bearing unit that is separate from unit 9.

HYDRAULICS

The DMW1 monitoring site provides information on water levels and aquifer properties of the deep aquifer system. The water levels, water-level differences between aquifers, and relation to offshore equivalent freshwater heads are all aspects of pressure within the aquifer system that help assess the potential for seawater intrusion and intraborehole flow in the

deep-aquifer system. Estimates of hydraulic conductivity from slug tests of monitoring wells and their relation to aquifer tests of the deep-aquifer system water supply wells provide some comparison of hydraulic transmission properties of the deep-aquifer system.

Water-Level Measurements

The water-level altitudes for the deep-aquifer system monitoring wells at DMW1 are 1 to 18 ft below sea level (table 1). Therefore, if these aquifers are connected to the submarine outcrops of the Paso Robles and Purisima Formations in Monterey Bay (fig. 2), then the potential exists for seawater intrusion. The water-level altitudes required to prevent landward flow of seawater (seawater intrusion) at the submarine outcrops were estimated by dividing the depth of seawater above the top of the submarine outcrop by 40 (density ratio between saltwater and freshwater). On the basis of this relationship, a water-level altitude of at least 6.6 ft above sea level is needed to prevent seawater intrusion in the aquifers of the Paso Robles Formation, and at least 7.4 ft above sea level is needed to prevent seawater intrusion in the aquifers of the Purisima Formation. Therefore, water levels at the DMW1 site are 10 ft below the level that would be needed to prevent seawater intrusion in DMW1-4 (screened in the Paso Robles Formation) and 8 to 27 ft below the level that would be needed to prevent seawater intrusion in DMW1-1,2,3 (screened in the Purisima Formation).

Water levels in the supply wells MCWD 9, 10, and 11 have been below sea level since they were completed and, except for initial water levels after installation, water levels in MCWD 12 also have been below sea level (Lauren Howard, MCWRA, oral commun., 2001). This suggests a landward hydraulic gradient from the offshore outcrop to the supply wells, which provides the potential for the landward flow of seawater and seawater intrusion. Additional water-level measurements are needed to determine the hydraulic connection between the supply and monitoring wells.

The depth-to-water measurements made in the four monitoring wells after completion of the

monitoring site range from 56 ft bls for well DMW1-2 to as much as 73 ft for the wells DMW1-1, -3 (table 1). This results in a water-level difference of as much as 16 ft between these monitoring wells. On the basis of the water-level differences measured in the wells at the DMW1 site, intraborehole flow could occur in water-supply wells for wells screened across these water-bearing units.

Hydraulic Properties

Estimates of hydraulic conductivity for the deep-aquifer system at the monitoring wells were obtained using pressure-pulse "slug tests." This test is very useful in small diameter wells that have a small-screened interval. Unlike longer-term tests, the results are based on very small changes in water level measured over very short periods and, therefore, represent the hydraulic response from only a small volume of aquifer material adjacent to the well screen.

Between 24 and 30 slug tests were performed on each of the four monitoring wells. Slug test results were analyzed with Aqtesolv 2.01 computer software (Duffield and Rumbaugh, 1991) using the Cooper-Bredehoeft-Papadopulus (Cooper and others, 1967) method. The method was used to solve for values for transmissivity on the basis of an assumed value of specific storage. Two values of specific storage were used, 1×10^{-5} and 1×10^{-6} , that are typical of specific storage values estimated for other deep coastal aquifers (Hanson and Nishikawa, 1996). For each test, the lower specific-storage value results in a transmissivity of about 22 to 25 percent higher than the larger specific-storage value. Resulting estimates of transmissivity were divided by the screened interval to calculate hydraulic conductivities (table 2). The geometric mean of estimates for each well yields values of hydraulic conductivities that ranged from 2 ft/d (foot per day) at well DMW1-4 to 14.5 ft/d at well DMW1-1 (table 2).

The hydraulic conductivities of the monitoring wells are bounded by the estimates from aquifer tests and from tests of side-wall cores from the supply wells, even though the monitoring and supply wells are completed in different geologic formations. Aquifer tests of the supply wells yielded estimates of

Table 2. Summary of slug-test estimates of hydraulic properties for the deep-aquifer system monitoring-well site Marina, California.

[Geometric-mean values shown are based on an assumed range in specific-storage values of 1×10^{-5} to 1×10^{-6} ft⁻¹; ft bls, feet below land surface; ft²/d, foot squared per day; ft/d, foot per day]

Local well name	Depth to top of perforations (ft bls)	Depth to bottom of perforations (ft bls)	Transmissivity (ft ² /d)	Hydraulic conductivity (ft/d)	Number of tests
DMW1-4	930	950	48–40	2.4–2.0	24
DMW1-3	1,040	1,060	276–224	13.8–11.2	29
DMW1-2	1,410	1,430	152–124	7.6–6.2	28
DMW1-1	1,820	1,860	580–464	14.5–11.6	30

transmissivity and hydraulic conductivity (transmissivities divided by the total screened interval) of 4,070 ft²/d (foot squared per day) and 25.4 ft/d for MCWD 10, 3,280 ft²/d 2) and 16.4 ft/d for MCWD 11; and 3,970 ft²/d and 16.5 ft/d for MCWD 12 (Geoconsultants, Inc., 1983, 1986, 1989, 1993). Additional estimates of hydraulic conductivity were inferred from tests on the sidewall core collected during drilling of the supply wells (Geoconsultants, Inc., 1989). Estimates range from 4.6 ft/d at 842 ft bls to 0.6 ft/d at 1,460 ft bls in MCWD 10; and from 7 ft/d at 1,536 ft bls to 1 ft/d at 1,436 ft bls.

WATER CHEMISTRY

Water from the DMW1 site was compared with water from nearby upper-aquifer supply well MCWD 9 and deep-aquifer system supply wells MCWD 10, 11, and 12 to help identify the chemical characteristics, the source, age, and movement of ground water, and the potential for seawater intrusion in the deep aquifer in the Marina area. The sampling and analysis included physical attributes, major ions and nutrients, selected trace elements, and selected stable and unstable isotopes. The four wells at DMW1 were sampled June 23–25, 2000. Analytical results are summarized in appendix 3 (table A3.1). Comparisons are made with water from MCWD supply wells 9, 10, 11, and 12 sampled in 1995, 1997, and 2000 (C. Moss, Monterey County Water Resources Agency, written commun., 2000) and the average chemical composition of seawater (Hem, 1985). Selected chemical analyses of pore water extracted from selected cores at DMW1 also are summarized in Appendix 3 (table A3.2).

Chemical Characteristics of Water from Monitoring and Supply Wells

Chemical analyses of water samples from the DMW1 wells indicate potable water-bearing units in the deep-aquifer system, with the exception of the saline water from DMW1-3. The chloride concentrations in samples from DMW1-1, -2, and -4 and water-supply wells range from 45 to 180 mg/L and the total dissolved solids range from 304 to 610 mg/L. The dissolved solids concentration of water from DMW1-1 (610 mg/L) exceeds the secondary maximum contaminant level (SMCL) of 500 mg/L (U.S. Environmental Protection Agency, 2000). The water from well DMW1-3 contains chloride concentrations of 10,800 mg/L, dissolved solids concentration of 23,800 mg/L, sulfate concentrations of 1,510 mg/L, and manganese concentrations of 0.39 mg/L. This water exceeds the SMCL for chloride (250 mg/L), dissolved solids (500 mg/L), sulfate (250 mg/L), and manganese (0.05 mg/L).

Water from the DMW1 monitoring wells lacked dissolved oxygen and had a trace odor of hydrogen sulfide, noted during sample collection, indicating that the waters from these wells are under reduced conditions. If shallower ground waters are oxygenated, then mixing of these waters may result in the precipitation of minerals on well screens, within gravel packs and aquifer pore spaces, or within agricultural soils or water-supply transmission pipes.

Trilinear diagrams (Piper, 1944) were used to classify the major-ion chemistry of water from monitoring wells at DMW1 and water-supply wells MCWD 9, 10, 11, and 12. Such diagrams are useful for grouping major-ion data and for interpreting mixing and other chemical reactions that occur along flow paths through aquifers. The water samples from the

DMW1-4 and DMW1-2 wells are a sodium-bicarbonate water, water from the DMW1-1 well is a sodium-chloride water, and water from the DMW1-3 is a calcium/magnesium-chloride water. The sample from well DMW1-3 is relatively high in chloride, similar to seawater, but is proportionally higher in calcium and magnesium than is seawater (fig. 10).

The water samples from the nearby deep water-supply wells appear to be a mixture of the water types sampled from the three non-saline monitoring wells (DMW1-1, -2, and -4) (fig. 10), which form a “chemical triangle” surrounding the samples from water-supply wells. The sides of this chemical triangle represent the lines of simple mixing between the monitoring-well compositions. Assuming that the supply wells are a mixture of the water from the monitoring wells, figure 10 can be used to determine source(s) of water. As shown in figure 3, MCWD 9 is screened solely in the upper-aquifer system, MCWD 10 and 11 are screened in the lower part of the upper-aquifer system and parts of the deep-aquifer system, and MCWD 12 is screened solely in the deep-aquifer system.

Water from MCWD 9 in 1995 is similar to water sampled from monitoring well DMW1-4, which is screened in the base of the upper-aquifer system. The 1997 and 2000 samples from MCWD 9 (14S/2E-31K2) show a small increase in calcium, magnesium, and chloride that may represent mixing with another source of ground water (fig. 10). Water from MCWD 10 and 11 also plot near DMW1-4. Both of these wells have perforations in the upper-aquifer system at the same elevation as DMW1-4. MCWD 11 well also may be receiving a small percentage of water from the lower screen, which is at a similar elevation as the screen of well DMW1-2 (figs. 3 and 10).

Water from the deepest supply well (MCWD 12) appears to be a mixture of water sampled from the two deepest monitoring wells (DMW1-1 and DMW1-2) (fig. 10). The screened interval of MCWD 12 spans the screened intervals of DMW1-1 and -2, which may explain the similarity of water types. These results suggest that wells that are screened opposite both the upper- and deep-aquifer systems obtain most of their water from the upper-aquifer system.

Comparison of 1995, 1997, and 2000 data from the supply wells show some changes in chemical characteristics. Water from supply wells MCWD 9 and 11 show increased chloride in 1997 compared to 1995

and 2000. This may indicate mixing with a more saline source other than that represented by the three non-saline monitoring wells (DMW1-1, -2, and -4). Samples from the deepest water-supply well, MCWD 12, show few to no changes in major chemistry for the 6-year period (1995 to 2000). Depth-dependent samples and wellbore flowmeter logs from the water-supply wells would be needed to apportion the amounts of inflow and related chemical loads from the major contributing water-bearing units (Izbicki and others, 1999; Gosnell and others, 1999). Additional isotope and depth-dependent samples from water-supply wells and other monitoring wells also will help to further delineate the association, source, movement, and age of ground waters from the aquifer systems of the Salinas Valley.

Source, Age, and Movement of Ground Water

The source, age, and movement of ground water in the deep-aquifer system can be delineated, in part, from the chemical and isotopic characteristics of the deep-aquifer system and the potential “end-members” represented by waters from nearby surface-water sites and upper-aquifer-system wells in the Salinas Valley (Vengosh and others, 2002).

The anion ratio of chloride-to-boron was used to infer possible sources of ground water in the deep-aquifer system. Plots of chloride-to-boron ratios against chloride indicate that water in the deep-aquifer system at DMW1 are enriched in chloride, relative to boron with respect to surface water from the Salinas River, Lake Nacimiento, and Lake San Antonio in the Salinas Valley (labeled as surface water on fig. 11A). Additionally, the relation of chloride-to-boron ratios to boron in water from the shallowest well (DMW1-4) and the monitoring well DMW1-2 are similar to each other and to samples from some upper-aquifer system wells (fig. 11A) in the Salinas Valley. The chloride-to-boron ratios infer that ground water from some parts of the upper- and deep-aquifer systems in the Salinas Valley may have a similar source of recharge. The chloride-to-boron ratios for the deepest monitoring well, DMW1-1, and for DMW1-3 are enriched in chloride, relative to boron. These ratios bracket the range of upper-aquifer system wells that are identified as having some seawater intrusion (fig. 11A). Possible sources for higher chloride-to-boron ratios and chloride concentrations in these wells may be excess chloride from seawater intrusion or from dissolution of

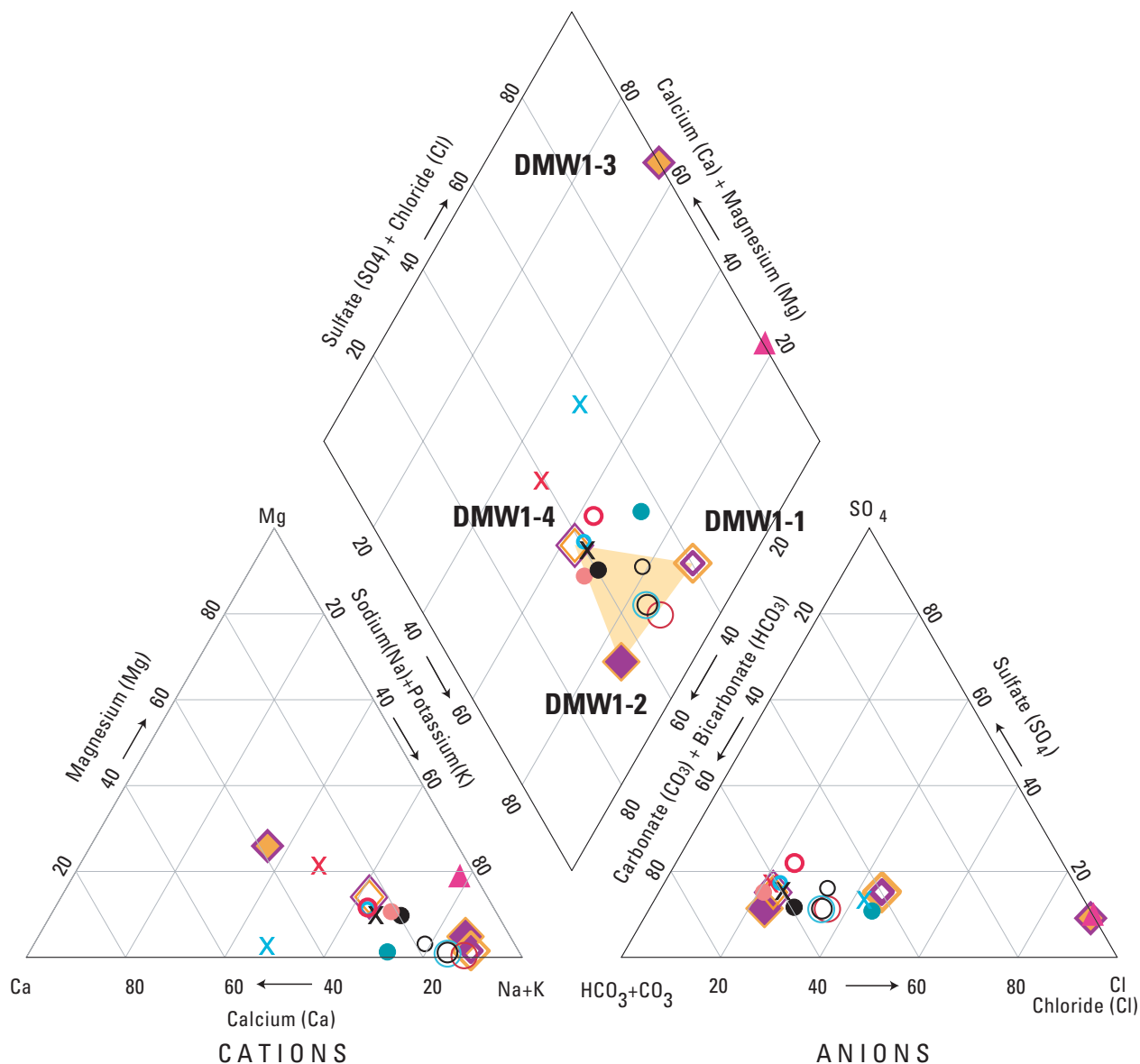


Figure10. Trilinear diagram of major-ion chemistry for selected ground-water samples from the deep-aquifer system in the Salinas Valley, 1995, 1997, and 2000 with samples from DMW1 wells, 2000.

chloride in sediments. While some boron can be removed from ground water through adsorption (Rai and Zachara, 1984), the high chloride concentrations of the pore waters from core 7 (appendix 3) suggests that increased chlorides from the dissolution of chloride from marine sediments is a likely cause of increased chloride-to-boron ratios.

Oxygen ($\delta^{18}\text{O}$) and deuterium ($\delta\text{-D}$) are stable isotopes also used to provide information on the source and mixing of the ground water (see Stable Isotopes in appendix 3). In the Salinas Valley, the range in isotopic composition of water from wells completed in the upper- and deep-aquifer systems indicates that there have been different sources or different climatic conditions during recharge of the aquifers underlying the Salinas Valley (fig. 12). The isotopic composition of water from the perched aquifer in Salinas Valley (Vengosh and others, 2002) (fig. 12) and water from wells in the upper-aquifer system (the “180-foot” and “400-foot” aquifers) of the Salinas Valley plots near the meteoric water line and close to the average isotopic composition of precipitation at Santa Maria, California. This suggests that the upper aquifer may be recharged by water that is similar to recent precipitation. The isotopic composition of all samples from the deep-aquifer system monitoring wells in the Salinas Valley plots below the meteoric water line and with the exception of DMW1-3, is lighter (more negative) than wells sampled from the upper aquifer system (fig. 12). This suggests that the deep-aquifer system in the Marina area was not recharged under current climatic conditions.

The strontium-87/86 stable isotope ratio can be used to determine the origins of strontium in a system and the related sediments of the aquifers (see Stable Isotopes in appendix 3). Strontium in selected ground-water samples from Salinas Valley, including deep-aquifer system monitoring wells DMW1-2 and DMW1-4 (fig. 13A), appear to be partitioned above the strontium ratio of 0.7082 for coastal California granitic rocks (Faure and Powell, 1972), indicating a source of sediments for the aquifer in the Salinas valley that is, in part, granitic—possibly derived from the granitic-bedrock mountains that bound parts of the alluvial basin. However, the strontium ratios for samples from DMW1-1 and DMW1-3 plot below the ratio for coastal California granite (fig. 13A, table A3.1), which may indicate a different source for the sediments for these aquifers. In contrast to all other water samples,

the sample from DMW1-3 exceeds the strontium concentration of recent seawater. The strontium isotopes, which indicate that the DMW1-1 and DMW1-3 wells are completed in different sediments than wells DMW1-2 and DMW1-4, are consistent with the differences in chloride-to-boron ratios (fig. 11).

On the basis of tritium and carbon-14 analyses, the water samples from the DMW1 monitoring wells represent old ground water. Ground-water samples from the deep-aquifer system monitoring-well site at DMW1 do not contain detectable amounts of tritium, indicating that these ground waters were recharged prior to 1952. Inorganic carbon-14 activities of water from the DMW1 wells in percent modern carbon are 4.0 percent for DMW1-1, 6.5 percent for DMW1-2, 2.8 percent for DMW1-3 and 2.1 percent for DMW1-4 (table A3.1). These percentages of modern carbon were adjusted for initial waters and represent corrected ages of about 25,000 years before present for DMW1-1, 21,000 years before present for DMW1-2, 28,000 years before present for DMW1-3, and 29,000 years before present for DMW1-4. These estimated ages are interpretive and subject to considerable uncertainty. Davis and Bentley (1982) estimated that errors in carbon-14 ages may be as much as 100 percent. Even considering this uncertainty, the results indicate that these ground waters were probably recharged thousands of years before present. Additional geologic and geochemical investigations are needed to determine whether the deep-aquifer system beneath the Salinas Valley is being actively recharged.

Seawater Intrusion and Saline Ground Water

Hydraulic data at the monitoring and supply wells indicate the potential for seawater intrusion. The deep monitoring well DMW1-3 contains high concentrations of chloride that may indicate seawater intrusion has already occurred. Seawater intrusion is the landward inflow of seawater from the ocean through the submarine outcrops of the aquifer systems. Seawater intrusion can include the inflow of both recent and older seawater. For the purposes of this study, intrusion of recent seawater is defined as seawater that has entered the aquifer within the last 50 years and typically contains some measurable tritium. Potential sources of chloride other than seawater can include high-chloride water from partly consolidated marine deposits, igneous rocks with high

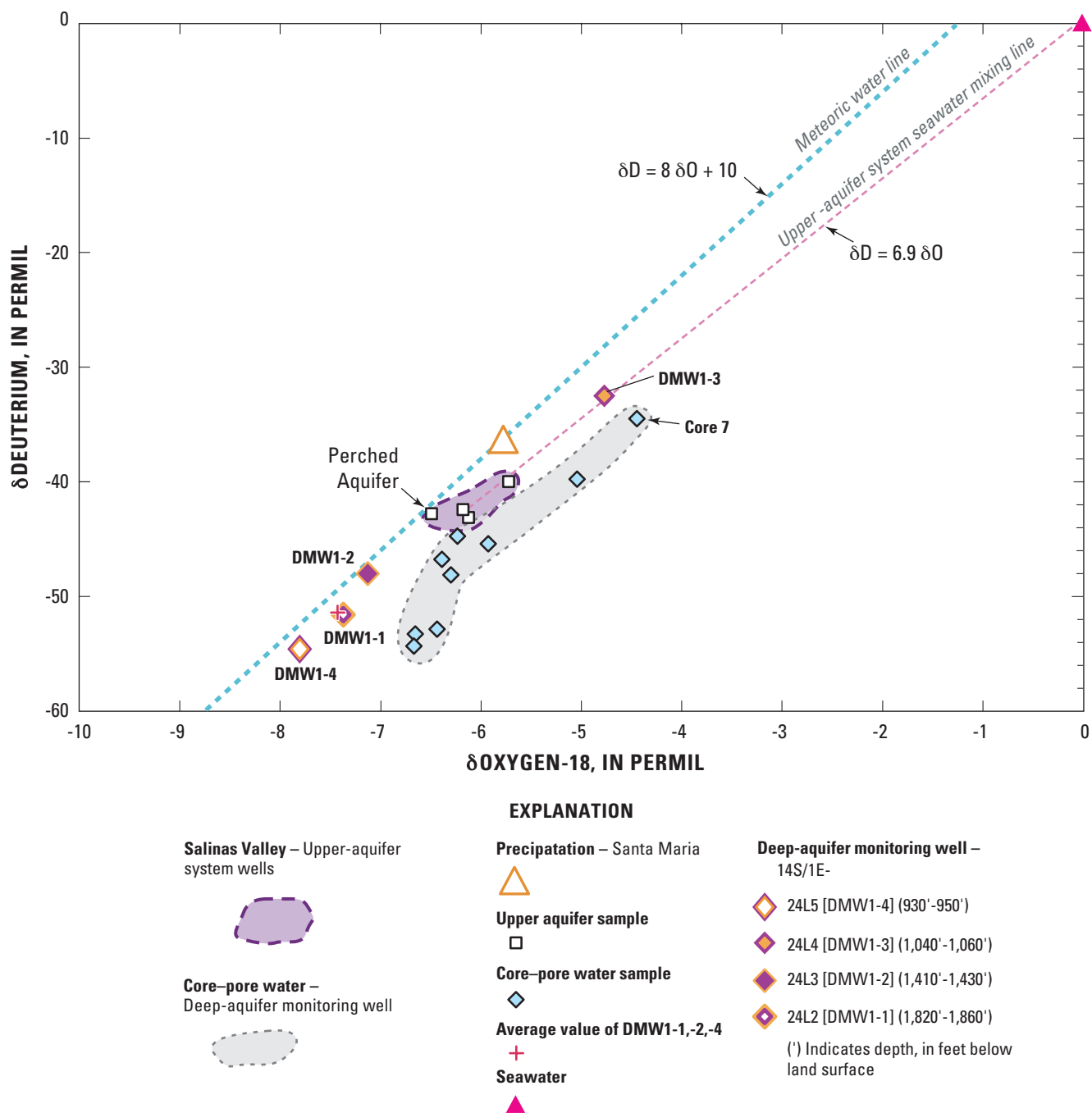


Figure 12. Deuterium and oxygen isotope values for selected ground-water and surface-water samples from the Salinas Valley, California.

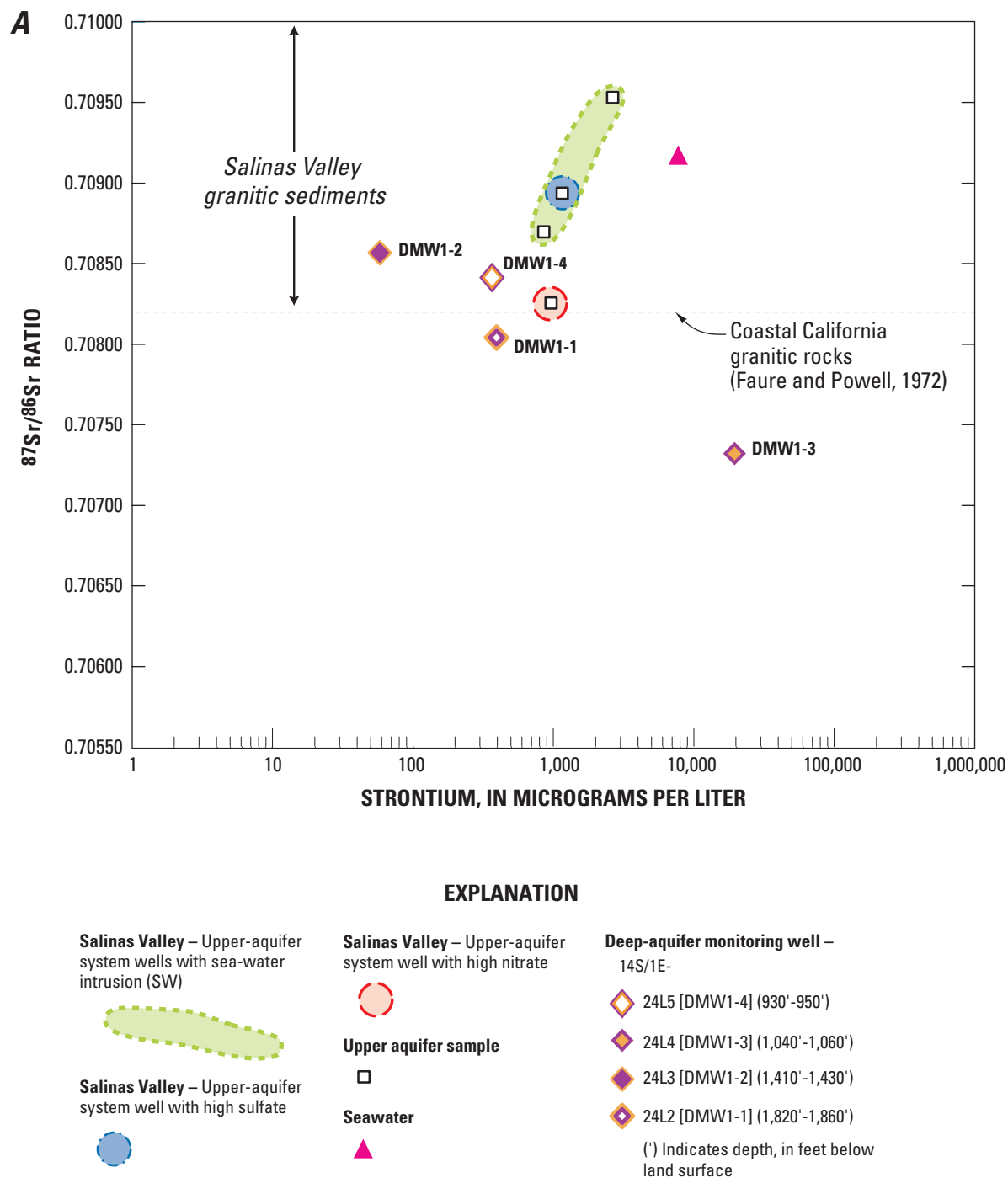


Figure 13. Strontium-87/86 ratios plotted against strontium (**A**), and delta boron-11 plotted against chloride-to-boron ratios (**B**) for selected wells in the Salinas Valley, California.

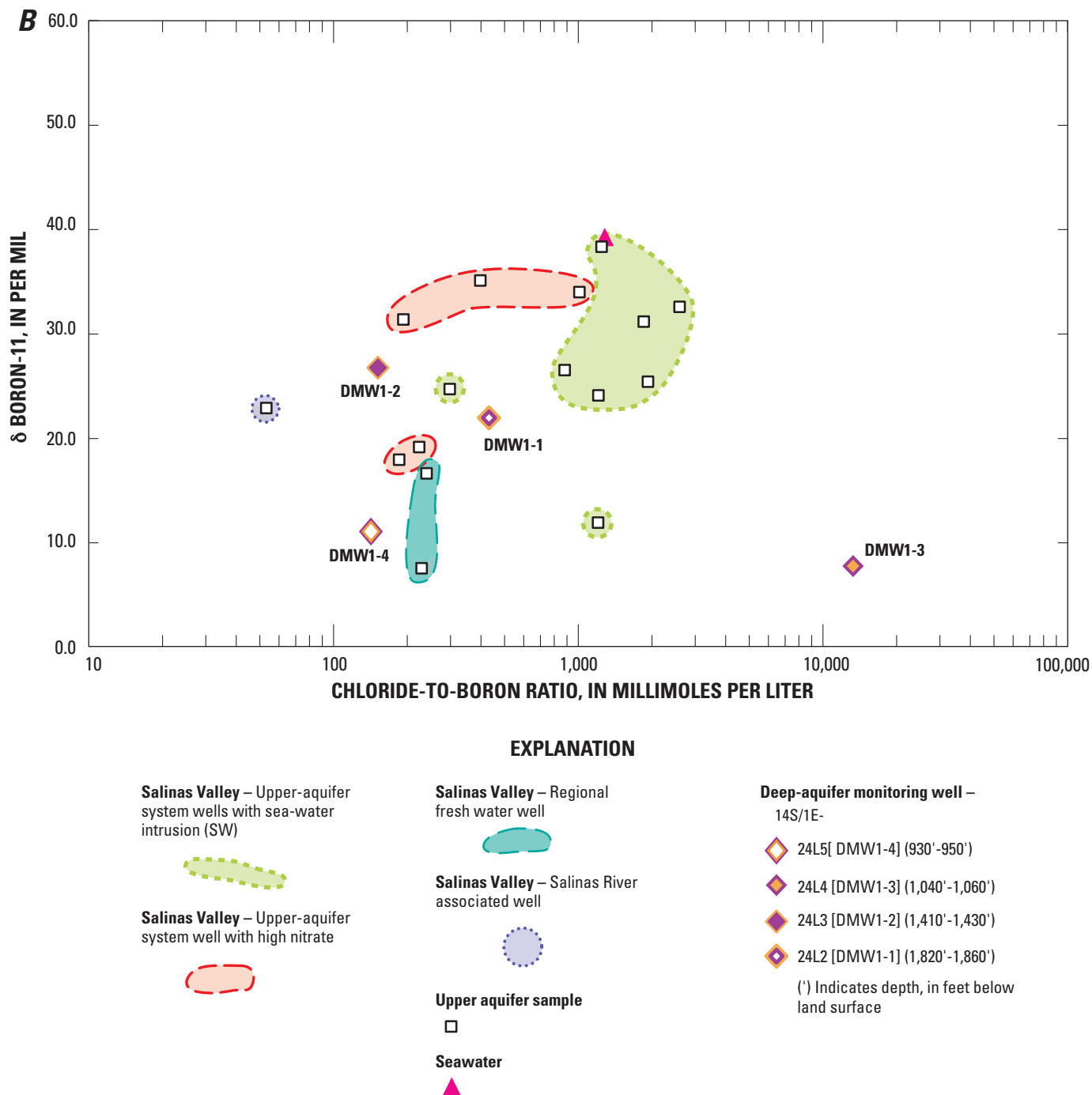


Figure 13.—Continued.

chloride concentrations, and irrigation-return water from shallow unconfined aquifers.

Geochemical indicators were used in this study to identify the possible sources of the high chloride in the ground water, including percentages of common major and minor constituents, anion ratios, and stable and unstable isotopes. These indicators infer the relation of ground-water samples to recent average seawater composition and, when combined with other data, help identify the source of high-chloride water. Iodide, boron, bromide, and barium have been used in previous studies to determine the origin of ground water in coastal areas where seawater, high-chloride water from partly consolidated marine deposits, and irrigation-return water from shallow unconfined aquifers may contribute to increasing chloride in wells (Piper, Garrett, and others, 1953). Graphical techniques that normalize changes in trace-element concentrations to changes in concentrations of conservative (nonreactive) tracers are useful in the interpretation of the source of the waters represented by these data.

Major and minor ions and trace elements in water from DMW1 (appendix 3) were compared to seawater. Chloride was 10,800 mg/L in DMW1-3, which is about 57 percent of the average concentration of seawater (Hem, 1985). Iodide, which averages about 0.06 mg/L in seawater, ranged from 0.06 mg/L in the deepest monitoring well (DMW1-1) to 0.19 mg/L in the shallowest (DMW1-4). DMW1-3 had the highest concentration of boron, about 0.25 mg/L, but is about 6 percent of the average concentration of seawater. Barium ranged from about 102 percent in DMW1-2 to about 1,200 percent of seawater in DMW1-3. Strontium was 1.9 mg/L and bromide was 39.1 mg/L in well DMW1-3, or about 250 percent and about 50 percent of the average concentrations in seawater, respectively. Therefore, the saline water from DMW1-3 is depleted in boron and bromide and enriched in iodide, barium, and strontium, relative to the average concentration of seawater. The enriched barium and depleted boron concentrations suggests that seawater is not the source of the high-chloride water from DMW1-3.

Core 6 (1,042–1,047 ft bls) samples (table A3.1) the upper sediments screened in monitoring-well DMW1-3 (1,040–1,060 ft bls), and its pore water has a chloride concentration of 1,300 mg/L (equivalent to 7 percent of the chloride concentration of seawater).

Core 7 (1,102–1,107 ft bls) samples (table A34.1) of the fine-grained marine sediments beneath the screened interval of DMW1-3, and its pore water has a chloride concentration of 9,800 mg/L (equivalent to 52 percent of the chloride concentration of seawater). This percentage is comparable to the 57 percent of chloride from the DMW1-3 sample. These results suggest that fine-grained marine sediments, like those sampled in core 7, may be the source of salinity-to-water in DMW1-3. Relative to seawater, the saline water in DMW1-3 has ratios of chloride-to-boron, chloride-to-iodide, and chloride-to-bromide (fig. 11A, B, C), collectively indicating that the water is enriched in iodide, depleted in boron, and similar in bromide to the ratios found in seawater. A plot of chloride-to-boron ratios against chloride indicates that the high chloride water from DMW1-3 has almost an order of magnitude higher chloride-to-boron ratio than seawater. A plot of chloride-to-iodide ratios against chloride shows that the sample from DMW1-3 is between seawater and the upper-aquifer system wells intruded with seawater, suggesting that seawater could be the source of the high chloride water. The chloride-to-bromide ratios indicate that all waters occur along a mixing between fresh ground water and seawater, which also suggests that seawater could be the source of the high chlorides for well DMW1-3.

The stable isotopes of water, deuterium, and oxygen indicate that the ground-water samples in the Salinas Valley and core pore waters from DMW1 (table A3.1) generally fall below the meteoric water line, with the more saline water trending toward the isotopic composition of recent average seawater (fig. 12). Assuming the average oxygen isotope composition (–7.43 per mil) for the three nonsaline monitoring wells represents the initial composition of the ground water in the water-bearing zone of DMW1-3, then the water in DMW1-3 is about 36 percent mixture with seawater. This estimate is significantly less than the 57 percent mixing estimate based on chloride. This suggests that the additional chloride encountered in this part of the aquifer (1,040 and 1,060 ft bls) has a source other than seawater.

Because boron is ubiquitous and is a soluble ion in water and because boron isotopes have fractionated through geologic time, boron isotopes provide a combined indicator of the potential for natural sources of water such as seawater intrusion as well as

anthropogenic sources of boron (Bassett, 1990; Vengosh and others, 1994; Vengosh and others, 2002) (see Stable Isotopes in appendix 3). Samples from the upper-aquifer system (“180-foot” and “400-foot” aquifers) that have been intruded by seawater in the Salinas Valley (fig. 13B) have boron isotopic compositions similar to recent seawater (Vengosh and others, 2002). In contrast, the samples from DMW1 (Appendix 3, table A3.1) are significantly below the isotopic composition of seawater (39.2 per mil). The sample from DMW1-3 has one of the lightest delta-boron-11 values and plots separately from the rest of the samples, relative to the chloride-to-boron ratio (fig. 13B). This suggests that the source of the high chloride in the sample from this well is not seawater intrusion. Instead, the source may be a mixture of old ground water and water from, in part, an igneous source (Tom Bullen, U.S. Geological Survey, written commun., 2001).

In summary, although the percentage of chloride and the chloride-to-iodide and chloride-to-bromide ratios indicate a possible seawater source for the high chloride water from well DMW1-3, the percentage of barium and boron, the chloride-to-boron ratio, the deuterium-oxygen isotopes in comparison to chloride concentrations, and the boron isotope data in the DMW1-3 sample, relative to seawater along with the estimated age of the ground water indicate that the saline water in deep-aquifer system monitoring well DMW1-3 is not recent seawater. In particular, the small percentage of boron in this well, relative to seawater tends to exclude a seawater origin. The high salinity of this ground water may be related to the dissolution of salts from the radiogenic saline marine clays (core 7) that surround the water-bearing zone screened by DMW1-3 (figs. 3, 4, 5, and 7).

SUMMARY AND CONCLUSIONS

A deep-aquifer system monitoring-well site (DMW1) completed at Marina, California, in 2000 has provided basic geologic and hydrologic information about the deep-aquifer system in the coastal region of the Salinas Valley. The monitoring-well site contains four wells: one from 930 to 950 feet below land surface (bls) in the Paso Robles Formation; one 1,040 to 1,060 feet bls in the upper Purisima Formation; one from 1,410 to 1,430 feet bls in the middle Purisima Formation; and one from 1,820 to 1,860 feet bls in the

lower Purisima Formation. The DMW1 site is installed between the coast and several deep-aquifer system supply wells in the Marina Coast Water District, and the completion depths are within the zones screened in those supply wells. The sediments below a depth of 955 feet are Pliocene age, whereas the sediments encountered at the water-supply wells just a few miles inland from the DMW1 site are Pleistocene age at an equivalent depth. This may suggest that the water-supply wells are completed in Pleistocene-age sediments deposited in the proposed Marina Trough. The deep monitoring wells occur in older sediments that may extend offshore to their submarine outcrops in Monterey Bay. However, additional geologic investigations would be needed to establish these geohydrologic relations.

Water levels are below sea level in DMW1 and the Marina Water District deep-aquifer system supply wells, which indicates that the potential for seawater intrusion exists in the deep-aquifer system. If the aquifers at DMW1 are in hydraulic connection with the submarine outcrops in Monterey Bay, then the water levels at the DMW1 site are 10 feet below the level that would be needed to prevent seawater intrusion in DMW1-4 (screened in the Paso Robles Formation) and 8 to 27 feet below the level that would be needed to prevent seawater intrusion in DMW1-1, 2, 3 (screened in the Purisima Formation). The numerous, thick, fine-grained interbeds and confining units in the upper- and lower-aquifer systems retard the vertical movement of ground water or seawater between aquifers. These fine-grained units also tend to restrict the movement of seawater to narrow water-bearing zones in the upper-aquifer system.

Hydraulic testing of the DMW1 and the Marina Water District supply wells indicates that the tested zones within the deep-aquifer system are transmissive water-bearing units with hydraulic conductivities ranging from 2 to 14.5 feet per day. The hydraulic properties of the supply wells and monitoring wells are similar, even though the wells were completed in different geologic formations.

Geophysical logs indicate saline water in most water-bearing zones shallower than 720 feet below land surface and from about 1,025 to 1,130 feet bls, and indicate fresher water from about 910 to 950 feet bls (DMW1-4), 1,130 to 1,550 feet bls, and below 1,650 feet bls. Potentially saline marine silt and clay layers occur at depths from about 1,025 to 1,130 feet

bls and from 1,550 to 1,700 feet bls. Temporal differences between EM logs indicate possible seasonal seawater intrusion in five water-bearing zones from 350 to 675 feet bls in the upper-aquifer system.

The water-chemistry analyses from the deep-aquifer system monitoring and supply wells indicate that these deep aquifers contain potable water, with the exception of the saline water in well DMW1-3. The major-ion water chemistry of the monitoring wells and the nearby MCWD water-supply wells are similar, which may indicate they are in hydraulic connection, even though the stratigraphic layers differ below 955 ft bls. The hydraulic connection could be better inferred by comparison of continuous water-level records from the monitoring and supply wells.

The waters from the deep-aquifer system are slightly basic (pH greater than 7.0), reduced, oxygen-depleted, and chemically different from surface waters and upper-aquifer system ground water. The chloride-to-boron ratios infer that ground water from some parts of the upper and deep-aquifer systems in the Salinas Valley may have a similar source of recharge. The deuterium-oxygen data suggest that the waters from the deep-aquifer system in the Marina area were not recharged under current climatic conditions. No tritium was detected in samples from the deep monitoring wells. The lack of tritium suggests that there is no recent recharge water (less than 50 years old) in the deep-aquifer system at the DMW1 site. The carbon-14 analyses of these samples indicate ground water was recharged thousands of years ago. The strontium isotopes indicate that the DMW1-1 and DMW1-3 wells were completed in different sediments than wells DMW1-2 and DMW1-4.

The saline water from well DMW1-3 contains chloride concentrations of 10,800 milligrams per liter and dissolved solids concentration of 23,800 milligrams per liter. The source of this water was determined not to be recent seawater on the basis of geochemical indicators and the estimated age of the ground water. In particular, the small percentage of boron in this well, relative to seawater tends to exclude a seawater origin. The high salinity of this ground water may be related to the dissolution of salts from the radiogenic saline marine clays that surround the water-bearing zone screened by DMW1-3.

Additional studies are needed to better characterize the geohydrologic framework of the aquifer systems in the Marina area. Geophysical

investigations such as seismic, regional gravity, aeromagnetic, and electromagnetic-resistivity surveys could help to identify the areal extent and thickness, and any potential boundaries, such as faults, of the regional aquifers. The presence of significant silt and clay deposits in the Marina area suggests that spatially detailed InSAR (interferometric synthetic aperture radar) derived ground-displacement maps from repeat synthetic aperture radar images also could be used to help identify hidden faults that may act as potential hydraulic barriers and assess the extent of potential aquifer-system compaction and land subsidence (Galloway and others, 1999). The potential utility of InSAR in the Salinas Valley depends, in part, on the susceptibility of silts and clays in the aquifer systems to deformation resulting from stresses imposed by changes in hydraulic head.

If the water resources of the deep-aquifer system are to be further developed, the extent and characteristics of these resources will need to be better defined. This may require the installation of a network of additional multiple-well monitoring sites as has been completed in many other coastal aquifer systems in California. This type of network would allow the collection of water-level and water-chemistry data through time to help assess the effects of development on the water resources of the coastal aquifer systems in the Salinas Valley.

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AGREEMENT NO. A-06404
AGREEMENT BETWEEN THE UNITED STATES OF AMERICA
AND THE
MONTEREY COUNTY WATER RESOURCES AGENCY
CONCERNING
ANNEXATION OF FORT ORD INTO ZONES 2 AND 2A
OF THE
MONTEREY COUNTY WATER RESOURCES AGENCY

This Agreement is entered into this 21st day of September, 1993, by and between the Government of the United States of America ("Government"), represented by the United States Army, and the Monterey County Water Resources Agency ("MCWRA"), a political subdivision of the State of California, represented by the Monterey County Board of Supervisors.

1. Purpose and Authority:

a. Purpose: The purpose of this agreement is to provide the terms and conditions under which the Fort Ord Lands will be annexed into the Zones.

b. Authority:

(1) By California law, the MCWRA is responsible for managing the surface water and groundwater resources in the Salinas Valley and providing flood control and water conservation services throughout Monterey County. The authority for the MCWRA to enter into this agreement is cited in California Water Code, Appendix 52-43 (Appendix "A"). The MCWRA has the authority to annex the Fort Ord Lands overlying the Seaside Basin based on a Memorandum Of Agreement between the MCWRA, the MPWMD, and the Pajaro Valley Water Management Agency, dated May 10, 1993 (Appendix "B").

(2) The authority for the Government to enter into this agreement was provided in Public Law 101-510 (National Defense Authorization Act for Fiscal Year 1991), Section 2101, dated November 5, 1990 and amended by Public Law 102-190 (National Defense Authorization Act for Fiscal Years 1992 and 1993), Section 2702, dated December 5, 1991. The funding for the Government to enter into this agreement was provided by Public Law 101-519 (Military Construction Appropriations Act, 1991), dated November 5, 1990.

2. Definitions:

a. United States Army Engineer District, Sacramento, California ("Corps"): A field operating agency of the Army Corps of Engineers, a major command of the Army; the agency that will execute this agreement on behalf of the Government;

b. Fort Ord: An existing Army installation in north Monterey County currently operating under the Army Forces Command; Fort Ord will realign to an enclave under provisions of Public Law 101-510 (Defense Base Closure and Realignment Act of 1990); on October 1, 1994, this installation will no longer be known as Fort Ord and will instead be known as the Presidio of Monterey Annex under the Army Training and Doctrine Command; disposal of excess Fort Ord property pursuant to Public Law 101-510 could begin before October 1, 1994 provided the Army has issued a Record of Decision on the Environmental Impact Statement for the Disposal and Reuse of Fort Ord; parts of Fort Ord were leased on a long term basis prior to the realignment decision;

c. Presidio of Monterey Annex ("POM Annex"): The proposed residual military mission enclave remaining on Fort Ord after its realignment; this annex shall continue operations in support of the Department of Defense and other federal agencies in the Monterey Peninsula area; the boundaries of the POM Annex should be finalized by early 1994;

d. Presidio of Monterey ("POM"): An existing Army installation in Monterey County operating under the Army Forces Command; on October 1, 1994, will be under the Army Training and Doctrine Command; POM is the home of the Defense Language Institute; POM will also be responsible for the proposed POM Annex;

e. Reserve Center ("RC"): An existing Army Reserve Center located on 12 acres of Fort Ord not contiguous to the POM Annex; the RC will remain after the realignment of Fort Ord;

f. Fort Ord Lands: A term denoting all lands within the existing boundaries of Fort Ord including: property needed to support the Army's future mission requirements (POM Annex and RC); property under a long term lease; property awaiting disposal either in a caretaker status or under an interim lease; and property already disposed;

g. Salinas Basin: The Salinas River Groundwater Basin; the Salinas Basin generally underlies the northwestern portion of Fort Ord;

h. Seaside Basin: The Seaside Groundwater Basin; the Seaside Basin generally underlies the southwestern portion of Fort Ord;

i. Monterey Peninsula Water Management District ("MPWMD"): A California Special District created by the State Legislature in 1978 having water management authority over the Seaside Basin;

j. Project: A future, long term, reliable, potable water system for the POM Annex/RC and other areas; the Project will provide at least 6,600 acre-feet per year which will permit all Salinas Basin wells on Fort Ord Lands to be shut down except during

SUBJECT: Annexation of Fort Ord into Zones 2 and 2A of the Monterey County Water Resources Agency

emergencies; stopping all pumping from the Salinas Basin on Fort Ord Lands is necessary to mitigate seawater intrusion; the MCWRA is currently developing such a Project to supply water to the Fort Ord Lands, Marina, Salinas, Toro Park, and perhaps other areas in north Monterey County; it is also possible that another water agency, district, utility, or purveyor could develop a smaller scale Project to supply water for just the Fort Ord Lands;

k. Project Implementation: The potable water system cited in paragraph 2.j. shall be considered "implemented" upon both the completion of construction and the delivery of potable water to POM Annex/RC from the completed water system;

l. Zones: Zones 2 and 2A of the MCWRA which are the zones of benefit for the MCWRA Nacimiento and San Antonio Dams, respectively.

3. Problem and Scope:

a. Fort Ord overlies two groundwater basins, the Salinas Basin and the Seaside Basin. See Appendix "C" for a map. Most of the installation's facilities and all of its potable wells overlie the Salinas Basin. The portion of the installation which overlies the Seaside basin has less development consisting mostly of family housing and recreational facilities. Fort Ord's only active well in the Seaside Basin is a non-potable well to irrigate the golf courses. Fort Ord's peak annual withdrawal from the Salinas basin from 1980 to 1992 was 6,600 acre-feet in 1984; and the peak withdrawal from the Seaside Basin from 1986 to 1989 was 424 acre-feet in 1989.

b. The Salinas Basin has had a problem with seawater intrusion since the 1940's. Seawater intrusion occurs when groundwater levels fall below sea level. This is caused by pumping more water out of an aquifer than is being recharged into it. Pumping by Fort Ord has contributed to this problem, but only to a limited extent as the Fort Ord pumping from the Salinas Basin from 1988 to 1992 averaged only 5,200 acre-feet per year and the estimated Salinas Basin overdraft (amount that pumping exceeds recharge) is about 50,000 acre-feet per year. Seawater intrusion has forced the abandonment of many wells along the coast, and required Fort Ord to relocate their well field inland in 1986. In contrast to the Salinas Basin, the Seaside Basin appears to be in a nearly balanced condition.

SUBJECT: Annexation of Fort Ord into Zones 2 and 2A of the Monterey County Water Resources Agency

c. Because of the magnitude of the seawater intrusion problem, a regional solution is needed. Without a regional solution, Fort Ord's remaining potable wells will eventually become contaminated by seawater. The MCWRA is developing a Project to provide a regional water supply system. The MCWRA is also developing the Castroville Sewage Reclamation/Irrigation Project. Both of these projects are intended to mitigate the effects of seawater intrusion in the Salinas Basin.

d. As long as there is an Army enclave on Fort Ord Lands, the Army will need a reliable potable water supply. In view of the limited life of Fort Ord's remaining potable wells, annexation is prudent because it will permit access to water produced by a future MCWRA project. Additionally, annexation will facilitate the disposal and reuse of Fort Ord Lands, and enhance the market value of any property which is sold. This is because, without annexation, the existing Salinas Basin overdraft could significantly limit the water rights of Fort Ord Lands except for the POM Annex/RC.

e. There have been questions raised over Fort Ord's right to withdraw groundwater from the Salinas Basin. Fort Ord/POM Annex/RC claim certain legal rights to the use of water from the Salinas Basin due to their federal status. However, the MCWRA claims limited regulatory authority over Fort Ord/POM Annex/RC's use of Salinas Basin water with respect to withdrawals of polluted or contaminated groundwater; and the MCWRA also claims ownership rights over water used by Fort Ord/POM Annex/RC which is released into the Salinas Basin from the Nacimiento and San Antonio Dams. Annexation and the terms of this agreement will clarify the water rights of both parties.

4. Terms and Conditions:

a. Execution of this agreement, which includes the Annexation Assembly and Evaluation Report (Appendix "D"), shall be deemed to be a petition by the Government, as the present owner of all Fort Ord Lands, to permit the annexation of the Fort Ord Lands by the MCWRA into Zones 2 and 2A. The MCWRA shall thereafter promptly commence proceedings for such annexation, and will diligently and in good faith pursue such annexation proceedings to completion.

b. The parties have discussed and agreed on payment of a fee by the Government totaling \$7,400,000, as authorized by Public Law 101-510 and appropriated by Public Law 101-519. The basis for this fee is discussed in section IV.F.1. of the attached Annexation

SUBJECT: Annexation of Fort Ord into Zones 2 and 2A of the Monterey County Water Resources Agency

Assembly and Evaluation Report. Fort Ord will be annexed into the Zones in consideration of the payment of the fee. The Government shall have no further financial responsibility or obligation of any kind to the MCWRA with respect to existing water project costs, e.g., Nacimiento and San Antonio Reservoirs. Further, the MCWRA releases the Government from any and all claims related to Fort Ord's groundwater withdrawals from the Salinas Basin prior to this agreement, and from any claims related to any Government action that may have caused or contributed to seawater intrusion in the Salinas Basin.

c. After execution of this agreement and until Project Implementation, Fort Ord/POM Annex/RC may withdraw a maximum of 6,600 acre-feet of water per year from the Salinas Basin, provided no more than 5,200 acre-feet per year are withdrawn from the 180-foot aquifer and 400-foot aquifer. The 6,600 and 5,200 acre-feet thresholds correspond to the annual peak (1984) and recent average (1988-1992) amounts of potable water Fort Ord has withdrawn from the Salinas Basin (does not include pumpage from the non-potable golf course well in the Seaside Basin). Groundwater withdrawals from the Salinas Basin by Fort Ord/POM Annex/RC for the purpose of environmental restoration shall not count toward the 6,600 and 5,200 acre-feet thresholds. Additionally, groundwater withdrawals from the non-potable golf course well shall not count toward the 6,600 and 5,200 acre-feet thresholds because this well is located in the Seaside Basin. The MCWRA agrees not to object to any Fort Ord/POM Annex/RC withdrawal under 6,600 acre-feet per year, except in compliance with California Water Code Appendix, Chapter 52, Section 22. If the MCWRA is concerned about a withdrawal, the MCWRA will first notify the Fort Ord/POM Annex Commander. The parties agree to make every effort to first resolve seawater intrusion disputes through mutual agreement. In any event, the MCWRA, after notice from the Fort Ord/POM Annex Commander, will not object to withdrawals in support of war, national emergency, contingency operation, troop mobilization, or unexpected mission requirements, and such withdrawals shall not count toward the 6,600 and 5,200 acre-feet thresholds. The Government will develop a water conservation program at Fort Ord/POM Annex/RC and will institute, in its discretion, measures to conserve water. The Government will participate in MCWRA water conservation initiatives and programs as mutually agreed by the parties.

d. Until Project Implementation, Fort Ord/POM Annex shall have exclusive ownership and operation of potable wells #24, #29, #30, #31, #32, Jacks well, and Pilarcitos well in the Salinas Basin, and the non-potable golf course well #1 in the Seaside Basin. See Appendix "C" for the locations of these wells. Jacks well, Pilarcitos well, and well #24 are inactive; well #32 has

SUBJECT: Annexation of Fort Ord into Zones 2 and 2A of the Monterey County Water Resources Agency

recently failed; and the rest are active. The MCWRA agrees not to object to Fort Ord/POM Annex/RC replacing any existing well or adding any new well on Fort Ord Lands subject to the conditions described in paragraph 4.c. above. Also until Project Implementation, Fort Ord/POM Annex/RC shall be the sole user of the aforementioned wells, provided that the Government, in its sole discretion, may permit the use of the Salinas Basin wells by others for use on Fort Ord Lands, or may provide water from the Salinas Basin wells to others on Fort Ord Lands in connection with any reuse plans. The Government shall retain all reasonable and necessary utilities and reserve all necessary easements to operate and maintain all Fort Ord/POM Annex/RC wells. After Project Implementation, Fort Ord/POM Annex shall retain ownership of the aforementioned wells, and the Government agrees to stop pumping from the Salinas Basin wells except for an emergency such as fire fighting or a situation as described at the end of paragraph 4.c. above. Project Implementation shall be no cause to curtail or stop pumping from any Seaside Basin well on Fort Ord Lands.

e. The Government will not pay any MCWRA assessments (such as standby charges, water delivery charges, water project assessments, etc.) until a MCWRA developed Project is implemented. This applies to not only the portions of Fort Ord retained by the Army, but also to any other portions of Fort Ord transferred to federal entities. See paragraphs 4.j.(3) and 4.j.(4) for a discussion of these future assessments.

f. The annexation into the Zones shall provide the Government with appropriate representation in Zone administration and decision making.

g. Should future litigation, regulation or other unforeseen action diminish the total water supply available to the MCWRA, the MCWRA agrees that it will consult with the Fort Ord/POM Annex Commander. Also, in such an event, the MCWRA agrees to exercise its powers in a manner such that Fort Ord/POM Annex/RC shall be no more severely affected in a proportional sense than the other members of the Zones.

h. If prior to Project Implementation, any Fort Ord/POM Annex well (including any located in the Seaside Basin) becomes contaminated with seawater, or is adversely affected by regulatory or legal action, the MCWRA shall cooperate with the Government in finding an interim water supply; shall assist the Government in any permit processes necessary to obtain such an interim water supply; and shall provide the same services to the Government as it would to any other municipal water supplier in the Zones under similar circumstances. The Government will bear the costs of obtaining

SUBJECT: Annexation of Fort Ord into Zones 2 and 2A of the Monterey County Water Resources Agency

such an interim water supply. Such costs will not include the cost of MCWRA staff time in providing services to the Government hereunder. The MCWRA will continue to monitor the rate of seawater intrusion, and will keep the Fort Ord/POM Annex Commander informed as to: the rate of seawater intrusion; the progress of plans for its Project; and the estimated remaining life of the Fort Ord/POM Annex wells. The MCWRA shall pass to the Fort Ord/POM Annex Commander any information they may obtain related to the continuing yield of Fort Ord/POM Annex wells located in the Seaside Basin.

i. As part of the disposal of Fort Ord, the Government is considering transferring the ownership and operation of the Fort Ord wells and water distribution system to a successor water purveyor, utility, or agency. Under such a transfer, the MCWRA agrees that the Government, in its sole discretion, may transfer its applicable water rights under this agreement to the successor water purveyor, utility, or agency. The MCWRA also agrees not to object to such a successor obtaining or developing a water supply from outside the Salinas Basin for the Fort Ord Lands.

j. If the opportunity arises and it is in the Government's best interests, the Government, in its sole discretion, may participate in a Project developed by an organization other than the MCWRA. In any event, Government participation in a MCWRA developed Project would be contingent on the following:

(1) The MCWRA shall, upon Project Implementation, continue to provide water and related services to Fort Ord/POM Annex/RC and shall provide for Government representation in MCWRA decisions affecting Fort Ord/POM Annex/RC, and in MCWRA's administration of the Project.

(2) The water allocation to be made available to POM Annex/RC from the Project shall be based only on the water needed to support the Army's future, long term mission requirements, or as otherwise agreed to by the parties. By the time of Project Implementation, all excess Fort Ord Lands should have been disposed. The water allocation to be made available to the disposed property from the Project shall be an issue between these property owners and the MCWRA.

(3) The capital cost for the Project shall be distributed among all properties within the Zones in an equitable manner. The Government would favorably consider a funding plan similar to the MCWRA's proposed funding plan for the Castroville Sewage Reclamation/Irrigation project in which approximately 50 percent of the capital cost is funded by the MCWRA members receiving the water, and 50 percent is funded by other members in

SUBJECT: Annexation of Fort Ord into Zones 2 and 2A of the Monterey County Water Resources Agency

the Zones. An acceptable funding plan will also require that the capital cost paid by each member receiving water from the Project generally be proportional to their water allocation from the system. In any funding plan, the Government will reserve the right to pay the capital cost through either periodic assessments, or by a lump sum amount. The Government does not intend to be a party to any agreement in which military appropriations fund an inequitable portion of the capital cost of the Project. The \$7,400,000 annexation fee shall not count toward the Government's share of the Project's capital cost.

(4) The MCWRA's cost to operate and maintain (O&M) the Project should be distributed on the basis of water usage or allocation. If the MCWRA proposes to distribute O&M costs on the basis of property area, then the Government only intends to pay such an assessment and any applicable standby charges on the Fort Ord Lands needed to support Army missions, i.e., POM Annex and RC. The Government will not pay O&M assessments or standby charges for any Fort Ord property in a caretaker status awaiting disposal. Any federal entities which have acquired portions of Fort Ord will not pay standby charges on property which is unsuitable for development.

(5) Prior to either the initiation or commitment of any military appropriations to the Project by the Government, the MCWRA shall complete all appropriate feasibility studies and environmental reviews. With respect to only Fort Ord Lands under Army control, participation in the Project, or any other water supply project is subject to compliance with applicable federal laws and regulations, e.g., Army Regulation 420-41 and Federal acquisition regulations; and subject to final review and approval by the Government.

(6) As Fort Ord/POM Annex/RC will, upon Project Implementation, rely on the MCWRA's ability to provide potable water, the MCWRA shall defend the rights of Fort Ord/POM Annex/RC to a water supply upon implementation of the Project as though those rights were its own.

5. Funding:

a. The Government hereby obligates, pursuant to section 2702 of Public Law 102-190, \$7,400,000 for the annexation fee, the basis of which is set forth in Appendix D, section IV.F.1. Upon completion of the annexation, the Government shall make payment to the MCWRA in the amount of \$7,400,000.

SUBJECT: Annexation of Fort Ord into Zones 2 and 2A of the Monterey County Water Resources Agency

b. The \$7,400,000 annexation fee shall be the maximum Government payment in consideration for the annexation of the Fort Ord Lands and the execution of this agreement.

c. The parties recognize that this agreement is subject to the availability of funds provided by Congress.

6. Duration of Agreement:

a. If the Government decides to participate in a Project developed by an organization other than the MCWRA pursuant to paragraph 4.j. of this agreement, the MCWRA agrees to either terminate this agreement or negotiate modifications to it if so requested by the Government.

b. In the event the Army ends its presence at Fort Ord, the MCWRA agrees to either terminate this agreement or negotiate modifications to it if so requested by the Government.

c. If Fort Ord has not been annexed to the Zones by September 30, 1995, the MCWRA agrees to either terminate this agreement or negotiate modifications to it if so requested by the Government.

d. If the MCWRA has not achieved reasonable progress by December 31, 1999, toward implementation of a MCWRA developed project; or a MCWRA developed Project has not been implemented by December 31, 1999, and the Government is not convinced that the MCWRA can achieve Project Implementation within a time frame deemed reasonable by the Government, then the MCWRA agrees to either terminate this agreement or negotiate modifications to it if so requested by the Government.

e. In the event this Agreement is terminated before the annexation has been completed, the MCWRA, in its sole discretion, may continue with the annexation; however, in such circumstance, the Government shall not make any payment for such annexation. In the event this agreement is terminated after the Fort Ord Lands have been annexed into the Zones, the Government will not demand return of the payment. In the event this agreement is terminated by the Government pursuant to any of the above conditions, the MCWRA agrees not to file any claim against the Government related to the termination.

SUBJECT: Annexation of Fort Ord into Zones 2 and 2A of the Monterey County Water Resources Agency

7. Binding on Successors: This agreement shall be binding upon and shall inure to the benefit of the non-federal successors and assigns of the Government's interest in the property now known and referred to as Fort Ord, California, except that this agreement shall not exempt any such non-federal successor or assign, whether of fee title or some lesser interest in the property, from any ordinance or other regulation enacted by the MCWRA or from any assessment, charge, tax, or other monetary exaction levied by the MCWRA. All such non-federal successors and assigns shall be subject to regulation and be subject to assessment, charge, tax, or other monetary exaction to the extent allowed by law at the time such enactment or levy is in effect.

FOR THE UNITED STATES
OF AMERICA

FOR THE MONTEREY COUNTY
WATER RESOURCES AGENCY



Acting Assistant Secretary
of the Army for Installations,
Logistics and Environment



Monterey County
Board of Supervisors

9/10/93

Date

September 21, 1993

Date

Appendices:

- A - California Water Code, Appendix 52-43
- B - Addendum No. 1 to the Memorandum Of Agreement Between the MCWRA, the Monterey Peninsula Water Management District, and the Pajaro Valley Water Management Agency
- C - Location of the Existing Wells
- D - Annexation Assembly and Evaluation Report

WATER CODE—APPENDIX

App. § 52-43

§ 52-43. Annexation to zones

Sec. 43. (a) In addition, or as an alternative, to the procedures for amending zones described in Section 7, any territory in the agency lying within the watershed within which a zone is situated may be annexed to that zone pursuant to this section. Territory which is in, or annexed to, one zone may be annexed to another zone pursuant to this section.

(b) The following applies with respect to the annexation of new territory to any zone pursuant to this section:

(1) (A) A petition for annexation by election signed by 25 percent of the freeholders residing in the territory proposed to be annexed as shown by the last equalized assessment roll of the county shall be presented to the board.

(B) The petition shall designate specifically the boundaries of the territory proposed to be annexed and its assessed valuation as shown by the last equalized assessment roll and shall ask that the territory be annexed to the zone. The petition shall be accompanied by a bond in the sum of not less than one hundred dollars (\$100), to be approved by the board and filed with the clerk of the board as security for the payment by the petitioners of the reasonable cost of the election on annexation, in the event that at the election less than a majority of the votes cast are in favor of annexation. The petition shall be verified by the affidavit of one of the petitioners.

(C) The petitioner shall be published by the petitioners for at least two weeks preceding its hearing in a newspaper of general circulation published in the zone, if there is one, or, if not, in a newspaper of general circulation published in the agency, together with a notice stating the number of signers of the petition, the time when the petition will be presented to the board and that all persons interested may appear and be heard. It shall not be necessary to publish the names of the signers.

(D) At the time specified for the hearing, the board shall hear the petition and may adjourn the hearing from time to time. Upon final hearing of the petition, the board, if it approves the petition as originally presented or in a modified form, shall make an order describing the exterior boundaries of the territory proposed to be annexed and ordering that an election be held in such territory for the purpose of determining whether or not the territory shall be annexed to the zone. The order shall fix the day of the election, which shall be within 60 days from the date of the order, and shall show the boundaries of the territory proposed to be annexed to the zone and shall set forth the measure to be submitted to the voters of such territory and shall designate the precincts, polling places and election officers for such election and state the times between which the polls shall be open. The order shall be published pursuant to Section 6066 of the Government Code. This order shall be entered in the minutes and is conclusive evidence of a due presentation of a proper petition, and of the fact that each of the petitioners was, at the time of the signing and presentation of the petition, qualified to sign.

(E) The election shall be held and conducted as provided in Chapter 1 (commencing with section 22000) of Part 1 of Division 12 of the Elections Code and sample ballots and polling place cards shall be mailed as provided in section 10012 of the Elections Code. If a majority of the votes in the territory proposed to be annexed at an election called therein by the board for that purpose are in favor of the annexation, the clerk of the board shall make and cause to be entered in the minutes and endorsed on the petition an order approving the petition and the petition shall be filed. The entry is conclusive evidence of the fact and regularity of all prior proceedings of every kind required by law and of the facts stated in the entry. The board at its next regular meeting after the entry shall, by an order, alter the boundaries of the zone and annex to it the territory described in the petition. The order of the board is conclusive evidence of the validity of all prior proceedings leading up to the annexation and recited in the order, and from and after the order the territory is part of the zone. If, at the election, less a majority of the votes in a territory proposed to be annexed are in favor of the annexation of the territory to the zone, the signers of the petition shall, within 10 days after the canvassing of the votes of the election, pay to the board the reasonable cost of the election and, if not paid within 10 days, the board may sue on the bond to recover the cost of the election. If the result of the election is against annexation, the board shall, by order, disapprove the petition and enter the order in its minutes. No other proceeding shall be taken in relation thereto until the expiration of six months from the presentation of the petition, except to collect the costs of the election.

(2) (A) A petition for annexation without election signed by the owners of real property in the territory proposed to be annexed which real property represents at least 75 percent of the total assessed valuation of real property in the territory as shown by the last equalized county assessment roll, shall be presented to the board.

(B) The petition shall designate specifically the boundaries of the territory and the assessed valuation of real property therein as shown by the last equalized county assessment roll and shall show the amount of real property owned by each of the petitioners and its assessed valuation as shown by the last equalized county assessment roll. The petition shall ask that the territory be annexed to the zone. The petition shall be verified by the affidavit of one of the petitioners.

(C) The petition shall be published by petitioners at least two weeks preceding the hearing in a newspaper of general circulation published in the zone, if there is one, or, if not, in a newspaper of general circulation published in the agency. With the petition there shall be published a notice stating the number of signers of the petition, the time when the petition will be presented to the board and stating that all persons interested may appear and be heard. It shall not be necessary to publish the names of the signers. A printed copy of the petition and notice as so published shall be mailed pursuant to Sections 53520 to 53523, inclusive, of the Government Code.

(D) At the time designated the board shall hear the petition and any person interested, and may adjourn the hearing from time to time. Upon the hearing of the petition, the board shall determine whether or not it is in the best interests of the zone and the territory that the territory be annexed to the zone and the board may modify the boundaries of the territory proposed to be annexed as set forth in the petition by decreasing the area of the territory. If the board upon final hearing determines that it is in the best interests of the zone and of the territory proposed to be annexed that the territory be annexed, it shall make an order describing the boundaries of the territory proposed to be annexed and shall alter the boundaries of the zone and annex to it the territory described in the petition and the territory is then a part of the zone.

(3) A petition for annexation without election signed by 100 percent of the owners of real property in the territory proposed to be annexed may be presented to the board. The petition shall designate specifically the boundaries of the territory and shall ask that the territory be annexed to the zone. The petition shall be verified by the affidavit of one of the petitioners. The board shall determine, upon reviewing the petition, whether or not it is in the best interest of the zone and the territory that the territory be annexed to the zone. The board may modify the boundaries of the territory proposed to be annexed as stated in the petition by decreasing the area of the territory. If the board determines that it is in the best interest of the zone and of the territory proposed to be annexed that the territory be annexed, the board shall make an order describing the boundaries of the territory proposed to be annexed and shall alter the boundaries of the zone and annex to it the territory described in the petition, and the territory is then a part of the zone.

(4) No petition or request for annexation pursuant to paragraphs (1) to (3), inclusive, may be accepted by the board if a zone annexation petition involving any of the same territory is pending before it for annexation to the same zone.

(5) An order for annexation may be by ordinance or resolution. Whenever any new territory is annexed to a zone, the territory thereupon becomes subject to all the liabilities and entitled to all the benefits of the zone. Any order for annexation may provide for, or be made subject to, the payment of a fixed or determinable amount of money for the acquisition, transfer, use, or right of use of all or any part of the existing property, real or personal, of the zone. The board may provide that payment of the amounts shall be either: (1) in lump sums or (2) in semiannual installments with interest thereon at a rate not to exceed 12 percent over a period not to exceed 10 years beginning on July 1 following the next succeeding March 1. If the payment is in semiannual installments, the board shall provide in the ordinance that the total of each sum to be paid by each parcel shall constitute a lien on the parcel as of noon on the next succeeding March 1, the same as the lien for general agency and zone taxes; that the semiannual installments shall be paid and collected at the same time and in the same manner and by the same persons as, and together with and not separately from, general agency and zone taxes and shall be delinquent at the same time and thereafter subject to the same thereafter sell, lease, or otherwise dispose of the property in the manner prescribed by law for counties.

(Stats.1990, c. 1159 (S.B.2580), § 41.)

Historical and Statutory Notes

Derivation: Former § 52-31, enacted by Stats.1947, c. 699, § 31.

ADDENDUM NO. 1 TO
MEMORANDUM OF AGREEMENT BETWEEN
THE MONTEREY COUNTY WATER RESOURCES AGENCY,
THE MONTEREY PENINSULA WATER MANAGEMENT DISTRICT AND
THE PAJARO VALLEY WATER MANAGEMENT AGENCY

This is Addendum No. 1 to the memorandum of agreement (MOA) between and among the Monterey County Water Resources Agency (MCWRA), the Monterey Peninsula Water Management District (MPWMD) and the Pajaro Valley Water Management Agency (PVWMA), dated December 15, 1991. The date of this addendum for reference purposes is September 28, 1992.

RECITALS

This addendum to the MOA is entered into in light of the following facts:

A. MCWRA is developing a Seawater Intrusion Program (SIP) to mitigate the effects of seawater intrusion into the groundwater basin along the coast under Ft. Ord, Marina, and the Castroville area. This program has been in the planning stages for several years. As part of this program, it has been proposed that pumping from existing groundwater wells supplying Fort Ord and the Marina County Water District (MCWD) be curtailed or eliminated, the construction of additional wells in the seawater intrusion area be limited or prohibited, and a replacement potable water supply be provided to Fort Ord and the MCWD by MCWRA, from wells to be constructed in the Salinas Valley. In order to control pumping from existing wells, MCWRA may acquire the existing wells. MCWRA may at some time seek to levy assessments within the subject area, to impose charges for water provided to the subject area, and to raise revenues from within the subject area in other ways, in order to operate, maintain, and improve the SIP in that area. MCWRA decisions on whether to proceed with this project will be made in the future.

B. MPWMD has an interest in this part of the SIP, in that part of Fort Ord and adjacent areas are within MPWMD's boundaries. Nevertheless, MPWMD does not wish to participate in the SIP, and does not wish to impede its implementation.

C. The impending closure of Ft. Ord calls for additional coordination among the three parties to this MOA.

D. The Board of Directors and/or Board of Supervisors of the Monterey County Water Resources Agency has requested changes in the original MOA.

(MOA.ADD - 3/15/93)

AGREEMENTS

1. Consent to project within territory of Ft. Ord. The parties hereto agree that MCWRA may carry out the SIP within the territory presently occupied by Fort Ord and northwards along the coast, may acquire existing wells drawing water from the Salinas Valley and other property within the territory, may provide water to the territory in connection with the SIP, and may exercise any regulatory authority within that territory as may be needed in connection with the SIP and may levy assessments and impose charges in connection with the SIP for water provided within such territory, without any further compliance with the terms of the MOA, notwithstanding that any part of such territory may be located within the boundaries of MPWMD.

2. Future expansion of MPWMD boundaries. If MPWMD boundaries are expanded to include additional territory involved in the SIP, MPWMD will not object to the continued operation of the SIP in that area.

3. Coordination of programs and activities in connection with closure of Fort Ord. The MCWRA, PVWMA, and MPWMD will coordinate programs related to the closure of Fort Ord and will cooperate in the implementation of future developments within the Fort Ord area. In anticipation that a portion of the future water delivery system to the Fort Ord area will be located within the MPWMD area and that the water supply for that system will be developed from the MCWRA area which is outside of the MPWMD area, the MPWMD and the MCWRA will comply with one another's ordinances as follows:

(a) The MCWRA shall have exclusive authority to regulate water delivery systems that deliver water to the area that is both within the present Fort Ord boundaries and within the MPWMD boundaries in existence at the time of the regulation, and the MPWMD will comply with any such ordinance enacted by the MCWRA.

(b) The MPWMD shall have exclusive authority to regulate the management of the Seaside groundwater basin within the present Fort Ord boundaries, and the MCWRA will comply with any such ordinance enacted by the MPWMD.

(c) This Memorandum of Agreement does not commit the MCWRA to provide any specific quantity of water to Fort Ord or to any portion of it, nor does it commit the MCWRA to provide any water to Fort Ord from the Salinas Valley Groundwater Basin. It also does not give to another agency the authority to compel provision of water to Fort Ord.

4. Deletion of paragraph 18. Paragraph 18 is deleted from the original MOA.

(MOA.ADD - 3/15/93)

5. Deletion of paragraph 19. Paragraph 19 is deleted from the original MOA.

IN WITNESS WHEREOF, the parties execute this memorandum of agreement as follows:

MONTEREY COUNTY WATER RESOURCES AGENCY:

Dated: May 25, 1993

By *Anthony J. Lynch*
Chair, Board of Supervisors

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT:

Dated: 15 APRIL 1993

By *Ernesto B. ...*
Chair, Board of Directors

PAJARO VALLEY WATER MANAGEMENT AGENCY:

Dated: 7/14/93

By *Edward J. Kelly III*
Chair, Board of Directors

Approved as to form:

William K. Renty
Counsel for MCWRA

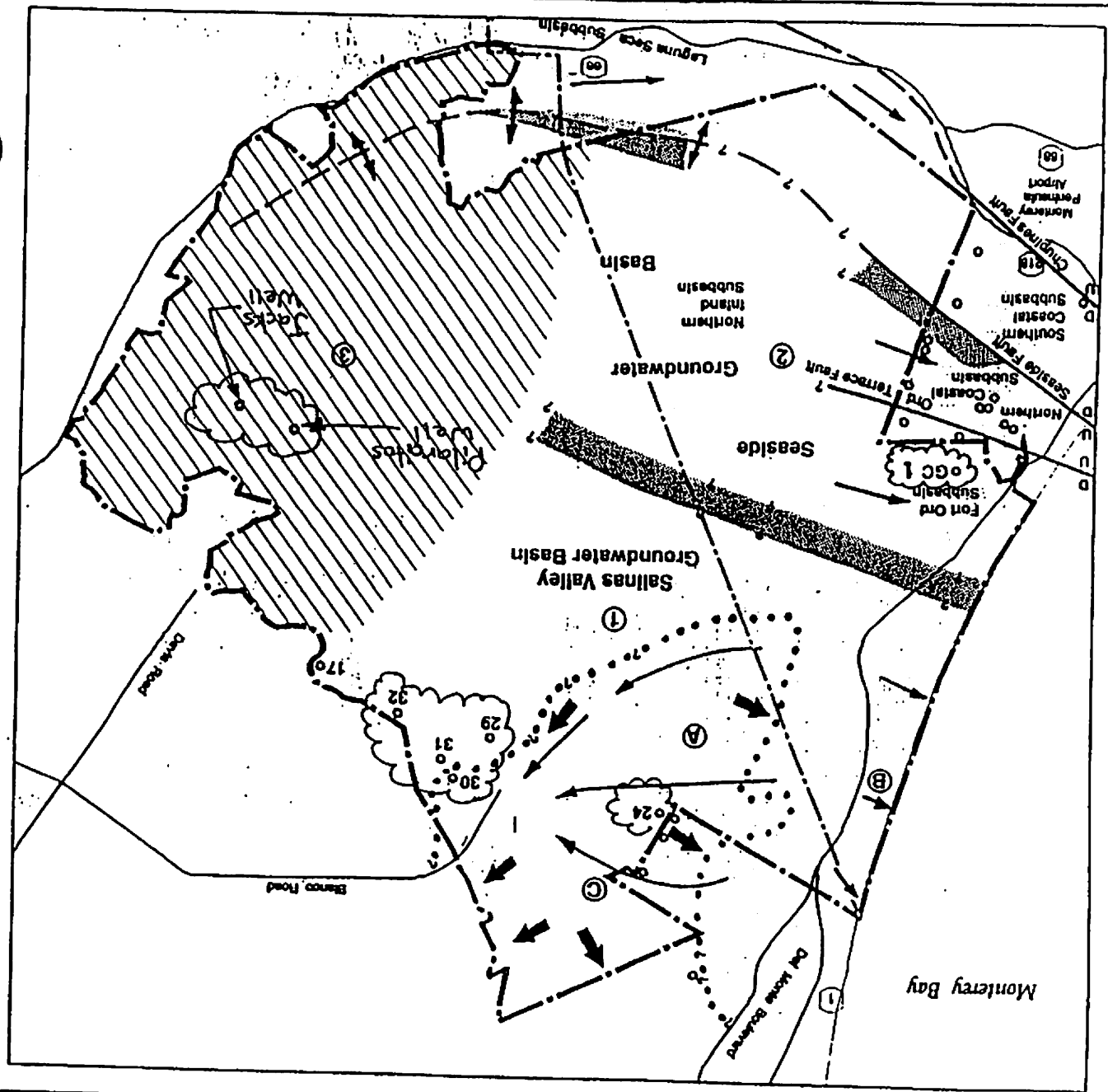
Dated: 5/6/93

Approved as to form:

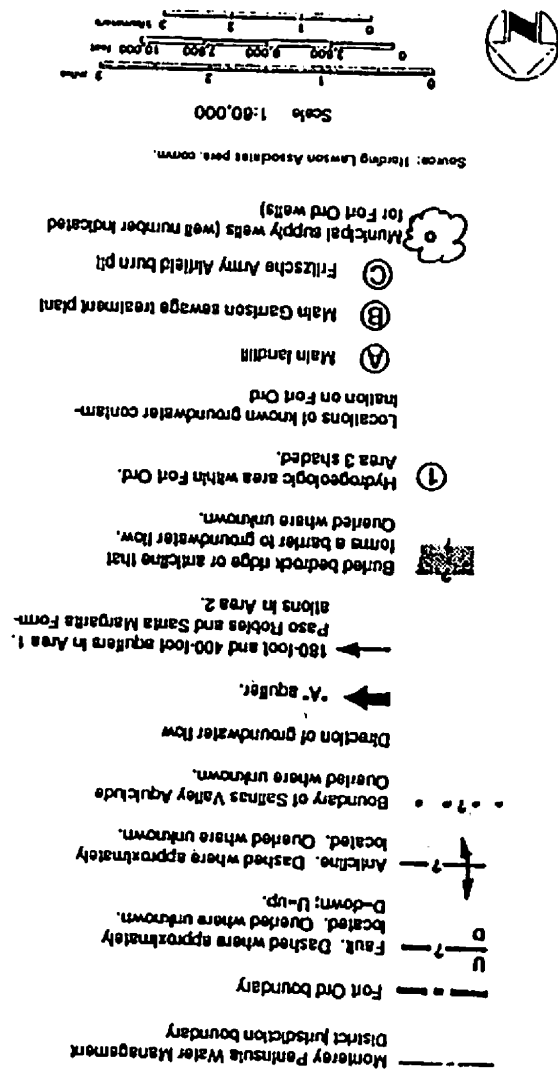
Alvin C. ...
Counsel for MPWMD and PVWMA

Dated: April 7, 1993

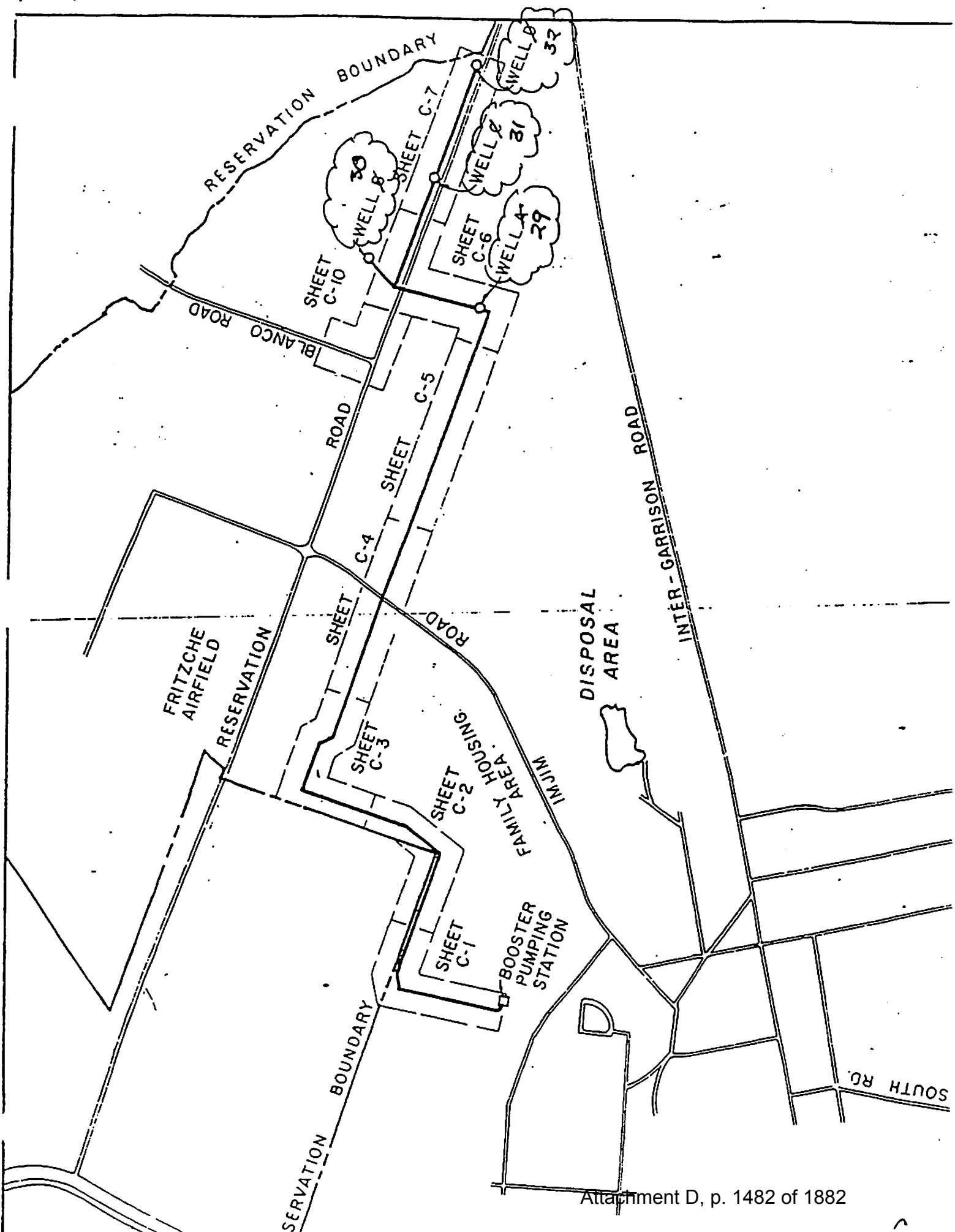
Hydrogeologic Conditions in the Fort Ord Vicinity

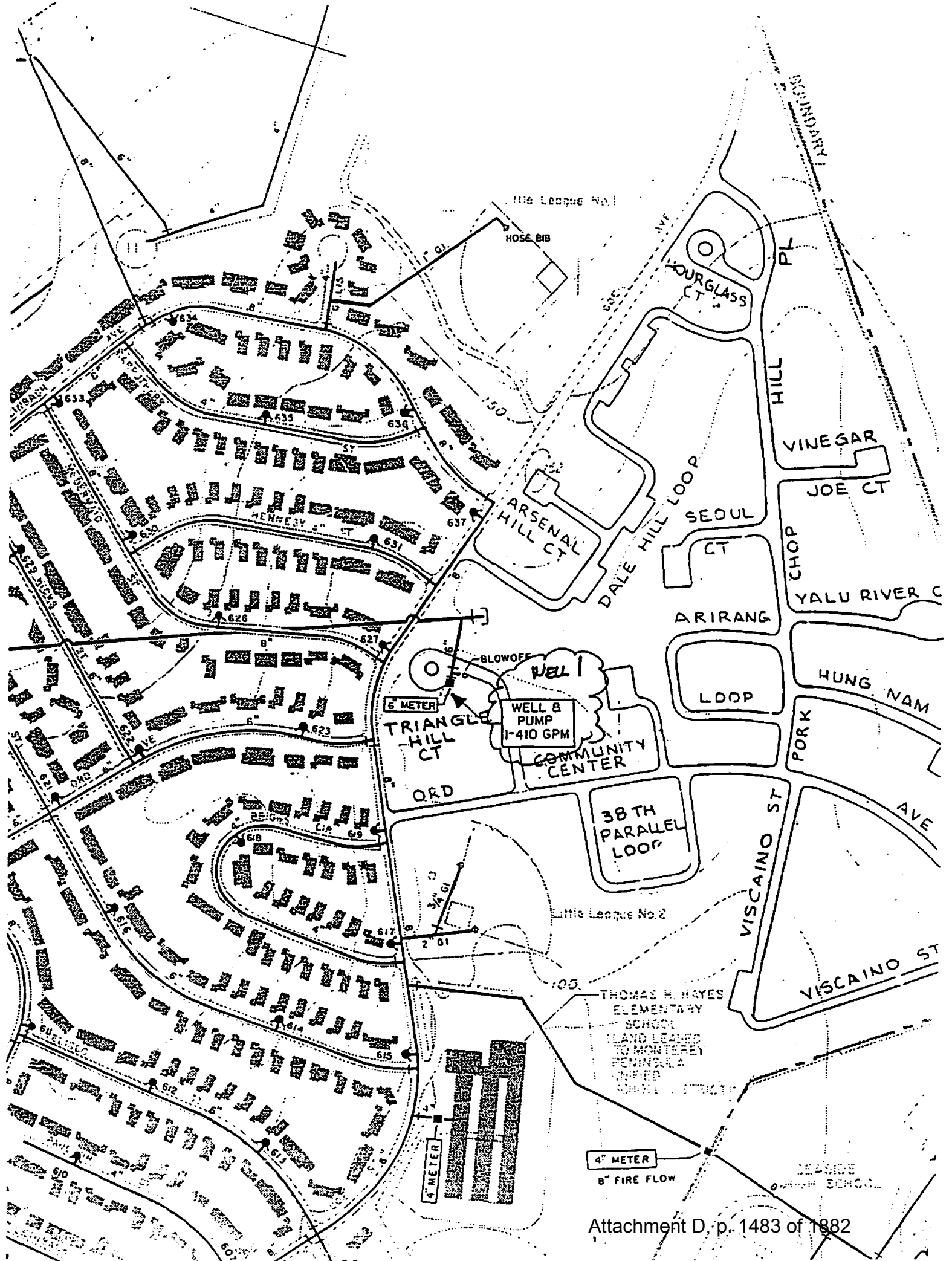


Attachment D, p. 1481 of 1882



Source: Harding Lawson Associates pers. comm.





ANNEXATION ASSEMBLY AND EVALUATION REPORT
FOR THE ANNEXATION OF FORT ORD
BY THE
MONTEREY COUNTY WATER RESOURCES AGENCY
10 SEPTEMBER 1993

I. EXECUTIVE SUMMARY. The purpose of this annexation by the Monterey County Water Resources Agency (MCWRA) is to provide the basis for a long term, reliable, potable water supply to support the Army's residual mission at Fort Ord after it is realigned per the Base Closure and Realignment Act of 1990. Annexation will also facilitate the disposal and reuse of the portions of Fort Ord not needed to support the Army's residual mission. This report provides the background and justification for the annexation, which is contingent on the conditions in the accompanying Agreement. See Exhibit 1 for a regional map showing Fort Ord, and Exhibit 2 for the location of cities surrounding Fort Ord.

II. INTRODUCTION.

A. Overview of Annexation.

1. Fort Ord, like all large communities in North Monterey County, obtains all of its water supply from groundwater. From the map at Exhibit 3, it can be seen that the northwestern part of Fort Ord (Area 1) overlies part of the Salinas Valley Groundwater Basin (Salinas Basin). Within Area 1, there are three aquifers known as the 180-foot, 400-foot, and 900-foot aquifers. These aquifers are not necessarily found in every location of Area 1. Presently, Fort Ord has three active potable wells in the 180-foot and 400-foot aquifers of the Salinas Basin (wells 29, 30, and 31). By California law, the MCWRA has water management authority over the Salinas Basin. The Salinas Basin has been in an overdraft condition for many years.

2. The southwestern part of Fort Ord (Area 2 on the map) overlies the Seaside Groundwater Basin (Seaside Basin), which is divided into several subbasins due to geologic conditions. The part of Fort Ord which overlies the Seaside Basin supplies a substantial amount of recharge to this basin. Presently, Fort Ord has only one active well in the Seaside Basin to irrigate the Fort Ord golf courses (well 1). Due to occasional high salinity, water from this well is considered to be non-potable. By California law, the Monterey Peninsula Water Management District (MPWMD) has water Management authority over the Seaside Basin. In contrast to the Salinas Basin, the Seaside Basin appears to be in a nearly balanced condition.

3. In the eastern part of Fort Ord (Area 3 on the map), the boundary between the Salinas and Seaside Basins is not defined. This is not a significant issue since this area has a low

infiltration rate and subsurface permeability. As a result, the area is unsuitable for significant groundwater development, and it probably doesn't contribute a substantial amount of recharge to the western basins.

4. Pumping by Fort Ord has contributed to the Salinas Basin overdraft, but only to a limited extent as the Fort Ord withdrawals from 1988 to 1992 averaged only 5,200 acre-feet per year compared to the estimated Salinas Basin overdraft of about 50,000 acre-feet per year. The overdraft has resulted in the intrusion of seawater into the Salinas Basin which has caused the contamination of many wells along the entire coastal region, including several on Fort Ord. Although recent studies show that the rate of seawater intrusion may have slowed in the Fort Ord area, the seawater is continuing at a rapid pace in the Castroville-Salinas area several miles north of Fort Ord. Exhibit 4 shows the seawater intrusion problem. The MCWRA has requested the annexation of all of Fort Ord as part of its long term effort to halt all pumping along the Salinas Basin coastal region by providing a replacement water supply. In this manner, the seawater intrusion could be stopped and perhaps even reversed.

5. Fort Ord realized that the seawater intrusion would eventually contaminate its remaining wells, so in January 1990 the President requested Congress approve a military construction project for \$7,400,000 to "Purchase part of a regional water supply system, as the first phase of a two-phase regional water supply project to provide a dependable long-term water supply for Fort Ord and the cities of Marina and Castroville." The fiscal year 1991 Defense legislation provided a \$7,400,000 authorization and appropriation for the annexation of Fort Ord into the MCWRA. Additional funds for the Army's share of the regional water supply project (second phase) were never budgeted because the 1991 Defense Base Realignment and Closure process (BRAC 91) dictated that the 7th Light Infantry Division stationed at Fort Ord relocate to Fort Lewis, Washington. As a consequence, the Army deferred action on the annexation until the future status of Fort Ord was determined, and more information was available on the cost for the Army to participate in a regional water supply project.

6. Pursuant to BRAC 91, part of Fort Ord will be retained to support the Defense Language Institute (DLI) at the nearby Presidio of Monterey (POM). This Fort Ord enclave is designated as the POM Annex. Additionally, a 12 acre Reserve Center within Fort Ord will be retained (not contiguous to the POM Annex). As part of the BRAC 93 process, the Army recommended that the POM and POM Annex be closed, and the DLI be relocated to Fort Huachuca, Arizona. However, the 1993 Defense Base Closure and Realignment Commission's recommendations, which the President endorsed to Congress, call for the DLI to remain at the POM, and for the POM Annex to be downsized to only include housing and the commissary, child care facility, and post exchange. Congress is not expected to disapprove the Commission's recommendations.

7. With a BRAC 93 decision to retain an Army presence at Fort Ord, it is imperative that the Army obtain a reliable water supply to support the residual mission. For the Army to gain access to a regional water supply project being developed by the MCWRA, annexation is required. Annexation will also benefit the Army by facilitating the disposal and reuse of the parts of Fort Ord to be excessed. More detail on these and other benefits is provided in section IV.E. of this report.

B. Area to be Annexed. The area to be annexed is the whole of Fort Ord, California, which is made up of 28,602.84 acres. Refer to Exhibits 14 through 18 for real estate maps of the installation.

C. Purpose of the Area and Mission Objectives. Prior to BRAC 91, Fort Ord's primary purpose was to station the 7th Light Infantry Division. Subsequent to BRAC 93, the installation's primary purpose will be to provide housing and other facilities in support of the nearby POM and Naval Post Graduate School.

D. Present and Future Uses of the Property. Relocation of the 7th Light Infantry Division is in progress with the last units scheduled for departure by December 1993. Pursuant to BRAC 91, the Army is disposing of excess property in accordance with applicable law. To support the residual mission, the POM Annex is presently configured to occupy about 1,500 acres. However, under BRAC 93, the POM Annex is to be downsized by excessing facilities such as both golf courses. The Environmental Impact Statement for the disposal and reuse of Fort Ord, which is nearing completion, has identified the following possible uses for the parts of Fort Ord to be excessed: educational, office park (private and government), commercial, recreational, aviation, natural resource management, and housing.

E. Acquisition Origin of Fort Ord. The original Fort Ord reservation comprising 15,809.50 acres was purchased by the United States from the David Jacks Corporation on 4 August 1917. After 1940, an additional 12,793.34 acres were acquired. The total area is 28,602.84 acres.

F. Political Subdivision Seeking Annexation. The subdivision seeking annexation of all the lands comprising Fort Ord is the MCWRA which, per California law, is responsible for managing the surface water and groundwater resources in the Salinas Valley and providing flood control and water conservation services throughout Monterey County. MCWRA is requesting that Fort Ord be annexed into Zones 2 and 2A. The MCWRA established Zone 2 as the benefit assessment zone in connection with the construction of Nacimiento Reservoir (completed in 1957), and established Zone 2A as the benefit assessment zone in connection with the construction of San Antonio Reservoir (completed in 1967). Since the construction of these reservoirs, the MCWRA has operated a groundwater recharge program for the benefit of Zones 2 and 2A, using waters from the

two reservoirs and other programs to enhance natural percolation in the Salinas Basin. It is appropriate for Fort Ord to be annexed into Zones 2 and 2A because Fort Ord's potable water supply has historically come from the Salinas Basin. Per a Memorandum of Agreement signed in May 1993 between the MPWMD and MCWRA, the MPWMD does not object to the MCWRA annexing that part of Fort Ord overlying the Seaside basin provided that the MPWMD retains water management authority over the portion of the Seaside Basin underlying Fort Ord. Refer to Exhibit 19 for a large map showing the existing boundaries of Fort Ord and Zones 2 and 2A. Note that although a small portion of Fort Ord is currently shown to be within Zones 2 and 2A, the property is not presently annexed. Refer to Exhibit 20 for a large map showing the entire area of Zones 2 and 2A.

III. LEGAL STATUS OF THE PROPERTY

A. Title Held by the Government. The Army has a fee title interest in the property proposed for annexation. This action by the MCWRA will not affect the Army's title.

B. Degree of Legislative Jurisdiction. The degree of jurisdiction over most of the property is exclusive federal jurisdiction. Annexation will not alter this jurisdiction and it will not interfere with official Army activities or functions including those remaining after realignment and closure.

C. Applicable State Annexation Laws and Ordinances. The procedures for annexation are found in California Water Code, Appendix 52-43 (see Appendix A to the Agreement). The Army intends to petition the MCWRA Board of Supervisors for annexation pursuant to section 43.(b)(3). Pursuant to section 43.(b)(5), annexation may require a fee. See section IV.F. of this report for a discussion of the annexation fee.

D. Regulations on Annexation. The following govern the actions of the Army in annexations:

1. Army Regulation 405-25, Annexation (1 April 1974).

2. Engineering Regulation 405-1-12, Chapter 9, Federal Legislative Jurisdiction and Annexation (Change 4, 5 September 1978).

IV. POTENTIAL IMPACT OF ANNEXATION.

A. Source of Utilities. Water is the only utility that will be affected by the proposed annexation. Fort Ord now receives all of its water from wells on Fort Ord that are owned and operated by the Army. Since seawater intrusion is threatening these wells, the Army needs a long term, reliable, replacement water supply. Such

a water supply would likely come from a future MCWRA project; however, the Agreement provides the Army with the flexibility to obtain a replacement water supply from another source if the opportunity arises and it is in the Army's best interests. The replacement water supply system will provide water in bulk to the installation. The Army or a successor entity will continue to be responsible for operating and maintaining the water distribution system on Fort Ord Lands. Paragraph 4.d. of the Agreement addresses the fact that the Army will retain the necessary easements to operate and maintain Army wells.

B. Adverse Impacts on the Mission.

1. Utilities and Services. Annexation will have no impact on Fort Ord utilities and services, or the installation's plan to find a water purveyor to take over the water distribution system.

2. Taxation and Licensing. Municipalities acquire the power to tax private persons and private property by annexation. Military personnel, to some extent, and Government instrumentalities such as Post Exchanges are exempt from such taxation. The Agreement states that the Army will provide the MCWRA with \$7,400,000 in consideration for the annexation. However, the Agreement also stipulates that the Army will not pay any MCWRA assessments (including standby charges) until after the POM Annex and Reserve Center gain access to a replacement water supply provided by the MCWRA (see paragraph IV.F.2.). To the extent that federal property may be exempt from local assessments, a utility service contract in accordance with AR 420-41 between the Army and the MCWRA may require the payment of a contractual fee to replace any assessments. Such fee will be mutually agreed upon.

C. Effect on Installation Master Plans. Upon annexation, the MCWRA will acquire some control over Fort Ord's water supply. From a practical standpoint, this control should not prevent the Army from constructing any projects needed to support Fort Ord's residual mission. Additionally, the Agreement provides Fort Ord with special rights to obtain any water needed in the event of war, national emergency, contingency operation, troop mobilization, or unexpected mission requirements.

D. Annexor's Capability to Furnish Benefits.

1. The main benefit the Army expects to receive from the MCWRA is a long term, reliable water supply. Based on its charter, the MCWRA should be the most capable organization to plan, finance, construct, and operate a regional water supply system. The MCWRA's first attempt to develop a water supply system for Fort Ord and Marina was halted in 1992 due to opposition from land owners in and around the proposed Buena Vista well field (located inland from Fort Ord). This project had a capacity of 11,600 acre-feet/year.

2. An alternative project now being studied by the MCWRA consists of dispersed wells along a 20 mile stretch of the Salinas River and storing excess runoff from the Arroyo Seco River (a tributary of the Salinas River) in a shallow aquifer using percolation ponds. Water would then be pumped from the dispersed well system and from the shallow aquifer to replace the potable wells serving Fort Ord, Marina, Salinas, Toro Park, and perhaps other areas in north Monterey County. Water would also be provided to recharge the Salinas Basin near the coast to raise the groundwater level and halt (or even reverse) the seawater intrusion. The Water Transfer Project is being planned for a capacity of about 50,000 acre-feet per year. Construction completion is planned by the year 2000. The MCWRA's current estimated cost of this project is \$157 million, which equates to a capital cost of \$3,155 per acre-foot per year.

3. There is another MCWRA project to mitigate seawater intrusion which is already under design. The project will upgrade the existing regional sewage treatment plant to tertiary standards, and pipe the effluent to Castroville for crop irrigation. This project should provide about 19,500 acre-feet per year, and is estimated to cost \$71 million. When this project comes on line (maybe as early as 1996), the estimated 50,000 acre-feet per year Salinas Basin overdraft will be significantly reduced. This should extend the life of all wells near the coast, including those on Fort Ord. The MCWRA intends to use the Army's \$7.4 million annexation fee to complete design of the Castroville Project.

4. Based on the above reasons, it is concluded that the MCWRA is the most capable organization to provide a reliable water supply for the Fort Ord Lands. This is a challenging task as the MCWRA is under considerable pressure to develop a regional water supply project quickly because the wells serving over 100,000 people in the coastal region are being threatened by seawater intrusion. Because of this threat, the State Water Resources Control Board is monitoring the MCWRA's progress in this area. If the MCWRA, for whatever reason, is unable to develop a regional water supply system, then the Agreement permits the Army to obtain a long term water supply for the POM Annex and Reserve Center from another party. Additionally, even if the MCWRA is making progress in developing a regional water supply project, the Agreement provides the Army the option of obtaining a long term water supply for the POM Annex and Reserve Center from another party if it is in the Army's best interests, e.g., the other water source is less costly or available at a more advantageous time.

E. Benefits to Accrue from Annexation. Upon annexation of Fort Ord into Zones 2 and 2A, the MCWRA will not immediately provide any direct governmental service on the installation. The benefits of annexation will accrue initially on an indirect basis, and direct services will be provided later. The benefits to the Army from annexation are as follows:

1. The most important benefit of annexation is that it will allow the Fort Ord Lands to gain access to a regional water supply project being developed by the MCWRA. Fort Ord's existing wells are being threatened by seawater intrusion due to the existing Salinas Basin overdraft. The MCWRA is the most capable, and most likely entity to implement a regional water supply project to support the POM Annex and Reserve Center.

2. Another important benefit is that annexation will facilitate the disposal and reuse of the parts of Fort Ord to be excessed under base closure and realignment. This is the main reason for annexing all Fort Ord Lands at this time instead of waiting to annex just the POM Annex and Reserve Center after the MCWRA has better defined its proposed regional water supply project, i.e., all environmental permits and approvals obtained. Under the Agreement, the new owners of Fort Ord excessed property would have the right to drill and pump on their property subject to the conditions described in paragraph IV.E.3. below, and paragraph 4.c. of the Agreement. Also, property which has already been annexed by the MCWRA will be easier to dispose because of its potential access to a long term water supply project being developed by the MCWRA, and a short term water supply from Fort Ord's existing wells (see paragraph IV.E.3. below). Without annexation, the MCWRA or state regulatory agencies could object to the Army providing water to owners of excessed Fort Ord property, even if only for a short duration. Additionally, these same agencies could severely limit or control pumping by the owners of excessed Fort Ord property due to the Salinas Basin overdraft. Lastly, even if all of these new property owners wanted to be annexed, it would be an administrative burden for the MCWRA compared to annexing just Fort Ord.

3. Until the MCWRA's regional water supply project is implemented, annexation will give the Army the right to withdraw up to 6,600 acre-feet per year from the Salinas Basin underlying Fort Ord Lands, and allow the Army to allocate some of this water for reuse. The Army or its successor water purveyor, utility, or agency may also develop groundwater supplies located outside the Salinas Basin. The amount of water needed to support the Fort Ord residual mission was the subject of a June 1993 Report titled "Water Requirements at Fort Ord Under Base Realignment and Closure", which was prepared under the supervision of the Army Corps of Engineers, Institute for Water Resources (IWR). This report concluded that the POM Annex, as presently configured, would require in fiscal year 1995 1,085 acre-feet of potable water provided that additional water conservation measures are implemented. This report also estimated that 403 acre-feet of non-potable water would be used in fiscal year 1995. The non-potable water is pumped for the golf courses from a well located in the Seaside Basin. These requirements would decrease if the POM Annex is downsized in accordance with BRAC 93. Based on a POM Annex potable water requirement of 1,429 acre-feet per year (IWR estimate plus appropriate adjustments computed by Fort Ord), there could be

up to 5,171 acre-feet per year of water available for reuse and to maintain any undisposed Fort Ord Lands and facilities in a caretaker status. Note that the Agreement only allows 5,200 of the 6,600 acre-feet per year threshold to be pumped from the 180-foot and 400-foot aquifers in the Salinas Basin. Fort Ord's active potable wells draw from the 180-foot aquifer, so a new well into the 900-foot aquifer would be needed to gain access to the additional 1,400 acre-feet per year. The Agreement also states that Fort Ord groundwater withdrawals for environmental restoration will not count toward the 6,600 acre-feet per year threshold because either the withdrawals will be small, or if they are large, the water will probably be disposed in the sanitary sewer system where it will be used by the Castroville Sewage Reclamation/Irrigation Project to help reduce seawater intrusion.

4. There is concern that the Fort Ord wells could become contaminated with seawater before the MCWRA implements their regional water supply project. In this event, annexation would be a benefit to the Army because the MCWRA will provide Fort Ord with the same services as they would provide to any other municipal water supplier in the Zones under this circumstance, i.e., assistance in finding an interim water supply and in obtaining any permits. The Army would bear the cost of obtaining this interim water supply. Under the Agreement, the MCWRA will periodically provide Fort Ord with the estimated remaining life of their wells, and the progress on the MCWRA Water Transfer Project.

5. Annexation will resolve questions concerning Fort Ord's right to withdraw groundwater from the Salinas Basin. The Agreement states that in consideration of the \$7,400,000 annexation fee, the MCWRA will release the Government from any financial responsibility for existing MCWRA water projects from which Fort Ord may have benefitted (Nacimiento and San Antonio Reservoirs). Additionally, the Agreement states the MCWRA will release the Government from any claims related to seawater intrusion in the Salinas basin.

6. Under California law, annexation will provide the Fort Ord with the same representation in MCWRA matters as any other property owner in Zones 2 and 2A.

7. Another benefit of annexation is that the enclosed Agreement includes some of the conditions which must be satisfied for the Army to participate in a future MCWRA regional water supply project. The objective of these conditions is to assure that the regional water project costs assigned to the Army are equitable in comparison to the Army's allocation of water from the project. These protections are very important in view of the fact that the Army believed it was being saddled with a disproportionate cost share of the original Buena Vista project, and the fact that the POM Annex will only require a small part of the capacity of MCWRA's proposed regional water project. The Army strongly believes that part of the cost of a regional water project must be funded by all

members of Zones 2 and 2A. The water supply project is just as important to halting seawater intrusion as the Castroville Sewage Reclamation and Irrigation project, and the MCWRA plans to have 50 percent of this project funded by Zone 2 and 2A members not receiving water from the Castroville project.

F. Effect on the Budget of the Installation.

1. Annexation Fee: The Army and the MCWRA have agreed upon an annexation fee of \$7,400,000, which was authorized and appropriated by Congress in the fiscal year 1991 Defense legislation. The amount of the fee is related to the benefits provided by MCWRA's existing water projects (Nacimiento and San Antonio Dams) and water management practices which protect the yield of the Salinas Basin. It is from this basin that Fort Ord has historically obtained its potable water supply. The annexation fee is consistent with the current MCWRA Annexation Policy at Exhibit 5. There are two components of the fee - for area and water use. The area component is the area to be annexed in acres times \$277. The \$277 is the sum of the present worth capital cost of each dam divided by the acreage of its respective zone. The water use component is \$783 times the maximum amount of water to be pumped from the Salinas Basin in acre-feet per year. The \$783 is the present worth, on a acre-foot per year basis, of past operation and maintenance costs for Zones 2 and 2A. Based on information from current and former Fort Ord personnel, it appears that MCWRA's current annexation policy was in effect when the Congressional budget estimate for the annexation fee was developed in 1989. The area component of the fee was apparently computed by using 8,000 acres multiplied by \$277/acre or \$2,216,000. Since the existing Fort Ord developed area is about 5,000 acres, the 8,000 acre figure was apparently used to account for future growth. The water use component apparently was developed using the peak withdrawal of 6,600 acre-feet/year (1984) multiplied by \$783/acre-foot/year or \$5,167,000. The area and water use components total \$7,383,800, which was rounded to \$7,400,000. The Agreement stipulates that the \$7,400,000 fee will be paid to the MCWRA after completion of the annexation.

2. Annual Assessments: The Agreement stipulates that until the POM Annex and Reserve Center receive water from a MCWRA water supply project, the Army shall not pay any assessments such as standby charges, water delivery charges, or water project assessments. Standby charges, which generally fund the MCWRA administrative costs, vary from year to year and have increased over time. At present, these charges are limited to a maximum of \$15 per acre per year for each zone, per the California Water Code, Appendix 52-12. For the POM Annex and the Reserve Center, which after annexation will be in two zones (2 and 2A), this would amount to a maximum of \$30 per acre. The Army's potential water project assessments (capital costs) and water delivery charges (operation and maintenance) are discussed in Agreement paragraphs 4.j.(3) and

4.j.(4), respectively. The Agreement stipulates that the Army will not pay any assessments or charges on Fort Ord property in a caretaker status awaiting disposal. Additionally, paragraph 7 of the Agreement provides the MCWRA with expanded authority to collect assessments from Fort Ord property leased to private interests by the Army.

V. POSITION OF COUNTY AND OTHER GOVERNMENT ENTITIES ON ANNEXATION.

A. MCWRA. The MCWRA initiated the annexation of Fort Ord to help solve the Salinas Basin seawater intrusion problem, and guarantee a continuing supply of potable water for Fort Ord. Annexation is a necessary step in this process. The MCWRA is moving toward annexing all property within the Salinas Basin so they can effectively manage the aquifer. With the annexation of Fort Ord and Marina, which are both in progress, all major properties within the Salinas Basin will be annexed.

B. Other Political Subdivisions. Letters were sent by the MCWRA to other communities and agencies that share boundaries with Fort Ord or have an interest in the annexation of Fort Ord by the MCWRA. The respondents, with their comments, are listed below. A sample copy of the letter is attached (Exhibit 6), as well as copies of the responses.

1. City of Monterey, CA; voted not to oppose annexation (Exhibit 7).

2. Monterey County Local Agency Formation Commission; voted to support (Exhibit 8).

3. Marina Coast Water District (formerly known as the Marina County Water District); voted not to oppose annexation (Exhibit 9). The Marina Coast Water District is currently working with the MCWRA to be annexed into zones 2 and 2A because of their concerns over the long term reliability of their existing groundwater supply.

4. Monterey Peninsula Water Management District; approved the annexation (Exhibit 10).

5. City of Del Rey Oaks, CA; voted not to oppose annexation (Exhibit 11).

6. City of Marina, CA; initially voted to table consideration of support or opposition to the annexation. The City of Marina has subsequently agreed not to oppose annexation provided that the Agreement stipulates that Fort Ord may pump up to 6,600 acre-feet of water per year from its wells, and that water not needed for the residual mission can be provided for reuse (Exhibit 12). This provision is contained in paragraph 4.c. of the Agreement.

7. City of Seaside, CA; opposes the annexation (Exhibit 13). It is concluded that in spite of this opposing response, Fort Ord should be annexed by the MCWRA. The first reason is that annexation under the terms of the attached Agreement is in the Army's best interest. The second reason is that the Army concludes there is no reasonable basis for a conflict because the Seaside groundwater supply, which is managed by the MPWMD, will not be affected by the MCWRA's annexation of Fort Ord.

VI. CONCLUSION AND RECOMMENDATIONS. This annexation is in the best interests of the Government, and it is recommended that it be approved contingent on the provisions in the attached Agreement.

EXHIBITS:

- 1 - Regional map
- 2 - Vicinity map
- 3 - Map of the Salinas Valley Groundwater Basin
- 4 - Figures showing the seawater intrusion problem
- 5 - MCWRA annexation policy
- 6 - Typical MCWRA letter sent to local interests to obtain comments on the MCWRA's proposed annexation of Fort Ord
- 7 - Response, City of Monterey
- 8 - Response, Monterey County Local Agency Formation Commission
- 9 - Response, Marina Coast Water District
- 10 - Response, Monterey Peninsula Management District
- 11 - Response, City of Del Rey Oaks
- 12 - Response, City of Marina
- 13 - Response, City of Seaside
- 14 - Fort Ord real estate map, entire installation
- 15 - Fort Ord real estate map, segment 1A
- 16 - Fort Ord real estate map, segment 1B
- 17 - Fort Ord real estate map, segment 1C
- 18 - Fort Ord real estate map, segment 1D
- 19 - Map showing boundaries of Fort Ord and Zones 2 and 2A
- 20 - Map showing entire Zones 2 and 2A

REPORT TO THE BOARD OF SUPERVISORS OF THE
MONTEREY COUNTY WATER RESOURCES AGENCY

SUBJECT	BOARD MEETING DATE	AGENDA NUMBER
APPROVE AND AUTHORIZE THE CHAIR TO SIGN THE AGREEMENT AND ANNEXATION RESOLUTION OUTLINING THE TERMS AND CONDITIONS TO ANNEX FORT ORD INTO MONTEREY COUNTY WATER RESOURCES AGENCY ZONES 2 AND 2A	9-21-93 10:50 AM	
WATER RESOURCES AGENCY		

RECOMMENDATION

Approve and authorize the Chair to sign the Agreement and Annexation Resolution outlining the terms and conditions to annex Fort Ord into Monterey County Water Resource Agency Zones 2 and 2A.

SUMMARY

The United States Army has presented the Monterey County Water Resources Agency (MCWRA) with a petition to be annexed into MCWRA's Zones 2 and 2A. The petition includes an Agreement covering the terms and conditions for the annexation (copy attached). On September 13, 1993 the MCWRA Board of Directors received the Agreement and voted to recommend it be approved by your Board. Since the Agreement has been signed by the authorized representative for the Army, your Board's approval and signature by your Board Chair on the Agreement and Annexation Resolution will complete the annexation action and obligate the Army to a payment of \$7.4 million to the MCWRA.

DISCUSSION

- ✓ On July 10, 1990 the Monterey County Board of Supervisors, acting then for the Monterey County Flood Control and Water Conservation District, authorized the Chair of the Board of Supervisors to sign a Memorandum of Agreement (MOA) that contained the terms and conditions for the annexation of Fort Ord into MCWRA Zones 2 and 2A. The MOA was never co-signed by the Army at that time because it did not address the closure of Fort Ord.
- ✓ On April, 1993 Army officials on Fort Ord submitted an MOA to the MCWRA for approval. This MOA was approved by the Board of Supervisors on April 20, 1993. When this version of the MOA was received by Army officials in Washington DC, it was rejected on the grounds that it did not sufficiently address the down-sizing of Fort Ord or the Installation's future reuse.

The MOA was changed to an "Agreement" and re-written by Army officials in the Pentagon. The Agreement as is now being presented preserves the key components of the earlier MOA and more completely addresses the Army's declining presence on Fort Ord. It establishes a total cap on groundwater pumping from the Salinas Groundwater Basin, quantifies the amount of water the Army will need for their residual presence and quantifies the amount of water that will be available for civilian reuse.

Approval of the Agreement and the Annexation Resolution by the Board of Supervisors at this time will complete the annexation. The Army will become contractually obligated to pay the agreed annexation fee of \$7,400,000 upon being presented with the signed Agreement and Annexation Resolution.


The Agreement consists of the Petition for Annexation and Appendices A, B, C, and D. Exhibits to Appendix D, are available upon request at the offices of the MCWRA.

OTHER AGENCY INVOLVEMENT

In August of 1992 the MCWRA sent a letter to all the Communities surrounding Fort Ord and to other agencies that might be affected by the annexation of the Fort into MCWRA Zones 2 and 2A. The letter indicated the MCWRA's intent to pursue the annexation and it asked the addressees to indicate their support or opposition to the intended action. A summary of the responses is shown on pages 10 and 11 of Appendix D, the Annexation Assembly and Evaluation Report. In addition, on September 9, 1993 the Fort Ord Reuse Group wrote a letter to the Army in support of the annexation.

FINANCING

There is no impact to the General Fund. After annexation, the MCWRA would receive \$7.4 million from FY 1991 Military Construction Army appropriated funds. The full amount is scheduled to be applied against the costs of the Castroville Reclamation and Irrigation Project.



William F. Hurst
General Manager

*Before the Board of Supervisors in and for the
County of Monterey, State of California*

COPY

Agreement No. A-06404 --)
Agreement Between the United States of)
America and the Monterey County Water)
Resources Agency Concerning Annexation of)
Fort Ord Into Zones 2 and 2A of the Monterey)
County Water Resources Agency, Approved;)
Chairwoman Authorized to Sign)

Upon motion of Supervisor Johnsen, seconded by Supervisor Strasser Kauffman, and carried, the Board hereby approves Agreement No. A-06404 between the United States of America and the Monterey County Water Resources Agency concerning annexation of Fort Ord into Zones 2 and 2A of the Monterey County Water Resources Agency, and authorizes the Chairwoman to sign said agreement.

PASSED AND ADOPTED this 21st day of September, 1993, by the following vote, to-wit:

AYES: Supervisors Salinas, Shipnuck, Perkins, Johnsen and Karas.

NOES: None.

ABSENT: None.

I, ERNEST K. MORISHITA, Clerk of the Board of Supervisors of the County of Monterey, State of California, hereby certify that the foregoing is a true copy of an original order of said Board of Supervisors duly made and entered in the minutes thereof at page -- of Minute Book 67 , on September 21 , 1993

Dated: September 21, 1993

ERNEST K. MORISHITA, Clerk of the Board
of Supervisors, County of Monterey,
State of California

Attachment D, p. 1497 of 1882

*Before the Board of Supervisors in and for the
County of Monterey, State of California*

Resolution No. 93-387 --)
A Resolution of the Board of Supervisors)
of the Monterey County Water Resources)
Agency Making findings for the Annexation)
of Certain Territory, Known as the Ft. Ord)
Annexation, to Zones 2 and 2A of the)
Monterey County Water Resources Agency,)
Setting Forth the Conditions for Said)
Annexation, and Approving Said Annexation.)

WHEREAS,

- A. For many years, the territory known as Ft. Ord, in Monterey County, California, has obtained its potable water from the Salinas Valley Groundwater Basin.
- B. Much of the water in the Salinas Valley Groundwater Basin is derived from the Groundwater recharge program made possible through the operation of Lake Nacimiento and Lake San Antonio. The dams that impound these lakes were built and are operated by the Monterey County Water Resources Agency (MCWRA). The capital, operating and maintenance expenses of these reservoirs have been paid for by the property owners in MCWRA Zones 2 and 2A.
- C. Ft. Ord is not in Zones 2 and 2A, and has never paid any of the assessments for the reservoirs, although it has benefited from the groundwater recharge program maintained by Zones 2 and 2A.
- D. Over the years, seawater intrusion has progressively advanced into the northern portions of the Salinas Valley Groundwater Basin, rendering wells useless for potable and agricultural purposes and threatening nearby water supplies. Several wells previously used to supply water to Fort Ord have been lost to seawater intrusion.
- E. The MCWRA proposes to develop a seawater intrusion program that would replace groundwater wells in the northern portion of the Salinas Valley. The program would rely on groundwater or surface water developed in Zones 2 and 2A. The program would require that all properties to be benefited by the program be in Zones 2 and 2A.
- F. The territory of Fort Ord is not in Zone 2 and 2A. The U. S. Government, as owner of said property, desires that the territory of Fort Ord be annexed to Zones 2 and 2A, in order to compensate Zones 2 and 2A for past benefits received and to insure the territory's right to participate in the seawater

intrusion program, should a water project be built in Zones 2 and 2A for the benefit of this area.

- G. The proposed annexation is not a project within the meaning of CEQA because (1) the terms of the annexation limit the use of water on Ft. Ord to present or historical levels of water use, pending the completion of a water supply project for the benefit of this area, and (2) the annexation does not commit the MCWRA or Ft. Ord to the development of any particular water project or to any other action that will result in changes in the environment. Therefore, it can be seen with certainty that there is no possibility that the annexation will result in significant environmental effects.
- H. This annexation is conducted pursuant to the Monterey County Water Resources Agency Act, Section 43.

NOW, THEREFORE BE IT RESOLVED:

1. It is in the best interest of Zones 2 and 2A and the territory described in Exhibit A, referred to herein as the Ft. Ord annexation, that the territory described in Exhibit A be annexed to the zones.
2. The boundaries of the territory to be annexed, as set forth in Exhibit A, are appropriate and need not be modified.
3. There are no other annexation petitions pending before the Agency that involve annexation of any of the same territory to the same zones.
4. The territory described in Exhibit A is hereby annexed to Monterey County Water Resources Agency Zones 2 and 2A, subject to the conditions set forth in the annexation agreement, attached hereto as Exhibit B. The annexation fee shall be paid as provided in Exhibit B.
5. The annexation shall take effect immediately upon the adoption of this resolution.
6. On the effective date of the annexation, the territory described in Exhibit A shall be subject to all the liabilities and entitled to all the benefits of the zone, except as otherwise provided in the annexation agreement, attached hereto as Exhibit B.

Upon motion of Supervisor Johnsen, seconded by Supervisor Karas, the foregoing resolution is adopted this 21st day of September, 1993, by the following vote, to-wit:

AYES: Supervisors Salinas, Shipnuck, Perkins, Johnsen and Karas.

NOES: None.

ABSENT: None.

I, ERNEST K. MORISHITA, Clerk of the Board of Supervisors of the County of Monterey, State of California, hereby certify that the foregoing is a true copy of an original order of said Board of Supervisors duly made and entered in the minutes thereof at page 22 of Minute Book 67 on September 21, 1993
Dated: September 21, 1993

ERNEST K. MORISHITA, Clerk of the Board
of Supervisors, County of Monterey,
State of California.

By

Nancy L. Saville
Attachment D, p. 1500 of 1882

Deputy

PETITION FOR ANNEXATION
TO ZONES 2 AND 2A
MONTEREY COUNTY WATER RESOURCE AGENCY
MONTEREY COUNTY, CALIFORNIA

AFFIDAVIT

I, the undersigned, declare under penalty of perjury under the laws of the State of California that the attached Memorandum of Agreement with attachments, when executed by the parties thereto, constitutes a petition for the annexation of the territory of Fort Ord, in Monterey County, California, to Zones 2 and 2A of the Monterey County Water Resource Agency, Monterey County, California, by 100 per cent of the owners of the land described therein, and I am informed and believe that the information contained therein is true and correct.

Dated:

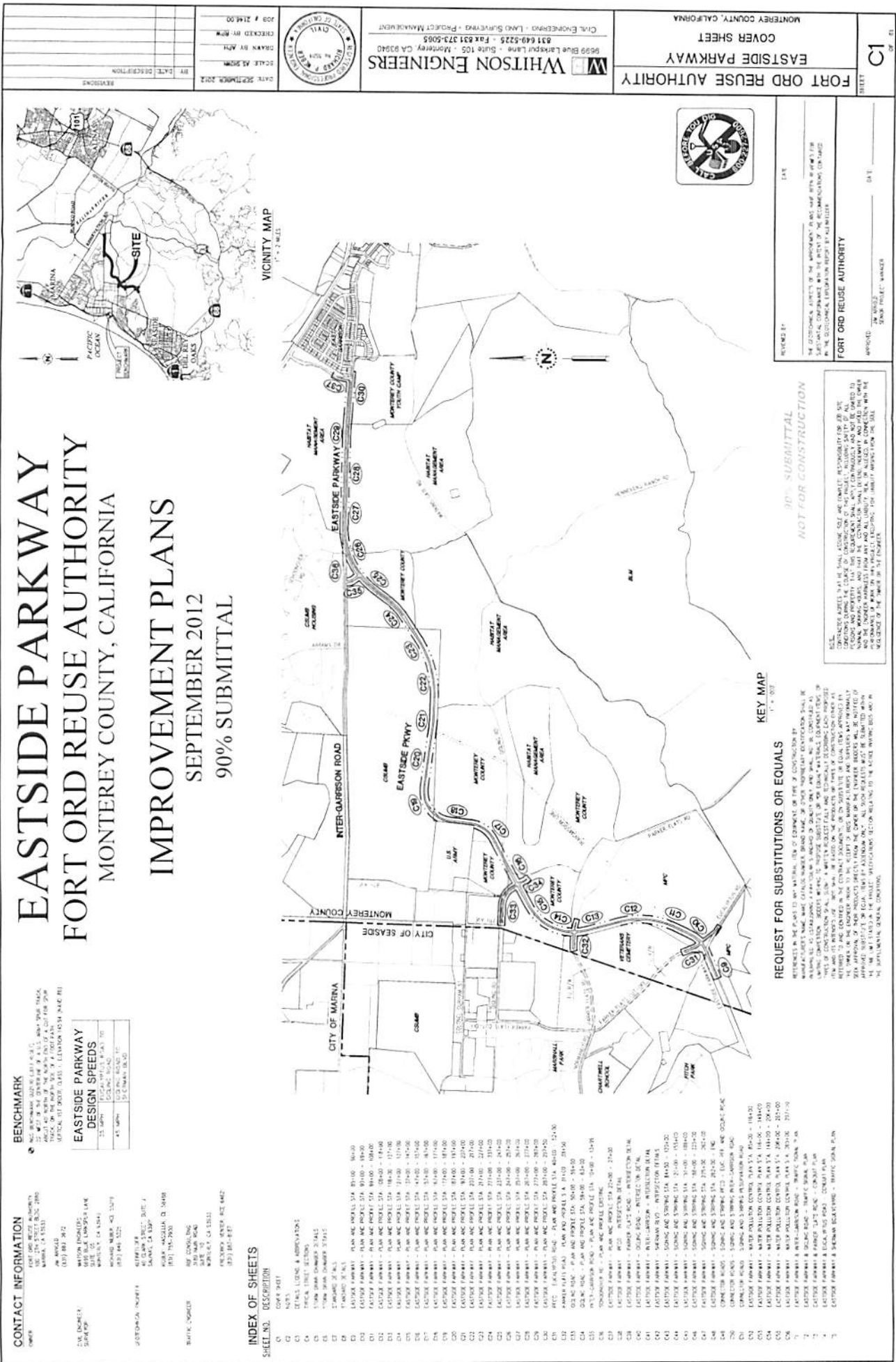
9/10/93



Signature

Name: MICHAEL W. OWEN

Title: Acting Assistant Secretary of the Army
(Installations, Logistics and Environment)

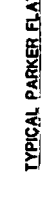
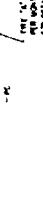
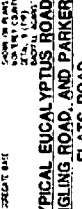
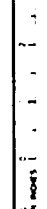
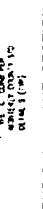
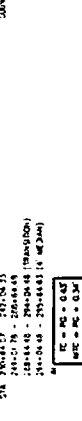
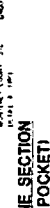


1. The following are the names of the persons who have been appointed to the various committees of the Board of Directors of the Corporation for the year ending December 31, 1954:

(a) The Finance Committee: Mr. J. H. Smith, Chairman; Mr. J. H. Smith, Jr., Vice-Chairman; Mr. J. H. Smith, III, Secretary; Mr. J. H. Smith, IV, Treasurer; Mr. J. H. Smith, V, Auditor.	(b) The Executive Committee: Mr. J. H. Smith, Chairman; Mr. J. H. Smith, Jr., Vice-Chairman; Mr. J. H. Smith, III, Secretary; Mr. J. H. Smith, IV, Treasurer; Mr. J. H. Smith, V, Auditor.
(c) The General Management Committee: Mr. J. H. Smith, Chairman; Mr. J. H. Smith, Jr., Vice-Chairman; Mr. J. H. Smith, III, Secretary; Mr. J. H. Smith, IV, Treasurer; Mr. J. H. Smith, V, Auditor.	(d) The Special Committee: Mr. J. H. Smith, Chairman; Mr. J. H. Smith, Jr., Vice-Chairman; Mr. J. H. Smith, III, Secretary; Mr. J. H. Smith, IV, Treasurer; Mr. J. H. Smith, V, Auditor.

2. The following are the names of the persons who have been appointed to the various committees of the Board of Directors of the Corporation for the year ending December 31, 1955:

(a) The Finance Committee: Mr. J. H. Smith, Chairman; Mr. J. H. Smith, Jr., Vice-Chairman; Mr. J. H. Smith, III, Secretary; Mr. J. H. Smith, IV, Treasurer; Mr. J. H. Smith, V, Auditor.	(b) The Executive Committee: Mr. J. H. Smith, Chairman; Mr. J. H. Smith, Jr., Vice-Chairman; Mr. J. H. Smith, III, Secretary; Mr. J. H. Smith, IV, Treasurer; Mr. J. H. Smith, V, Auditor.
(c) The General Management Committee: Mr. J. H. Smith, Chairman; Mr. J. H. Smith, Jr., Vice-Chairman; Mr. J. H. Smith, III, Secretary; Mr. J. H. Smith, IV, Treasurer; Mr. J. H. Smith, V, Auditor.	(d) The Special Committee: Mr. J. H. Smith, Chairman; Mr. J. H. Smith, Jr., Vice-Chairman; Mr. J. H. Smith, III, Secretary; Mr. J. H. Smith, IV, Treasurer; Mr. J. H. Smith, V, Auditor.



**90% SUBMITTAL
NOT FOR CONSTRUCTION**

DATE	DESCRIPTION	AMOUNT	BALANCE
10/1/78	OPENING BALANCE	100.00	100.00
10/15/78	PAYROLL	50.00	50.00
10/20/78	RENT	25.00	25.00
10/25/78	SALES	75.00	100.00
10/30/78	PAYROLL	50.00	50.00
11/5/78	RENT	25.00	25.00
11/10/78	SALES	75.00	100.00
11/15/78	PAYROLL	50.00	50.00
11/20/78	RENT	25.00	25.00
11/25/78	SALES	75.00	100.00
11/30/78	PAYROLL	50.00	50.00
12/5/78	RENT	25.00	25.00
12/10/78	SALES	75.00	100.00
12/15/78	PAYROLL	50.00	50.00
12/20/78	RENT	25.00	25.00
12/25/78	SALES	75.00	100.00
12/30/78	PAYROLL	50.00	50.00
1/5/79	RENT	25.00	25.00
1/10/79	SALES	75.00	100.00
1/15/79	PAYROLL	50.00	50.00
1/20/79	RENT	25.00	25.00
1/25/79	SALES	75.00	100.00
1/30/79	PAYROLL	50.00	50.00
2/5/79	RENT	25.00	25.00
2/10/79	SALES	75.00	100.00
2/15/79	PAYROLL	50.00	50.00
2/20/79	RENT	25.00	25.00
2/25/79	SALES	75.00	100.00
2/30/79	PAYROLL	50.00	50.00
3/5/79	RENT	25.00	25.00
3/10/79	SALES	75.00	100.00
3/15/79	PAYROLL	50.00	50.00
3/20/79	RENT	25.00	25.00
3/25/79	SALES	75.00	100.00
3/30/79	PAYROLL	50.00	50.00
4/5/79	RENT	25.00	25.00
4/10/79	SALES	75.00	100.00
4/15/79	PAYROLL	50.00	50.00
4/20/79	RENT	25.00	25.00
4/25/79	SALES	75.00	100.00
4/30/79	PAYROLL	50.00	50.00
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5/10/79	SALES	75.00	100.00
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5/20/79	RENT	25.00	25.00
5/25/79	SALES	75.00	100.00
5/30/79	PAYROLL	50.00	50.00
6/5/79	RENT	25.00	25.00
6/10/79	SALES	75.00	100.00
6/15/79	PAYROLL	50.00	50.00
6/20/79	RENT	25.00	25.00
6/25/79	SALES	75.00	100.00
6/30/79	PAYROLL	50.00	50.00
7/5/79	RENT	25.00	25.00
7/10/79	SALES	75.00	100.00
7/15/79	PAYROLL	50.00	50.00
7/20/79	RENT	25.00	25.00
7/25/79	SALES	75.00	100.00
7/30/79	PAYROLL	50.00	50.00
8/5/79	RENT	25.00	25.00
8/10/79	SALES	75.00	100.00
8/15/79	PAYROLL	50.00	50.00
8/20/79	RENT	25.00	25.00
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9/5/79	RENT	25.00	25.00
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11/5/79	RENT	25.00	25.00
11/10/79	SALES	75.00	100.00
11/15/79	PAYROLL	50.00	50.00

ORD REUSE AUTHORITY	EASTSIDE PARKWAY	TYPICAL STREET SECTIONS	MONTREY COUNTY, CALIFORNIA
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C4^a

WHITSON ENGINEERS
9639 Blue Lakeshore Lane • Suite 105 • Monterey, CA 93940
831 649-5225 • Fax 831 373-5065
CIVIL ENGINEERING • LAND SURVEYING • PROJECT MANAGEMENT

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**LAW OFFICES OF
MICHAEL W. STAMP**

Michael W. Stamp
Molly Erickson
Olga Mikheeva
Jennifer McNary

479 Pacific Street, Suite One
Monterey, California 93940

Telephone (831) 373-1214
Facsimile (831) 373-0242

February 11, 2013

Fernando Armenta, Chair
Members of the Board of Supervisors
County of Monterey
168 West Alisal Street
Salinas, CA 93901

Subject: February 12, 2013 meeting – agenda item 13
Proposed Amendments to General Plan

RECEIVED
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CLERK OF THE BOARD
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Chair Armenta and Members of the Board of Supervisors:

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The Open Monterey Project (TOMP) made written comments on this matter to the Monterey County Planning Commission in December 2012, and TOMP reiterates those past comments here. The comments are in County's possession. If the Board would like another copy of the comments, please let us know and we will provide them. TOMP joins in the written comments made by LandWatch Monterey County on this matter.

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Members of the Board of Supervisors
February 11, 2013
Page 2

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Members of the Board of Supervisors
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Further, the County could use only MCWRA data, regardless of information from other sources like the United States Geological Service, the State Water Resources Control Board, and the Coastal Commission. Based on the County's past actions, we can anticipate that the County would argue that a study that ignored more current data and data that could come from other agencies or sources would be consistent with the general plan policy, and would be within the County's discretion. As a related issue, depending on when the study period commences (3.1.c.1), the evaluation could be of only a year or two of data (3.1.c.4). There are no metrics or standards on which the evaluation would be based. The lack of standards means that the study could draw conclusions without scientific merit, and the County foreseeably could argue that the County was within its discretion to do so under the policy as proposed. There also are no standards as to how the information with regard to groundwater elevations would be balanced or used, if at all, relative to the information with regard to seawater intrusion boundary. The definition of "seawater intrusion boundary" is itself unclear, because numerous times TOMP has heard the County interpret that as a comprehensive inward movement, and that seawater "filling in the lobes" of the County's colored map is not advancement or a change in the seawater intrusion front. In fact, the rate of intrusion could be the same, but the intrusion is becoming more intense, or expanding up and down instead of inland. Mapping has focused exclusively on the areal extent of seawater advancement. There has been inadequate consideration of volumetric increases of seawater intrusion. Increased volume of intrusion is a significant change and would have significant impacts. However, the County has not stated whether it considers an increased volume – without increased area – to be additional seawater intrusion. The County's public statements have indicated that the County would not consider increased volume to be additional intrusion. There are no standards of significance for measuring the seawater intrusion. The lack of metrics for measuring the boundary means that this interpretation is entirely within the County's discretion.

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The proposed amendments would mean that only a single study would be done, replacing the every-five-year requirement. That means the removal of future information on a mandatory basis, and an associated loss of mitigation opportunities. The amendments propose a report every five years, but no action by the County is required, regardless of the severity of the impacts or the dire level of the information. Even the every five years is not a reliable time frame, because the time frame is not triggered until the County adopts measures as may be recommended in the first study. That adoption could take place years after the study's completion.

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It is not clear what baseline for the study. The policy proposes to use as a baseline the environment as to the date the study is commenced. That date could be 2015 or later, even as late as 2018. The later the baseline, the more likely that the study will not show significant impacts, because only a short time would have passed. That means that the general plan policies would have been in effect since 2010, but the baseline could be many years later, which would not produce accurate results as to the impacts of the general plan policies, development trends, or other political, environmental or social effects. It would be inadequate to consider only the changes to groundwater levels and seawater intrusion from the date the study commences to the date the study ends, but that would appear to be suggested by PS-3.1.c.1. The inadequate baseline of the study means that the study foreseeably could fail to consider or use the facts that are known now – of increasing seawater intrusion, increasing water supply and water quality problems, the lack of any approved or likely water supply project, and no solution in sight to the ongoing overdraft or other significant issues.

The ambiguities of use of the confusing conjunctions “or; or; and” in the proposed amendments (3.1.c.6 and following) could cause unanalyzed and unmitigated impacts. PS 3.1.c.7 is grammatically incorrect.

The proposed environmental analysis for the amendments is inadequate in its discussion of the fact that Zone 2C is not a fixed and finite boundary. The boundary is a moving target. Zone 2C can be expanded to include new land. MCWRA has expanded the Zone 2C boundaries numerous times through annexation, and MCWRA is open to new land being annexed into Zone 2C. Some annexed areas are not contiguous with valley floor, and not part of the Salinas Valley Groundwater Basin. MCWRA is considering further annexations now. MCWRA is aware that water is currently being exported from Zone 2C now. MCWRA has not taken steps to prevent that exportation, and has not quantified the amount of water being exported. MCWRA has approved annexations into Zone 2C with nonexistent or minimal environmental review, and without adequate consideration of environmental issues, including cumulative impacts.

For each of the reasons identified above, and the reasons provided by LandWatch, the proposed amendments to policy PS-3.1 would have unanalyzed and unmitigated impacts, including cumulative impacts. The description of the amendments in the supplemental environmental analysis is inadequate and materially inaccurate. The attachments to this letter provide information supporting the points made above.

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Page 6

As to the proposed amendments to policies PS-3.3 and 3.4, there is no discussion of the intent or reasons behind the changes. There is no definition of the new term "additional"; that omission could have unanalyzed and unmitigated impacts. The project's impacts could differ significantly from one day to the next, depending on how the term "additional" is defined by the County. The proposed exemption of replacement wells could have unanalyzed and unmitigated impacts. For example, a replacement well could have a greater capacity than the well that is being replaced, or could extract water from a different aquifer. Another problem with the amendments is that the proposed language regarding "the following factors" would limit the County's consideration to the listed factors, and not permit the inclusion of any other factors. The open-ended approach in the current policies would be changed to foreclose consideration of any factors other than the ones listed. As to policy PS-3.4, the amendments would also foreclose consideration of water quality, existing and foreseeable groundwater conditions, recovery rates, and technical, managerial and financial capacity of the operator and owner. The amendments would prohibit consideration of important and significant environmental considerations. These considerations include water rights, public trust issues, foreseeable groundwater conditions (as opposed to existing conditions), and biological resources – such as amphibians and mammals, and wildlife corridors and habitat – that depend on instream flows or seeps and springs that would be affected by a proposed well. The environmental review has not adequately addressed the potential significant impacts of foreclosing these considerations, nor has the review adequately mitigated the impacts.

On the County's online staff report for this item, The Open Monterey Project is listed on the "cc" list. That representation is inaccurate because The Open Monterey Project did not receive the staff report from County.

In conclusion, The Open Monterey Project objects to the proposed general plan policy amendments and the proposed environmental review for each the reasons stated in this letter, by LandWatch, and by others opposed to the project in writing and at the hearings. Thank you for your consideration of these comments.

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Page 7

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- C. Ferrini Ranch subdivision documents – County website, 2012 Draft EIR excerpts
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- E. 1993 County approval documents annexing Fort Ord into Zone 2/2A (now Zone 2C)
- F. 2012 Monterey Downs tentative subdivision map, specific plan, water supply assessment – excerpts
- G. 1993 Army Environmental Impact Statement – excerpts re water supply

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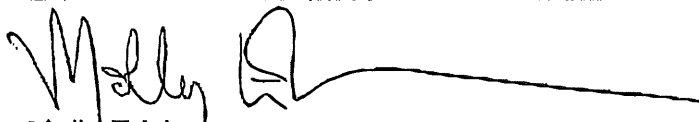
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- A. 2013 MCWRA documents regarding exportation from Zone 2C and annexation
- B. October 12, 2012 MCWRA letter refusing to divulge location of monitoring wells
- C. Ferrini Ranch subdivision documents – County website, 2012 Draft EIR excerpts
- D. Documents regarding the Deep Aquifer – 2003 WRIME study, 2010 Marina Coast Urban Regional Water Management Plan – excerpts
- E. 1993 County approval documents annexing Fort Ord into Zone 2/2A (now Zone 2C)
- F. 2012 Monterey Downs tentative subdivision map, specific plan, water supply assessment – excerpts
- G. 1993 Army Environmental Impact Statement – excerpts re water supply

EXHIBIT A

**WATER RESOURCES AGENCY****MEMORANDUM****Monterey County****DATE:** January 30, 2013**TO:** Personnel and Administration Committee**FROM:** Christopher Kechu**SUBJECT:** Real Property Update

1. Since the last Personnel and Administration Committee meeting, the Agency has received one additional request for a refund for the reimbursement of overpayment of assessments in the amount of \$2,300.00.
2. The Agency continues to contact owners outside Zone 2C where water is suspected of being exported from the Zone and used to irrigate their lands. The Agency contacted 5 owners with a total 470 acres. Five follow-up calls were made and site inspections are scheduled for the week of February 5th. The Agency has received three responses from these land owners who are investigating the Agency's claim of water usage. The Agency Act authorizes the Agency to impose a lien on the property if the assessments are not paid, under section 12(h) of the Water Agency Act. The lien or fine would be issued to land owners unauthorized to export water from the Zone. A follow-up on these 5 landowners will be provided at the next meeting.

**MONTEREY COUNTY WATER RESOURCES AGENCY
BOARD OF DIRECTORS
PERSONNEL AND ADMINISTRATION COMMITTEE**

COMMITTEE MEMBERS

Richard Ortiz, Chair
David Hart

Silvio Bernardi
Mike Scattini

TIME: 8:30 am – 10:00 am
DATE: Friday, January 18, 2013
PLACE: Monterey Regional Water Pollution Control Agency
14811 Del Monte Blvd.
Marina, CA 93933

MINUTES

1. **CALL MEETING TO ORDER** at 8:30 a.m. by Committee Chair Richard Ortiz.
Members Present: Richard Ortiz, Silvio Bernardi, David Hart, Mike Scattini arriving at 8:45 a.m.
Members absent: None

2. **PUBLIC COMMENT**

Richard Renck, a resident of San Luis Obispo and owner of property adjacent to an Agency 40 acre parcel near Oak Shores, presented some ideas on how to better resolve a trespassing issue involving his property. One solution he offered was for him to either purchase or lease the 40 acre parcel from the Agency so that it can be fenced. He is also willing to share in the cost of installing fencing along the property lines where the trespassing is occurring.

COMMITTEE ACTION: The Committee received the public comments and requested that staff prepare a report on this issue for the next meeting.

3. **APPROVE NOVEMBER 16, 2012, PERSONNEL AND ADMINISTRATION COMMITTEE MINUTES**

COMMITTEE ACTION: Upon motion made by Committee Member Dave Hart and seconded by Committee Member Silvio Bernardi the Committee approved the November 16, 2012, Personnel and Administration Committee Minutes.

4. **RECEIVE PERSONNEL UPDATE**

Wini Chambliss, Human Resources Manager, provided an update on personnel issues. She noted that Clayton C. Leal has been hired as the Water Resources Biologist. Mr. Leal comes to the Agency from the Santa Clara Valley Water District where he was employed as a Fisheries and Aquatic Habitat Collaborative Effort (FAHCE) Fisheries Biologist. He officially began on January 15, 2013.

Cathy Paladini has been hired as Finance Manager II. Ms. Paladini comes to the Agency from the Monterey County Treasurer-Tax Collector Treasury Division where she was employed as a Finance Manager I. Her official start date was January 14, 2013.

Due to ongoing repairs at the Hydroelectric Facility, the selection process for a Hydroelectric Technician has been placed on hold. Applications have been screened. The previously-established eligibility list will remain active until February 15, 2013.

The position of General Manager is still in negotiations.

Painting, carpeting and roofing activities in the Agency's offices have been completed.

COMMITTEE ACTION: Upon Motion made by Committee Member Dave Hart and seconded by Committee Member Silvio Bernardi the Committee received the Personnel Update.

5. RECEIVE LAKES UPDATE

Christopher Keehn, Right of Way Specialist, provided the Committee with an update of the activities at the two lakes. He noted that at the end of November 2012, San Luis Obispo County took possession of a Temporary Construction Easement (TCE) adjacent to the Nacimiento Dam and began repairs on the intake structure of the San Luis Obispo Nacimiento Water Project. Repairs are scheduled for the next six months or longer if necessary.

Straying cattle were reported on Lease #4 at San Antonio and Lease #3 at Nacimiento. The lessees were contacted and the cattle rounded up and returned to their respective leases. A follow up letter was sent to the lessees.

Staff attended a Joint Land Use Study at Camp Roberts which is dovetailing the needs of the Military with that of the surrounding private community. Areas of concerns for the Agency are the free flow of the Nacimiento River, release schedules, and the tank road which connects the two Military Bases. The tank road, in particular, is in need of major repairs because of lack of maintenance, inadequate culverts, and erosion that threaten the San Antonio Reservoir with siltation.

There is continued interest in 40 acres of Agency land adjacent to Oak Shores to either lease or buy. Richard Renck, an interested party, made a presentation at the Public Comments portion of this Committee meeting.

COMMITTEE ACTION: Upon Motion made by Committee Member Dave Hart and seconded by Committee Member Silvio Bernardi the Committee received the lakes update.

6. RECEIVE REAL PROPERTY UPDATE

Christopher Keehn provided the Committee with an update. He stated that the corrections to the Agency assessment roll is proceeding smoothly and the public has responded positively to the steps the Agency has taken to adjust the posted errors on the County tax bills.

Pursuant to the Agency Act, it is illegal to export water outside the Zone 2C boundary. Upon reviewing Zone 2C boundaries, several property owners outside Zone 2C have been contacted to

verify where they are getting their water to irrigate. Of the five letters sent out, two have contacted the Agency to explore further the possibility of annexing into Zone 2C.

COMMITTEE ACTION: Upon Motion made by Committee Member Dave Hart and seconded by Committee Member Mike Scattini the Committee received the real property update.

7. RECEIVE A REPORT ON DIETEL ENCROACHMENT

Chris Keehn provided information to the Committee regarding the Dietel encroachment issue. He reviewed the past actions taken to resolve this issue.

In 2002, Dietel and Brown, contacted the Agency to request a utility easement. They appeared before the Personnel and Administration Committee with this request but the Committee voted to deny it. During discussions with the Dietels, staff reminded the Dietels that the access easement granted to their parcels was for domestic and agricultural purposes only and any commercial operations strictly forbidden.

Around 2005, Dietel and Brown tore down a fence line separating the two parcels and moved a mobile home onto the property. The Agency unsuccessfully attempted to issue a cease and desist stop work order. It filed suit against Dietel and Brown with the San Luis Obispo County Court. In 2009, the Court ruled in favor of the Agency and directed both parties to resolve the remaining issues.

In a memo from Brent Buche to Irv Grant dated March 16, 2009, Mr. Buche reviewed the Agency concerns and offered a counter proposal to the Defendants. The remaining issues are still unresolved and more issues have come to light.

COMMITTEE ACTION: Upon Motion made by Committee Member Silvio Bernardi and seconded by Committee Member Dave Hart the Committee received the Dietel encroachment report.

8. CONSIDER APPROVING A LICENSE TO ALLOW MILITARY MANEUVERS ON AGENCY LAND TWO TIMES A YEAR AT THE SAN ANTONIO RESERVOIR

Christopher Keehn provided information regarding the above item. He noted that the United States of America is requesting a license from the Agency to allow military maneuvers on the San Antonio Reservoir and surrounding lands twice a year. The maneuvers have been allowed in the past but both the Agency and the Monterey County Parks Department would like to formalize the activity by implementing an agreement granting a renewable license. This would be consistent with the rights to use San Antonio Reservoir for military purposes retained in accordance with Quitclaim Deed (Attachment "B"), Reel 607, Page 381, between Secretary of the Army and Monterey County Flood Control and Water Conservation District, dated 10 December 1968.

Operational use of the License will be limited to convoy training, storage for vehicles and equipment, movement of troops and equipment, bivouac of troops and equipment, and other small boat traffic and diving operations.

The Grantee, the United States Government, and specifically the Underwater Construction Team Two (UCT TWO) & the 31st Seabee Readiness Group, based on the Naval Base in Ventura

County, Port Hueneme, CA, are requesting the use of San Antonio Lake.

The Committee requested that Item No. 4 of the License, which references the removal of used and discarded materials, also include the removal of spilled and hazardous materials.

Chris Keehn noted that this item will go before the Board of Supervisors for final approval.

COMMITTEE ACTION: Upon Motion made by Committee Member Dave Hart and seconded by Committee Member Mike Scattini, the Committee recommended approval of a License to allow military maneuvers on Agency land two times a year at the San Antonio Reservoir.

9. **SET NEXT MEETING DATE AND DISCUSS FUTURE AGENDA ITEMS.**

The next meeting date is set for February 8, 2013, at 8:30 a.m. No future agenda items were discussed.

9. **ADJOURNMENT**

The Committee adjourned at 9:25 a.m.

Submitted by: Alice Henault

Approved on: _____

**MONTEREY COUNTY WATER RESOURCES AGENCY
BOARD OF DIRECTORS
PERSONNEL AND ADMINISTRATION COMMITTEE**

Richard Ortiz, Chair
David Hart
Silvio Bernardi
Mike Scattini

AGENDA

TIME: 8:30 am – 10:00 am
DATE: Friday, January 18, 2013
PLACE: Monterey County Water Resources Agency
893 Blanco Circle
Salinas, CA 93901-4455
(831) 755-4860

1. **CALL TO ORDER**
2. **PUBLIC COMMENT**
3. **APPROVE JANUARY 18, 2013, PERSONNEL AND ADMINISTRATION COMMITTEE MINUTES**
4. **RECEIVE PERSONNEL AND ADMINISTRATION UPDATE**
Wini Chambliss, Human Resources Manager, will provide an update on personnel and administration.
5. **RECEIVE LAKES UPDATE**
Christopher Keehn, Right of Way Specialist, will provide a review of lake issues.
6. **RECEIVE REAL PROPERTY UPDATE**
Christopher Keehn will provide a review of real property issues.
7. **RECEIVE A REPORT ON DIETEL ENCROACHMENT**
Chris Keehn will provide information on Dietel encroachment.
8. **CONSIDER APPROVING A LICENSE TO ALLOW MILITARY MANEUVERS ON AGENCY LAND TWO TIMES A YEAR AT THE SAN ANTONIO RESERVOIR**
Christopher Keehn will provide a review of the License request.
9. **SET NEXT MEETING DATE AND DISCUSS FUTURE AGENDA ITEMS**
10. **ADJOURNMENT**

**WATER RESOURCES AGENCY****MEMORANDUM****Monterey County****DATE:** January 7, 2013**TO:** Personnel and Administration Committee**FROM:** Christopher Keehn**SUBJECT:** Real Property Update

1. The publically announced corrections to the Agency Assessment roll is proceeding smoothly and the public has responded positively to the steps the Agency has taken to adjust the posted errors on the County Tax Bills.
2. The Agency has contacted several property owners outside Zone 2C on where they were getting their water to irrigate. The Agency Act makes it illegal to export water outside the Zone. Of the five letters sent out, two have already contacted the Agency and are exploring the possibility of annexation into the Zone.

EXHIBIT B

MONTEREY COUNTY

WATER RESOURCES AGENCY

PO BOX 936
SALINAS, CA 93902
(831) 765-4860
FAX (831) 424-7935

DAVID E. CHARDAYDYNE
INTERIM GENERAL MANAGER



STREET ADDRESS
899 BLANCO CIRCLE
SALINAS, CA 93901-4455

October 12, 2012

Jennifer McNary
Law Offices of Michael W. Stamp
479 Pacific St., Suite 1
Monterey, CA 93940

Re: Your Public Records Act Request dated September 20, 2012/Seawater Intrusion Maps and Deep Aquifer

Dear Ms. McNary,

This is in further response to your letter of September 20, 2012 wherein you requested the following:

1. The records which show the location of the wells that provide the data used in the MCWRA seawater intrusion maps.

Response to Request No. 1:

Upon review, County Counsel has determined that records responsive to this request are exempt from disclosure pursuant to Water Code Section 13752 (availability of reports for inspection and use).

2. The records that show which wells' data was used for the last two seawater intrusion maps.

Response to Request No. 2:

Please see response to Request No. 1.

3. All records of studies, reports and analyses of the deep aquifer, sometimes referred to as the deeper aquifers, that is/is/are located on the vicinity of Marina and Fort Ord. The request includes the technical reports, appendices, and other records that are referenced in the final reports.

Jennifer McNary

Page 2

October 12, 2012

Response to Request No. 3:

The Agency has located documents responsive to your request. Upon review, County Counsel has determined that some records are exempt from disclosure pursuant to Water Code Section 13752 (availability of reports for inspection and use).

4. All records of communications regarding the deep aquifer, sometimes referred to as the deeper aquifers, from January 1, 2010 to the present.

Response to Request No. 4:

The Agency has no records responsive to this request.

5. The Agency's "deep aquifer" file, if one exists.

Response to Request No. 5:

Please see response to Request No. 3.

If you wish to review and possibly copy documents available for inspection please contact our office to make an appointment.

Sincerely,



Alice Henault
Public Records Coordinator

EXHIBIT C



County of Monterey
RESOURCE MANAGEMENT AGENCY
PLANNING DEPARTMENT

Ferrini Ranch Subdivision

(Page is currently being updated)

Search

Project Name:	Ferrini Ranch Subdivision
File number (s):	PLN040758
Location: (Vicinity Map):	South side of State Highway 68 between River Road and San Benancio Road in the vicinity of Toro County Park.
Assessor's Parcel Number (s):	161-011-019-000 M (Multiple Parcel Numbers)
Planning Area:	Toro Area Plan
Planner:	David Mack, Associate Planner (831) 755-5096
Current Status:	Draft Environment Impact Report (DEIR) out for public review beginning August 27, 2012 and concluding October 22, 2012 (56 days).
Environmental Status:	Environmental Impact Report required.
Project Description:	Subdivision of an approximately 866-acre property into 212 residential lots including 146 market-rate lots, 23 clustered lots for workforce housing units & 43 lots for Inclusionary housing units; one commercial parcel fronting on River Road and 600 acres of open space. You can find the project description contained in the Draft EIR by following this link.
Key Dates:	<ul style="list-style-type: none"> • Circulation Period has been extended 24 days to conclude on Friday, November 16, 2012 due to the omission of Appendix E. Click on Link: Appendix E - Geology and Soils; Groundwater Resources and Hydrology; and Hazardous Material • Circulation Period August 27, 2012 to October 22, 2012 • March 24, 2005: Application submitted. • April 24, 2005: Application deemed as "Complete" for purposes of the Permit Streamlining Act. • July, 2006: Environmental Impact Report Initiated. • February, 2006: Administrative Draft Environmental Impact Report submitted.
Reports/Documents:	<ul style="list-style-type: none"> • Draft Environmental Impact Report (DEIR) Ferrini Ranch Subdivision (August 2012) • Notice of Preparation of Environmental Impact Report (September 2, 2005)
Related Links: (These links are provided for information only. The County of Monterey does not endorse any of the information found on these sites)	<ul style="list-style-type: none"> • The Kleinfelder Phase I - Environmental Site Assessment listed in Appendix E of Volume II was inadvertently omitted during original publication. This report has been included in a revised Appendix E and is available directly via the following link: Attachment D, p. 1530-b5-1882 Assessment (Kleinfelder).

DRAFT
ENVIRONMENTAL IMPACT REPORT

FOR THE

FERRINI RANCH SUBDIVISION

SCH# 2005091055
PLN040758

Prepared for:

COUNTY OF MONTEREY
RESOURCE MANAGEMENT AGENCY
PLANNING DEPARTMENT
168 W. ALISAL STREET, 2ND FLOOR
SALINAS, CA 93901
Contact: David Mack, Associate Planner
(831) 755-5096

Prepared by:

PMC
60 Garden Court, Suite 230
Monterey, California 93940
(831) 644-9174

AUGUST 2012

2.0 PROJECT DESCRIPTION

2.1 PROJECT OVERVIEW

The project applicant, Domain Corporation, has submitted an application to the County of Monterey Resource Management Agency-Planning Department (hereinafter "County of Monterey") for entitlements to subdivide and develop 870 acres of land located south of State Route 68 between River Road and San Benancio Road. This project site is divided into two areas: (1) between River Road and Toro Park (eastern portion), and (2) between Toro Park and San Benancio Road (western portion). This application was deemed complete in April 2005. According to 2010 Monterey County General Plan Policy LU 9.3, applications that were deemed complete prior to October 16, 2007, are governed by the plans, policies, ordinances, and standards in effect at the time the project was deemed complete; therefore, the proposed project is subject to the policies of the 1982 General Plan (Monterey County 2010a).

This environmental impact report evaluates the following project components:

- A. As portions of the property currently have no zoning, the County intends to reclassify the entire project site with Low Density Residential, 2.5 acres per dwelling unit with Visual Sensitivity, and Design Control overlays (LDR/2.5-VS-D) zoning consistent with the General Plan Land Use Map as a part of the 2010 General Plan Implementation. This zoning would be consistent with the 1982 General Plan land use map, which designates the site as Low Density Residential 5-1 Acres/Unit (see **Subsection 2.2, Project Site Conditions**). The Toro Area Plan Visual Sensitivity Map identifies certain portions of this property as "sensitive" with some areas of "critical viewshed" (see **Figures 3.1-1a** and **3.1-1b**)
- B. The application for a Combined Development Permit (PLN040758) consists of the following:
 - 1) Vesting Tentative Map (Standard Subdivision) for the subdivision of approximately 870 acres into:
 - a. 212 residential lots consisting of:
 - i. 146 clustered market-rate single-family residential lots ranging in size from 0.28 acres to 72.38 acres with an average lot size of 1.22 acres.
 - ii. 23 clustered market-rate single-family residential lots (averaging 5,000 square feet).
 - iii. 43 inclusionary housing units (20% of total units):
 - 1. 13 units (6% of total) for qualifying very low income households;
 - 2. 13 units (6% of total) for qualifying low-income households; and
 - 3. 17 units (8% of total) for qualifying moderate-income households.

2.0 PROJECT DESCRIPTION

- b. Three open space parcels totaling approximately 600 acres (Parcels A, B, and C). The development includes hiking trails within the open space areas.
- c. One 34.7-acre parcel for the future development of a winery and related uses (Parcel D).
- d. Four private roadway parcels totaling 43.1 acres. Three access points would be created including:
 - i. A road through a portion of the Toro Regional (County) Park off State Route 68;
 - ii. A separate (not connected) access point off River Road; and
 - iii. A separate (not connected) access point off San Benancio Road.
- 2) General Plan Amendment to amend the designation of the area of proposed Parcel D (34.7 acres) from Low Density Residential 1–5 Acres/Unit to Agricultural Industrial.
- 3) Zoning reclassification of the area of proposed Parcel D (34.7 acres) from the LDR/2.5-VS (Low Density Residential, 2.5 Acres/Unit with Visual Sensitivity) zoning district to the AI-VS (Agricultural Industrial, with Visual Sensitivity) zoning district.
- 4) Use Permit for removal of approximately 921 protected oak trees. This is the equivalent of approximately 14 acres of oak woodlands and constitutes approximately 3 percent of the total tree coverage/oak woodland habitat on the project site.
- 5) Use Permit for development in areas with slopes greater than 30 percent. Project roadways and driveways are the areas proposed for this Use Permit. No home sites are included within the scope of this Use Permit.

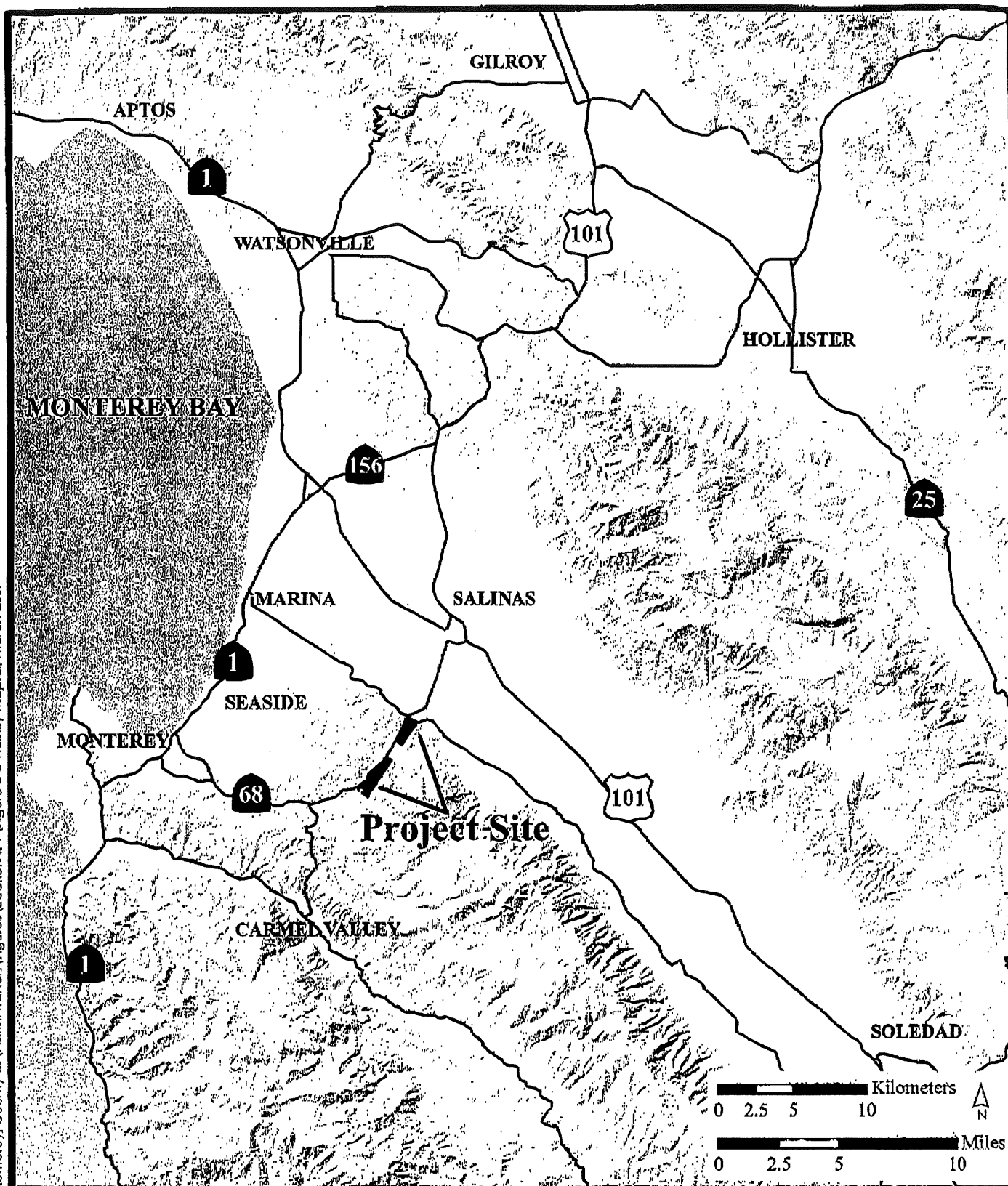
The proposed project would also include the construction of on-site roadways, infrastructure, utility improvements, and hiking trails. Access proposed through County parkland would require County approval (to be considered if the project is approved) and replacement of recreational facilities that are of equal or greater value as discussed in more detail below. Action by the County to agree to sell/lease a portion of Toro County Park would require additional review under the National Environmental Protection Act (NEPA) because these County parklands were obtained using federal grant money.

2.2 PROJECT SITE CONDITIONS

REGIONAL LOCATION AND VICINITY

The project site is located adjacent to the southern boundary of the State Route 68 corridor of Monterey County, between River Road and San Benancio Road within the Toro Area Plan planning area of Monterey County. The regional location is shown in **Figure 2-1**.

J:\CS\Work\Monterey, County of\Farini Ranch\Figures\Section 2-1\Figure 2-2 Vicinity Map.ai, March 2007



Source: Denise Duffy & Associates, Inc.

FIGURE 2-2
VICINITY MAP

3.6 GROUNDWATER RESOURCES AND HYDROGEOLOGY

This section assesses impacts related to water supply and availability of water to the proposed project. The analysis of groundwater resources and hydrogeology presented in this section is based on consultation with Monterey County Water Resources Agency staff, the *Preliminary Geologic, Geotechnical, Hydrogeologic, Erosion, Drainage and Environmental Phase I Assessment and Hydrogeologic Update Memorandum* prepared by Kleinfelder in July 2008 and June 2012, respectively, and the *Preliminary Drainage Report for Ferrini Ranch Subdivision* prepared by Whitson Engineering in February 2010. The report and memorandum by Kleinfelder summarizes previous hydrogeologic studies and assesses the groundwater source and aquifer stratigraphy, well data and groundwater trends, area rainfall, wastewater discharge, project water demand, and groundwater quality. The report by Whitson provides estimated runoff to be detained on-site, which relates to groundwater recharge. Both of these reports are included in **Appendix E. Surface water and water quality are addressed in Section 3.7, Surface Water Hydrology and Water Quality**, of this Draft EIR.

3.6.1 ENVIRONMENTAL SETTING

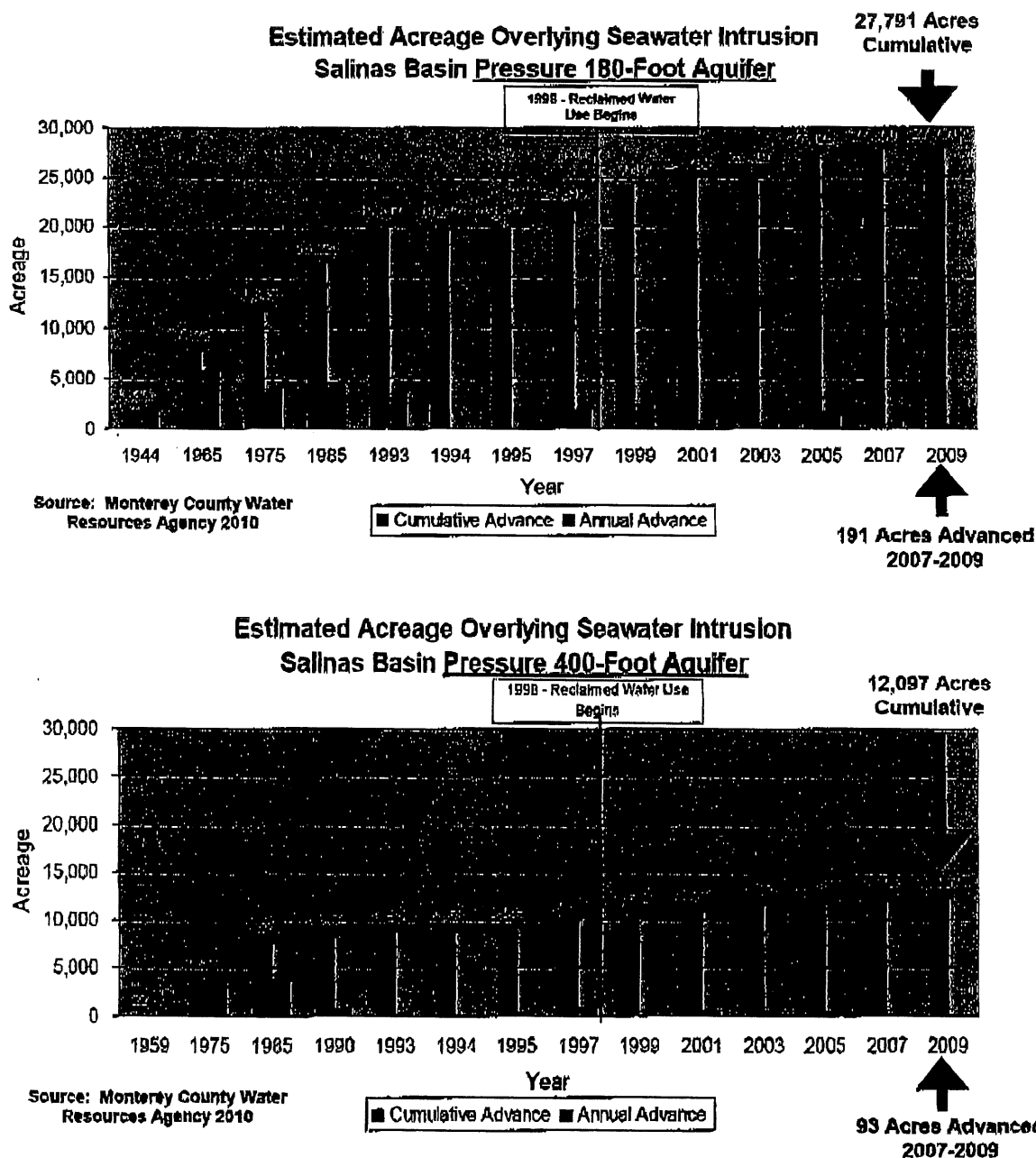
Water is vital to support agriculture and the population of Monterey County, and to maintain a thriving economy. The importance of water makes hydrogeology and groundwater resources primary issues in the county. The topography and geology of the area create a complex, interrelated system of groundwater resources that are heavily dependent on the climate, the health of local watersheds, and water management. There are three existing wells onsite that currently procure water from groundwater resources, which are described below.

GROUNDWATER BASIN

According to the Department of Water Resources (DWR), the project site lies within the Salinas Valley Groundwater Basin (hereinafter referred to as the "basin") as shown in **Figure 3.6-1**. The basin is one of the largest coastal groundwater basins in California and lies within the southern Coast Ranges between the San Joaquin Valley and the Pacific Ocean. The basin consists of sand, gravel, and clay that have been deposited over millions of years. The basin is drained by the Salinas River, which extends approximately 150 miles from the headwaters near San Luis Obispo County to the mouth of the river at Monterey Bay near Moss Landing. The total drainage area of the basin is about 5,000 square miles within the Salinas Valley. The Salinas Valley ranges from 10 miles wide in the north to 30 miles wide in the south and is about 120 miles long.

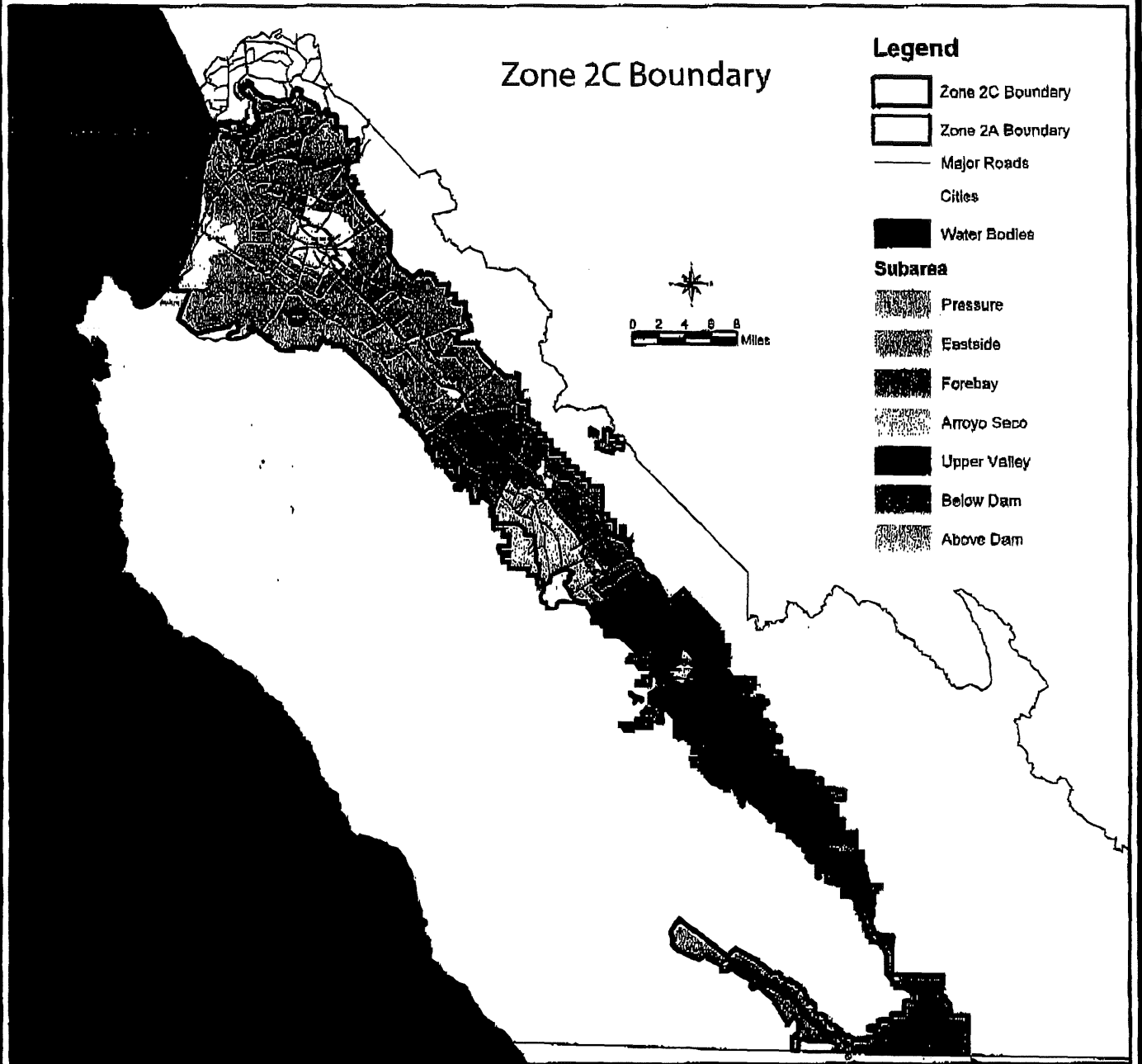
Over the years, the Salinas Valley Groundwater Basin has experienced overdraft, a condition where more water is pumped out of an aquifer than is recharged on an average yearly basis. This overdraft condition causes a decline in the water level, which allows seawater intrusion to occur or streams and rivers to go dry. When this occurs, the wells in the affected aquifers must either be deepened or abandoned, or water must be treated to dilute the salt concentration. Sufficient water resources exist in the county's reservoirs, aquifers, and watersheds, but the economic problems of storage and distribution prevent these resources from being fully available.

3.6 GROUNDWATER RESOURCES AND HYDROGEOLOGY



In order to fund the improvements provided by the SVWP, the MCWRA established a special assessment zone, Zone 2C (formerly Zones 2a and 2b) as shown in **Figure 3.6-6**. Zone 2C benefits are deemed special benefits received by only those parcels that fund the SVWP. Zone 2C was defined based on geologic conditions and hydrological factors that define and limit the area of benefits derived from operation of the Nacimiento and San Antonio Reservoirs and construction of the SVWP. The proposed Ferrini Ranch project is located in Monterey County Water Resources Agency Zone 2C as shown in **Figure 3.6-6**.

F:_CS\Work\Monterey County\N Fairview Ranch\Figures\Section 3.6\Figure 3.6-3 Water Project Zone2c Boundary at April 2007



Source: MCWRA 2003

FIGURE 3.6-6
SALINAS VALLEY WATER PROJECT ZONE 2C
 Attachment D, p. 1537 of 1882

EXHIBIT D



Marina Coast Water District

Deep Aquifer Investigative Study



Water Resources & Information
Management Engineering, Inc.

May 2003

Deep Aquifer Investigative Study

May 2003

Prepared For:

Marina Coast Water District

List of Preparers:

Ali Taghavi, Ph.D., P.E.

Martin Feeney, C.H.G.

Lew Rosenberg, R.G., C.E.G.

Christopher Smith, P.E.

SECTION 1

INTRODUCTION

The Marina Coast Water District (MCWD) in cooperation with the California Department of Water Resources (DWR) initiated an investigative study of the Salinas groundwater basin deep aquifer system.

The potable groundwater supplies in the coastal areas of Salinas Valley Groundwater Basin have been contaminated by intrusion of seawater from the Monterey Bay. The seawater has extended to approximately 8 miles inland in the upper (180-foot) aquifer, and to approximately 2 miles inland in the middle (400-foot) aquifer. Although there are no direct indications of seawater intrusion in the deep aquifer, there are concerns that continued and increased groundwater pumping may cause intrusion of seawater there as well.

Because MCWD relies on the deep aquifer for approximately 85 percent of its water supply, a long-term water management plan is of paramount importance to the District. As such, the District and DWR initiated investigating the reliability of the deep aquifer as a long-term water supply source.

STUDY AREA

The study area is centered on the MCWD service area (Figure 1.1). Because of MCWD's geographical location relative to the advancing seawater in the 180- and 400-foot aquifers, the District was one of the first groundwater users forced to use the deep aquifers. Some agricultural users in the Castroville area also were forced to drill into the deeper sediments to provide water for agricultural purposes. The construction and operation of the Castroville Seawater Intrusion Project (CSIP) in 1998 allowed these agricultural users to abandon the use of their deep wells. As such, MCWD remains today the only significant user of the deep aquifer.

The study area is also defined by the availability of data. Relevant water well data are only available in those areas where deeper wells have been constructed and operated.

Understandably, deeper wells have only been drilled in the intruded areas. Therefore, the available data are limited to this area. For this reason, the primary study area becomes those areas with, or threatened by, seawater intrusion in both the 180- and 400-foot aquifers.

DEEP AQUIFER DEFINITION

The term "deep aquifer" or "deep zone" has been part of the groundwater lexicon of the Salinas Valley for more than 25 years. Other alternative terms have included the "900-foot" and "1500-

Data Analysis and Synthesis

RECHARGE CONSIDERATIONS

The hydrogeologic interpretation of the deep aquifers raises questions regarding the nature and magnitude of recharge to these aquifers. Well No. 12 is completed in and produces primarily from the Purisima Formation. The Purisima Formation is not exposed on land in Monterey County. The closest land exposure is in Soquel where the Formation is the primary source of water for the Soquel Creek Water District. Therefore, recharge for the Purisima Formation (Well 12) is primarily leakage from overlying aquifers. Some portions of extractions may be supported by depletion of groundwater storage. However, the low estimates for storage coefficients for this aquifer system suggest that the volume of groundwater that can be removed from storage is not large.

The Paso Robles Formation crops out extensively throughout the Salinas Valley region. However, in most locations, the Formation underlies the Salinas Valley alluvium and Aromas Sands that comprise the 180-foot aquifer and upper portion of the 400-foot aquifer. The alluvium receives recharge primarily from the river and irrigation return flows. In areas where Paso Robles is overlain by alluvium, recharge is from leakage from overlying aquifers.

There are 37,500 acres of Paso Robles Formation exposed in Monterey County. Of this area, 33 percent (or 12,400 acres) is exposed in the El Toro-Laguna Seca Area where the Formation constitutes as recharge area for these areas. The remaining acreage of Paso Robles Formation is exposed on the west side of the Salinas Valley. However, much of this area is in the rain shadow of the Santa Lucia Range. Annual rainfall on the outcrop areas is less than 12 inches. With this limited rainfall, direct recharge to the outcrops of Paso Robles Formation from precipitation is minimal, if any. Given the hydrogeologic setting, extractions from the Paso Robles Formation also appear to be primarily supported by leakage from the overlying shallow aquifer system.

The implications regarding recharge mechanisms are generally supported by the water level history of MCWD wells. All three of MCWD wells show a similar water level history: a rapid decline as local storage is depleted, then a stabilization as extractions equilibrate with leakage. This interpretation is best evaluated by modeling.

SECTION 5

SUMMARY OF FINDINGS

The findings of this study can be divided in to three categories:

- Data assessment and analysis,
- Hydrologic modeling and analysis, and
- Water supply reliability.

DATA ASSESSMENT AND ANALYSIS

- Geologic, hydraulic, and geochemical data all suggest the "deep aquifer" to be two distinct aquifers.
- The uppermost aquifer of the "deep aquifer" is comprised of continental deposits assigned to the Paso Robles Formation. The lowermost aquifer is assigned to the marine Purisima Formation.
- MCWD's Well Nos. 10 and 11 produce from the Paso Robles Formation while Well No. 12 produces from the Purisima Formation. The "deep aquifer" wells in the Castroville area are completed in the Paso Robles Formation.
- Water levels in the Marina area deep aquifers have been substantially below mean sea level since the initiation of extractions.
- The areal distribution and stratigraphic location of the Paso Robles and Purisima Formations limit recharge to leakage from overlying aquifers. Water level records from MCWD's wells support this conclusion. Static water level curves from all of the MCWD wells appear to be stabilized, suggestive of equilibrium with recharge.
- Piezometric head in the Purisima Formation is higher than in the overlying Paso Robles Formation. Extractions from Paso Robles may be supported by leakage from both overlying and underlying sediments.
- Although water levels are chronically below mean sea level, there is no evidence of water quality degradation.
- The geologic setting may provide a buffer against seawater intrusion, allowing for the maintenance of water levels below mean sea level. However, storage coefficients suggest that the volume of groundwater in storage in the lower aquifers is small. Increased production would likely come from increased leakage.

MARINA COAST WATER DISTRICT
2010 URBAN WATER MANAGEMENT PLAN



Board of Directors

William Lee, President
Dan Burns, Vice-President
Howard Gustafson
Kenneth K. Nishi
Jan Shriner

Prepared by

Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS
3239 IMJIN ROAD, SUITE 129
MARINA, CA 93933



June 2011

Section 4 - Water Supplies

4.1 Water Sources

The primary source of water supply for the Marina Coast Water District is the Salinas Valley Groundwater Basin, described in detail in Section 4.2. Both Central Marina and the Ord Community Service areas have relied upon this source of supply since the areas were initially developed. The District owns and operates its production wells, and does not purchase wholesale water supply.

Table 4.1 depicts recent groundwater production for the Central Marina and Ord Community service areas. Note that well capacity is not included in the table. MCWD has redundant well pumping capacity to accommodate maintenance shut-downs during peak days.

Table 4.1 Groundwater Production (acre-feet)

Year	Central Marina	Ord Community	Total (ac-ft)
2001	2,285	2,228	4,513
2002	2,306	2,137	4,443
2003	2,185	2,144	4,330
2004	2,262	2,423	4,685
2005	2,195	1,994	4,188
2006	1,786	2,509	4,295
2007	1,622	2,941	4,563
2008	1,833	2,269	4,102
2009	1,962	2,076	4,038
2010	1,744	2,389	4,133

The three water production wells in the Central Marina service area are in the Deep Aquifer, as described in Section 4.2.1. MCWD is currently the only significant user of the Deep Aquifer. The three wells in the Ord Community service area are in the 400-foot Aquifer. MCWD is currently adding a new well in the Deep Aquifer in the Ord Community.

Additionally, MCWD has a seawater desalination plant located at its main office adjacent to Marina State Beach. This facility is not currently in use, but has a design capacity of 300 acre-feet per year. It is discussed in Section 4.4.

4.2 Groundwater

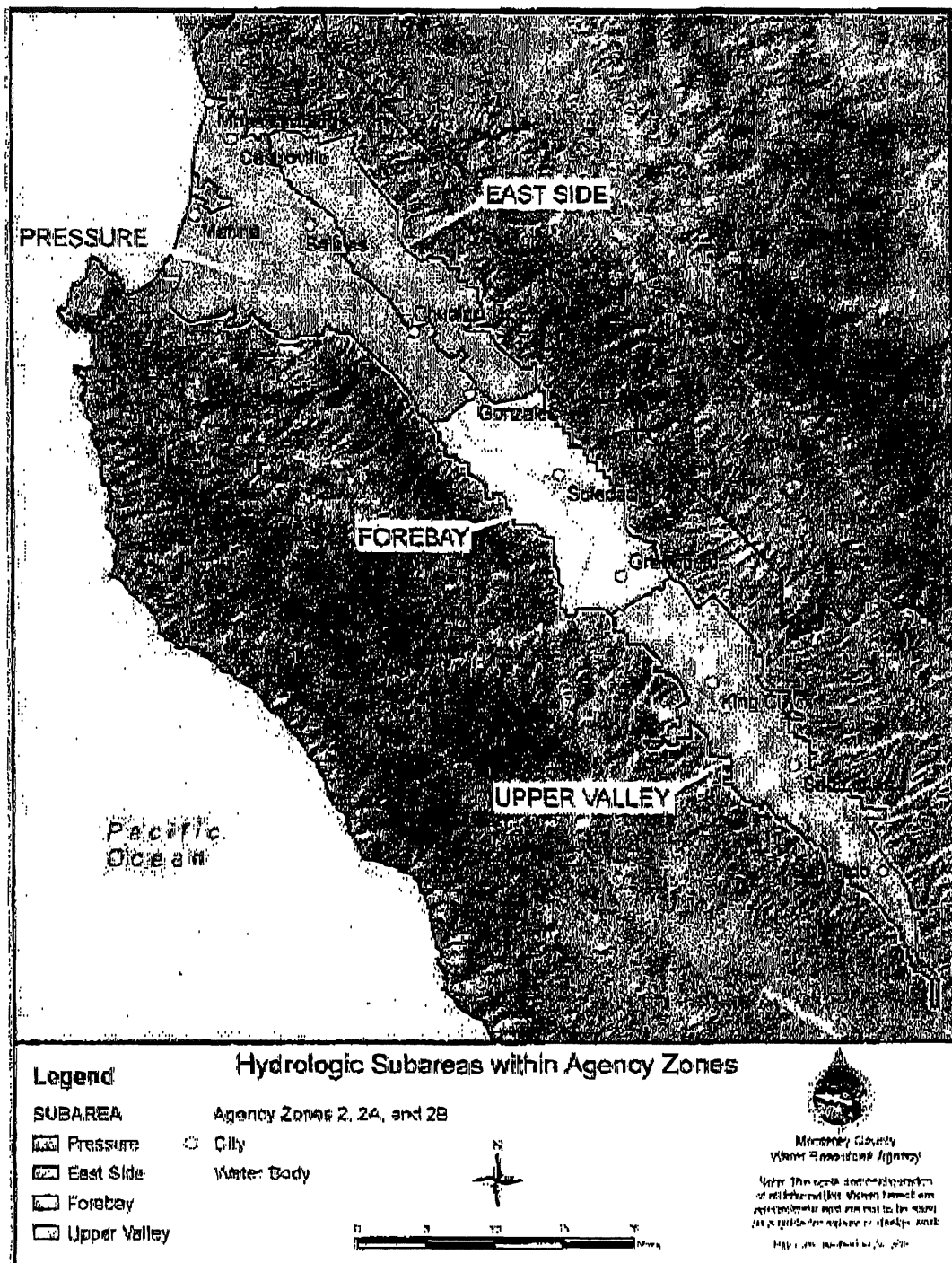
4.2.1 Salinas Valley Groundwater Basin

Potable water for MCWD's Marina and Ord Community service areas comes from wells developed in the Salinas Valley Groundwater Basin.³ This groundwater basin underlies the Salinas Valley from San Ardo to the coast of Monterey Bay and is divided into four

³ See Figure 2.2 for well locations.

Marina Coast Water District

2010 Urban Water Management Plan

Figure 4.1 Salinas Valley Groundwater Basin⁴⁴ Source: MCWRA 2009 Groundwater Summary Report

Marina Coast Water District2010 Urban Water Management Plan

Studies by the United States Geological Survey indicate that Deep Aquifer water in the vicinity of Marina is not of recent origin. Uncorrected Carbon 14 dating of water from a test well in the vicinity of Marina's Deep Aquifer wells indicates the water is between 22,000 and 31,000 years old. The ancient nature of this water raises the possibility that recharge to this aquifer may be insufficient to sustain current pumping, but monitoring well data at the Marina Airport⁵ indicates the aquifer is subject to seasonal variations similar to the upper aquifers. Recent stratigraphic analyses have indicated that these aquifers are connected hydraulically, with water from the 180-foot and 400-foot aquifers recharging the Deep Aquifer.⁶

Because the overlying clay layers isolate the aquifer systems in the Pressure Subarea from potential surface water recharge, most importantly the Salinas River, the primary mechanism for recharge is from lateral flow from the adjacent subareas. This means that most recharge for the aquifer systems in the Pressure Subarea comes from lateral flow from either the Eastside or Forebay Subareas. Additionally, the deeper aquifers are believed to be recharged in whole or in part by water that has moved through the overlying aquifers (i.e., flow from the 180-Foot Aquifer partially recharges the 400-Foot Aquifer that in turn partially recharges the Deep Aquifer). Most of the recharge for the Pressure Subarea derives from the Forebay Subarea due to the presence of the Salinas River and MCWRA's active management of Nacimiento and San Antonio reservoir releases to maximize river recharge.

In a healthy condition, Salinas Basin groundwater would move through the basin and into the Monterey Bay through subsurface freshwater outcrops. As a result of basin-wide pumping, water levels in the Pressure and East Side subareas have declined over time, contributing to a decrease in the amount of groundwater moving toward and into Monterey Bay. The other basin subareas – Forebay and Upper Valley – tend to recharge rapidly and recover historic groundwater levels each year. The result has been a reversal of the seaward gradient. The basin currently experiences a landward gradient of seawater (intrusion), where the seawater has contaminated coastal aquifers and wells. While historic groundwater pumping throughout the basin created the overdraft, only the basin's coastal areas adjacent or near to the Bay suffer from seawater intrusion. Seawater intrusion is further discussed in Section 4.2.4.

The Salinas Valley Groundwater Basin has been in an overdraft condition with seawater intrusion of about 8,900 afy at its coastal margins.⁷ MCWD's groundwater withdrawals are about 4,600 afy, or less than 1.0 percent of total annual basin withdrawals of about 511,000 afy⁸. Other than MCWD, only a small number of wells tap the deep aquifer, some of which also draw from

⁵ MCWD Well 34 Basis of Design Report, Martin B. Feency, PG, September 2009

⁶ Deep Aquifer Investigation Study, WRIME, 2003.

⁷ Salinas Valley Water Project Engineer's Report, RMC, 2003.

⁸ 2009 Groundwater Summary Report, MCWRA, 2010

Marina Coast Water District2010 Urban Water Management Plan

Recent studies for MCWRA indicate that the seawater intrusion front continues to migrate inland in the vicinity of Marina and the Ord Community. Continued pumping from the 180-Foot Aquifer threatens the wells currently supplying the Ord Community. MCWD's Water System Master Plan identifies the need for a phased replacement of these wells. Additional data on the migration and extent of seawater contamination can be found in the Final Report Hydrogeologic Investigation of the Salinas Valley Basin in the Vicinity of Fort Ord and Marina, Salinas Valley California, April 2001.

There is some concern that the Deep Aquifer may become affected by seawater intrusion. MCWD operates a monitoring well installed between Monterey Bay and the Marina production wells. That monitoring well serves as an early warning system to identify any seawater intrusion that might later affect MCWD's production wells, located further inland. That early warning would provide advance notice to install or begin operating one or more back-up wells to replace any potential future loss of production capacity.

It should be noted that water from the deep wells contains acceptable levels of chloride and total dissolved solids, which should not be misinterpreted as a sign of seawater intrusion. This natural salinity does not prevent the use of this water for municipal demands. The levels of chloride (average 79 mg/L) and total dissolved solids (average 380 mg/L) have not increased in the 25-years MCWD has operated the deep wells.

Another concern is that the Deep Aquifer may be connected to, and affect seawater intrusion in, the upper aquifers. Preliminary findings regarding the Deep Aquifer in the Ord Community area indicate that there is some vertical connectivity between the Deep Aquifer and the overlying aquifers. According to the Deep Aquifer Investigative Study, WRIME, May 2003, increased pumping of the Deep Aquifer would be expected to increase the rate of seawater intrusion in the middle and upper aquifers, but to a lesser extent than if the increased pumping occurred in the middle or upper aquifers. In that report, WRIME modeled the effect of increasing groundwater pumping from the Deep Aquifer by two to five times the baseline rate of 4,800 afy. The model predicted that, in the absence of other actions to control seawater intrusion, the landward flow of groundwater would increase as a result.

In 2008, that model was updated by Geoscience Support Services, Inc¹¹, and WRIME¹² to analyze the Regional Desalination Project (discussed in section 4.4.2). In those studies, the pumping of seawater-intruded groundwater from the 180-Foot Aquifer was modeled using 10-wells (Geoscience) and 5-wells (WRIME). Both studies concluded that pumping intruded

¹¹ North Marina Ground Water Model, Evaluation of Potential Projects, July 25, 2008

¹² Groundwater Modeling Simulation of Impacts for Monterey Regional Water Supply Project, 20,000 AFY Desalination Pumping Scenario, October 29, 2008

EXHIBIT E

REPORT TO THE BOARD OF SUPERVISORS OF THE
MONTEREY COUNTY WATER RESOURCES AGENCY

SUBJECT	BOARD MEETING DATE	AGENDA NUMBER
APPROVE AND AUTHORIZE THE CHAIR TO SIGN THE AGREEMENT AND ANNEXATION RESOLUTION OUTLINING THE TERMS AND CONDITIONS TO ANNEX FORT ORD INTO MONTEREY COUNTY WATER RESOURCES AGENCY ZONES 2 AND 2A	9-21-93 10:50 AM	
WATER RESOURCES AGENCY		

RECOMMENDATION

Approve and authorize the Chair to sign the Agreement and Annexation Resolution outlining the terms and conditions to annex Fort Ord into Monterey County Water Resource Agency Zones 2 and 2A.

SUMMARY

The United States Army has presented the Monterey County Water Resources Agency (MCWRA) with a petition to be annexed into MCWRA's Zones 2 and 2A. The petition includes an Agreement covering the terms and conditions for the annexation (copy attached). On September 13, 1993 the MCWRA Board of Directors received the Agreement and voted to recommend it be approved by your Board. Since the Agreement has been signed by the authorized representative for the Army, your Board's approval and signature by your Board Chair on the Agreement and Annexation Resolution will complete the annexation action and obligate the Army to a payment of \$7.4 million to the MCWRA.

DISCUSSION

- ✓ On July 10, 1990 the Monterey County Board of Supervisors, acting then for the Monterey County Flood Control and Water Conservation District, authorized the Chair of the Board of Supervisors to sign a Memorandum of Agreement (MOA) that contained the terms and conditions for the annexation of Fort Ord into MCWRA Zones 2 and 2A. The MOA was never co-signed by the Army at that time because it did not address the closure of Fort Ord.
- ✓ On April, 1993 Army officials on Fort Ord submitted an MOA to the MCWRA for approval. This MOA was approved by the Board of Supervisors on April 20, 1993. When this version of the MOA was received by Army officials in Washington DC, it was rejected on the grounds that it did not sufficiently address the down-sizing of Fort Ord or the Installation's future reuse.

The MOA was changed to an "Agreement" and re-written by Army officials in the Pentagon. The Agreement as is now being presented preserves the key components of the earlier MOA and more completely addresses the Army's declining presence on Fort Ord. It establishes a total cap on groundwater pumping from the Salinas Groundwater Basin, quantifies the amount of water the Army will need for their residual presence and quantifies the amount of water that will be available for civilian reuse.

Approval of the Agreement and the Annexation Resolution by the Board of Supervisors at this time will complete the annexation. The Army will become contractually obligated to pay the agreed annexation fee of \$7,400,000 upon being presented with the signed Agreement and Annexation Resolution.


The Agreement consists of the Petition for Annexation and Appendices A, B, C, and D. Exhibits to Appendix D, are available upon request at the offices of the MCWRA.

OTHER AGENCY INVOLVEMENT

In August of 1992 the MCWRA sent a letter to all the Communities surrounding Fort Ord and to other agencies that might be affected by the annexation of the Fort into MCWRA Zones 2 and 2A. The letter indicated the MCWRA's intent to pursue the annexation and it asked the addressees to indicate their support or opposition to the intended action. A summary of the responses is shown on pages 10 and 11 of Appendix D, the Annexation Assembly and Evaluation Report. In addition, on September 9, 1993 the Fort Ord Reuse Group wrote a letter to the Army in support of the annexation.

FINANCING

There is no impact to the General Fund. After annexation, the MCWRA would receive \$7.4 million from FY 1991 Military Construction Army appropriated funds. The full amount is scheduled to be applied against the costs of the Castroville Reclamation and Irrigation Project.


William F. Hurst
General Manager

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William F. Hurst
General Manager

*Before the Board of Supervisors in and for the
County of Monterey, State of California*

COPY

Agreement No. A-06404 --
Agreement Between the United States of
America and the Monterey County Water
Resources Agency Concerning Annexation of
Fort Ord Into Zones 2 and 2A of the Monterey
County Water Resources Agency, Approved;
Chairwoman Authorized to Sign

Upon motion of Supervisor Johnsen, seconded by Supervisor Strasser Kauffman, and carried, the Board hereby approves Agreement No. A-06404 between the United States of America and the Monterey County Water Resources Agency concerning annexation of Fort Ord into Zones 2 and 2A of the Monterey County Water Resources Agency, and authorizes the Chairwoman to sign said agreement.

PASSED AND ADOPTED this 21st day of September, 1993, by the following vote, to-wit:

AYES: Supervisors Salinas, Shipnuck, Perkins, Johnsen and Karas.

NOES: None.

ABSENT: None.

I, ERNEST K. MORISHITA, Clerk of the Board of Supervisors of the County of Monterey, State of California, hereby certify that the foregoing is a true copy of an original order of said Board of Supervisors duly made and entered in the minutes thereof at page 57 of Minute Book 67 , on September 21, 1993.
Dated: September 21, 1993

ERNEST K. MORISHITA, Clerk of the Board
of Supervisors, County of Monterey,
State of California.

Attachment D, p: 1553 of 1882

By

Nancy Luke

Deputy

*Before the Board of Supervisors in and for the
County of Monterey, State of California*

Resolution No. 93-387 --

A Resolution of the Board of Supervisors
of the Monterey County Water Resources
Agency Making findings for the Annexation
of Certain Territory, Known as the Ft. Ord
Annexation, to Zones 2 and 2A of the
Monterey County Water Resources Agency,
Setting Forth the Conditions for Said
Annexation, and Approving Said Annexation.)

WHEREAS,

- A. For many years, the territory known as Ft. Ord, in Monterey County, California, has obtained its potable water from the Salinas Valley Groundwater Basin.
- B. Much of the water in the Salinas Valley Groundwater Basin is derived from the Groundwater recharge program made possible through the operation of Lake Nacimiento and Lake San Antonio. The dams that impound these lakes were built and are operated by the Monterey County Water Resources Agency (MCWRA). The capital, operating and maintenance expenses of these reservoirs have been paid for by the property owners in MCWRA Zones 2 and 2A.
- C. Ft. Ord is not in Zones 2 and 2A, and has never paid any of the assessments for the reservoirs, although it has benefited from the groundwater recharge program maintained by Zones 2 and 2A.
- D. Over the years, seawater intrusion has progressively advanced into the northern portions of the Salinas Valley Groundwater Basin, rendering wells useless for potable and agricultural purposes and threatening nearby water supplies. Several wells previously used to supply water to Fort Ord have been lost to seawater intrusion.
- E. The MCWRA proposes to develop a seawater intrusion program that would replace groundwater wells in the northern portion of the Salinas Valley. The program would rely on groundwater or surface water developed in Zones 2 and 2A. The program would require that all properties to be benefited by the program be in Zones 2 and 2A.
- F. The territory of Fort Ord is not in Zone 2 and 2A. The U. S. Government, as owner of said property, desires that the territory of Fort Ord be annexed to Zones 2 and 2A, in order to compensate Zones 2 and 2A for past benefits received and to insure the territory's right to participate in the seawater

intrusion program, should a water project be built in Zones 2 and 2A for the benefit of this area.

- G. The proposed annexation is not a project within the meaning of CEQA because (1) the terms of the annexation limit the use of water on Ft. Ord to present or historical levels of water use, pending the completion of a water supply project for the benefit of this area, and (2) the annexation does not commit the MCWRA or Ft. Ord to the development of any particular water project or to any other action that will result in changes in the environment. Therefore, it can be seen with certainty that there is no possibility that the annexation will result in significant environmental effects.
- H. This annexation is conducted pursuant to the Monterey County Water Resources Agency Act, Section 43.

NOW, THEREFORE BE IT RESOLVED:

1. It is in the best interest of Zones 2 and 2A and the territory described in Exhibit A, referred to herein as the Ft. Ord annexation, that the territory described in Exhibit A be annexed to the zones.
2. The boundaries of the territory to be annexed, as set forth in Exhibit A, are appropriate and need not be modified.
3. There are no other annexation petitions pending before the Agency that involve annexation of any of the same territory to the same zones.
4. The territory described in Exhibit A is hereby annexed to Monterey County Water Resources Agency Zones 2 and 2A, subject to the conditions set forth in the annexation agreement, attached hereto as Exhibit B. The annexation fee shall be paid as provided in Exhibit B.
5. The annexation shall take effect immediately upon the adoption of this resolution.
6. On the effective date of the annexation, the territory described in Exhibit A shall be subject to all the liabilities and entitled to all the benefits of the zone, except as otherwise provided in the annexation agreement, attached hereto as Exhibit B.

Upon motion of Supervisor Johnsen, seconded by Supervisor Karas, the foregoing resolution is adopted this 21st day of September, 1993, by the following vote, to-wit:

AYES: Supervisors Salinas, Shipnuck, Perkins, Johnsen and Karas.

NOES: None.

ABSENT: None.

I, ERNEST K. MORISHITA, Clerk of the Board of Supervisors of the County of Monterey, State of California, hereby certify that the foregoing is a true copy of an original order of said Board of Supervisors duly made and entered in the minutes thereof at page 67 of Minute Book 67, on September 21, 1993.
Date September 21, 1993

ERNEST K. MORISHITA, Clerk of the Board
of Supervisors, County of Monterey,
State of California.

By

Nancy Luskerville

Deputy

Attachment D, p. 1556 of 1882

EXCERPT FROM AGENCY ACT

WATER CODE—APPENDIX

App. § 52-43

§ 52-43. Annexation to zones

Sec. 43. (a) In addition, or as an alternative, to the procedures for amending zones described in Section 7, any territory in the agency lying within the watershed within which a zone is situated may be annexed to that zone pursuant to this section. Territory which is in, or annexed to, one zone may be annexed to another zone pursuant to this section.

(b) The following applies with respect to the annexation of new territory to any zone pursuant to this section:

(1) (A) A petition for annexation by election signed by 25 percent of the freeholders residing in the territory proposed to be annexed as shown by the last equalized assessment roll of the county shall be presented to the board.

(B) The petition shall designate specifically the boundaries of the territory proposed to be annexed and its assessed valuation as shown by the last equalized assessment roll and shall ask that the territory be annexed to the zone. The petition shall be accompanied by a bond in the sum of not less than one hundred dollars (\$100), to be approved by the board and filed with the clerk of the board as security for the payment by the petitioners of the reasonable cost of the election on annexation, in the event that at the election less than a majority of the votes cast are in favor of annexation. The petition shall be verified by the affidavit of one of the petitioners.

(C) The petitioner shall be published by the petitioners for at least two weeks preceding its hearing in a newspaper of general circulation published in the zone, if there is one, or, if not, in a newspaper of general circulation published in the agency, together with a notice stating the number of signers of the petition, the time when the petition will be presented to the board and that all persons interested may appear and be heard. It shall not be necessary to publish the names of the signers.

(D) At the time specified for the hearing, the board shall hear the petition and may adjourn the hearing from time to time. Upon final hearing of the petition, the board, if it approves the petition as originally presented or in a modified form, shall make an order describing the exterior boundaries of the territory proposed to be annexed and ordering that an election be held in such territory for the purpose of determining whether or not the territory shall be annexed to the zone. The order shall fix the day of the election, which shall be within 60 days from the date of the order, and shall show the boundaries of the territory proposed to be annexed to the zone and shall set forth the measure to be submitted to the voters of such territory and shall designate the precincts, polling places and election officers for such election and state the times between which the polls shall be open. The order shall be published pursuant to Section 6066 of the Government Code. This order shall be entered in the minutes and is conclusive evidence of a due presentation of a proper petition, and of the fact that each of the petitioners was, at the time of the signing and presentation of the petition, qualified to sign.

(E) The election shall be held and conducted as provided in Chapter 1 (commencing with section 22000) of Part 1 of Division 12 of the Elections Code and sample ballots and polling place cards shall be mailed as provided in section 10012 of the Elections Code. If a majority of the votes in the territory proposed to be annexed at an election called therein by the board for that purpose are in favor of the annexation, the clerk of the board shall make and cause to be entered in the minutes and endorsed on the petition an order approving the petition and the petition shall be filed. The entry is conclusive evidence of the fact and regularity of all prior proceedings of every kind required by law and of the facts stated in the entry. The board at its next regular meeting after the entry shall, by an order, alter the boundaries of the zone and annex to it the territory described in the petition. The order of the board is conclusive evidence of the validity of all prior proceedings leading up to the annexation and recited in the order, and from and after the order the territory is part of the zone. If, at the election, less a majority of the votes in a territory proposed to be annexed are in favor of the annexation of the territory to the zone, the signers of the petition shall, within 10 days after the canvassing of the votes of the election, pay to the board the reasonable cost of the election and, if not paid within 10 days, the board may sue on the bond to recover the cost of the election. If the result of the election is against annexation, the board shall, by order, disapprove the petition and enter the order in its minutes. No other proceeding shall be taken in relation thereto until the expiration of six months from the presentation of the petition, except to collect the costs of the election.

APPENDIX A

EXHIBIT F

MONTEREY DOWNS

balancing nature with everyday living

STAFF WORKING DOCUMENT



Specific Plan

Administrative Draft

9-25-2012

MONTEREY DOWNS*balancing nature with everyday living***MONTEREY DOWNS
SPECIFIC PLAN**Prepared For

The City of Seaside
440 Harcourt Avenue
Seaside, CA 93955
831.889.6700

Prepared By

24005 Ventura Boulevard, Suite 100
Calabasas, CA 91302
818.444.1800

STAFF WORKING DOCUMENT

Administrative Draft
September 2012

Chapter

2

Land Use Plan

STAFF WORKING DOCUMENT

2.1 Introduction

The Land Use Plan provides the basic coordinating elements of the Specific Plan and establishes some of the key development requirements. This Chapter establishes: (1) the proposed land uses for the Specific Plan; (2) the general mix, location, size, and total number of residential dwellings, the size of the visitor serving recreational and commercial uses; (3) the range of permitted uses within the Specific Plan; and (4) the degree of flexibility permitted during build-out of the Specific Plan.

2.2 Land Use Concept

The Specific Plan proposes a mix of visitor serving equestrian and special event venues, mixed-use commercial, residential, recreation, trails, open space preservation, public facilities and veteran's cemetery uses intended to serve as a premier equestrian-themed community. **Figure 2.1 - Land Use Map, and Figure 2.2 - Illustrative Conceptual Site Plan Figure 2.2 and Figure 2.3 - Monterey Downs Specific Plan Illustrative Plan,** establish the plan's conceptual spatial

layout and mix of uses, to which all development standards proposed as part of this Specific Plan apply.

The Specific Plan envisions the following collection of land uses:

1. Approximately 225,000 square feet designated for a state-of-the-art sports arena and equine horse training facility;
2. Approximately 330,000 square feet designated for the "Country Walk" outdoor shopping destination;
3. Approximately 111 acres designated for a world-class equestrian park;
4. Approximately 73 acres designated for perpetual habitat preservation and trails;
5. A recreation park and dog park;
6. Neighborhood parks spread throughout residential neighborhoods connected by a paseo network;
7. 256 affordable workforce lodging units;
8. Up to 1,280 residential dwellings constructed on approximately 153 acres;
9. Water tank and access road;

Monterey Downs Specific Plan

10. Approximately 205,000 square feet (26.9 acres) are designated for commercial office, and business traveler hotel uses;
11. A tennis and swim facility;
12. A new fire station site;
13. Staging areas;
14. R.V. parking;
15. Approximately 135 acres designated for the California Central Coast Veterans Cemetery (CCCVC); and
16. A 17-acre Seaside Public Works Corporate Yard site.

2.2.1 Planning Areas

Areas proposed for development within the Specific Plan are differentiated by "Planning Areas" and have been grouped according to form, function, and density. A total of 12 Planning Areas and 2 Overlay Zones are proposed, which are intended to allow a variety of uses. The proposed Planning Area categories include:

- **Recreation 2 (Rec-2)**
- **Recreation 1 (Rec-1)**
- **Open Space (OS)**
- **Commercial 2 (C-2)**
- **Commercial 1 (C-1)**
- **Public Facility (PF)**
- **Veterans Cemetery (VC)**
- **Multi-Family Residential (RM)**
- **Residential 3 (R-3)**
- **Residential 2 (R-2)**
- **Residential 1 (R-1)**
- **Open Road (OR)**

- **Linear Park Preserve Overlay (LP-O)**
- **Firewise Overlay (FW-O)**

2.2.2 Location and Characteristics of Planning Areas

The overall layout of the proposed equestrian-themed village is driven by the desire to establish a trails, recreation and open space network adjacent to the already extensive open space and trails system. The integration of open space, neighborhood shopping, equestrian event centers, and residential neighborhoods will create opportunities to live, work, and visit, thus establishing the Monterey Downs as one of the area's premier destinations.

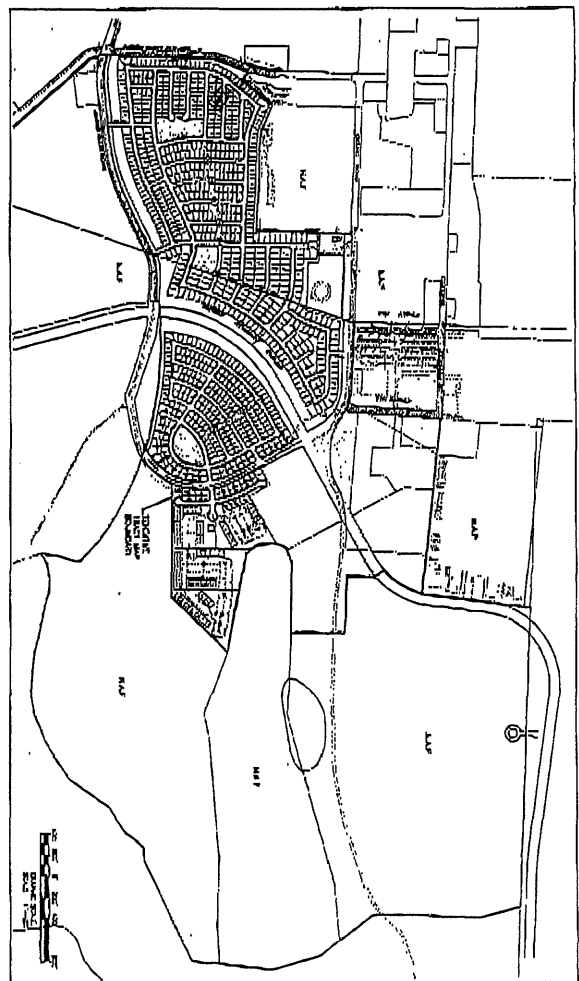
As one travels west across the site from the eastern project boundary, a noticeable transition to urban development occurs. Consequently, the Planning Areas provide open space, recreational and visitor-serving uses along the eastern portions of the Specific Plan area to enhance the recreational and scenic nature of the existing habitat management areas.

A mixture of destination town center commercial retail uses, recreation, hospitality and business-oriented commercial uses are planned in the geographic center of the Specific Plan area. These centrally located uses are intended to be able to service both visitors and members of the community.

The residential neighborhoods are located within a comfortable walking distance of the town center commercial areas and are interconnected by a network of pedestrian-scale streets and landscaped

STAFF WORKING DOCUMENT

VESTING TENTATIVE TRACT MAP NO.
CITY OF SEASIDE, STATE OF CALIFORNIA



CONCISE SUMMARY FOR STUDENT

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221	12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**MULTI-FAMILY/
COMMERCIAL LOT SUMMARY**

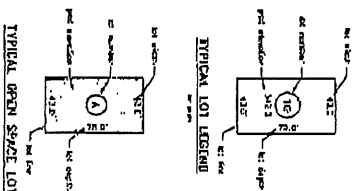
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GENERAL NOTES:

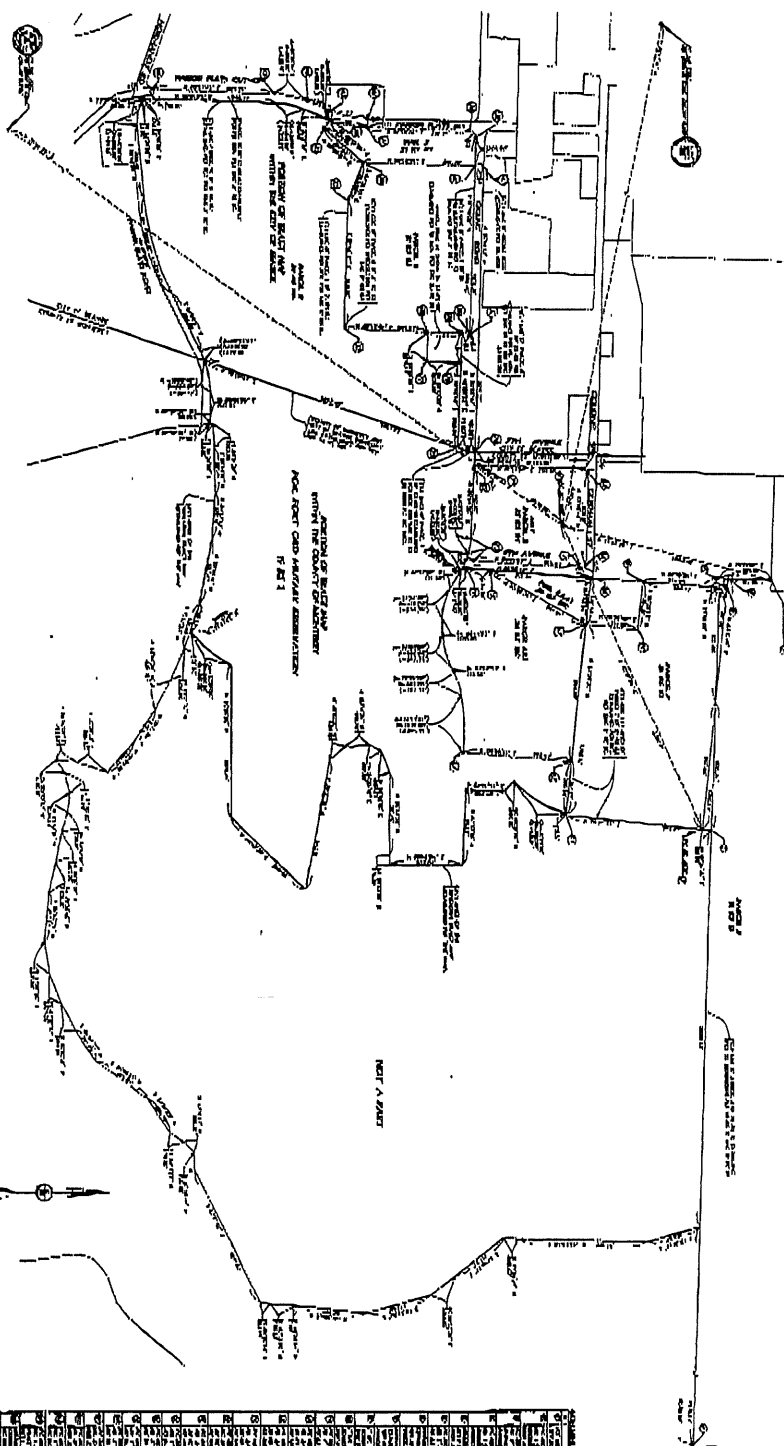
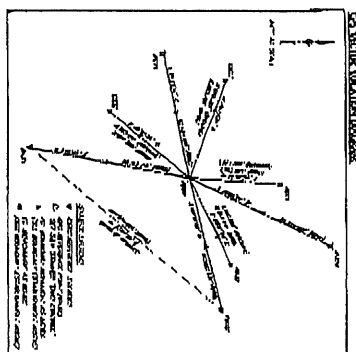
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STAFF WORKING DOCUMENT

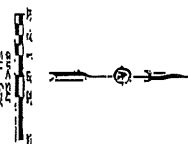
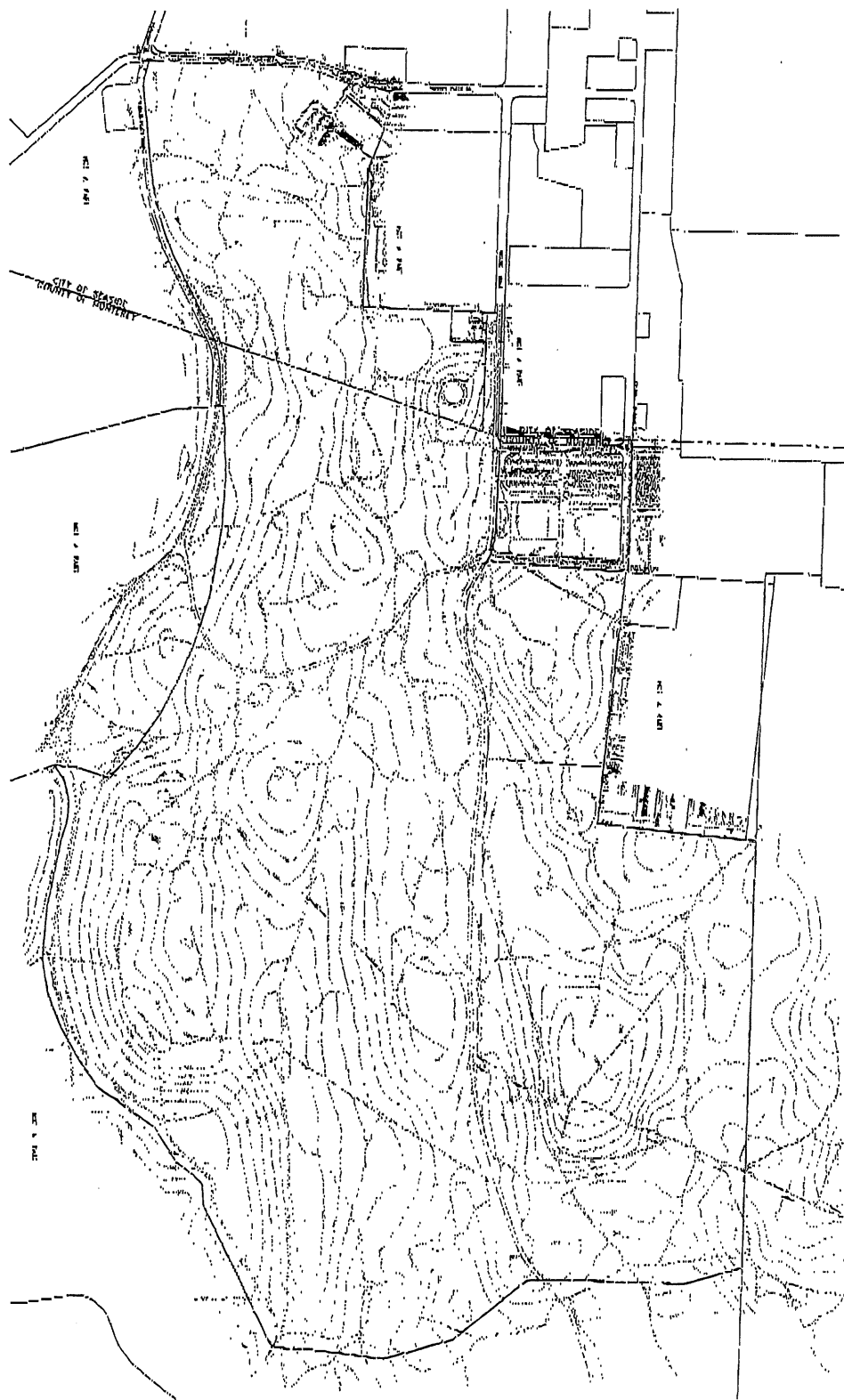


DATE	DESCRIPTION	AMOUNT	BALANCE
1900	TO BALANCE	100.00	100.00
1901	BY SALES	250.00	350.00
1902	TO BALANCE	150.00	500.00
1903	BY SALES	300.00	800.00
1904	TO BALANCE	200.00	1000.00
1905	BY SALES	400.00	1400.00
1906	TO BALANCE	300.00	1700.00
1907	BY SALES	500.00	2200.00
1908	TO BALANCE	400.00	2600.00
1909	BY SALES	600.00	3200.00
1910	TO BALANCE	500.00	3700.00
1911	BY SALES	700.00	4400.00
1912	TO BALANCE	600.00	5000.00
1913	BY SALES	800.00	5800.00
1914	TO BALANCE	700.00	6500.00
1915	BY SALES	900.00	7400.00
1916	TO BALANCE	800.00	8200.00
1917	BY SALES	1000.00	9200.00
1918	TO BALANCE	900.00	10100.00
1919	BY SALES	1100.00	11200.00
1920	TO BALANCE	1000.00	12200.00
1921	BY SALES	1200.00	13400.00
1922	TO BALANCE	1100.00	14500.00
1923	BY SALES	1300.00	15800.00
1924	TO BALANCE	1200.00	17000.00
1925	BY SALES	1400.00	18400.00
1926	TO BALANCE	1300.00	19700.00
1927	BY SALES	1500.00	21200.00
1928	TO BALANCE	1400.00	22600.00
1929	BY SALES	1600.00	24200.00
1930	TO BALANCE	1500.00	25700.00
1931	BY SALES	1700.00	27400.00
1932	TO BALANCE	1600.00	29000.00
1933	BY SALES	1800.00	30800.00
1934	TO BALANCE	1700.00	32500.00
1935	BY SALES	1900.00	34400.00
1936	TO BALANCE	1800.00	36200.00
1937	BY SALES	2000.00	38200.00
1938	TO BALANCE	1900.00	40100.00
1939	BY SALES	2100.00	42200.00
1940	TO BALANCE	2000.00	44200.00
1941	BY SALES	2200.00	46400.00
1942	TO BALANCE	2100.00	48500.00
1943	BY SALES	2300.00	50800.00
1944	TO BALANCE	2200.00	53000.00
1945	BY SALES	2400.00	55400.00
1946	TO BALANCE	2300.00	57700.00
1947	BY SALES	2500.00	60200.00
1948	TO BALANCE	2400.00	62600.00
1949	BY SALES	2600.00	65200.00
1950	TO BALANCE	2500.00	67700.00
1951	BY SALES	2700.00	70400.00
1952	TO BALANCE	2600.00	73000.00
1953	BY SALES	2800.00	75800.00
1954	TO BALANCE	2700.00	78500.00
1955	BY SALES	2900.00	81400.00
1956	TO BALANCE	2800.00	84200.00
1957	BY SALES	3000.00	87200.00
1958	TO BALANCE	2900.00	90100.00
1959	BY SALES	3100.00	93200.00
1960	TO BALANCE	3000.00	96200.00
1961	BY SALES	3200.00	99400.00
1962	TO BALANCE	3100.00	102500.00
1963	BY SALES	3300.00	105800.00
1964	TO BALANCE	3200.00	109000.00
1965	BY SALES	3400.00	112400.00
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1967	BY SALES	3500.00	119200.00
1968	TO BALANCE	3400.00	122600.00
1969	BY SALES	3600.00	126200.00
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1971	BY SALES	3700.00	133400.00
1972	TO BALANCE	3600.00	137000.00
1973	BY SALES	3800.00	140800.00
1974	TO BALANCE	3700.00	144500.00
1975	BY SALES	3900.00	148400.00
1976	TO BALANCE	3800.00	1522

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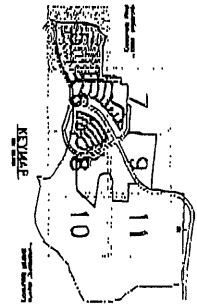
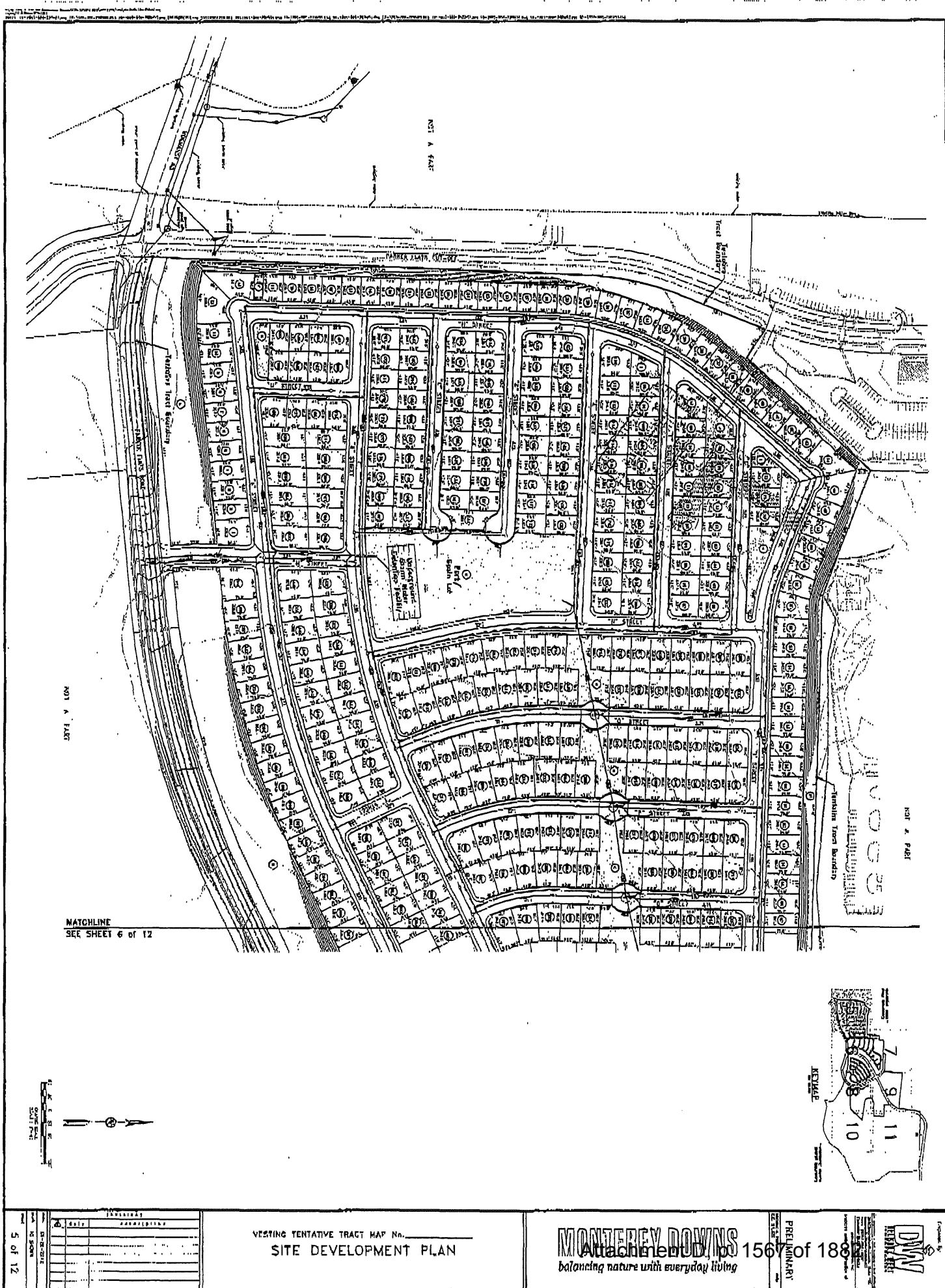
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VESTING TENTATIVE TRACT MAP No. _____
EXISTING CONDITIONS
FOR REFERENCE ONLY

MONTEREY DOWNS
Attachment D of 1566 of 1882
balancing nature with everyday living



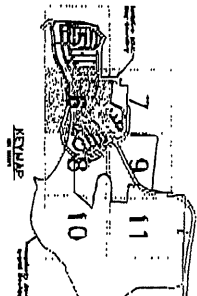
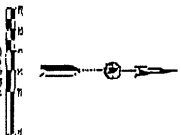
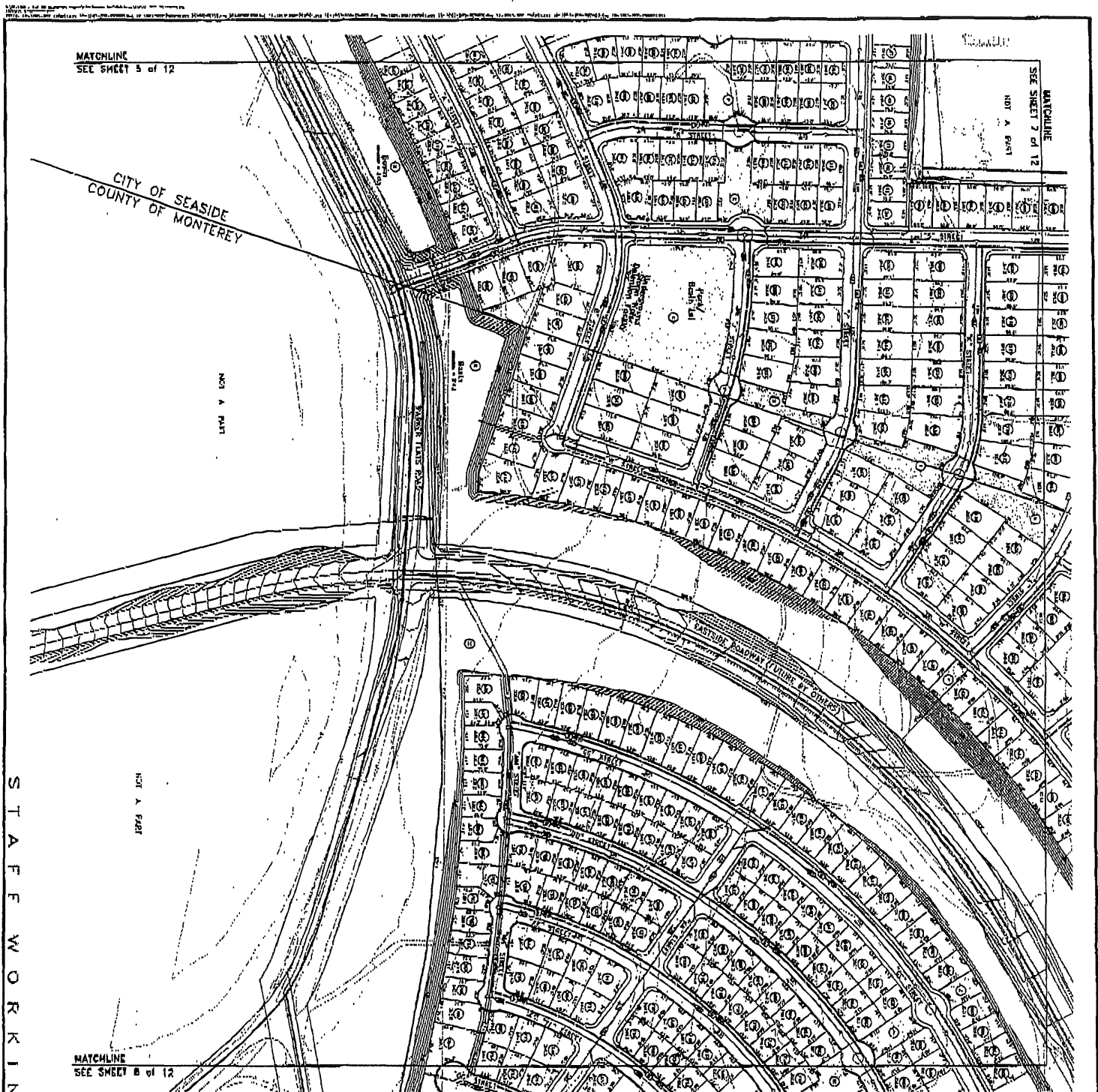


VESTING TENTATIVE TRACT MAP No. _____
SITE DEVELOPMENT PLAN

MONTEREY DOWNS
Attachment D of 1567 of 1882
balancing nature with everyday living

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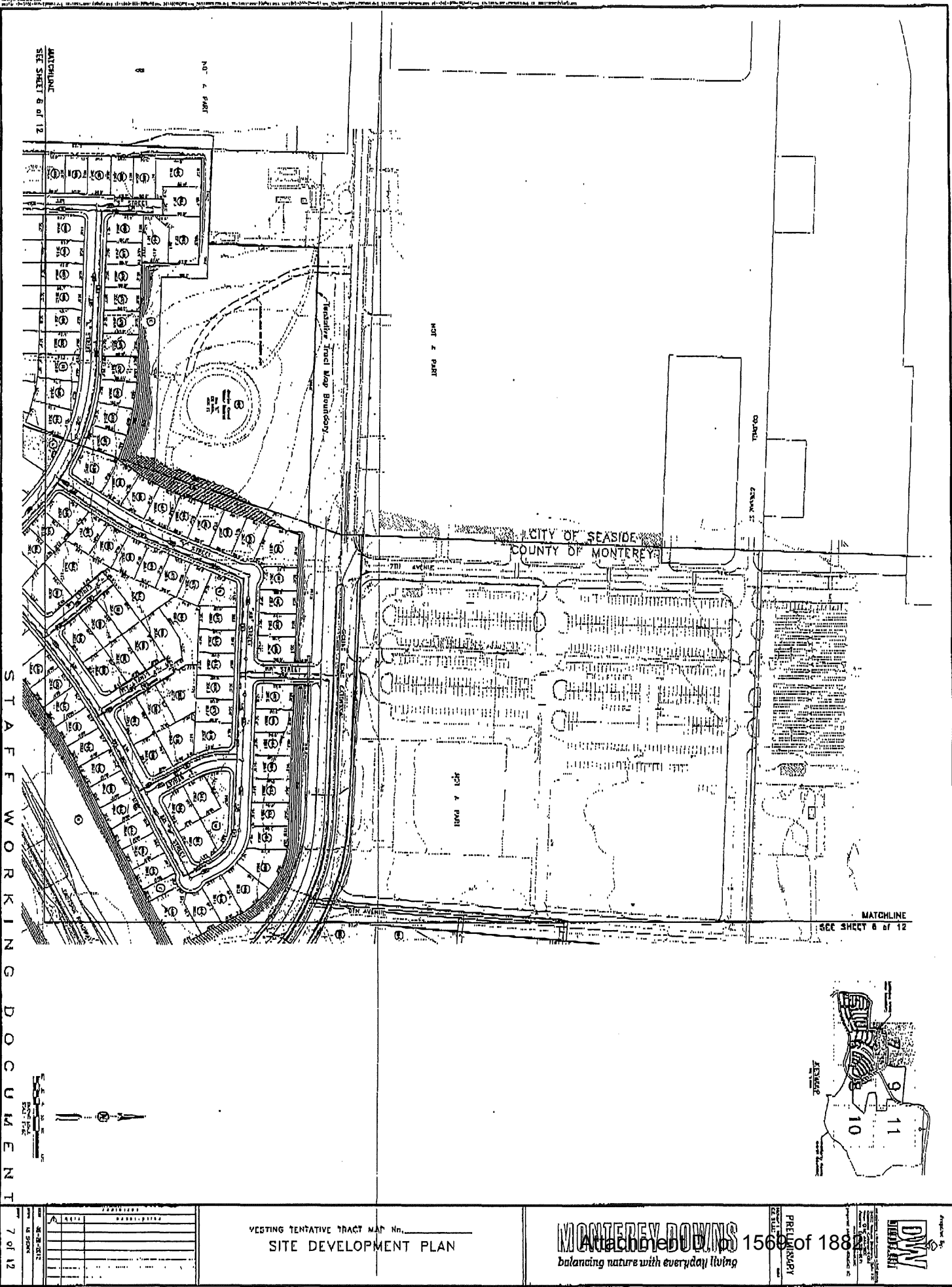


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VESTING TENTATIVE TRACT MAP No. _____
SITE DEVELOPMENT PLAN

Attachment D is 150 of 1882
balancing nature with everyday living

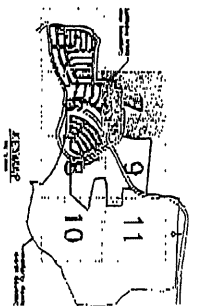
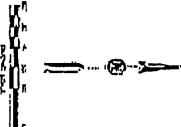




STAFF WORKING DOCUMENT

MATCHLINE
SEE SHEET 6 of 12

MATCHLINE
SEE SHEET 6 of 12

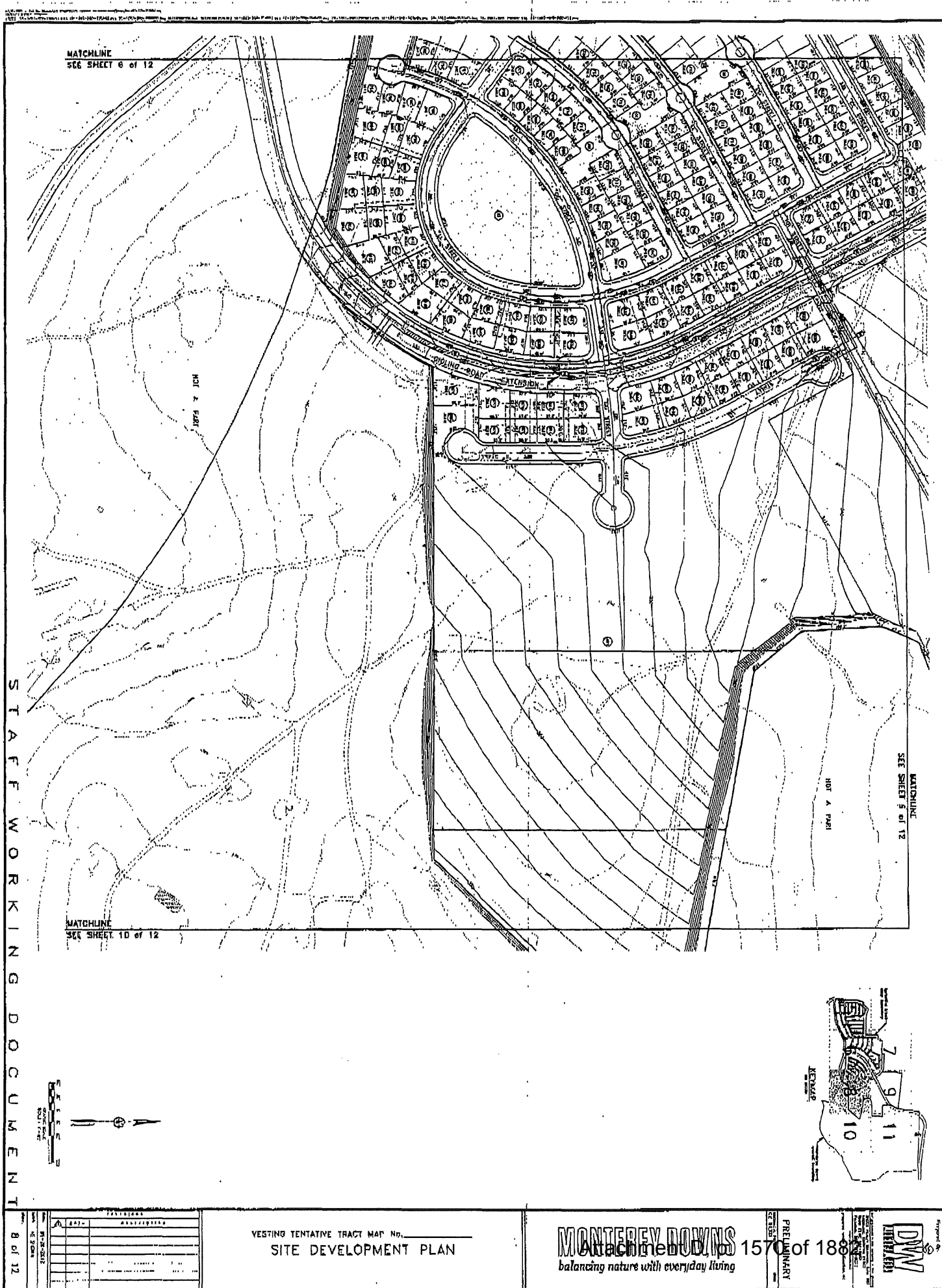


VESTING TENTATIVE TRACT MAP No. _____
SITE DEVELOPMENT PLAN

MONTEREY DOWNS
Attachment 0 of 15660 of 1882
balancing nature with everyday living

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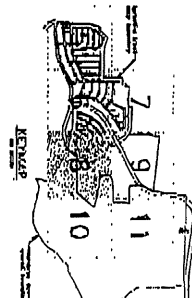
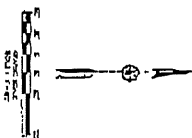
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566 SHEET 0 of 12

1974 & 1975

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SEE SHEET 10 of 12

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SEE SHEET 5 of 12

PLATE 1

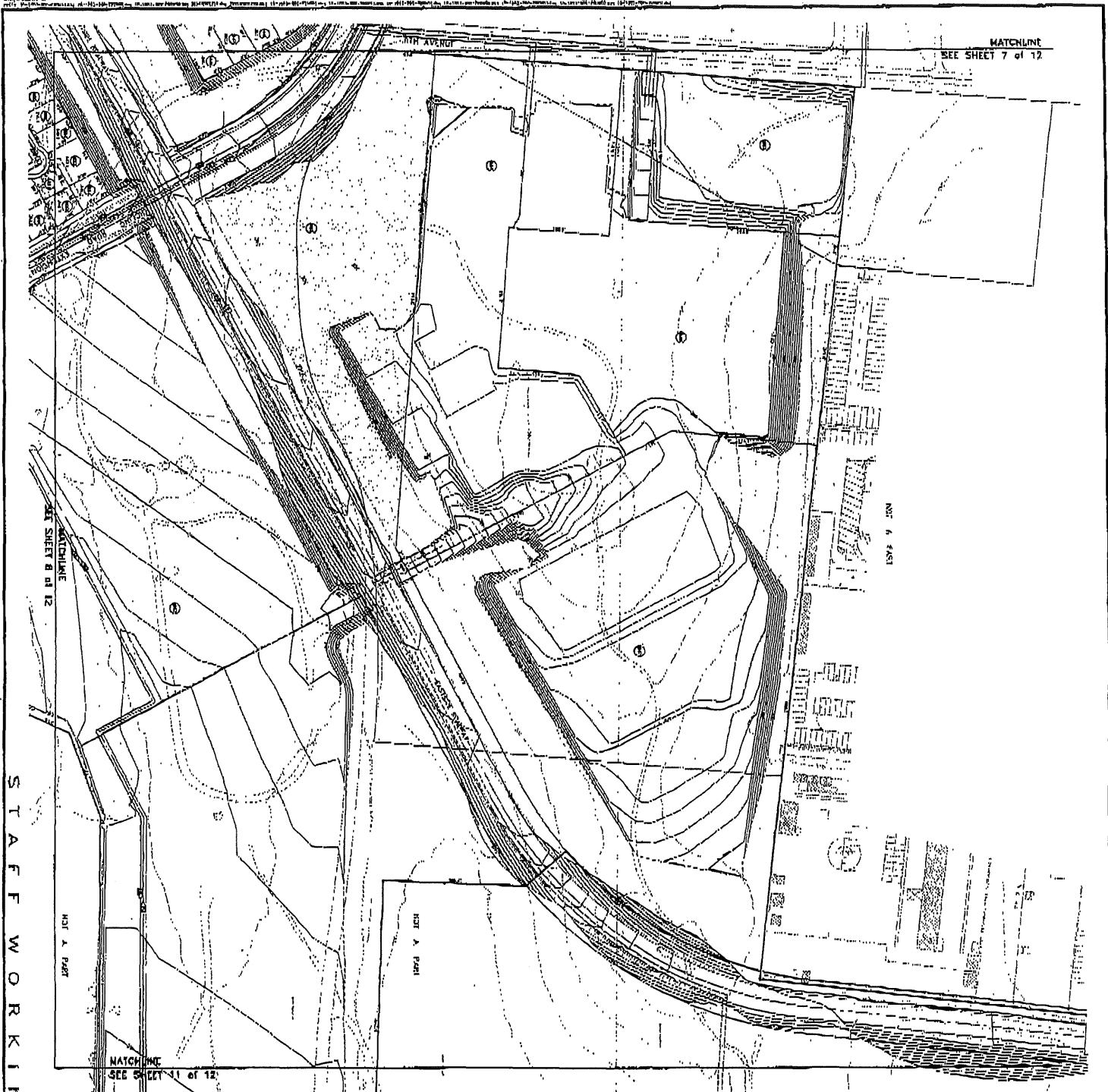
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VESTING TENTATIVE TRACT MAP No. _____
SITE DEVELOPMENT PLAN

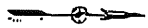
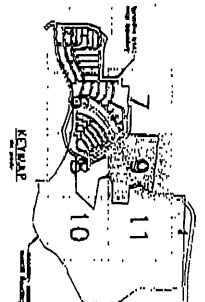
MONTEREY DOWNS
Attachment D, to 1570 of 1882
balancing nature with everyday living

PRELIMINARY





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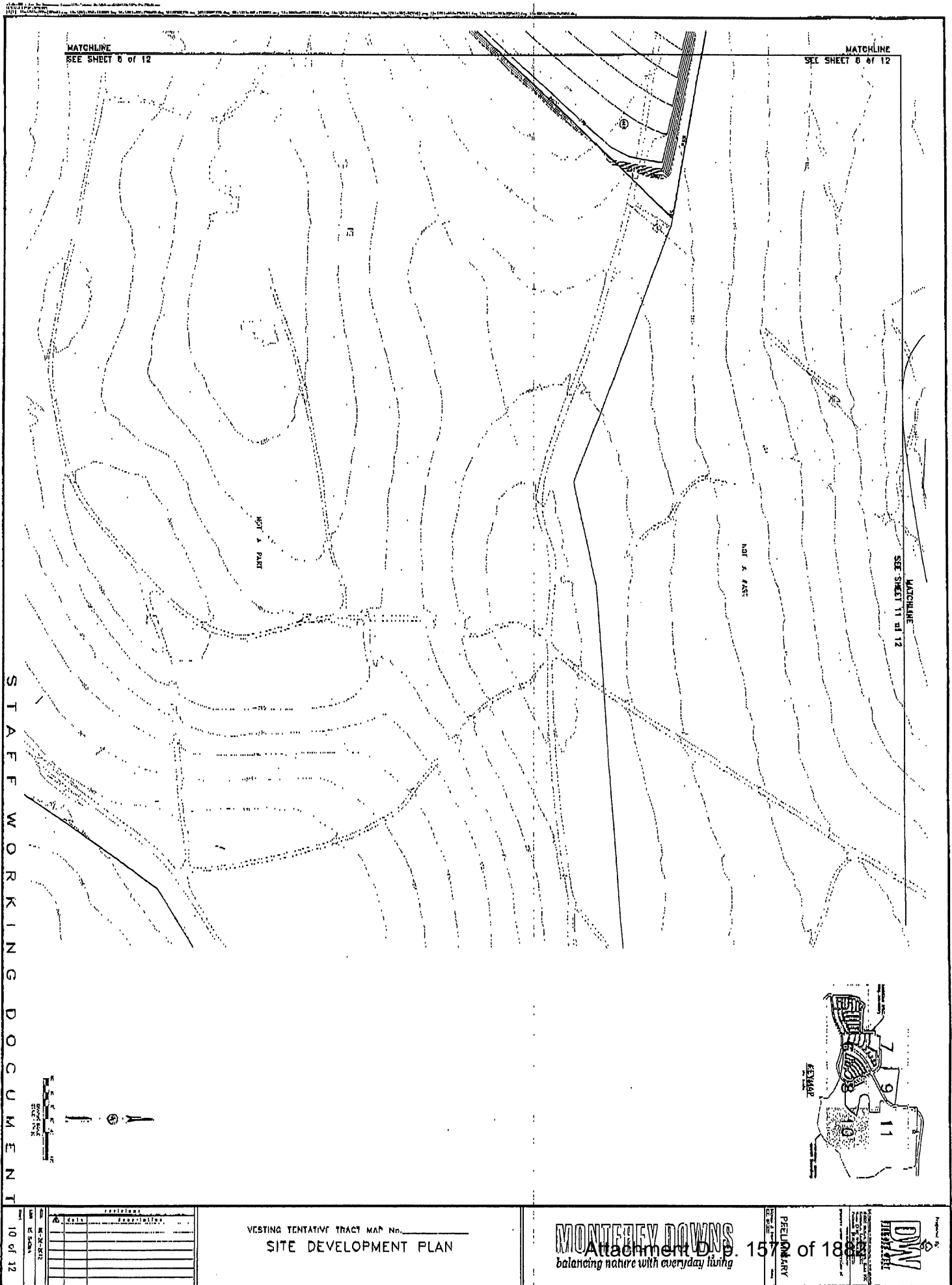
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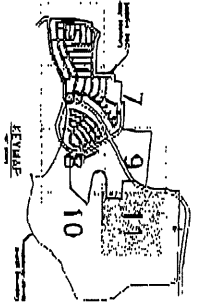
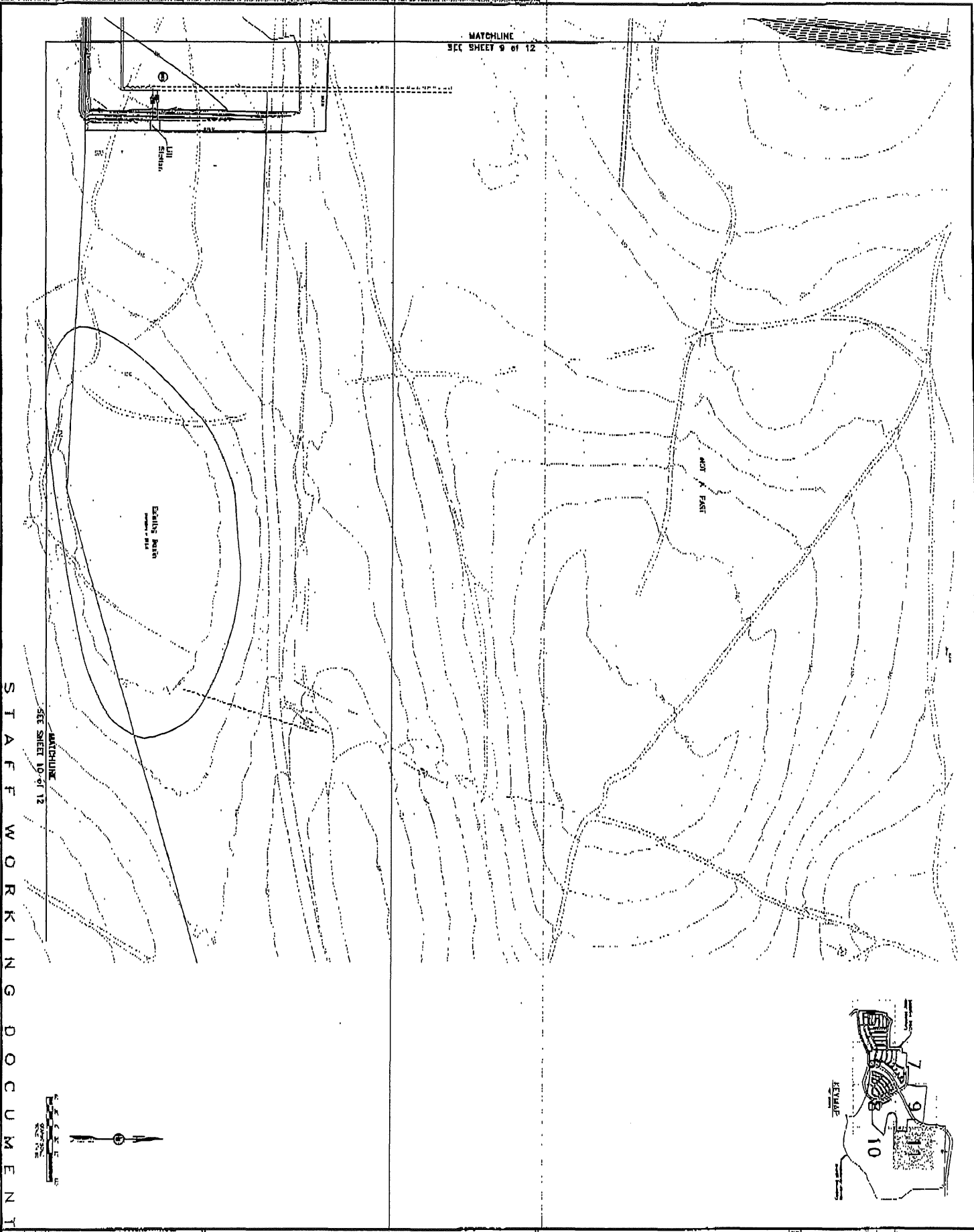
VERTING TENTATIVE TRACT MAP No. _____
SITE DEVELOPMENT PLAN

MONTEREY DOWNS
Attachment 157 of 188
balancing nature with everyday living

PRELIMINARY







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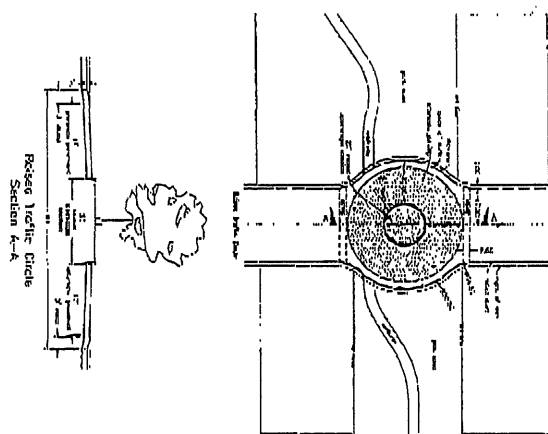
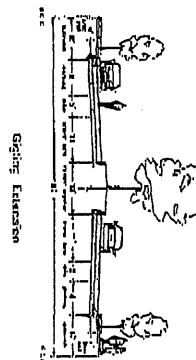
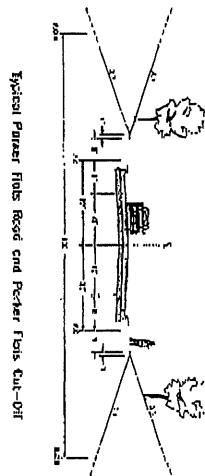
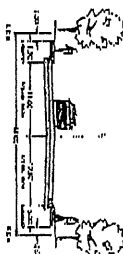
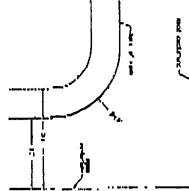
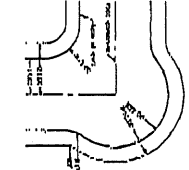
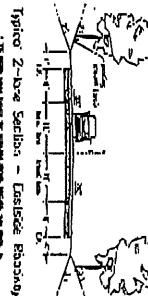
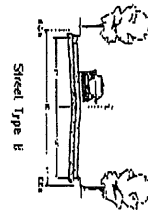
VESTING TENTATIVE TRACT MAP No. _____
SITE DEVELOPMENT PLAN

MONTEREY DOWNS
Attachment D, p 1578 of 1882
balancing nature with everyday living

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VESTING TENTATIVE TRACT MAP No. _____
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MONTEREY DOWNS
Attachment D to 157 of 1882
balancing nature with everyday living

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157 of 1882

DATE	DESCRIPTION
12 of 12	

WATER SUPPLY ASSESSMENT AND WRITTEN VERIFICATION OF SUPPLY

FOR THE MONTEREY DOWNS SPECIFIC PLAN

**Prepared by
MARINA COAST WATER DISTRICT**



Board of Directors
Dan Burns, President
Howard Gustafson, Vice-President
William Y. Lee
Kenneth K. Nishi
Jan Shriner

and

Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS
3 QUAIL RUN CIRCLE, SUITE 101
SALINAS, CA 93907

November 6, 2012



Marina Coast Water DistrictWSA / WVS for the
Monterey Downs Specific Plan**Summary of Water Supply Assessment****Project:** Monterey Downs Specific Plan, Seaside, California

Pursuant to Section 10910 of the California Water Code (CWC), and based on the analysis detailed in this report and the representations by the Project's proponents, the Marina Coast Water District (the District) has determined that its currently projected water supplies will not be sufficient to meet the projected annual water demands of existing and previously approved uses and the implementation of the Monterey Downs Specific Plan during normal, single-dry, and multiple-dry years. The Project will add approximately 852.5 acre-feet per year (AFY) of new demand to the District's Ord Community Service Area, with the City of Seaside and unincorporated Monterey County. These two jurisdictions have existing allocations of Salinas Valley Groundwater of 1,012 AFY and 710 AFY, respectively. They have previously sub-allocated 812.3 AFY and 527.5 AFY to other projects, leaving 382.2 AFY available. If the two jurisdictions sub-allocate all of this supply to the Monterey Downs Specific Plan Area, there will still be a resulting shortfall of 470.3 AFY. The District can supply water to an initial phase of the project, up to the amount sub-allocated by the City and/or County.

The District has two planned water supply projects it intends to implement in the next decade, the Recycled Water Project and the Desalination Project. These two projects are intended to develop 2,400 AFY of new supply for the Ord Community. As these projects come on-line, the Fort Ord Reuse Authority will allocate the supply among the Land Use Jurisdictions in the Ord Community. At that time, additional phases of the development may be approved.

Marina Coast Water District**WSA / WVS for the
Monterey Downs Specific Plan****Section 1 - Introduction****1.1 Project Overview**

The City of Seaside in Monterey County, California, acting as the lead agency, is preparing the Monterey Downs Specific Plan for a 710-acre project area located within the City of Seaside and unincorporated Monterey County. The project is located on the former Fort Ord. Potable water supply for the former Fort Ord is provided by the Marina Coast Water District. Further description of the Project is given in Section 2.0.

1.2 Purpose of Water Supply Assessment

The California Water Code (§10910 et. seq.), based on Senate Bill 610 of 2001 (SB 610), requires a project proponent to assess the reliability of a project's water supply as part of the California Environmental Quality Act (CEQA) process. Under the California Government Code (§66473.7), based on Senate Bill 221 of 2001, proposed subdivisions adding 500 dwelling units are also required to receive written verification of the available water supply from the project's water supplier. This project includes the addition of over 1,500 dwelling units, so both a water supply assessment and a written verification of supply are required.

This report is meant to serve as the Water Supply Assessment (WSA) and Written Verification of Supply (WVS) for the Project to meet the California Water and Government Code requirements. This WSA documents the District's existing and future water supplies for the Project area and compares them to the District's total projected water demands for the next twenty (20) years.

The SB 610 process requires the following several steps to identify the need and scope of a project's WSA:

1. Determine whether the project is subject to CEQA.
2. Determine whether the project meets the definition of a "project" per SB 610.
3. Determine the public water agency that will serve the project.
4. Determine whether any current Urban Water Management Plan considers the projected water demand for the project area.
5. Determine whether groundwater is used by the public water agency to serve the project area.

1.3 Project Subject to CEQA

CEQA applies to projects for which a public agency is directly responsible, funds, and/or requires the issuance of a permit. The City of Seaside determined that the Project is subject to the requirements of CEQA. An Environmental Impact Report (EIR) is currently being prepared.

Marina Coast Water District

WSA / WVS for the
Monterey Downs Specific Plan**1.4 Project Requiring a Water Supply Assessment**

CWC §10912(a) defines a Project for WSA purposes as including any of the following¹:

- a proposed residential development of more than 500 dwelling units;
- a proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- a mixed-use project that includes one or more of the projects identified in this list;
- a project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

The Monterey Downs Specific Plan proposes the addition of over 1,500 dwelling units and 700,000 square feet of commercial space, so a water supply assessment is required.

1.5 Requirements of a Written Verification of Supply

Government Code §66473.7(b)(1) requires:

The legislative body of a city or county or the advisory agency, to the extent that it is authorized by local ordinance to approve, conditionally approve, or disapprove the tentative map, shall include as a condition in any tentative map that includes a subdivision a requirement that a sufficient water supply shall be available. Proof of the availability of a sufficient water supply shall be requested by the subdivision applicant or local agency, at the discretion of the local agency, and shall be based on written verification from the applicable public water system within 90 days of a request.

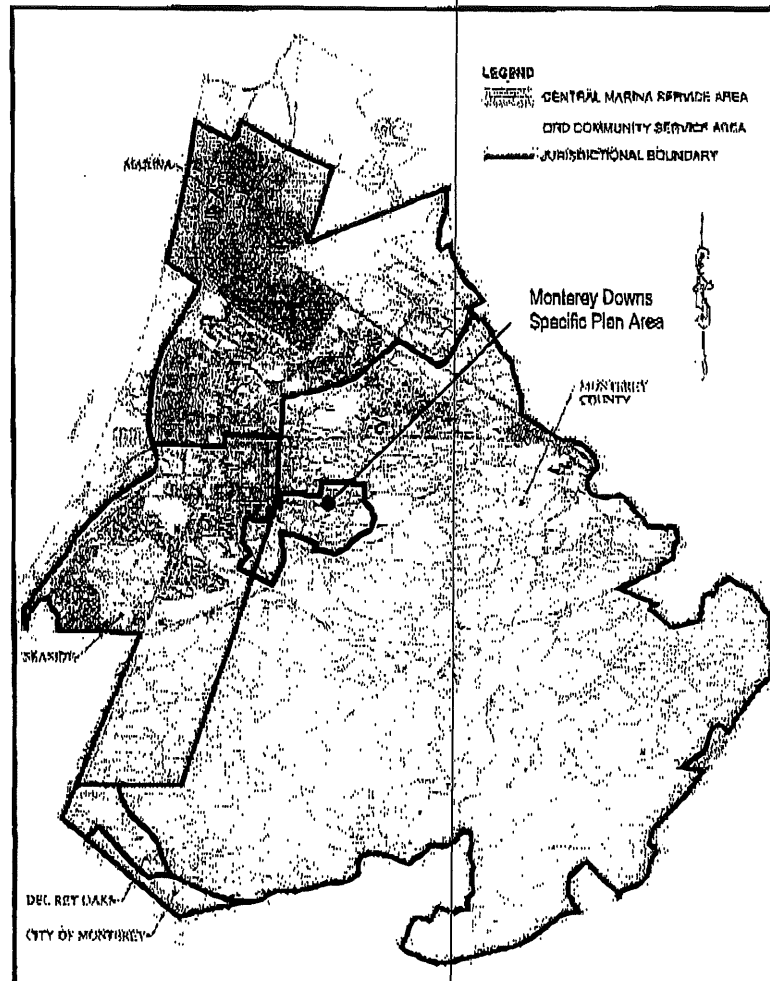
The public water system must determine if there is sufficient water supply for the subdivision, as defined in Government Code §66473.7(a)(2): *“Sufficient water supply” means the total water supplies available during normal, single-dry, and multiple dry years within a 20- year projection that will meet the projected demand associated with the proposed subdivision, in addition to existing and planned future uses, including, but not limited to, agricultural and industrial uses.*

1.6 Public Water Agency Serving the Project

The Marina Coast Water District, a county water district, serves the City of Marina and the former Fort Ord, which includes portions of the City of Marina, City of Seaside, City of Del Rey Oaks, City of Monterey and unincorporated Monterey County. The District has two service areas, Central Marina and the Ord Community. The Project is located in Seaside and unincorporated Monterey County in the MCWD Ord Community Service Area (see Figure 1.1).

¹ There are additional uses that may qualify as a “project” under the CWC, but included here are the applicable categories.

Marina Coast Water District

WSA / WVS for the
Monterey Downs Specific Plan**Figure 1.1: Marina**

1.7 Relationship of WSA to MCWD Urban Water Management Plan

The California Urban Water Management Planning Act (§10610 et. seq. of the CWC) requires urban water suppliers providing over 3,000 acre-feet per year (AFY) of water or having a minimum of 3,000 service connections to prepare plans (urban water management plans or UWMPs) on a five-year, ongoing basis. An UWMP must demonstrate the continued ability of the provider to serve customers with water supplies that meet current and future expected demands under normal, single dry, and multiple dry year scenarios. These plans must also include the assessment of urban water conservation measures and wastewater recycling. Pursuant to Section 10632 of the CWC, the plans must also include a water shortage contingency plan outlining how the water provider will manage water shortages, including shortages of up to fifty percent (50%) of their normal supplies, and catastrophic interruptions of water supply. The Marina Coast Water District is required to prepare Urban Water Management Plans. The

Marina Coast Water DistrictWSA / WVS for the
Monterey Downs Specific Plan

District's most recent Urban Water Management Plan (2010 UWMP) was adopted in June 2011. The 2010 UWMP projected demands for 20 years through the year 2030.

As provided for in the State law, this WSA incorporates by reference and relies upon many of the planning assumptions and projections of the 2010 UWMP in assessing the water demands of the proposed Project relative to the overall increase in water demands expected within the entire District service area. The 2010 UWMP projected a significant increase in water demand within the Ord Community due to the planned redevelopment of the former Fort Ord, as documented in the Fort Ord Base Reuse Plan, the General Plans of the various land use jurisdictions, and the approved specific plans within the Ord Community. The 2010 UWMP found that the projected Ord Community water demand of 8,172 AFY in year 2030 exceeded the currently available supply of 6,600 AFY. Additionally, because the current water supply within the Ord Community has been allocated among the land use jurisdictions, some jurisdictions maintained a projected surplus, while others had greater shortages. The District is pursuing two water supply projects to address the projected shortfall. First, an urban recycled water system has been planned, which will provide up to 1,727 AFY for landscape irrigation. Second, a seawater desalination project is proposed to provide up to 1,500 AFY of potable water supply.

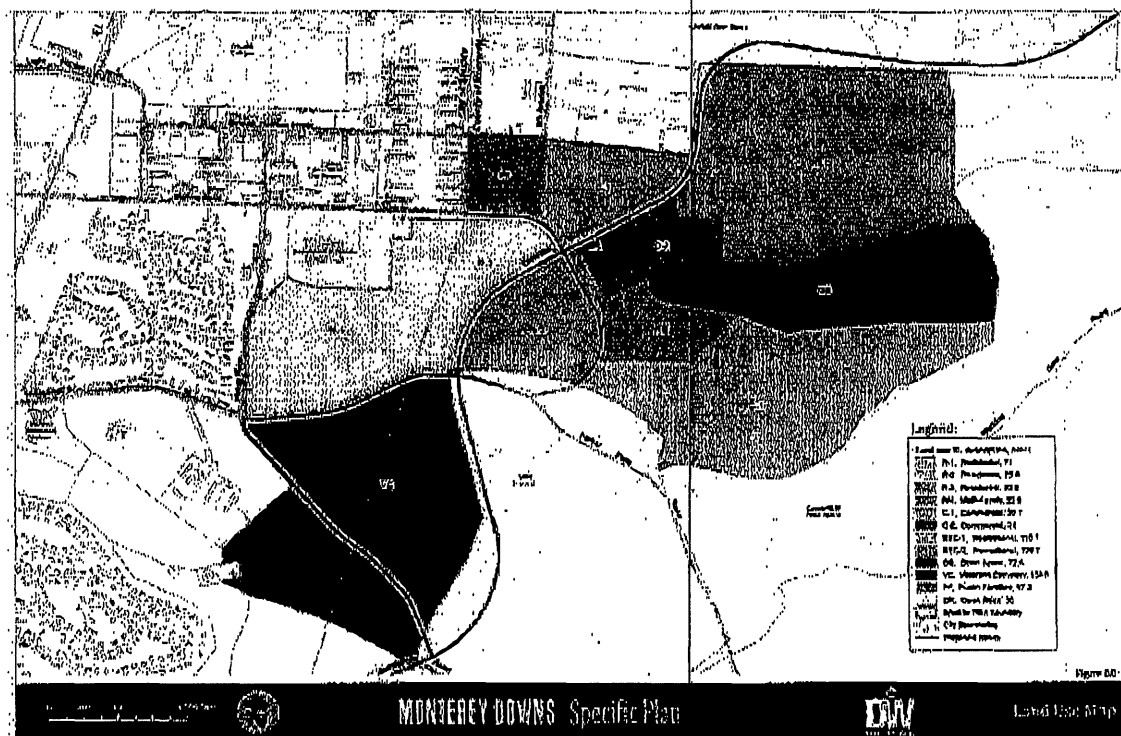
Portions of the Monterey Downs Specific Plan project were accounted for in the 2010 UWMP, although the overall project size and phasing differs in this specific plan. The UWMP included 2,040 dwelling units, 200 hotel rooms and approximately 630,000 sq-ft of commercial/light industrial space, with a total projected water demand of 738.4 AFY. The project as described in the specific plan includes 1,548 dwelling units, 400 hotel rooms, 425,000 sq-ft of commercial/light industrial space, and equestrian and swim facilities, with a total projected demand of 852.5 AFY. This is a net increase of 114.1 AFY over the UWMP projection.

Section 2 - Project Description and Water Demands

2.1 Project Description

The Monterey Downs Specific Plan for the City of Seaside, California, describes the planned development of approximately 710-acres, whose boundaries are shown in Figure 2.1. The Project is composed of three primary components: the proposed Monterey Downs master-plan community, the California Central Coast Veterans Cemetery (CCCVC) and the Seaside Corporation Yard. The Project Area encompasses portions of Seaside and unincorporated Monterey County, and is located within the District's Ord Community service area. The Specific Plan proposes annexing the entire project area into the City of Seaside.

Figure 2.1: Project Area



(Figure prepared by Diamond West, 2012)

The Monterey Downs is a phased master-planned community on approximately 550 acres of land north of Parker Flats Road and west of Parker Flats Cutoff. The Monterey Downs community includes an equestrian training facility with a track for training and potentially racing; a grandstand and sports area/entertainment center; a commercial mixed-use center; a horse park comprised of a visitors center and office space, veterinary clinic, and horse stables; habitat area; staging areas, trails and trail access; open space and parks; affordable workforce

Marina Coast Water District

WSA / WVS for the
Monterey Downs Specific Plan

lodging; various residential uses; neighborhood parks; an aquatic center with a tennis and swim club; a fire station site, and hotel and office uses.

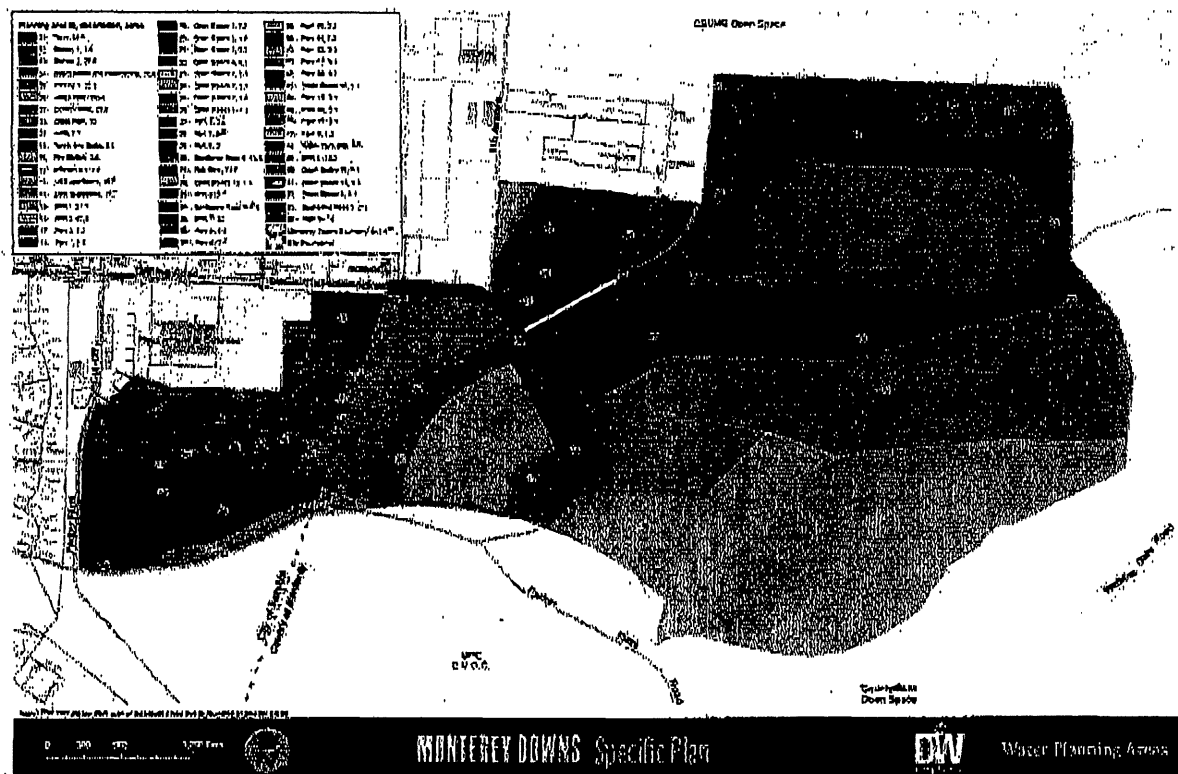
The California Central Coast Veterans Cemetery (CCCVC) will be located on approximately 136 acres south of Parker Flats Road. This portion of the Project includes the veterans cemetery, ancillary uses such as a veterans hall, non-denominational chapel and an amphitheater, and includes a separate development parcel with habitat mitigation opportunities.

The Seaside Corporation Yard will be located on approximately 17 acres bounded by Giggling Road, Col. Durham Road, 7th Avenue and 8th Avenue. The site is currently developed as a parking / storage lot.

2.2 Monterey Downs Land Use and Water Demands

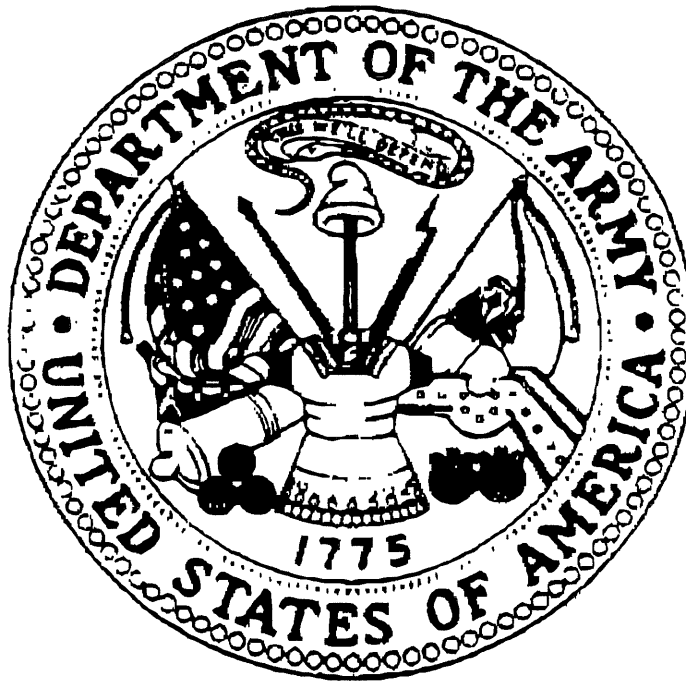
The Monterey Downs master-planned community consists of several elements including medium- to high-density residential, equestrian training and boarding facilities, and visitor serving businesses, as detailed below. The planning areas are shown in greater detail on Figure 2.2, below.

Figure 2.2: Monterey Downs Water Planning Areas



(Figure prepared by Diamond West, 2012)

EXHIBIT G



Volume IV
Final

**ENVIRONMENTAL IMPACT STATEMENT
FORT ORD DISPOSAL AND REUSE**

June 1993

FINAL ENVIRONMENTAL IMPACT STATEMENT

LEAD AGENCY: Department of the Army, Forces Command (FORSCOM)

TITLE OF PROPOSED ACTION: Disposal and Reuse of Fort Ord, CA

AFFECTED JURISDICTION: State of California; Monterey County; Cities of Marina and Seaside

PREPARER: Laurence R. Sadoff, Colonel, Corps of Engineers, Commander, U.S. Army Corps of Engineers, Sacramento District, 1325 J Street, Sacramento, California 95814-2922

REVIEWED BY: C. G. Marsh, Major General, General Staff, Chief of Staff, FORSCOM

PROPONENT APPROVED: Dennis J. Reimer, General, Commander in Chief, FORSCOM

RECOMMENDED FOR APPROVAL: Thomas M. Montgomery, Major General, General Staff, Director of Management, Office of the Chief of Staff, Department of the Army

APPROVED BY: Mr. Lewis D. Walker, Deputy Assistant Secretary of the Army (Environment, Safety and Occupational Health)

ABSTRACT: Fort Ord is an approximately 28,000-acre installation. The proposed Army actions supported by this document include establishing an approximately 1,500-acre Presidio of Monterey (POM) annex on Fort Ord to provide operations support to the military services remaining in the Monterey area; retaining a 12-acre reserve center complex on Fort Ord to support local reserve units; and disposing of excess property at Fort Ord. Other Army actions associated with closure of Fort Ord are discussed in this document but are not analyzed in detail. These actions are closing Fort Ord and placing the installation in a caretaker status before disposal decisions are made. Actions of other federal, state, and local entities following disposal are analyzed in reuse discussions, although this document does not fully support these subsequent actions.

Alternative actions are analyzed in the document, including a modified POM annex proposal developed by the City of Seaside and a proposal to have no annex or reserve center on Fort Ord. The Army, in cooperation with local planning entities, developed land reuse alternatives. A wide range of reuse alternatives including high-, medium- and low-density mixed-use alternatives; an alternative composed primarily of institutional uses (educational, governmental, and public/quasi-public); an open space alternative; and an anticipated reuse alternative (the Army's preferred Alternative) are compared to 1991 baseline conditions. In the preferred alternative, the disposal process would result in the transfer of approximately 23,500 acres to federal, state, and local agencies, who have applied for lands through the real estate screening process, and in the sale of approximately 3,000 acres.

The disposal and reuse actions described in this document would result in impacts on federally protected plant and wildlife species and sensitive plant communities and wildlife habitat, loss of soil resources and accelerated erosion, loss of federal protection for, and impacts on, historic structures, deterioration of infrastructure from reduced maintenance, risks to public health from reduced security, social and economic disruptions to Monterey Bay area communities, development in floodplains and increased urban runoff to surface waters, need for expansion of infrastructure, exposure of additional people and property in a seismically active area, elimination of a large tract of open space, visual impacts; increased violations of state and federal air quality standards; creation of substantial congestion on Fort Ord area roadways; and effects on the coastal zone and Monterey Bay National Marine Sanctuary.

REVIEW DEADLINE: End of the public review period will be 30 days from the publishing date for this document.

FINAL ENVIRONMENTAL IMPACT STATEMENT ORGANIZATION

This environmental impact statement (EIS) addresses the disposal and reuse of Fort Ord. It provides the analysis of specific base realignment and closure actions and their environmental effects as required by the President's Council on Environmental Quality regulations, National Environmental Policy Act, and Army Regulation 200-2.

The final EIS consists of Volumes I and IV. Volumes II and III have not been revised or reprinted. Page revisions to Volumes II and III are included in Volume IV, Section 6.0. A new unpublished volume, Volume V, has been added, as described below.

VOLUME I

Volume I of the draft EIS has been revised and reprinted as part of the final EIS. The location of revisions, additions, and deletions to the text have been indicated by a line in the right margin.

EXECUTIVE SUMMARY summarizes the EIS but is not meant to replace the detailed evaluations contained in the EIS.

Section 1.0 **PURPOSE, NEED, and SCOPE** describes the relevant background information on the proposed action and summarizes its objectives and scope of the analyses required in the EIS.

Section 2.0 **PROPOSED ACTION** includes a thorough description of the Army's proposed action analyzed in this EIS.

Section 3.0 **ALTERNATIVES** examines the reuse alternatives analyzed in this EIS.

Section 4.0 **AFFECTED ENVIRONMENT** describes existing biophysical and socioeconomic conditions.

Section 5.0 **ENVIRONMENTAL AND SOCIOECONOMIC CONSEQUENCES** contains the environmental and socioeconomic effects of the proposed action and alternatives, including a summary comparison of reuse alternatives.

Section 6.0 **DETAILED ANALYSIS OF ALTERNATIVE 6R** contains the scientific and analytic basis for the summary of environmental effects of the revised Alternative 6.

Section 7.0 **REFERENCES** contains information to assist the reader in easily locating any reference cited in the report.

Section 8.0 **LIST OF PREPARERS** identifies all persons involved in preparing this document and describes their qualifications.

Section 9.0 **PERSONS CONSULTED** lists persons and agencies who provided information to the preparers of this report.

Section 10.0 **DISTRIBUTION LIST** includes public agencies, public interest groups, organizations, and individuals from whom review and comment of the draft EIS was requested.

An **INDEX** is provided at the end of Volume I that alphabetically lists the types of environmental effects induced by the different alternatives.

An **ACRONYM LIST** (fold-out) is provided immediately following the list of referenced material.

A **LIST OF REFERENCED MATERIAL** not included in the EIS or technical appendices is available for review at the information repository established at Seaside Branch Library, 550 Harcourt Avenue, Seaside, CA 93955, 408/899-2055.

VOLUME II

DETAILED ANALYSIS OF DISPOSAL AND REUSE contains the scientific and analytic basis for the summary of comparisons of environmental effects of the proposed action and alternatives contained in Volume I, Section 5.0. This section consists of information that substantiates the analyses fundamental to the EIS and relevant to the decision makers.

This volume has not been reprinted as part of the final EIS. Revisions to Volume II are contained in Volume IV, Section 6.0. The location of revisions, additions, and deletions to the text has been indicated by a line in the right margin.

VOLUME III

TECHNICAL APPENDICES consist of material that substantiates the analyses fundamental to the EIS and relevant to the decision makers.

This volume has not been reprinted as part of the final EIS. Revisions to Volume III are contained in Volume IV, Section 6.0. The location of revisions, additions, and deletions to the text has been indicated by a line in the right margin.

VOLUME IV

Section 1.0 **INTRODUCTION** describes the contents of the final EIS.

Section 2.0 **LIST OF COMMENTERS** lists the name and address of each agency, organization, or individual who commented on the draft EIS.

Section 3.0 **COMMON COMMENTS AND RESPONSES** includes common comments that consist of similar individual comments and responses.

Section 4.0 **ALL COMMENTS RECEIVED** contains all written comment letters and verbal testimony received at the public hearing.

Section 5.0 **RESPONSES TO SPECIFIC COMMENTS** contains responses to specific comments not included in the common comments in Section 3.0.

Section 6.0 **INFORMATION RESPONDING TO COMMENTS** contains page revisions to Volumes II and III of the draft EIS.

Revisions have been made to the following sections in Volume II: Land Use; Socioeconomics; Soils, Geology, Topography and Seismicity; Public Services and Utilities; Water Resources; Traffic and Circulation; Air Quality; Hazardous and Toxic Waste Site Remediation; Vegetation, Wildlife, and Wetland Resources; and Visual Resources.

Revisions have been made to the following appendices in Volume III:

- D - Presidio of Monterey Annex,
- H - Land Use Definitions,
- I - Methodology Used to Evaluate Regional Socioeconomic Effects of Reuse Alternatives,
- J - Public Services and Utilities,
- K - Water Resources,
- M - Traffic and Circulation, and
- N - Air Quality.

The following new appendices have been added:

- Q - Assumptions Used in the EIS,
- R - Draft Conceptual Installationwide Multispecies Habitat Management Plan for Fort Ord, and
- S - Draft Consistency Determination for Federal Activity in the Coastal Zone.

VOLUME V

REAL ESTATE SCREENING REQUESTS contains copies of the letters of intent received through the federal, state, and local real estate screening process. Volume V is an unpublished document available upon request or for review at the information repository established at the Seaside Branch Library and at other libraries in the Monterey Region.

Copies of Volumes I, II, III, IV and V are available for review at the information repository or upon request.

While meteorologic and subsurface conditions may be different for Fort Ord, recharging groundwater from retention basins remains a feasible mitigation measure and should be investigated in future studies to determine whether site-specific conditions are favorable.

A remedial investigation/feasibility study (RI/FS) is ongoing at Fort Ord to determine potential areas of contamination, and if contamination is found the remedial investigation/feasibility study will recommend site remediation. Before reuse can occur for specific parcels, the Army must comply with the Federal Facilities Agreement for Fort Ord, which certifies that areas slated for reuse are clear of contamination. Percolation ponds will have no effect on toxic contamination cleanup because no contamination will exist within the area of reuse.

The purpose of the EIS is to provide input in the decision-making process by discussing reasonable alternatives and any associated potential impacts. The EIS proposes feasible mitigation measures and does not make recommendations or decisions. These issues are discussed in adequate detail, and further analysis is not possible without additional designs and site-specific plans.

35. Common Comment regarding Water Rights

The discussion of water rights issues in the EIS was inaccurate.

Comments: L17:29, L17:60, L17:70

Response to Common Comment 35

These comments from the City of Seaside indicate that a mechanism for transferring groundwater rights exists that utilizes the concept of prescriptive water rights. Although the concept of prescriptive rights has been applied to groundwater (principally *City of Pasadena v. City of Alhambra* [1949]), it relies on a patchy history of case law rather than an established, well-defined statutory procedure such as exists for obtaining appropriative rights to surface water. Prescriptive water rights have been called the "parasites of water rights" because the only way to obtain them is to take water rights away from someone else. The courts have recognized them only under narrowly constrained circumstances. The use of water being claimed under prescriptive right must be "hostile and adverse" (i.e., over the objection of another party also claiming a right to the water), "open and notorious" (i.e., known to all parties), exclusive, continuous for at least 5 years, and under claim of right during the period of use. Public water rights, such as those of a municipality, cannot be lost to prescription (*People v. Shirokow* [1980]).

Prescriptive rights would be relevant to closure of Fort Ord only if an existing water demand on part of the installation overlying the Seaside basin continued after that parcel was disposed of by the Army. Except for irrigation of the golf course, which is supplied by a local well, water demand on the part of Fort Ord overlying the Seaside basin has historically been supplied by Fort Ord's potable supply wells, which are located in the Salinas Valley basin. Use of water from a groundwater basin on land not overlying that basin is ordinarily subordinate to use of the water on overlying land. Thus, private users of the Salinas Valley basin could object to the continued use of water from their basin on new parcels outside the basin. In rebuttal, users on the parcels outside the basin could claim a prescriptive right based on historic use. This claim assumes that the well-known existence of seawater intrusion in the Marina-Fort Ord area implies that existing use has been hostile and adverse, open and notorious, known to all parties, objectionable to users in the Salinas Valley basin, and under claim of right. If the claim of prescriptive right were upheld, the right to use water from the Salinas Valley basin would in effect be transferred from the Army to the new user.

This scenario for transferring groundwater rights is hardly a perfunctory procedure, as implied in the comment on the EIS. Note that a prescriptive right could not be claimed against public users of the Salinas

Valley basin, such as the City of Marina (see *Los Angeles v. San Fernando* [1975]). Also note that most of the area where Salinas Valley basin water is used on land overlying the Seaside basin would be included in the Presidio of Monterey annex and could continue to use the existing Fort Ord potable supply wells without a transfer of water rights. The possible need to claim prescriptive water rights would pertain only to a small area of residential development between the Presidio of Monterey annex and the City of Seaside.

The greatest limitation to the use of prescriptive water rights in this case is that the possibility of using them may have been effectively eliminated by the Monterey County Water Resources Agency Act of 1990, which states that "use of water from the [Salinas Valley] basin on any part of Fort Ord shall not be deemed . . . an export" (Section 9(v)). In this case, reusers of Fort Ord parcels overlying the Seaside basin would have the same right to use Salinas Valley basin groundwater as owners of land overlying that basin. These rights are "correlative" rights, which are analogous to riparian rights. Overlying landowners share the use of the groundwater, and the amount of water to which each user is entitled is not quantified unless the basin is adjudicated (see *Katz v. Wilkinshaw* [1903]).

The situation at Fort Ord is unusual in that both MCWRA and Monterey Peninsula Water Management District have substantial statutory authority to regulate use of groundwater. Thus, from a practical and legal standpoint, the supply and use of water on Fort Ord parcels will be largely dictated by the decisions of those agencies. If either agency prevents a reuser from pumping groundwater to meet a demand that existed when the parcel was part of Fort Ord, and the agency does not provide an alternative supply, the reuser might claim that a taking of property has occurred that must be compensated. This creates an incentive for the agencies not to restrict existing groundwater use until a supplemental water supply has been developed for the area.

The Army does not have the authority to issue or transfer water rights. Thus, the suggestion in comment L17:60 to have the Army transfer water rights along with the water supply infrastructure is not feasible.

Comment L22:40 asserts that Alternative 5 "still would have a major impact on the Salinas Valley groundwater basin overdraft". Because the water demand for Alternative 5 would be only about half as large as existing demand, Alternative 5 would have a major beneficial impact on the existing condition of overdraft, particularly in the Marina-Fort Ord area. This does not mean, however, that Alternative 5 would completely eliminate overdraft throughout the coastal part of the Salinas Valley basin.

36. Common Comment regarding Developing Master Drainage Plan as a Mitigation Measure

Developing a master drainage plan as a mitigation measure is needed to provide for the potential upgrade of the existing system and for future connections to other jurisdictions. Additionally, the master drainage plan needs to be implemented by a sole entity, and where a common outfall is shared and a joint powers agreement should be formed.

Comments: L3:16, L4:13, L18:6, L22:37

Response to Common Comment 36

Stormwater runoff has been discussed further in the analysis of Alternative 6R in Volume I, Section 6.0, particularly concerning impacts on the sanctuary. It should be noted that developing any master drainage plan is not possible before reuse decisions are made and, therefore, is out of scope for this analysis. The Fort Ord Infrastructure Planning Study, a companion to this EIS, discusses alternatives for managing the storm drain system.

City of Seaside Appears Short on Water Credits for Fort Ord Developments



On re-accounting water allocations, Marina Coast Water District Interim GM Brian Lee says, "It's more important to be right than fast."

Kera Abraham | Posted 5 days ago

The city of Seaside's thirst for development might be bigger than its water bank.

Seaside has some of the grandest building ambitions on the water-limited Monterey Peninsula, thanks to its hefty chunk of Fort Ord: 4,000 acres – 1,658 of them developable, according to the Fort Ord Reuse Authority – plus [563 more with the planned annexation](#) of the proposed [Monterey Downs](#) project.

But those would-be developments need more water than the city has. Marina Coast Water District, which supplies water to the former Army base, has allocated 1,012 acre-feet from the Salinas Valley Groundwater Basin to Seaside, according to a revised table in the [water-supply assessment for Monterey Downs](#). But the city's 11 existing sub-allocations, including 430 acre-feet for temporary golf-course use, add up to 1,217 acre-feet.

That's not including several additional Fort Ord proposals in Seaside's scope: [Fifty acres south of Gigling Road](#), now under negotiation for residential development, and 26 commercial acres south of Lightfighter Drive (neither of which has estimated water needs yet). Plus the big one, Monterey Downs, with its suggested water need of 853 acre-feet.

Taken together, the projects could put Seaside at more than double its current allocation. The discrepancy's caught the attention of activist group Keep Fort Ord Wild, which is critical of several proposed projects on Fort Ord open space.

"They're in a real water bind, but they're not really admitting it," group spokesman Michael Salerno says.

Brian Lee, Marina Coast's interim general manager, says district officials are starting a conversation with all the land-use jurisdictions that have stakes in Fort Ord. The district has split a total of about 6,600 acre-feet of water among them.

"Everybody has a number, but they don't necessarily agree," Lee says. "Clear as mud, unfortunately, but we are working toward a solution."

Diana Ingersoll, Seaside's deputy city manager, responds by email that the Downs water assessment was done by Marina Coast without the city's input. But she notes the city can't approve projects without available water credits.

Marina Coast isn't likely to produce new water anytime soon. The November 2012 [Monterey Downs Water Supply Assessment](#) states that the district is pursuing recycled-water and desalination projects that could produce 2,400 acre-feet per year of water for new Fort Ord developments, but the desal component has since been shelved.

Attachment D, p. 1590 of 1882

Monterey Downs water questioned by new Marina Coast Water District board

By VIRGINIA HENNESSEY Herald Staff Writer Monterey County Herald
Posted:

MontereyHerald.com

A newly elected Marina Coast Water District director is wasting no time trying undo the recent approval of the Monterey Downs water-needs assessment.

Director Peter Le wants an addendum sent to the city of Seaside stating that it has little, if any, water allocation left for the project and that Monterey County has not offered its own.

Le and newly elected board President Tom Moore were sworn in Tuesday, creating a new progressive majority with director Jan Shriner. The old board rushed through approval of the assessment in November, saying it allowed Seaside to move forward with its environmental review.

The assessment concluded the equestrian-themed project straddling Seaside and unincorporated land will need 852 acre-feet of water per year. Of the water the jurisdictions were allocated under an agreement with the Army in 1993, it stated, Seaside had 199.7 acre-feet uncommitted and Monterey County had 182.5.

Together, it concluded, the water was enough to supply a first phase of the residential, retail and sports development. The remainder would come from future desalination and reclaimed water projects.

The same week Marina Coast approved that assessment, however, the Fort Ord Reuse Authority board received a report concluding Seaside had only 27.9 acre-feet remaining. The picture may be even worse than that.

In the interim, Marina Coast engineers quietly amended their own documents to show Seaside is actually 204 acre-feet per year beyond its total. While much of that is water that is allocated but not yet in use, or water that will be replaced by recycled water when and if it becomes available, the documents leave an unsettled picture of Seaside's actual water bank.

Le asked the matter be on the board's agenda at the next meeting, Jan. 8. He is asking that the assessment be amended to show Seaside has just the 27.9 acre-feet available.

He wants the district to remind Seaside in writing that Monterey County has not agreed to allot any of its water to the project; that Seaside has already allocated 207 acre-feet to the Main Gate project; and that, coupled with Seaside's current consumption, it leaves little for Monterey Downs.

The requested agenda item is one of two dozen Le presented in a laundry list of concerns ranging from when and where the board meets to fiscal reviews of the district's water projects, including the failed regional desalination project. He has asked for a review of the district's travel and expense-reimbursement policies and a closed session regarding the performance of General Manager Jim Heitzman.

Virginia Hennessey can be reached at 753-6751 or vhennessey@montereyherald.com.

Revised Table 18 (Final Scoping Report)

The table has been revised to include new column headers and to clarify that the Committed Amount is, in some cases, based on consumption records.

Ord Community Land Use Jurisdiction	SVGB Allocation (AFY)	Suballocations To	2011 Consumption Amount (AFY)	Committed Amount (AFY)	Remaining Amount (AFY)	Notes:
CSUMB	1,035		461	938	97	
		Campus Buildout projection to 2025	461	938		2007 Campus Master Plan FEIR
City of Del Rey Oaks	242.5		0	0	242.5	
		None	0	0		
City of Monterey	65		0	0	65	
		None	0	0		
County of Monterey	710		10	527.5	182.5	
		East Garrison 1	5	470		Allocation
		MPC	0	52.5		Allocation
		Ord Market	5	5		Allocation
		Whispering Oaks	0	0		Allocated 93 AFY, then revoked with the SP.
UCMBEST	230		1	1	229	
		UCMBEST Center	1	1		MCWD 10-year Annual Consumption Report (Consumption report)
City of Seaside	1,012.5		803	984.6	27.9	
		Sunbay Apts.	69	69		Consumption report
		Brostrum Park (Bayview)	59	59		Consumption report
		Seaside Highlands	166	168.5		Allocation
		Seaside Resort	1	161.4		Allocation
		Monterey College of Law	unknown	2.6		Allocation on 3/18/2004

Appendix A: Resolution Adopting the 2010 Urban Water Management Plan

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June 14, 2011

Resolution No. 2011 - 46
Resolution of the Board of Directors
Marina Coast Water District
Approving and Adopting the District's 2010 Urban Water Management Plan

RESOLVED by the Board of Directors ("Directors") of the Marina Coast Water District ("District"), at a regular meeting duly called and held on June 14, 2011, at the business office of the District, 11 Reservation Road, Marina, California as follows:

WHEREAS, the California Legislature enacted Assembly Bill 797 (Water Code Section 10610 et seq, known as the Urban Water Management Plan Act) during the 1983-84 Regular session, and as amended subsequently, which mandates that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, prepare an Urban Water Management Plan (UWMP), the primary objective of which is to plan for conservation and efficient use of water; and,

WHEREAS, the District is an urban supplier of water providing water to more than 3,000 customers; and,

WHEREAS, the Plan must be adopted, after a public review and hearing, and must be filed with the California Department of Water Resources within thirty days of adoption; and,

WHEREAS, pursuant to Water Code §10642 the District posted notice of development of its plan on its website in February 2011 and mailed notices to affected cities and to Monterey County Water Resources Agency, solicited input from affected land use jurisdictions in which the District serves water, prepared and circulated a draft 2010 UWMP in April 2011, publicly noticed and conducted a public hearing on the draft 2010 UWMP on May 10, 2011; and,

WHEREAS, pursuant to Water Code §10632, the UWMP must also contain a Water Shortage Contingency Plan, which the Board of Directors has adopted by separate resolution; and,

WHEREAS, copies of the adopted 2010 UWMP will be transmitted to land use jurisdictions in which the District serves water as well as the Monterey County Water Resources Agency, and the plan shall be made available on the District's website.

NOW, THEREFORE, BE IT RESOLVED, that the Board of Directors of the Marina Coast Water District does hereby:

1. Approves and adopts the 2010 Urban Water Management Plan, and,
2. Authorizes and directs the General Manager and/or Deputy General Manager/District Engineer to file the 2010 Urban Water Management Plan with the California Department of Water Resources within 30 days after this date.

PASSED AND ADOPTED on June 14, 2011, by the Board of Directors of the Marina Coast Water District by the following roll call vote:

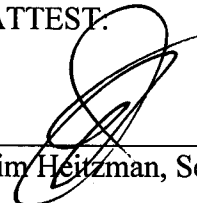
Ayes: Directors Nishi, Gustafson, Shriner, Burns, Lee

Noes: Directors None

Absent: Directors None

Abstained: Directors None

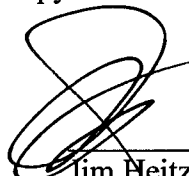

William Y. Lee, President

ATTEST.


Jim Heitzman, Secretary

CERTIFICATE OF SECRETARY

The undersigned Secretary of the Board of the Marina Coast Water District hereby certifies that the foregoing is a full, true and correct copy of Resolution No. 2011-46 adopted June 14, 2011.



Jim Heitzman, Secretary

Appendix B: References

Agency for Toxic Substances and Disease Registry Division of Health Assessment and Consultation. Public Health Assessment Fort Ord Marina, Monterey County, California. September 24, 1996.

Association of Monterey Bay Area Governments, Monterey Bay Area 2008 Regional Forecast Population, Housing Unit and Employment Projections for Monterey, San Benito and Santa Cruz Counties to the Year 2035, June 11, 2008

Byron Buck & Associates, Marina Coast Water District 2005 Urban Water Management Plan, December 2005.

California American Water Company, Coastal Water Project, Final Environmental Impact Report, prepared for the California Public Utilities Commission, October 2009

California Department of Finance website, www.dof.ca.gov, population estimate tables:

E-4 Historical Population Estimates for Cities, Counties and the State, 1991-2000, with 1990 and 2000 Census Counts

E-4 Population Estimates for Cities, Counties and the State, 2001-2010, with 2000 Benchmark

California Department of Water Resources:

20x2020 Water Conservation Plan, February 2010.

California Irrigation Management Information System (CIMIS) website

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Table 4, Annual Estimates of the Resident Population for Incorporated Places in California: April 1, 2000 to July 1, 2009 (SUB-EST2009-04-06)

Appendix C: Land Use Forecast and Water Demand Projections by Jurisdiction

The following tables present the water demand projects for the Marina Coast Water District, based upon the development and redevelopment projections provided by the various jurisdictions. Water demands are estimated as a function of the size (acreage/square footage) or number of units of a development, depending on the type of land use, and a water demand unit factor that corresponds to that use. For each type of land use, Demand = Size x Unit Factor.

- Existing demands are estimated from MCWD's 2009 and 2010 water usage records for each jurisdictional area.
- For developments that have approved Specific Plans, the water demand factors and total water demand estimates have been taken from the respective Water Supply Assessments (WSAs) for these Specific Plan areas.
- For in-fill development under approved General Plans or Master Plans (e.g., the City of Marina, CSUMB), MCWD's standard water demand factors have been used with the in-fill land use projections provided by the jurisdiction.
- For the Ord Community, the initial development forecast was based upon the Fort Ord Reuse Authority's latest annual growth forecast, which is developed for CIP planning. The projected developments, generally by square footage or units, are then multiplied by the appropriate unit demand factors.
- For areas not reflected in the Fort Ord Reuse Authority growth forecast (Central Marina, the Army and State Parks), the initial projections reflected those in the 2005 UWMP. Each jurisdiction provided feedback used to update the 2010 demand projection.

Based upon the housing projections in the water demand tables, population projections were then developed. In-fill development was assumed to have the same number of persons per dwelling unit as the existing area. For new development, if the specific plan, the water supply assessment or the associated Environmental Impact Report projected a number of persons per housing unit, that factor was used. If a persons-per-dwelling-unit estimate did not exist, the new development was assumed to have the same occupancy as the city average.

Tables:

C1: 2010 Water Demand Projections by Jurisdiction

C2: 2005 Water Demand Projections by Jurisdiction

C3: Water Demand Projection Details

C4: Population Growth Projections by Jurisdiction

C5: Population Growth Projection Details

C6: Projected Demands by Source, Minimum Recycled Water Use

C7: Projected Demands by Source, Maximum Recycled Water Use

Marina Coast Water District 2010 Urban Water Management Plan

Table C1: 2010 Draft Water Demand by Jurisdiction (AFY)

	Jurisdiction	Existing*	2010	2015	2020	2025	2030	Notes	Allocation
Ord	CSUMB	621	403	441	631	754	778	1	1,035
	Del Rey Oaks	0	0	326	527	527	527		243
	City of Monterey	0	0	0	92	92	92		65
	County of Monterey	4	4	627	1,087	1,087	1,087		710
	UCMBEST	2	2	93	276	474	474		230
	City of Seaside	430	792	1,130	1,351	1,664	2,093	2	1,012
	U.S. Army	658	752	792	838	997	997		1,577
	State Parks and Rec.	0	0	12	18	20	25		45
	Marina Ord Comm.	280	281	812	1,537	1,738	1,739	3	1,625
	Marina Sphere	10	10	10	10	10	10		10
	FORA Strategic Res.	0	0	0	0	0	0		0
	Assumed Line Loss	71	348	348	348	348	348		348
Marina	Armstrong Ranch	0	0	0	550	680	680		920
	RMC Lonestar	0	0	0	0	0	500		500
	Marina Central	1,962	1,962	2,324	2,630	2,746	2,864		3,020
Subtotal - Ord		2,076	2,592	4,591	6,715	7,712	8,172		6,900
Subtotal - Marina		1,962	1,962	2,324	3,181	3,426	4,044		4,440
Total		4,038	4,554	6,915	9,896	11,137	12,216		11,340

*Actual demands from calendar year 2009

1. 2010 demands reflect 100% metered use
2. 2010 demands include Seaside Resort Golf
3. Allocation includes 1325 AFY groundwater and 300 AFY existing pilot desalination plant

Table C2: 2005 UWMP Water Demands by Jurisdiction (AFY)

	Jurisdiction	2005	2010	2015	2020	2025	Allocation
Ord	CSUMB	677	920	1,081	1,150	1,192	1,035
	Del Rey Oaks	0	472	762	837	838	243
	City of Monterey	53	78	94	110	126	65
	County of Monterey	1	569	682	1,209	1,209	710
	UCMBEST	4	561	735	942	1,187	230
	City of Seaside	525	1,221	1,238	1,984	2,297	1,012
	U.S. Army	529	1,102	1,659	1,659	1,659	1,577
	State Parks and Rec.	0	0	12	45	45	45
	Marina Ord Comm.	302	2,309	2,773	2,773	2,773	1,325
	Marina Sphere	0	0	0	0	0	10
	FORA Strategic Res.	0	0	0	0	0	-230
	Assumed Line Loss	578	578	578	578	578	578
Marina	Armstrong Ranch	0	680	680	680	680	920
	RMC Lonestar	0	0	0	500	500	500
	Marina Central	2,200	2,366	2,534	2,617	2,632	3,320
Subtotal - Ord		2,669	7,810	9,614	11,287	11,904	6,600
Subtotal - Marina		2,200	3,046	3,214	3,797	3,812	4,740
Total		4,869	10,856	12,828	15,084	15,716	11,340

Marina Ord	Jurisd	Units	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
New Residential																							
Marina Heights																							
Townhome	MAR	Dwelling Units			-	-	12	13	13	13	13	13	13	12									
Cluster Market/Bridge	MAR	Dwelling Units			4	5	47	19	19	19	19	19	19	18									
Market A	MAR	Dwelling Units			10	15	105	29	29	29	29	29	29	33									
Market B	MAR	Dwelling Units			6	10	85	34	34	34	34	34	34	33									
Estates	MAR	Dwelling Units		-	-	-	-	13	12	12	12	12	12	12	-								
Landscaping (Turf)	MAR	Acres			0.1	0.1	0.7	0.3	0.3	0.3	0.3	0.3	0.3	0.3									
Landscaping (Non-Turf)	MAR	Acres					0.5	0.2	0.2	0.2	0.1	0.1	0.1	0.1									
Cypress Knolls																							
SF Home / Townhome	MAR	Dwelling Units								255	200			141									
Apartments	MAR	Dwelling Units								85				31									
Assisted Living	MAR	Dwelling Units												60									
Open Space	MAR	Acres								28.57													
Parklands	MAR	Acres								2.17													
Right of Way	MAR	Acres								27.79				5.51									
Dunes on Monterey Bay																							
Alley (small lot)	MAR	Dwelling Units			24	48	54	59	57														
Carriage	MAR	Dwelling Units			21	6	12	30	57														
Standard	MAR	Dwelling Units			12	20	44	24	15														
Standard (small lot)	MAR	Dwelling Units			15	25	48	28	15														
Duets	MAR	Dwelling Units			34	38	78	98	40	60	4												
Townhome (live-work)	MAR	Dwelling Units			16	52	50	21															
Townhome (mixed use)	MAR	Dwelling Units			4	8	8	4															
Apartments	MAR	Dwelling Units			12	48	36	12															
Landscaping (MCP)	MAR	Acres			5.00	5.00	5.00	4.20															
Landscaping (other)	MAR	Acres			2.00	4.00	2.10																
TAMC TOD	MAR	Dwelling Units						100	100														
Existing/Replacement Residential																							
Patton Park	MAR	Dwelling Units					32																
Shelter Outreach Plus	MAR	Dwelling Units			20																		
Interim Housing	MAR	Dwelling Units				21																	
Non Residential																							
SVMHS Development	MAR	Square Feet			10,000	15,000	15,000	16,000															
TAMC TOD (office/public facilities)	MAR	Square Feet						20,000	20,000														
Airport Economic Development Area	MAR	Square Feet					30,357	30,357	30,357	60,714	60,714	66,786	66,786	66,786	66,786	66,786							
Cypress Knolls Community Center	MAR	Square Feet								16,525													
Cypress Knolls Support Services	MAR	Square Feet								6,300													
TAMC TOD (retail)	MAR	Square Feet						37,500	37,500														
Marina Airport Hotel/Golf	MAR	Rooms																					
Marina High School	MAR	Square Feet							15,000	10,000													
CHOMP	MAR	Square Feet		33,000																			
Imjin Office Park	MAR	Square Feet	10,309	15,001	8,981	12,495																	
Monterey Peninsula College	MAR	Square Feet			15,700																		
Institute of Canine Studies	MAR	Square Feet					24,000		4,100		5,400		4,800		9,700		11300		12470				
UV - Planning Area A	MAR	Square Feet					385,000	20,000	16,000														
UV - Planning Area J	MAR	Square Feet						3,000	55,000	8,000	17,000												
UV - Planning Area B1	MAR	Square Feet							114,000	15,000	10,000	35,000	25,000	10,000									
UV - Planning Area V	MAR	Square Feet								12,000	5,000	2,000	5,500										
UV - Planning Area OP (1-5)	MAR	Square Feet									300,000	253,000	82,000	170,000	245,000								
UV - Planning Area T	MAR	Rooms										150											
UV - Planning Area Z	MAR	Square Feet											8,500	5,000	5,000	1,500							

Land Use Type	Land Use	Total	Units	Multiplier	Notes
New Residential					
Marina Heights					
Townhome	Residential (8-15 units / acre)	102	Dwelling Units	0.25	1
Cluster Market/Bridge	Residential (8-15 units / acre)	188	Dwelling Units	0.25	
Market A	SF Residential (5-8 units / acre)	337	Dwelling Units	0.33	
Market B	SF Residential (5-8 units / acre)	338	Dwelling Units	0.33	
Estates	SF Residential (< 5 units / acre)	85	Dwelling Units	0.5	
Landscaping (Turf)	Landscape (turf)	3.0	Acres	2.5	
Landscaping (Non-Turf)	Landscape (non-turf)	1.5	Acres	1.5	
Cypress Knolls					
SF Home / Townhome	SF Residential (5-8 units / acre)	596	Dwelling Units	0.1319	1
Apartments	Multi family (> 15 units / acre)	116	Dwelling Units	0.1507	1
Assisted Living	Multi family (> 15 units / acre)	60	Dwelling Units	0.1672	1
Open Space	Landscape (non-turf)	28.57	Acres	0.5849	1
Parklands	Landscape (turf)	2.17	Acres	1.1244	1
Right of Way	Landscape (non-turf)	33.3	Acres	0.4586	1
Dunes on Monterey Bay					
Alley (small lot)	Residential (8-15 units / acre)	242	Dwelling Units	0.16491736	1
Carriage	Residential (8-15 units / acre)	126	Dwelling Units	0.25706349	1
Standard	SF Residential (5-8 units / acre)	115	Dwelling Units	0.29869565	1
Standard (small lot)	Residential (8-15 units / acre)	131	Dwelling Units	0.23877863	1
Duets	SF Residential (5-8 units / acre)	352	Dwelling Units	0.12392045	1
Townhome (live-work)	Residential (8-15 units / acre)	139	Dwelling Units	0.12791367	1
Townhome (mixed use)	Residential (8-15 units / acre)	24	Dwelling Units	0.16375	1
Apartments	Multi family (> 15 units / acre)	108	Dwelling Units	0.12185185	1
Landscaping (MCP)	Landscape (non-turf)	19.2	Acres	1.22916667	1
Landscaping (other)	Landscape (non-turf)	8.1	Acres	1.11111111	1
TAMC TOD	Multi family (> 15 units / acre)	200	Dwelling Units	0.25	
Existing/Replacement Residential					
Patton Park	Residential (8-15 units / acre)	32	Dwelling Units	0.25	11
Shelter Outreach Plus	Residential (8-15 units / acre)	20	Dwelling Units	0.25	
Interim Housing	Residential (8-15 units / acre)	21	Dwelling Units	0.25	
Non Residential					
SVMHS Development	Office / R&D	56000	Square Feet	0.000135	11
TAMC TOD (office/public facilities)	Office / R&D	40000	Square Feet	0.000135	
Airport Economic Development Area	Light Industrial	546429	Square Feet	0.00015	11
Cypress Knolls Community Center	Various	16525	Square Feet	0.001	1
Cypress Knolls Support Services	Office / R&D	6300	Square Feet	0.001	1
TAMC TOD	Retail	75000	Square Feet	0.00021	
Marina Airport Hotel/Golf	Hotel, Motel and Timeshares		Rooms	0.17	1
Marina High School	Schools (K-12)	25000	Square Feet	0.0003	11
CHOMP	Institutional	33000	Square Feet	0.000185	11
Imjin Office Park	Office / R&D	46786	Square Feet	0.000135	11
Monterey Peninsula College	Higher Education	15700	Square Feet	0.0003	11
Institute of Canine Studies	Office / R&D	71770	Square Feet	0.000135	11
UV - Planning Area A	Various	421000	Square Feet	0.00025513	1
UV - Planning Area J	Various	83000	Square Feet	0.00040458	1
UV - Planning Area B1	Various	209000	Square Feet	0.00037813	1
UV - Planning Area V	Various	24500	Square Feet	0.00067102	1
UV - Planning Area OP (1-5)	Various	1050000	Square Feet	0.00020227	1
UV - Planning Area T	Various	150	Rooms	0.20666667	
UV - Planning Area Z	Various	20000	Square Feet	0.000683	

Incremental Demand (AFY)					
	2010	2015	2020	2025	2030
	0.00	6.25	16.25	3.00	0.00
	0.00	18.75	23.75	4.50	0.00
	0.00	52.47	47.85	10.89	0.00
	0.00	44.55	56.10	10.89	0.00
	0.00	6.50	30.00	6.00	0.00
	0.00	3.00	3.75	0.75	0.00
	0.00	1.05	1.05	0.15	0.00
Marina Ord Comm.	0.00	132.57	178.75	36.18	0.00
	0.00	0.00	60.02	18.60	0.00
	0.00	0.00	12.81	4.67	0.00
	0.00	0.00	0.00	10.03	0.00
	0.00	0.00	16.71	0.00	0.00
	0.00	0.00	2.44	0.00	0.00
	0.00	0.00	12.74	2.53	0.00
Marina Ord Comm.	0.00	0.00	104.72	35.83	0.00
	0.00	30.51	9.40	0.00	0.00
	0.00	17.74	14.65	0.00	0.00
	0.00	29.87	4.48	0.00	0.00
	0.00	27.70	3.58	0.00	0.00
	0.00	30.73	12.89	0.00	0.00
	0.00	17.78	0.00	0.00	0.00
	0.00	3.93	0.00	0.00	0.00
	0.00	13.16	0.00	0.00	0.00
	0.00	23.60	0.00	0.00	0.00
	0.00	9.00	0.00	0.00	0.00
Marina Ord Comm.	0.00	204.02	45.00	0.00	0.00
Marina Ord Comm.	0.00	25.00	25.00	0.00	0.00
	0.00	8.00	0.00	0.00	0.00
Marina Ord Comm.	0.00	5.00	0.00	0.00	0.00
Marina Ord Comm.	0.00	5.25	0.00	0.00	0.00
	0.00	7.56	0.00	0.00	0.00
Marina Ord Comm.	0.00	2.70	2.70	0.00	0.00
Marina Ord Comm.	0.00	9.11	42.80	30.05	0.00
Marina Ord Comm.	0.00	0.00	9.22	0.00	0.00
Marina Ord Comm.	0.00	0.00	6.31	0.00	0.00
Marina Ord Comm.	0.00	7.88	7.88	0.00	0.00
Marina Ord Comm.	0.00	0.00	0.00	0.00	0.00
Marina Ord Comm.	0.00	0.00	7.50	0.00	0.00
Marina Ord Comm.	0.00	6.11	0.00	0.00	0.00
Marina Ord Comm.	1.39	4.92	0.00	0.00	0.00
Marina Ord Comm.	0.00	4.71	0.00	0.00	0.00
Marina Ord Comm.	0.00	3.24	1.93	2.84	1.68
Marina Ord Comm.	0.00	103.33	4.08	0.00	0.00
Marina Ord Comm.	0.00	1.21	32.37	0.00	0.00
Marina Ord Comm.	0.00	0.00	75.25	3.78	0.00
Marina Ord Comm.	0.00	0.00	16.44	0.00	0.00
Marina Ord Comm.	0.00	0.00	128.44	83.94	0.00
Marina Ord Comm.	0.00	0.00	31.00	0.00	0.00
Marina Ord Comm.	0.00	0.00	5.81	7.85	0.00

Cumulative Demand (AFY)					
	2010	2015	2020	2025	2030
	0.00	6.25	22.50	25.50	25.50
	0.00	18.75	42.50	47.00	47.00
	0.00	52.47	100.32	111.21	111.21
	0.00	44.55	100.65	111.54	111.54
	0.00	6.50	36.50	42.50	42.50
	0.00	3.00	6.75	7.50	7.50
	0.00	1.05	2.10	2.25	2.25
	0.00	132.57	311.32	347.50	347.50
	0.00	0.00	60.02	78.62	78.62
	0.00	0.00	12.81	17.48	17.48
	0.00	0.00	0.00	10.03	10.03
	0.00	0.00	16.71	16.71	16.71
	0.00	0.00	2.44	2.44	2.44
	0.00	0.00	12.74	15.27	15.27
	0.00	0.00	104.72	140.55	140.55
	0.00	30.51	39.91	39.91	39.91
	0.00	17.74	32.39	32.39	32.39
	0.00	29.87	34.35	34.35	34.35
	0.00	27.70	31.28	31.28	31.28
	0.00	30.73	43.62	43.62	43.62
	0.00	17.78	17.78	17.78	17.78
	0.00	3.93	3.93	3.93	3.93
	0.00	13.16	13.16	13.16	13.16
	0.00	23.60	23.60	23.60	23.60
	0.00	9.00	9.00	9.00	9.00
	0.00	204.02	249.02	249.02	249.02
	0.00	25.00	50.00	50.00	50.00
	0.00	8.00	8.00	8.00	8.00
	0.00	5.00	5.00	5.00	5.00
	0.00	5.25	5.25	5.25	5.25
	0.00	7.56	7.56	7.56	7.56
	0.00	2.70	5.40	5.40	5.40
	0.00	9.11	51.91	81.96	81.96
	0.00	0.00	9.22	9.22	9.22
	0.00	0.00	6.31	6.31	6.31
	0.00	7.88	15.75	15.75	15.75
	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	7.50	7.50	7.50
	0.00	6.11	6.11	6.11	6.11
	1.39	6.32	6.32	6.32	6.32
	0.00	4.71	4.71	4.71	4.71
	0.00	3.24	5.17	8.01	9.69
	0.00	103.33	107.41	107.41	107.41
	0.00	1.21	33.58	33.58	33.58
	0.00	0.00	75.25	79.03	79.03
	0.00	0.00	16.44	16.44	16.44
	0.00	0.00	128.44	212.38	212.38
	0.00	0.00	31.00	31.00	31.00
	0.00	0.00	5.81	13.66	13.66

Armstrong Ranch	Jurisd	Units	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
New Residential																							
Marina Station																							
Single Family Homes (15,000)	MAR	Dwelling Units									23	87	37										
Single Family Homes (6,500)	MAR	Dwelling Units									100	250	220	99									
Apartments	MAR	Dwelling Units									100	250	220	78									
Irrigated parkland	MAR	Acres									6.0	6.5											
Open Space (turf)	MAR	Acres									4.3												
Non Residential																							
Marina Station																							
Mixed Use Retail	MAR	Square Feet										15,000	30,000	15,000									
Office Uses	MAR	Square Feet										40,000	60,000	43,808									
Light Industrial	MAR	Square Feet											300,000	351,624									
Landscape (15% of indoor consumption)	MAR	Square Feet																					
System Loss (5%)	MAR	Square Feet																					

RMC Lonestar	Jurisd	Units	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Non Residential																							
RMC Lonestar (added to FORA table)	MAR	Square Feet																	666667	666667	666667	666667	666667

Marina Central	Jurisd	Units	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
New Residential																							
In-Fill Development MF	MAR	Dwelling Units						182					167										
In-Fill Development SF	MAR	Dwelling Units						9					24										
Downtown Specific Plan	MAR	Dwelling Units		80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
Non Residential																							
Hotel / Motel	MAR	Rooms						400															
Retail and Restaurants	MAR	Square Feet						46000					46000										
Other Commercial	MAR	Square Feet						60000															
Institutional	MAR	Square Feet						5000					5000										
Schools	MAR	Square Feet						77760					110500										
Landscape (turf)	MAR	Acres						8					16						1.2				
Downtown Specific Plan - Office	MAR	Square Feet		4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200
Downtown Specific Plan - Retail / Comemrcial	MAR	Square Feet		8470	8470	8470	8470	8470	8470	8470	8470	8470	8470	8470	8470	8470	8470	8470	8470	8470	8470	8470	8470

Land Use Type	Land Use	Total	Units	Multiplier	Notes
New Residential					
Marina Station					
Single Family Homes (15,000)	SF Residential (< 5 units / acre)	147	Dwelling Units	0.5	11
Single Family Homes (6,500)	SF Residential (5-8 units / acre)	669	Dwelling Units	0.33	11
Apartments	Multi family (> 15 units / acre)	648	Dwelling Units	0.25	11
Irrigated parkland	Landscape (turf)	12.5	Acres	2.5	11
Open Space (turf)	Landscape (turf)	4.3	Acres	2.5	11
Non Residential					
Marina Station					
Mixed Use Retail	Retail	60000	Square Feet	0.00021	11
Office Uses	Office / R&D	143808	Square Feet	0.000135	11
Light Industrial	Light Industrial	651624	Square Feet	0.00015	11
Landscape (15% of indoor consumption)			Square Feet		
System Loss (5%)			Square Feet		

Land Use Type	Land Use	Total	Units	Multiplier	Notes
Non Residential					
RMC Lonestar (added to FORA table)	Light Industrial	3333333.3	Square Feet	0.00015	

Land Use Type	Land Use	Total	Units	Multiplier	Notes
New Residential					
In-Fill Development MF	Multi family (> 15 units / acre)	349	Dwelling Units	0.25	12
In-Fill Development SF	SF Residential (5-8 units / acre)	33	Dwelling Units	0.33	12
Downtown Specific Plan	Multi family (> 15 units / acre)	1600	Dwelling Units	0.25	15
Non Residential					
Hotel / Motel	Hotel, Motel and Timeshares	400	Rooms	0.17	
Retail and Restaurants	Restaurant	92000	Square Feet	0.00145	
Other Commercial	Other Commercial	60000	Square Feet	0.0003	
Institutional	Institutional	10000	Square Feet	0.0003	
Schools	Schools (K-12)	188260	Square Feet	0.0003	
Landscape (turf)	Landscape (turf)	25.2	Acres	2.5	
Downtown Specific Plan - Office	Office / R&D	84000	Square Feet	0.000135	15
Downtown Specific Plan - Retail / Comemrcial	Other Commercial	169400	Square Feet	0.0003	15

Incremental Demand (AFY)					
	2010	2015	2020	2025	2030
	0.00	0.00	73.50	0.00	0.00
	0.00	0.00	188.10	32.67	0.00
	0.00	0.00	142.50	19.50	0.00
	0.00	0.00	31.25	0.00	0.00
	0.00	0.00	10.75	0.00	0.00
Armstrong Ranch	0.00	0.00	446.10	52.17	0.00

Armstrong Ranch	0.00	0.00	9.45	3.15	0.00
Armstrong Ranch	0.00	0.00	13.50	5.91	0.00
Armstrong Ranch	0.00	0.00	45.00	52.74	0.00
Armstrong Ranch	0.00	0.00	10.19	9.27	0.00
Armstrong Ranch	0.00	0.00	26.21	6.16	0.00

Cumulative Demand (AFY)					
	2010	2015	2020	2025	2030
	0.00	0.00	73.50	73.50	73.50
	0.00	0.00	188.10	220.77	220.77
	0.00	0.00	142.50	162.00	162.00
	0.00	0.00	31.25	31.25	31.25
	0.00	0.00	10.75	10.75	10.75
	0.00	0.00	446.10	498.27	498.27

	0.00	0.00	9.45	12.60	12.60
	0.00	0.00	13.50	19.41	19.41
	0.00	0.00	45.00	97.74	97.74
	0.00	0.00	10.19	19.46	19.46
	0.00	0.00	26.21	32.37	32.37

Incremental Demand (AFY)					
	2010	2015	2020	2025	2030
RMC Lonestar	0.00	0.00	0.00	0.00	500.00

Cumulative Demand (AFY)					
	2010	2015	2020	2025	2030
	0.00	0.00	0.00	0.00	500.00

Incremental Demand (AFY)					
	2010	2015	2020	2025	2030
Marina Central	0.00	45.50	41.75	0.00	0.00
Marina Central	0.00	2.97	7.92	0.00	0.00
Marina Central	0.00	100.00	100.00	100.00	100.00

Cumulative Demand (AFY)					
	2010	2015	2020	2025	2030
	0.00	45.50	87.25	87.25	87.25
	0.00	2.97	10.89	10.89	10.89
	0.00	100.00	200.00	300.00	400.00

Marina Central	0.00	68.00	0.00	0.00	0.00
Marina Central	0.00	66.70	66.70	0.00	0.00
Marina Central	0.00	18.00	0.00	0.00	0.00
Marina Central	0.00	1.50	1.50	0.00	0.00
Marina Central	0.00	23.33	33.15	0.00	0.00
Marina Central	0.00	20.00	40.00	0.00	3.00
Marina Central	0.00	2.84	2.84	2.84	2.84
Marina Central	0.00	12.71	12.71	12.71	12.71

	0.00	68.00	68.00	68.00	68.00
	0.00	66.70	133.40	133.40	133.40
	0.00	18.00	18.00	18.00	18.00
	0.00	1.50	3.00	3.00	3.00
	0.00	23.33	56.48	56.48	56.48
	0.00	20.00	60.00	60.00	63.00
	0.00	2.84	5.67	8.51	11.34
	0.00	12.71	25.41	38.12	50.82

Monterey County	Jurisd	Units	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
New Residential																							
East Garrison I																							
Market Rate	MCO	Dwelling Units		-	-	37	171	289	308	189	56												
Affordable	MCO	Dwelling Units		-	-	8	43	97	144	105	23	-	-	-	-								
Monterey Horse Park	MCO	Dwelling Units					330	330	283														
Non Residential																							
Monterey County Office																							
Horse Park	MCO	Square Feet					25,000	25,000	-														
Whispering Oaks Business Park	MCO	Square Feet								20,000	20,000	10,240											
Intergarrison Rd Office Park	MCO	Square Feet				127,200	127,200	127,200	127,200	127,000													
East Garrison I Office Development	MCO	Square Feet				6,000	12,000	12,000	5,000														
MST Bus Maint & Opns Facility	MCO	Square Feet		43,750																			
Monterey County Light Ind.																							
Horse Park	MCO	Square Feet					50,000	50,000	35,000	-	-	-											
Whispering Oaks Business Park	MCO	Square Feet		80,000	80,000	80,000	69,150	-	-	-	-	-											
MST Bus Maint & Opns Facility	MCO	Square Feet		118,675																			
Monterey County Retail	MCO																						
Whispering Oaks Business Park	MCO	Square Feet								30,000	30,000	17,280											
East Garrison I Retail	MCO	Square Feet						20,000	20,000														
East Garrison I Arts Complex	MCO	Square Feet																					
East Garrison I Public Facilities	MCO	Square Feet																					
Ord Market	MCO	Square Feet																					
Horse Park	MCO	Square Feet					100,000	100,000	100,000	120,000													
Horse Park (Parker Flat) Hotel	MCO	Rooms						200															
East Garrison Landscaping	MCO	Acres							10.44	4.94													

CSUMB	Jurisd	Units	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
New Residential																							
CSUMB Housing	CSU/MAR	Dwelling Units						95	95	95	95	48	48	48	48	48	48	48	48				
Non Residential																							
CSUMB Academic and Administrative Buildings	CSUMB	Square Feet						101,852	101,852	101,852	101,852				88,888	88,888	88,888	88,888	88,888				
CSUMB Landscaping	CSUMB	Acres								5.00	10.00	11			7								

UCMBEST	Jurisd	Units	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
New Residential																							
UC 8th Street	UC/MCO	Dwelling Units				33	33	33	33	33	33	33	33	33	33								
UC East Campus - SF	UC/MCO	Dwelling Units							67					67	66								
UC East Campus - MF	UC/MCO	Dwelling Units																					
Non Residential																							
UC Eight Street	UC/MCO	Square Feet				19,602	19,602	19,602	19,602	19,602	19,602	19,602	19,602	19,602	19,602								
UC Central South Campus	UC/MAR	Square Feet																					
UC Central North & West Campuses	UC/MAR	Square Feet	-	-	40,000	61,417	61,417	61,417	61,417	67,559	67,559	67,559	67,559	67,559	67,559								
UC Central North & West Campuses	UC/MAR	Square Feet				6,346	6,346	6,346	6,346	6,981	6,981	6,981	6,981	6,981	6,981								
UC Central North & West Campuses	UC/MAR	Square Feet	-	-	20,000	20,408	20,408	20,408	20,408	22,448	22,448	22,448	22,448	22,448	22,448								
UC South Campus	UC/MAR	Square Feet																					
UC East Campus	UC/MCO	Square Feet							26,000					26,000									
UC Eight Street	UC/MCO	Square Feet				19,602	19,602	19,602	19,602	19,602	19,602	19,602	19,602	19,602	19,602								
UC East Campus	UC/MCO	Rooms												250									
UC Central North & West Campuses	UC/MAR	Rooms		-	-	-	-	-	-	-	-	-	-	150	-								

Land Use Type	Land Use	Total	Units	Multiplier	Notes
New Residential					
East Garrison					1
Market rate	SF Residential (< 5 units / acre)	1050	Dwelling Units	0.3	
Affordable	SF Residential (5-8 units / acre)	420	Dwelling Units	0.186	
Monterey Horse Park	SF Residential (5-8 units / acre)	943	Dwelling Units	0.33	8
Monterey County Office					
Horse Park	Office / R&D	50000	Square Feet	0.000135	
Whispering Oaks Business Park	Office / R&D	50240	Square Feet	0.000166	14
Intergarrison Rd Office Park	Office / R&D	635800	Square Feet	0.000135	
East Garrison I Office Development	Office / R&D	35000	Square Feet	0.000135	
MST Bus Maint & Opns Facility	Office / R&D	43750	Square Feet	0.000124	14
Monterey County Light Ind.					
Horse Park	Light Industrial	135000	Square Feet	0.00015	
Whispering Oaks Business Park	Light Industrial	309150	Square Feet	0.000166	14
MST Bus Maint & Opns Facility	Light Industrial	118675	Square Feet	0.000124	14
Monterey County Retail					
Whispering Oaks Business Park	Retail	77280	Square Feet	0.000166	14
East Garrison I Retail	Retail	40000	Square Feet	0.00021	8
East Garrison I Arts Complex	Retail		Square Feet	0.0001406	8
East Garrison I Public Facilities	Retail		Square Feet	0.0003	8
Ord Market	Retail		Square Feet	0.00021	
Horse Park	Retail	420000	Square Feet	0.00021	
Horse Park (Parker Flat) Hotel	Hotel, Motel and Timeshares	200	Rooms	0.17	
East Garrison Landscaping	Landscape (turf)	15.38	Acres	2.5	

Land Use Type	Land Use	Total	Units	Multiplier	Notes
New Residential					
CSUMB Housing	Multi family (> 15 units / acre)	764	Dwelling Units	0.25	
					5
					5, 6
CSUMB Academic and Administrative Bldgs	Office / R&D	851848	Square Feet	0.000135	
CSUMB Landscaping	Landscape (non-turf)	32.85	Acres	2.1	

Land Use Type	Land Use	Total	Units	Multiplier	Notes
New Residential					
UC 8th Street	Multi family (> 15 units / acre)	330	Dwelling Units	0.25	
UC East Campus - SF	SF Residential (< 5 units / acre)	200	Dwelling Units	0.5	
UC East Campus - MF	Multi family (> 15 units / acre)		Dwelling Units	0.25	
UC Eight Street	Office / R&D	196020	Square Feet	0.000135	
UC Central South Campus	Office / R&D		Square Feet	0.000135	
UC Central North & West Campuses	Office / R&D	691022	Square Feet	0.000135	
UC Central North & West Campuses	Retail	67270	Square Feet	0.00021	
UC Central North & West Campuses	Light Industrial	236320	Square Feet	0.00015	
UC South Campus	Retail		Square Feet	0.00021	
UC East Campus	Retail	52000	Square Feet	0.00021	
UC Eight Street	Retail	196020	Square Feet	0.00021	
UC East Campus	Hotel, Motel and Timeshares	250	Rooms	0.17	
UC Central North & West Campuses	Hotel, Motel and Timeshares	150	Rooms	0.17	

		Incremental Demand (AFY)				
		2010	2015	2020	2025	2030
		0.00	149.10	165.90	0.00	0.00
		0.00	27.53	50.59	0.00	0.00
		0.00	217.80	93.39	0.00	0.00
County of Monterey		0.00	394.43	309.88	0.00	0.00

County of Monterey	0.00	6.75	0.00	0.00	0.00
County of Monterey	0.00	0.00	8.35	0.00	0.00
County of Monterey	0.00	51.52	34.32	0.00	0.00
County of Monterey	0.00	4.05	0.68	0.00	0.00
County of Monterey	0.00	5.42	0.00	0.00	0.00

County of Monterey	0.00	15.00	5.25	0.00	0.00
County of Monterey	0.00	51.40	0.00	0.00	0.00
County of Monterey	0.00	14.70	0.00	0.00	0.00

County of Monterey	0.00	0.00	12.85	0.00	0.00
County of Monterey	0.00	4.20	4.20	0.00	0.00
County of Monterey	0.00	0.00	0.00	0.00	0.00
County of Monterey	0.00	0.00	0.00	0.00	0.00
County of Monterey	0.00	0.00	0.00	0.00	0.00
County of Monterey	0.00	42.00	46.20	0.00	0.00
County of Monterey	0.00	34.00	0.00	0.00	0.00
County of Monterey	0.00	0.00	38.45	0.00	0.00

		Cumulative Demand (AFY)				
		2010	2015	2020	2025	2030
		0.00	149.10	315.00	315.00	315.00
		0.00	27.53	78.12	78.12	78.12
		0.00	217.80	311.19	311.19	311.19
		0.00	394.43	704.31	704.31	704.31

	0.00	6.75	6.75	6.75	6.75
	0.00	0.00	8.35	8.35	8.35
	0.00	51.52	85.83	85.83	85.83
	0.00	4.05	4.73	4.73	4.73
	0.00	5.42	5.42	5.42	5.42

	0.00	15.00	20.25	20.25	20.25
	0.00	51.40	51.40	51.40	51.40
	0.00	14.70	14.70	14.70	14.70

	0.00	0.00	12.85	12.85	12.85
	0.00	4.20	8.40	8.40	8.40
	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00
	0.00	42.00	88.20	88.20	88.20
	0.00	34.00	34.00	34.00	34.00
	0.00	0.00	38.45	38.45	38.45

		Incremental Demand (AFY)				
		2010	2015	2020	2025	2030
CSUMB		0.00	23.75	95.25	60.00	12.00

CSUMB	0.00	13.75	41.25	48.00	12.00
CSUMB	0.00	0.00	53.97	15.02	0.00

		Cumulative Demand (AFY)				
		2010	2015	2020	2025	2030
		0.00	23.75	119.00	179.00	191.00

	0.00	13.75	55.00	103.00	115.00
	0.00	0.00	53.97	68.99	68.99

		Incremental Demand (AFY)				
		2010	2015	2020	2025	2030
UCMBEST		0.00	24.75	41.25	16.50	0.00
UCMBEST		0.00	0.00	33.50	66.50	0.00
UCMBEST		0.00	0.00	0.00	0.00	0.00

UCMBEST	0.00	7.94	13.23	5.29	0.00
UCMBEST	0.00	0.00	0.00	0.00	0.00
UCMBEST	0.00	30.27	44.77	18.24	0.00
UCMBEST	0.00	4.00	7.20	2.93	0.00
UCMBEST	0.00	12.18	16.53	6.73	0.00
UCMBEST	0.00	0.00	0.00	0.00	0.00
UCMBEST	0.00	0.00	5.46	5.46	0.00
UCMBEST	0.00	12.35	20.58	8.23	0.00
UCMBEST	0.00	0.00	0.00	42.50	0.00
UCMBEST	0.00	0.00	0.00	25.50	0.00

		Cumulative Demand (AFY)				
		2010	2015	2020	2025	2030
		0.00	24.75	66.00	82.50	82.50
		0.00	0.00	33.50	100.00	100.00
		0.00	0.00	0.00	0.00	0.00

	0.00	7.94	21.17	26.46	26.46
	0.00	0.00	0.00	0.00	0.00
	0.00	30.27	75.05	93.29	93.29
	0.00	4.00	11.19	14.13	14.13
	0.00	12.18	28.71	35.45	35.45
	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	5.46	10.92	10.92
	0.00	12.35	32.93	41.16	41.16
	0.00	0.00	0.00	42.50	42.50
	0.00	0.00	0.00	25.50	25.50

Del Rey Oaks	Jurisd	Units	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
New Residential																							
Del Rey Oaks																							
Golf Villas	DRO	Dwelling Units				37	13																
Patio Homes	DRO	Dwelling Units				32	4																
Condos	DRO	Dwelling Units				40	160	176															
Workforce	DRO	Dwelling Units					70	68															
Townhomes/Senior Casitas	DRO	Dwelling Units				21	40	30															
Non Residential																							
Del Rey Oaks Office	DRO	Square Feet				100,000		100,000															
Del Rey Oaks Retail	DRO	Square Feet				20,000																	
Del Rey Oaks Hotel	DRO	Rooms				104	250	100															
Del Rey Oaks Timeshare	DRO	Rooms				48	48																
Resort Golf Course	DRO	Acres									92												

Monterey City	Jurisd	Units	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Non Residential																							
Monterey City Office	MRY	Square Feet							129,500														
Industrial -- City Corp. Yard	MRY	Square Feet							250,000														
Industrial -- Public/Private	MRY	Square Feet							250,000														

US Army	Jurisd	Units	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Residential																							
Doe Park (Stilwell) Single Family	ARMY	Dwelling Units	146			20				48						-20							
Doe Park (Stilwell) Duplex	ARMY	Dwelling Units	138			20				47						-20							
Non Residential																							
Recreation Center	ARMY	Square Feet		10,900									8,340										
Rec Center Pool	ARMY	Square Feet		2,316																			
VA Medical Clinic	ARMY	Square Feet						126,000															
Child Development Center	ARMY	Square Feet												24,000									
Emergency Services Center	ARMY	Square Feet									40,000												

CA State Parks	Jurisd	Units	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Non Residential																							
Fort Ord Dunes State Park	SP																						
Fort Ord Dunes State Park	SP	Square feet						75,000					33,333				16667						41667
American Youth Hostel (Seaside)	SP	Units						18					12	2									

Land Use Type	Land Use	Total	Units	Multiplier	Notes
New Residential					
Del Rey Oaks					
Golf Villas	SF Residential (< 5 units / acre)	50	Dwelling Units	0.5	
Patio Homes	SF Residential (< 5 units / acre)	36	Dwelling Units	0.5	
Condos	Multi family (> 15 units / acre)	376	Dwelling Units	0.25	
Workforce	Multi family (> 15 units / acre)	138	Dwelling Units	0.25	
Townhomes/Senior Casitas	SF Residential (5-8 units / acre)	91	Dwelling Units	0.33	
Del Rey Oaks Office	Office / R&D	200000	Square Feet	0.000135	
Del Rey Oaks Retail	Retail	20000	Square Feet	0.00021	
Del Rey Oaks Hotel	Hotel, Motel and Timeshares	454	Rooms	0.17	
Del Rey Oaks Timeshare	Hotel, Motel and Timeshares	96	Rooms	0.17	
Resort Golf Course	Landscape (turf)	92.4	Acres	2.16991342	1

Land Use Type	Land Use	Total	Units	Multiplier	Notes
New Residential					
Monterey City Office	Office / R&D	129500	Square Feet	0.000135	
Industrial -- City Corp. Yard	Light Industrial	250000	Square Feet	0.00015	
Industrial -- Public/Private	Light Industrial	250000	Square Feet	0.00015	

Land Use Type	Land Use	Total	Units	Multiplier	Notes
New Residential					
Doe Park (Stilwell) Single Family	SF Residential (5-8 units / acre)	194	Dwelling Units	0.33	9, 10
Doe Park (Stilwell) Duplex	Residential (8-15 units / acre)	185	Dwelling Units	0.33	9, 10
Non Residential					
Recreation Center	Institutional	19240	Square Feet	0.0003	9
Rec Center Pool	Institutional	2316	Square Feet	0.0002	9
VA Medical Clinic	Institutional	126000	Square Feet	0.00018	9
Child Development Center	Institutional	24000	Square Feet	0.0072	9
Emergency Services Center	Governmental	40000	Square Feet	0.0003	9

Land Use Type	Land Use	Total	Units	Multiplier	Notes
New Residential					
Fort Ord Dunes State Park	Governmental			0.0676	2
Fort Ord Dunes State Park	Governmental	166667	Square Feet	0.00012	2
American Youth Hostel (Seaside)	Hotel, Motel and Timeshares	32	Units	0.17	2

Incremental Demand (AFY)					
	2010	2015	2020	2025	2030
	0.00	25.00	0.00	0.00	0.00
	0.00	18.00	0.00	0.00	0.00
	0.00	94.00	0.00	0.00	0.00
	0.00	34.50	0.00	0.00	0.00
	0.00	30.03	0.00	0.00	0.00
Del Rey Oaks	0.00	201.53	0.00	0.00	0.00

Del Rey Oaks	0.00	27.00	0.00	0.00	0.00
Del Rey Oaks	-	4.20	0.00	0.00	0.00
Del Rey Oaks	-	77.18	0.00	0.00	0.00
Del Rey Oaks	0.00	16.32	0.00	0.00	0.00
Del Rey Oaks	0.00	0.00	200.50	0.00	0.00

Cumulative Demand (AFY)					
	2010	2015	2020	2025	2030
	0.00	25.00	25.00	25.00	25.00
	0.00	18.00	18.00	18.00	18.00
	0.00	94.00	94.00	94.00	94.00
	0.00	34.50	34.50	34.50	34.50
	0.00	30.03	30.03	30.03	30.03
	0.00	201.53	201.53	201.53	201.53

	0.00	27.00	27.00	27.00	27.00
	0.00	4.20	4.20	4.20	4.20
	0.00	77.18	77.18	77.18	77.18
	0.00	16.32	16.32	16.32	16.32
	0.00	0.00	200.50	200.50	200.50

Incremental Demand (AFY)					
	2010	2015	2020	2025	2030
City of Monterey	0.00	0.00	17.48	0.00	0.00
City of Monterey	0.00	0.00	37.50	0.00	0.00
City of Monterey	0.00	0.00	37.50	0.00	0.00

Cumulative Demand (AFY)					
	2010	2015	2020	2025	2030
	0.00	0.00	17.48	17.48	17.48
	0.00	0.00	37.50	37.50	37.50
	0.00	0.00	37.50	37.50	37.50

Incremental Demand (AFY)					
	2010	2015	2020	2025	2030
U.S. Army	48.18	6.60	15.84	-6.60	0.00
U.S. Army	45.54	6.60	15.51	-6.60	0.00
U.S. Army	0.00	3.27	2.50	0.00	0.00
U.S. Army	0.00	0.46	0.00	0.00	0.00
U.S. Army	0.00	22.68	0.00	0.00	0.00
U.S. Army	0.00	0.00	0.00	172.80	0.00
U.S. Army	0.00	0.00	12.00	0.00	0.00

Cumulative Demand (AFY)					
	2010	2015	2020	2025	2030
	48.18	54.78	70.62	64.02	64.02
	45.54	52.14	67.65	61.05	61.05
	0.00	3.27	5.77	5.77	5.77
	0.00	0.46	0.46	0.46	0.46
	0.00	22.68	22.68	22.68	22.68
	0.00	0.00	0.00	172.80	172.80
	0.00	0.00	12.00	12.00	12.00

Incremental Demand (AFY)					
	2010	2015	2020	2025	2030
State Parks and Rec.	0.00	0.00	0.00	0.00	0.00
State Parks and Rec.	0.00	9.00	4.00	2.00	5.00
State Parks and Rec.	0.00	3.06	2.04	0.34	0.00

Cumulative Demand (AFY)					
	2010	2015	2020	2025	2030
	0.00	0.00	0.00	0.00	0.00
	0.00	9.00	13.00	15.00	20.00
	0.00	3.06	5.10	5.44	5.44

Seaside	Jurisd	Units	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Residential																							
Seaside Resort Housing	SEA	Dwelling Units		1			9	10	10	95													
Seaside Housing (Eastside)	SEA	Dwelling Units																	110	110	110	110	110
Seaside Affordable Housing Obligations	SEA	Dwelling Units			36	36																	
Workforce Housing (Army to Build)	SEA	Dwelling Units							26														
Market Rate Housing (Army to Build)	SEA	Dwelling Units							150														
State Parks Housing (Workforce housing)	SEA	Dwelling Units																					
Workforce Housing (Seaside)	SEA	Dwelling Units				29		-	-														
Seaside-Fort Ord Project Area	SEA	Dwelling Units											97	100	100	100	100	100	100	100	100	100	100
Seaside Housing (Eucalyptus)	SEA	Dwelling Units														190	190	190	190	182			
Non Residential																							
Main Gate																							
Conference	SEA	Square Feet					27,000																
Spa	SEA	Square Feet						24,000															
Large Format Retail	SEA	Square Feet					87,000																
In-Line Shops	SEA	Square Feet					281,000																
Movie Theater	SEA	Square Feet					51,500																
In-Line Food Service	SEA	Square Feet					10,000																
Restaurants	SEA	Square Feet					61,000																
Landscaping	SEA	Acres						10.41															
Hotel	SEA	Rooms						250															
Seaside Resort																							
Seaside Resort Golf Buildings	SEA	Square Feet		10,000																			
Seaside Resort Golf Clubhouse	SEA	Square Feet						16,300															
Seaside Golf Course Hotel	SEA	Rooms						330															
Seaside Golf Course Timeshares	SEA	Rooms							120	50													
Seaside Office (Monterey Blues)	SEA	Square Feet				60,000																	
Chartwell School	SEA	Square Feet	1,800																				
Monterey College of Law	SEA	Square Feet	7,133																				
Fitch Middle School	SEA	Square Feet																					
Marshall Elementary School	SEA	Square Feet																					
International School (former Hayes Elem)	SEA	Square Feet																					
Veterans' Cemetery	SEA	Square Feet																					
Monterey Peninsula Trade & Conf Cntr	SEA	Square Feet							250,000														
Seaside Corp Yard Shop	SEA	Square Feet			25,320																		
Conference Facility	SEA	Square Feet						27,000															
Luxury Auto Mall	SEA	Square Feet																					

Land Use Type	Land Use	Total	Units	Multiplier	Notes
New Residential					
Seaside Resort Housing	SF Residential (< 5 units / acre)	125	Dwelling Units	0.5	13
Seaside Housing (Eastside)	SF Residential (5-8 units / acre)	550	Dwelling Units	0.33	
Seaside Affordable Housing Obligations	Residential (8-15 units / acre)	72	Dwelling Units	0.25	
Workforce Housing (Army to Build)	Residential (8-15 units / acre)	26	Dwelling Units	0.25	
Market Rate Housing (Army to Build)	SF Residential (< 5 units / acre)	150	Dwelling Units	0.5	
State Parks Housing (Workforce housing)	SF Residential (5-8 units / acre)		Dwelling Units	0.33	
Workforce Housing (Seaside)	SF Residential (5-8 units / acre)	29	Dwelling Units	0.33	
Seaside-Fort Ord Project Area	Multi family (> 15 units / acre)	1097	Dwelling Units	0.25	
Seaside Housing (Eucalyptus)	SF Residential (5-8 units / acre)	942	Dwelling Units	0.33	
Main Gate Conference	Office / R&D	27000	Square Feet	0.000135	1
Main Gate Spa	Other Commercial	24000	Square Feet	0.0003	
Main Gate Large Format Retail	Retail	87000	Square Feet	0.00005	
Main Gate In-Line Shops	Retail	281000	Square Feet	0.00005	
Main Gate Movie Theater	Other Commercial	51500	Square Feet	0.0002	
Main Gate In-Line Food Service	Restaurant	10000	Square Feet	0.00247	
Main Gate Restaurants	Restaurant	61000	Square Feet	0.0011	
Main Gate Landscaping	Landscape (turf)	10.41	Acres	2.5	
Main Gate Hotel	Hotel, Motel and Timeshares	250	Rooms	0.17	
Seaside Resort Golf Buildings	Office / R&D	10000	Square Feet	0.000135	1
Seaside Resort Golf Clubhouse	Restaurant	16300	Square Feet	0.00145	
Seaside Golf Course Hotel	Hotel, Motel and Timeshares	330	Rooms	0.17	
Seaside Golf Course Timeshares	Hotel, Motel and Timeshares	170	Rooms	0.17	
Seaside Office (Monterey Blues)	Office / R&D	60000	Square Feet	0.000135	
Chartwell School	Schools (K-12)	1800	Square Feet	0.0003	
Monterey College of Law	Institutional	7133	Square Feet	0.0003	
Fitch Middle School	Schools (K-12)		Square Feet	0.0003	
Marshall Elementary School	Schools (K-12)		Square Feet	0.0003	
International School (former Hayes Elem)	Schools (K-12)		Square Feet	0.0003	
Veterans' Cemetery	Landscape (turf)		Square Feet	2.5	
Monterey Peninsula Trade & Conf Cntr	Office / R&D	250000	Square Feet	0.000135	
Seaside Corp Yard Shop	Light Industrial	25320	Square Feet	0.00015	
Conference Facility	Office / R&D	27000	Square Feet	0.0002	
Luxury Auto Mall	Retail		Square Feet	0.00021	

NOTES:

- 1 Unique water demand multiplier based on the
- 2 State Parks and Rec. usage and timing taken from 2005 UWMP.
- 3 Landscaping area excludes temporary irrigation of 22.37 acres (which would increase the demand by 55.9 AFY for 3 years).
- 4 Area includes an additional 15% to account for landscaping demand.
- 5 Derived from Table 4-1 of the CSUMB Master Plan (December 2007)
- 6 An additional 87 AFY of recycled water is expected to be available to near 2014, per Table 4-1 of the CSUMB Master Plan (December 2007), not already factored into table.
- 7 CSUMB housing assumes water saving fixtures and retrofitting will provide an additional 85 AFY of water per Table 4-1 of the CSUMB Master Plan (December 2007), already factored into table
- 8 Updates per Nick Nichols, 11AUG10
- 9 Updates per Chris Spang, 4JAN11
- 10 OMC housing is being rennovated and replaced. The entry in 2022 reflects the net removal of 40 DU over the project life.
- 11 Updates per Maziar Bozorginia, 24JAN11
- 12 Per Marina 2009 Certified Housing Element, Table 3-1
- 13 Projections taken from Seaside-Fort Ord Redevelopment Project Area Implementation Plan 2007-2012
- 14 totals from Whispering Oaks Business Park WSA, October 2010
- 15 Marina DVSP projects build-out by 2040. Annual values reflect 1/30th of total. 2040 totals will be 2,400 DU; 126,000 SF Office; 254,000 SF Commercial; 1.2 AC Landscape.

	Incremental Demand (AFY)				
	2010	2015	2020	2025	2030
City of Seaside	0.00	10.00	52.50	0.00	0.00
City of Seaside	0.00	0.00	0.00	0.00	181.50
City of Seaside	0.00	18.00	0.00	0.00	0.00
City of Seaside	0.00	0.00	6.50	0.00	0.00
City of Seaside	0.00	0.00	75.00	0.00	0.00
City of Seaside	0.00	0.00	0.00	0.00	0.00
City of Seaside	0.00	9.57	0.00	0.00	0.00
City of Seaside	0	0.00	24.25	125.00	125.00
City of Seaside	0.00	0.00	0.00	188.10	122.76

City of Seaside	0.00	3.65	0.00	0.00	0.00
City of Seaside	0.00	7.20	0.00	0.00	0.00
City of Seaside	0.00	4.35	0.00	0.00	0.00
City of Seaside	0.00	14.05	0.00	0.00	0.00
City of Seaside	0.00	11.20	0.00	0.00	0.00
City of Seaside	0.00	24.70	0.00	0.00	0.00
City of Seaside	0.00	68.60	0.00	0.00	0.00
City of Seaside	0.00	26.03	0.00	0.00	0.00
City of Seaside	0.00	42.50	0.00	0.00	0.00
City of Seaside	0.00	1.35	0.00	0.00	0.00
City of Seaside	0.00	23.64	0.00	0.00	0.00
City of Seaside	0.00	56.10	0.00	0.00	0.00
City of Seaside	0.00	0.00	28.90	0.00	0.00
City of Seaside	0.00	8.10	0.00	0.00	0.00
City of Seaside	0.54	0.00	0.00	0.00	0.00
City of Seaside	2.14	0.00	0.00	0.00	0.00
City of Seaside	0.00	0.00	0.00	0.00	0.00
City of Seaside	0.00	0.00	0.00	0.00	0.00
City of Seaside	0.00	0.00	0.00	0.00	0.00
City of Seaside	0.00	0.00	33.75	0.00	0.00
City of Seaside	0.00	3.80	0.00	0.00	0.00
City of Seaside	0.00	5.40	0.00	0.00	0.00
City of Seaside	0.00	0.00	0.00	0.00	0.00

Cumulative Demand (AFY)				
2010	2015	2020	2025	2030
0.00	10.00	62.50	62.50	62.50
0.00	0.00	0.00	0.00	181.50
0.00	18.00	18.00	18.00	18.00
0.00	0.00	6.50	6.50	6.50
0.00	0.00	75.00	75.00	75.00
0.00	0.00	0.00	0.00	0.00
0.00	9.57	9.57	9.57	9.57
0.00	0.00	24.25	149.25	274.25
0.00	0.00	0.00	188.10	310.86

0.00	3.65	3.65	3.65	3.65
0.00	7.20	7.20	7.20	7.20
0.00	4.35	4.35	4.35	4.35
0.00	14.05	14.05	14.05	14.05
0.00	11.20	11.20	11.20	11.20
0.00	24.70	24.70	24.70	24.70
0.00	68.60	68.60	68.60	68.60
0.00	26.03	26.03	26.03	26.03
0.00	42.50	42.50	42.50	42.50
0.00	1.35	1.35	1.35	1.35
0.00	23.64	23.64	23.64	23.64
0.00	56.10	56.10	56.10	56.10
0.00	0.00	28.90	28.90	28.90
0.00	8.10	8.10	8.10	8.10
0.54	0.54	0.54	0.54	0.54
2.14	2.14	2.14	2.14	2.14
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	33.75	33.75	33.75
0.00	3.80	3.80	3.80	3.80
0.00	5.40	5.40	5.40	5.40
0.00	0.00	0.00	0.00	0.00

Marina Coast Water District 2010 Urban Water Management Plan

Table C4: 2010 Population Growth by Jurisdiction

	Jurisdiction	Existing*	2010	2015	2020	2025	2030
Ord	CSUMB		0	285	1,428	2,148	2,292
	Del Rey Oaks		0	1,487	1,487	1,487	1,487
	City of Monterey		0	0	0	0	0
	County of Monterey		0	3,303	5,844	5,844	5,844
	UCMBEST		0	257	861	1,378	1,378
	City of Seaside		0	363	1,497	4,707	8,973
	U.S. Army		1,704	1,824	2,109	1,989	1,989
	State Parks and Rec.		0	0	0	0	0
	Marina Ord Comm.		0	3,723	7,123	7,830	7,830
	Marina Sphere						
	FORA Strategic Res.						
	Assumed Line Loss						
Marina	Armstrong Ranch		0	0	3,591	4,085	4,085
	RMC Lonestar		0	0	0	0	0
	Marina Central		0	1,649	3,298	4,414	5,530

Subtotal - Ord	13,646	15,350	24,888	33,995	39,028	43,438
Subtotal - Marina	16,834	16,834	18,483	23,723	25,333	26,449
Total	30,480	32,184	43,371	57,718	64,361	69,887

*2010 Decennial Census population

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Marina Coast Water District 2010 Urban Water Management Plan
Table C5: Population Growth Projection Details

Marina Ord	Jurisd	Land Use	Units	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
New Residential																								
Marina Heights																								
Townhome	MAR	Residential (8-15 units / acre)	Dwelling Units			0	0	12	13	13	13	13	13	13	12									
Cluster Market/Bridge	MAR	Residential (8-15 units / acre)	Dwelling Units			4	5	47	19	19	19	19	19	19	18									
Market A	MAR	SF Residential (5-8 units / acre)	Dwelling Units			10	15	105	29	29	29	29	29	29	33									
Market B	MAR	SF Residential (5-8 units / acre)	Dwelling Units			6	10	85	34	34	34	34	34	34	33									
Estates	MAR	SF Residential (< 5 units / acre)	Dwelling Units		0	0	0	0	13	12	12	12	12	12	12	0								
Cypress Knolls																								
SF Home / Townhome	MAR	SF Residential (5-8 units / acre)	Dwelling Units								255	200			141									
Apartments	MAR	Multi family (> 15 units / acre)	Dwelling Units								85				31									
Assisted Living	MAR	Multi family (> 15 units / acre)	Dwelling Units												60									
Dunes on Monterey Bay																								
Alley (small lot)	MAR	Residential (8-15 units / acre)	Dwelling Units			24	48	54	59	57														
Carriage	MAR	Residential (8-15 units / acre)	Dwelling Units			21	6	12	30	57														
Standard	MAR	SF Residential (5-8 units / acre)	Dwelling Units			12	20	44	24	15														
Standard (small lot)	MAR	Residential (8-15 units / acre)	Dwelling Units			15	25	48	28	15														
Duets	MAR	SF Residential (5-8 units / acre)	Dwelling Units			34	38	78	98	40	60	4												
Townhome (live-work)	MAR	Residential (8-15 units / acre)	Dwelling Units			16	52	50	21															
Townhome (mixed use)	MAR	Residential (8-15 units / acre)	Dwelling Units			4	8	8	4															
Apartments	MAR	Multi family (> 15 units / acre)	Dwelling Units			12	48	36	12															
TAMC TOD	MAR	Multi family (> 15 units / acre)	Dwelling Units						100	100														
Existing/Replacement Residential																								
Patton Park	MAR	Residential (8-15 units / acre)	Dwelling Units					32																
Shelter Outreach Plus	MAR	Residential (8-15 units / acre)	Dwelling Units			20																		
Interim Housing	MAR	Residential (8-15 units / acre)	Dwelling Units				21																	

Armstrong Ranch	Jurisd	Land Use	Units	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
New Residential																								
Marina Station																								
Single Family Homes (15,000)	MAR	SF Residential (< 5 units / acre)	Dwelling Units									23	87	37										
Single Family Homes (6,500)	MAR	SF Residential (5-8 units / acre)	Dwelling Units									100	250	220	99									
Apartments	MAR	Multi family (> 15 units / acre)	Dwelling Units									100	250	220	78									

Marina Central	Jurisd	Land Use	Units	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
New Residential																								
In-Fill Development MF	MAR	Multi family (> 15 units / acre)	Dwelling Units						182					167										
In-Fill Development SF	MAR	SF Residential (5-8 units / acre)	Dwelling Units						9					24										
Downtown Specific Plan	MAR	Multi family (> 15 units / acre)	Dwelling Units		80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80

Multiplier

Incremental Increase (AFY)

Marina Heights

	2010	2015	2020	2025	2030
1.5	0	37.5	97.5	18	0
3.0	0	225	285	54	0
3.0	0	477	435	99	0
3.0	0	405	510	99	0
4.0	0	52	240	48	0
	0	1196.5	1567.5	318	0

Cypress Knolls

1.8	0	0	819	253.8	0
2.4	0	0	204	74.4	0
1.0	0	0	0	60	0
	0	0	1023	388.2	0

University Villages

2.0	0	370	114	0	0
3.0	0	207	171	0	0
3.0	0	300	45	0	0
3.0	0	348	45	0	0
1.5	0	372	156	0	0
1.5	0	208.5	0	0	0
1.5	0	36	0	0	0
2.0	0	216	0	0	0
	0	2057.5	531	0	0

TAMC TOD

2.8	0	279	279	0	0
	0	279	279	0	0

Existing

2.6	0	83.2	0	0	0
2.6	0	52	0	0	0
2.6	0	54.6	0	0	0
	0	189.8	0	0	0

Marina Station

	2010	2015	2020	2025	2030
2.8	0	0	410.13	0	0
2.8	0	0	1590.3	276.21	0
2.8	0	0	1590.3	217.62	0
	0	0	3590.73	493.83	0

Marina Central

	2010	2015	2020	2025	2030
2.8	0	507.78	465.93	0	0
2.8	0	25.2	67.2	0	0
2.8	0	1116	1116	1116	1116
	0	1648.98	1649.13	1116	1116

Cumulative Increase (AFY)

	2010	2015	2020	2025	2030
0	0	37.5	135	153	153
0	0	225	510	564	564
0	0	477	912	1011	1011
0	0	405	915	1014	1014
0	0	52	292	340	340
0	0	1196.5	2764	3082	3082

0	0	819	1072.8	1072.8
0	0	204	278.4	278.4
0	0	0	60	60
0	0	1023	1411.2	1411.2

0	370	484	484	484
0	207	378	378	378
0	300	345	345	345
0	348	393	393	393
0	372	528	528	528
0	208.5	208.5	208.5	208.5
0	36	36	36	36
0	216	216	216	216
0	2057.5	2588.5	2588.5	2588.5

0	279	558	558	558
0	279	558	558	558

0	83.2	83.2	83.2	83.2
0	52	52	52	52
0	54.6	54.6	54.6	54.6
0	189.8	189.8	189.8	189.8

	2010	2015	2020	2025	2030
0	0	0	410.13	410.13	410.13
0	0	0	1590.3	1866.51	1866.51
0	0	0	1590.3	1807.92	1807.92
0	0	0	3590.73	4084.56	4084.56

2010	2015	2020	2025	2030
0	507.78	973.71	973.71	973.71
0	25.2	92.4	92.4	92.4
0	1116	2232	3348	4464
0	1648.98	3298.11	4414.11	5530.11

Incremental Increase (EDU)

2010	2015	2020	2025	2030	
	25	65	12		0
	75	95	18		0
	159	145	33		0
	135	170	33		0
	13	60	12		0
0	407	535	108		0

	0	455	141	0
	0	85	31	0
	0	0	60	0
0	0	540	232	0

	185	57	0	0
	69	57	0	0
	100	15	0	0
	116	15	0	0
	248	104	0	0
	139	0	0	0
	24	0	0	0
	108	0	0	0
0	989	248	0	0

	100	100	0	0
	100	100	0	0

	32	0	0	0
	20	0	0	0
	21	0	0	0
0	73	0	0	0

	2010	2015	2020	2025	2030
	0	0	147	0	0
	0	0	570	99	0
	0	0	570	78	0
0	0	0	1287	177	0

2010	2015	2020	2025	2030
	182	167	0	0
	9	24	0	0
	400	400	400	400
0	591	591	400	400

Marina Coast Water District 2010 Urban Water Management Plan
Table C5: Population Growth Projection Details

Monterey County	Jurisd	Land Use	Units	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
New Residential																								
East Garrison I																								
Market Rate	MCO	SF Residential (< 5 units / acre)	Dwelling Units		0	0	37	171	289	308	189	56												
Affordable	MCO	SF Residential (5-8 units / acre)	Dwelling Units		0	0	8	43	97	144	105	23	0	0	0	0								
Monterey Horse Park	MCO	SF Residential (5-8 units / acre)	Dwelling Units					330	330	283														

CSUMB	Jurisd	Land Use	Units	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
New Residential																								
CSUMB Housing	CSU/MAR	Multi family (> 15 units / acre)	Dwelling Units						95	95	95	95	48	48	48	48	48	48	48	48				

UCMBEST	Jurisd	Land Use	Units	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
New Residential																								
UC 8th Street	UC/MCO	Multi family (> 15 units / acre)	Dwelling Units				33	33	33	33	33	33	33	33	33	33								
UC East Campus - SF	UC/MCO	SF Residential (< 5 units / acre)	Dwelling Units							67					67	66								
UC East Campus - MF	UC/MCO	Multi family (> 15 units / acre)	Dwelling Units																					

Del Rey Oaks	Jurisd	Land Use	Units	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
New Residential																								
Del Rey Oaks																								
Golf Villas	DRO	SF Residential (< 5 units / acre)	Dwelling Units				37	13																
Patio Homes	DRO	SF Residential (< 5 units / acre)	Dwelling Units				32	4																
Condos	DRO	Multi family (> 15 units / acre)	Dwelling Units				40	160	176															
Workforce	DRO	Multi family (> 15 units / acre)	Dwelling Units					70	68															
Townhomes/Senior Casitas	DRO	SF Residential (5-8 units / acre)	Dwelling Units				21	40	30															

US Army	Jurisd	Land Use	Units	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Residential																								
Doe Park (Stilwell) Single Family	ARMY	SF Residential (5-8 units / acre)	Dwelling Units	146			20				48						-20							
Doe Park (Stilwell) Duplex	ARMY	SF Residential (5-8 units / acre)	Dwelling Units	138			20				47						-20							

Seaside	Jurisd	Land Use	Units	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Residential																								
Seaside Resort Housing	SEA	SF Residential (< 5 units / acre)	Dwelling Units		1			9	10	10	95													
Seaside Housing (Eastside)	SEA	SF Residential (5-8 units / acre)	Dwelling Units																	110	110	110	110	110
Seaside Affordable Housing Obligations	SEA	Residential (8-15 units / acre)	Dwelling Units			36	36																	
Workforce Housing (Army to Build)	SEA	Residential (8-15 units / acre)	Dwelling Units							26														
Market Rate Housing (Army to Build)	SEA	SF Residential (< 5 units / acre)	Dwelling Units							150														
State Parks Housing (Workforce housing)	SEA	SF Residential (5-8 units / acre)	Dwelling Units																					
Workforce Housing (Seaside)	SEA	SF Residential (5-8 units / acre)	Dwelling Units				29	0	0															
Monterey Horse Park	SEA	SF Residential (5-8 units / acre)	Dwelling Units											97	100	100	100	100	100	100	100	100	100	100
Seaside Housing (Eucalyptus)	SEA	SF Residential (5-8 units / acre)	Dwelling Units														190	190	190	190	182			

Multiplier	Incremental Increase (AFY)					Cumulative Increase (AFY)					Incremental Increase (EDU)				
East Garrison	2010	2015	2020	2025	2030	2010	2015	2020	2025	2030	2010	2015	2020	2025	2030
2.1	0	1019	1134	0	0	0	1019	2153	2153	2153		497	553	0	0
2.1	0	304	558	0	0	0	304	862	862	862		148	272	0	0
3.0	0	1980	849	0	0	0	1980	2829	2829	2829		660	283	0	0
	0	3303	2541	0	0	0	3303	5844	5844	5844	0	1305	1108	0	0
CSUMB	2010	2015	2020	2025	2030	2010	2015	2020	2025	2030	2010	2015	2020	2025	2030
3.0	0	285	1143	720	144	0	285	1428	2148	2292		95	381	240	48
	0	285	1143	720	144	0	285	1428	2148	2292	0	95	381	240	48
UC MBEST	2010	2015	2020	2025	2030	2010	2015	2020	2025	2030	2010	2015	2020	2025	2030
2.6	0	257.4	429	171.6	0	0	257.4	686.4	858	858		99	165	66	0
2.6	0	0	174.2	345.8	0	0	0	174.2	520	520		0	67	133	0
2.6	0	0	0	0	0	0	0	0	0	0		0	0	0	0
	0	257.4	603.2	517.4	0	0	257.4	860.6	1378	1378	0	99	232	199	0
Del Rey Oaks	2010	2015	2020	2025	2030	2010	2015	2020	2025	2030	2010	2015	2020	2025	2030
3.5	0	175	0	0	0	0	175	175	175	175		50	0	0	0
3.0	0	108	0	0	0	0	108	108	108	108		36	0	0	0
1.8	0	676.8	0	0	0	0	676.8	676.8	676.8	676.8		376	0	0	0
2.5	0	345	0	0	0	0	345	345	345	345		138	0	0	0
2.0	0	182	0	0	0	0	182	182	182	182		91	0	0	0
	0	1486.8	0	0	0	0	1486.8	1486.8	1486.8	1486.8	0	691	0	0	0
Army	2010	2015	2020	2025	2030	2010	2015	2020	2025	2030	2010	2015	2020	2025	2030
3.0	876	60	144	-60	0	876	936	1080	1020	1020	146	20	48	-20	0
3.0	828	60	141	-60	0	828	888	1029	969	969	138	20	47	-20	0
	1704	120	285	-120	0	1704	1824	2109	1989	1989	284	40	95	-40	0
Seaside	2010	2015	2020	2025	2030	2010	2015	2020	2025	2030	2010	2015	2020	2025	2030
3.0	0	60	315	0	0	0	60	375	375	375		20	105	0	0
3.0	0	0	0	0	1650	0	0	0	0	1650		0	0	0	550
3.0	0	216	0	0	0	0	216	216	216	216		72	0	0	0
3.0	0	0	78	0	0	0	0	78	78	78		0	26	0	0
3.0	0	0	450	0	0	0	0	450	450	450		0	150	0	0
3.0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
3.0	0	87	0	0	0	0	87	87	87	87		29	0	0	0
3.0	0	0	291	1500	1500	0	0	291	1791	3291		0	97	500	500
3.0	0	0	0	1710	1116	0	0	0	1710	2826		0	0	570	372
	0	363	1134	3210	4266	0	363	1497	4707	8973	0	121	378	1070	1422
Total	1,704	10,908	14,068	6,643	5,526	1,704	12,612	26,680	33,323	38,849	284	4,411	5,395	2,386	1,870

Marina Coast Water District 2010 Urban Water Management Plan

Table C6: Projected Demands by Source, Minimum Recycled Use (AFY)

	Total Demands by Jurisdiction	2010	2015	2020	2025	2030	SVGB Allocation	RW Allocation
Ord	CSUMB	403	441	631	754	778	1,035	87
	Del Rey Oaks	0	326	527	527	527	243	280
	City of Monterey	0	0	92	92	92	65	
	County of Monterey	4	627	1,087	1,087	1,087	710	134
	UCMBEST	2	93	276	474	474	230	60
	City of Seaside	792	1,130	1,351	1,664	2,093	1,012	453
	U.S. Army	752	792	838	997	997	1,577	
	State Parks and Rec.	0	12	18	20	25	45	
	Marina Ord Comm.	281	812	1,537	1,738	1,739	1,325	345
	Marina Sphere	10	10	10	10	10	10	
	FORA Strategic Res.	0	0	0	0	0	0	
	Assumed Line Loss	348	348	348	348	348	348	68
Marina	Armstrong Ranch	0	0	550	680	680	920	
	RMC Lonestar	0	0	0	0	500	500	
	Marina Central	1,962	2,324	2,630	2,746	2,864	3,020	
	Subtotal - Ord	2,592	4,591	6,715	7,712	8,172	6,600	1,427
	Subtotal - Marina	1,962	2,324	3,181	3,426	4,044	4,440	0
	Total	4,554	6,915	9,896	11,137	12,216	11,040	1,427

Recycled Water Demand (1,2)

CSUMB	0	87	87	87	87
Del Rey Oaks	0	83	280	280	280
City of Monterey	0	0	0	0	0
County of Monterey	0	0	134	134	134
UCMBEST	0	10	60	60	60
City of Seaside	0	400	453	453	453
U.S. Army	0	0	0	0	0
State Parks and Rec.	0	0	0	0	0
Marina Ord Comm.	0	200	345	345	345
Marina Sphere	0	0	0	0	0
FORA Strategic Res.					
Assumed Line Loss					
Armstrong Ranch	0	0	0	0	0
RMC Lonestar	0	0	0	0	0
Marina Central	0	0	0	0	0

RW BODR Demands

Phase 1	Phase 2
202	109
338	
47	614
55	
806	140
	38
	5
435	391
52	87

Groundwater Demand (3)

CSUMB	403	354	544	667	691
Del Rey Oaks	0	243	243	243	243
City of Monterey	0	0	65	65	65
County of Monterey	4	627	710	710	710
UCMBEST	2	83	216	230	230
City of Seaside	792	730	898	1,012	1,012
U.S. Army	752	792	838	997	997
State Parks and Rec.	0	12	18	20	25
Marina Ord Comm.	281	612	1,192	1,325	1,325
Marina Sphere	10	10	10	10	10
FORA Strategic Res.	0	0	0	0	0
Assumed Line Loss	348	348	348	348	348
Armstrong Ranch	0	0	550	680	680
RMC Lonestar	0	0	0	0	500
Marina Central	1,962	2,324	2,630	2,746	2,864

Remaining GW

344
0
0
0
0
0
580
20
0
0
0
0
240
0
156

1,339 total unused

Demand by Source	2010	2015	2020	2025	2030
Groundwater	4,554	6,134	8,262	9,053	9,701
Recycled Water	0	780	1,359	1,359	1,359
Desalinated Water (4)	0	0	275	725	1,156

Notes:

- 1 2015 value = maximum of Phase 1 allocation or BODR Phase 1 existing demand
- 2 Assumes only Recycled Phase 1 occurs
- 3 Maximum of projected potable demand or SVGB allocation
- 4 Desalinated demand is total minus groundwater and recycled

Marina Coast Water District 2010 Urban Water Management Plan

Table C7: Projected Demands by Source, Maximum Recycled Use (AFY)

	Total Demands by Jurisdiction	2010	2015	2020	2025	2030	SVGB Allocation	RW Allocation
Ord	CSUMB	403	441	631	754	778	1,035	87
	Del Rey Oaks	0	326	527	527	527	243	280
	City of Monterey	0	0	92	92	92	65	
	County of Monterey	4	627	1,087	1,087	1,087	710	134
	UCMBEST	2	93	276	474	474	230	60
	City of Seaside	792	1,130	1,351	1,664	2,093	1,012	453
	U.S. Army	752	792	838	997	997	1,577	
	State Parks and Rec.	0	12	18	20	25	45	
	Marina Ord Comm.	281	812	1,537	1,738	1,739	1,325	345
	Marina Sphere	10	10	10	10	10	10	
	FORA Strategic Res.	0	0	0	0	0	0	
	Assumed Line Loss	348	348	348	348	348	348	68
Marina	Armstrong Ranch	0	0	550	680	680	920	
	RMC Lonestar	0	0	0	0	500	500	
	Marina Central	1,962	2,324	2,630	2,746	2,864	3,020	
	Subtotal - Ord	2,592	4,591	6,715	7,712	8,172	6,600	1,427
	Subtotal - Marina	1,962	2,324	3,181	3,426	4,044	4,440	0
	Total	4,554	6,915	9,896	11,137	12,216	11,040	1,427

Recycled Water Demand (1,2)

CSUMB	0	87	87	311	311
Del Rey Oaks	0	83	280	338	338
City of Monterey	0	0	0	0	0
County of Monterey	0	0	134	661	661
UCMBEST	0	10	60	60	60
City of Seaside	0	400	453	500	946
U.S. Army	0	0	0	38	38
State Parks and Rec.	0	0	0	5	5
Marina Ord Comm.	0	200	345	462	462
Marina Sphere	0	0	0	0	0
FORA Strategic Res.					
Assumed Line Loss					
Armstrong Ranch	0	0	0	0	0
RMC Lonestar	0	0	0	0	0
Marina Central	0	0	0	139	139

RW BODR Demands

Phase 1	Phase 2
202	109
338	
47	614
55	
806	140
	38
	5
435	391
52	87

Groundwater Demand (3)

CSUMB	403	354	544	443	467
Del Rey Oaks	0	243	243	189	189
City of Monterey	0	0	65	65	65
County of Monterey	4	627	710	426	426
UCMBEST	2	83	216	230	230
City of Seaside	792	730	898	1,012	1,012
U.S. Army	752	792	838	959	959
State Parks and Rec.	0	12	18	15	20
Marina Ord Comm.	281	612	1,192	1,276	1,277
Marina Sphere	10	10	10	10	10
FORA Strategic Res.	0	0	0	0	0
Assumed Line Loss	348	348	348	348	348
Armstrong Ranch	0	0	550	680	680
RMC Lonestar	0	0	0	0	500
Marina Central	1,962	2,324	2,630	2,607	2,725

Remaining GW

568
54
0
284
0
0
618
25
48
0
0
0
240
0
295

2,131 total unused

Demand by Source	2010	2015	2020	2025	2030
Groundwater	4,554	6,134	8,262	8,260	8,909
Recycled Water	0	780	1,359	2,514	2,960
Desalinated Water (4)	0	0	275	363	346

Notes:

- 1 2015 value = maximum of Phase 1 allocation or BODR Phase 1 existing demand
- 2 Assumes Recycled Phase 2 occurs in 2021-2025, totals 3,000 afy
- 3 Maximum of projected potable demand or SVGB allocation
- 4 Desalinated demand is total minus groundwater and recycled

Appendix D: Notices and Letters to Public Agencies

The following notices and mailings were prepared during the development of this Urban Water Management Plan, and are included in this appendix.

1. Demand Projection Review to Cities, dated July 27, 2010 (sample letter and mailing list)
2. 60-day Notice to Cities and Agencies, dated January 31, 2011 (sample letter and mailing list)
3. Initial Notice on MCWD Website, www.mcwd.org, with letter dated March 29, 2011
4. Newspaper Notices for Public Hearing, dated April 23 and April 29, 2011
5. Transmittal of Draft to Cities and Agencies, dated April 25, 2011 (sample letter and mailing list)
6. Notice of Plan availability for review, MCWD Website, www.mcwd.org, with letter dated April 26, 2011
7. MCWD Board Agenda and Staff Report, May 10, 2011 meeting (Public Hearing)
8. Transmittal of Adopted Plan to Cities, Agencies, DWR and State Library

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James R. Schaaf, PE
Kirk R. Wheeler, PE
David A. Foote, PE
Peder C. Jorgensen, PE
Charles D. Anderson, PE
Daniel J. Schaaf, PE

3239 Imjin Road, Suite 129
Marina, CA 93933-5109
831-883-4848
FAX 831-883-2424

Offices
Santa Clara
Sacramento
San Francisco
Monterey Bay

July 27, 2010

Ms. Christine di Iorio
City of Marina, Director of Community Development
209 Cypress Avenue
Marina, CA 93933

Subject: Marina Coast Water District Urban Water Management Plan 2010 Update

Dear Ms. di Iorio

Schaaf & Wheeler is preparing the Marina Coast Water District's 2010 Urban Water Management Plan (UWMP). These plans are prepared by water suppliers every five years. Existing and projected water demands are compared to existing and planned water supplies to ensure there is sufficient supply available. A preliminary task in this effort is to coordinate with the District's customer jurisdictions to determine projected population and water demands. The 2010 UWMP will need to account for existing and forecasted water demands by five-year increments through the year 2030.

Water demands are generally a function of the size (acreage/square footage) or number of units of a development, depending on the type of land use, and a water demand unit factor that corresponds to that use. For each type of land use, Demand = Size x Unit Factor. Using this concept, Schaaf & Wheeler has prepared a preliminary estimate of water demands by land use type and by jurisdiction through 2030 as follows:

- Existing demands are estimated from the District's 2009 water usage records for each jurisdictional area. (Potential future water savings through conservation will be accounted for in the UWMP.)
- For developments that have approved Specific Plans, the water demand factors and total water demand estimates have been taken from the respective Water Supply Assessments (WSAs) for these Specific Plan areas.
- For in-fill development under approved General Plans or Master Plans (e.g., the City of Marina, CSUMB), the District's standard water demand factors have been used with the in-fill land use projections provided by the jurisdiction. (The District's standard water demand factors are attached as Table 1 to this letter.)
- For most future development within the District's planning area, including all planned Fort Ord development through 2022, we have acquired the Fort Ord Reuse Authority's (FORA) latest annual growth forecast, which they use for CIP

planning. The projected developments, generally by square footage or units, are then multiplied by the appropriate unit demand factors.

- For areas not reflected in the Fort Ord Reuse Authority growth forecast (Central Marina, the Army and State Parks), the projected developments reflect the projection in the 2005 UWMP.

You will find attached to this letter several tables detailing the estimates of existing and projected water usage. The summary table categorizes demand estimates by jurisdiction. The 2005 demand summary is provided for reference. The more detailed tables for each jurisdiction show the projected development over the next 20-years, categorized by three types of land use: New Residential, Replacement of Existing Residential, and Non-Residential.

Please have the appropriate staff member(s) review the projected development for your jurisdiction, and report any discrepancies to us.

Please note that the FORA growth forecast only looks at planned development through the year 2022, while the UWMP must project demands through 2030. If a specific plan area was not fully reflected in the FORA forecast, you will need to add the remainder of that development in the 2023-2030 columns. Please pay careful attention to the projected development through years 2025 and 2030 since those in particular may be underestimated.

The 2010 UWMP is projected to be completed in January 2011, pending the California Department of Water Resources release of updated guidance on UWMP preparation. We would appreciate your prompt review of and feedback on the projected water use figures. Even if no discrepancies are noted, please respond within sixty (60) days so that the UWMP preparation can proceed as scheduled.

Feel free to contact either myself or Tim Nelson of our office at 831-883-4848, email asterbenz@swwsv.com, for any questions regarding this matter. Thank you for your cooperation.

Best regards,

Schaaf & Wheeler

Andrew Sterbenz, PE
Senior Engineer

Attachments

Urban Water Management Plan – Jurisdictional POC's

City of Marina	<p>Christine di Iorio City of Marina, Director of Community Development 209 Cypress Avenue Marina, CA 93933 Phone: (831) 884-1220 Fax: (831) 884-9654</p> <p>Alternate POC: Doug Yount</p>
City of Seaside	<p>Diana Ingersoll, PE City of Seaside, Deputy City Manager 440 Harcourt Ave. Seaside, CA 93955 (831) 899-6736</p> <p>Alternate POC: Tim O'Halloran, PE</p>
City of Del Rey Oaks	<p>Daniel Dawson City of Del Rey Oaks, City Manager 650 Canyon Del Rey Road Del Rey Oaks, CA 93940 Phone: 831-394-8511 Fax: 831-394-6421</p> <p>Alternate POC:</p>
City of Monterey	<p>Tom Reeves, PE City of Monterey, City Engineer, 580 Pacific Street, Room 7 Monterey, CA 93940 831.646.3448 Fax: 831.646.3405 REEVES@ci.monterey.ca.us Alternate POC: Kim Cole, Principal Planner</p>
County of Monterey	<p>Jim Cook County of Monterey, Resource Management Agency, Redevelopment and Housing 168 West Alisal St., 3rd Floor Salinas, CA 93901 Phone (831) 755-5390 Fax (831) 755-5398 cookj@co.monterey.ca.us Alternate POC: Nick Nichols, PE</p>
CSUMB	<p>Kathleen Ventimiglia CSUMB, Director for Campus Planning and Development 100 Campus Center, CSU Monterey Bay Seaside CA 93955-8001</p>

	(831) 582-4304 (831) 582-3729 kventimiglia@csumb.edu Alternate POC: Bob Brown, Director of Facilities
UCMBEST	Graham Bice Managing Director, UC MBEST Center 3239 Imjin Road, Suite 101 Marina, CA 93933 Phone: 831.582.1020 FAX: 831.582.1021 bice@ucmbest.org
US Army	Dennis Oaks Presidio of Monterey, Directorate of Public Works IMWE-POM-PWO Attn: Dennis Oaks PO Box 5004 Monterey, CA 93944-5004 Phone 831.242.6315 Fax 831.242.7019
State Parks	Ken Gray District Services Manager California State Parks 2211 Garden Road Monterey, CA 93940 phone (831) 649-2862 fax (831) 647-6239 kgray@parks.ca.gov



MARINA COAST WATER DISTRICT

11 RESERVATION ROAD • MARINA, CA 93933-2099

Home Page: www.mcwd.org

TEL: (831) 384-6131 • FAX (831) 883-5995
January 31, 2011

DIRECTORS

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President

DAN BURNS
Vice President

HOWARD GUSTAFSON
KENNETH K. NISHI
JAN SHRINER

Mr. Curtis Weeks, General Manager
Monterey County Water Resources Agency
893 Blanco Circle
Salinas, CA 93901

Dear Mr. Weeks:

The Marina Coast Water District (MCWD) is preparing an updated Urban Water Management Plan (UWMP) for submittal to the California Department of Water Resources, pursuant to the Urban Water Management Planning Act, as codified in the California Water Code Sections 10610-10656. The last UWMP was adopted in 2006.

The updated plan is currently being drafted. Your planning staff was previously contacted for review and input on the development and water demand projections for the planning period, which runs to the year 2030. Our anticipated schedule for public review and plan adoption is:

March 15, 2011	Publish public review draft of the UWMP
April 12, 2011	Conduct public hearing at the regularly scheduled MCWD Board meeting
April 15, 2011	Comment period closes
May 10, 2011	Adopt final UWMP at the regularly scheduled MCWD Board meeting

We will provide you a copy of the public review draft plan in March. We invite your input and comments on the UWMP. Please provide input to our consultant, Schaaf & Wheeler Consulting Civil Engineers, Attn: Andy Sterbenz, 3239 Imjin Road, Suite 129, Marina, CA, 93933. Andy may be contacted by phone at (831) 883-4848, or by e-mail at asterbenz@swsv.com. You may contact me by direct phone at (831) 883-5935, or e-mail grogers@mcwd.org.

Sincerely,

Gary Rogers
Associate Engineer

Urban Water Management Plan – Jurisdictional POC's

City of Marina	Mr. Anthony Altfeld, City Manager City of Marina 209 Cypress Avenue Marina, CA 93933
City of Seaside	Mr. Ray Corpuz, City Manager City of Seaside 440 Harcourt Ave. Seaside, CA 93955
City of Del Rey Oaks	Mr. Daniel Dawson, City Manager City of Del Rey Oaks 650 Canyon Del Rey Road Del Rey Oaks, CA 93940 Phone: 831-394-8511 Fax: 831-394-6421
City of Monterey	Mr. Fred Meurer, City Manager City of Monterey 580 Pacific Street Monterey, CA 93940
County of Monterey	Mr. Jim Cook County of Monterey, Resource Management Agency, Redevelopment and Housing 168 West Alisal St., 3rd Floor Salinas, CA 93901
MCWRA	Mr. Curtis Weeks, General Manager Monterey County Water Resources Agency 893 Blanco Circle Salinas, CA 93901
MRWPCA	Mr. Keith Israel, General Manager Monterey Regional Water Pollution Control Agency 5 Harris Court, Bldg D Monterey, CA 93940
CSUMB	Ms. Kathleen Ventimiglia CSUMB, Director for Campus Planning and Development 100 Campus Center, CSU Monterey Bay Seaside CA 93955-8001 (831) 582-4304

	(831) 582-3729 kventimiglia@csumb.edu Alternate POC: Bob Brown, Director of Facilities
UCMBEST	Mr. Graham Bice Managing Director, UC MBEST Center 3239 Imjin Road, Suite 101 Marina. CA 93933 Phone: 831.582.1020 FAX: 831.582.1021 bice@ucmbest.org
US Army	Ms. Christina Spang Presidio of Monterey, Directorate of Public Works IMWE-POM-PWO Attn: Christina Spang PO Box 5004 Monterey, CA 93944-5004
State Parks	Mr. Ken Gray, District Services Manager California State Parks 2211 Garden Road Monterey, CA 93940
CalAm	Mr. Craig E. Anthony General Manager, Monterey District California American Water 511 Forest Lodge Road, Suite 100 Pacific Grove, CA 93950
MPWMD	Darby W. Fuerst Monterey Peninsula Water Management District 5 Harris Court, Bldg G Monterey, CA 93940
FORA	Michael A. Houlemard, Jr. Executive Officer, Fort Ord Reuse Authority 100 12 th Street, Bldg 2880 Marina, CA 93933

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Celebrating 50 Years of Service to the Community ... 1960 - 2010

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Marina Coast
Water District (MCWD)
11 Reservation Road
Marina, CA 93933

(831)384-6131

Office Hours:
Monday - Friday
8:00 a.m. to 5:30 p.m.

[Web Mail](#)



The District is Preparing a Draft Updated Urban Water Management Plan for Public Review. For information regarding this update, [click here](#).

For the District procurement schedule for consultants related to the Regional Desalination Project, [click here](#).

MCWD Water Conservation Commission Volunteer Needed

If you are interested in serving your community and have an interest in our precious water resources, consider participating as a member of the Water Conservation Commission. Call 883-5928 or 883-5910 for information, or [download the flyer \(PDF\)](#).



Design a Water-Wise Garden

Click the image to visit the [Water-Wise Gardening in Monterey County](#) web site and use an interactive program to help you create your own water-wise landscape. Features include design ideas, photo galleries, plant lists, irrigation tips, and more! Plants were selected specifically for the Monterey

MCWD Wins Second Financial Excellence Award ... [\(PDF\)](#)

New Conservation Video ... [Watch](#)

Updated Landscape Watering Guide ... [PDF](#)

Hot Water Pump Rebate ... up to \$250 ... [Details](#)

Draft Initial Study Well Replacement Project ... [Details](#)

Water-Wise Landscaping Incentives ... [Details](#)





MARINA COAST WATER DISTRICT

11 RESERVATION ROAD • MARINA, CA 93933-2099

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DIRECTORS
WILLIAM Y. LEE
President

DAN BURNS
Vice President

HOWARD GUSTAFSON
KENNETH K. NISHI
JAN SHRINER

March 29, 2011

The Marina Coast Water District (MCWD) is preparing an updated Urban Water Management Plan (UWMP) for submittal to the California Department of Water Resources, pursuant to the Urban Water Management Planning Act, as codified in the California Water Code Sections 10610-10656. The last UWMP was adopted in 2006.

The updated plan is currently being drafted. The planning staffs of the Cities served by the District have been contacted for review and input on the development and water demand projections for the planning period, which runs to the year 2030. Our anticipated schedule for public review and plan adoption is:

April 15, 2011	Publish public review draft of the UWMP
May 10, 2011	Conduct public hearing at the regularly scheduled MCWD Board meeting
May 16, 2011	Comment period closes
June 14, 2011	Adopt final UWMP at the regularly scheduled MCWD Board meeting

The draft plan will be available for review at the District Office. A pdf version of the draft plan will be posted on the District's website.

For additional information, please contact:

Gary Rogers, Marina Coast Water District, 831.883.5935

or

Andy Sterbenz, Schaaf & Wheeler, Consulting Civil Engineers, 831.883.4848

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NOTICE OF PUBLIC HEARING

THE MARINA COAST WATER DISTRICT will conduct a public hearing to receive comments on the Draft 2010 Urban Water Management Plan. The Urban Water Management Plan addresses water supply and water demands within the District's Marina and Ord Community Service Areas for the next 20-years. The District Board of Directors will conduct the hearing at their regularly scheduled meeting at 6:45 p.m., Tuesday, May 10, 2011, at the District Office, 11 Reservation Road, Marina, CA 93933 (adjacent to Marina State Beach). The Draft Plan is available for review at the District Office, or may be viewed on the web at www.mcwd.org. Written comments will be accepted until 5:00 p.m., Monday, May 16, 2011. Submit written comments to MCWD, ATTN: Gary Rogers, 11 Reservation Road, Marina, CA 93933. Email grogers@mcwd.org, Phone (831) 384-6131, Fax (831) 384-0197.

April 23, 29, 2011 (179298)

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Andrew Steibenz

RE: NOTICE OF PUBLIC HEARING THE MARINA COAS
Draft '10 Urban Wtr

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above-entitled matter. I hereby certify that the attached advertisement appeared in said newspaper on the following dates:

Newspaper: Salinas Californian

4/23/2011 4/29/2011

I acknowledge that I am a principal clerk of the printer of said paper, which is published in the City of Salinas, County of Monterey, State of California. The Salinas Californian is printed and published daily, except Sunday and has been adjudged a newspaper of general circulation by the Superior Court of the County of Monterey, State of California. El Sol is printed and published weekly on Saturday and has been adjudged a newspaper of general circulation by the Superior Court of Monterey, State of California.

I certify (or declare) under penalty of perjury that the foregoing is true and correct. Executed on this 29
day of April, 2011 at Salinas, California.

C. Clark

Declarant

NOTICE OF PUBLIC HEARING
THE MARINA COAST WATER DISTRICT will conduct a public hearing to receive comments on the Draft 2010 Urban Water Management Plan. The Urban Water Management Plan addresses water supply and water demands within the District's Marina and Ord Community Service Areas for the next 20-years. The District Board of Directors will conduct the hearing at their regularly scheduled meeting at 6:45 p.m., Tuesday, May 10, 2011, at the District Office, 11 Reservation Road, Marina, CA 93933 (adjacent to Marina State Beach). The Draft Plan is available for review at the District Office, or may be viewed on the web at www.mcwd.org. Written comments will be accepted until 5:00 p.m., Monday, May 16, 2011. Submit written comments to MCWD, ATTN: Gary Rogers, 11 Reservation Road, Marina, CA 93933. Email grogers@mcwd.org. Phone (831) 384-6131, Fax (831) 384-0197.
April 23, 29, 2011 (179298)



MARINA COAST WATER DISTRICT

11 RESERVATION ROAD • MARINA, CA 93933-2099

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DAN BURNS
Vice President

HOWARD GUSTAFSON
KENNETH K. NISHI
JAN SHRINER

April 25, 2011

Mr. Curtis Weeks, General Manager
Monterey County Water Resources Agency
893 Blanco Circle
Salinas, CA 93901

Dear Mr. Weeks:

Enclosed please find the Public Review Draft of the Marina Coast Water District 2010 Urban Water Management Plan (UWMP) for your review. Electronic copies of the Draft UWMP are also available at the District website, www.mcwd.org. The District will receive comments on the draft plan until 5:00 p.m. on Monday, May 16, 2011. We invite your input and comments.

The District will conduct a public hearing on the draft UWMP at the regularly scheduled MCWD Board meeting, 7:00 p.m., May 10, 2011, at the District office, 11 Reservation Road, Marina, CA. Comments received will be addressed in the final UWMP. The District intends to adopt the 2010 Urban Water Management Plan at the MCWD Board meeting, 7:00 p.m., June 14, 2011.

Please provide written comments on the plan to:

Marina Coast Water District
ATTN: Gary Rogers
11 Reservation Road
Marina, CA 93933

If you have any questions, please contact our project manager, Gary Rogers, at (831)883-5935, grogers@mcwd.org, or our consultant, Andy Sterbenz with Schaaf & Wheeler at (831) 883-4848, asterbenz@swws.com.

Very truly yours,

Carl Niizawa, PE
Deputy General Manager/District Engineer

Enclosure

Urban Water Management Plan – Jurisdictional POC's

City of Marina	Mr. Anthony Altfeld, City Manager City of Marina 209 Cypress Avenue Marina, CA 93933
City of Seaside	Mr. Ray Corpuz, City Manager City of Seaside 440 Harcourt Ave. Seaside, CA 93955
City of Del Rey Oaks	Mr. Daniel Dawson, City Manager City of Del Rey Oaks 650 Canyon Del Rey Road Del Rey Oaks, CA 93940 Phone: 831-394-8511 Fax: 831-394-6421
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County of Monterey	Mr. Jim Cook County of Monterey, Resource Management Agency, Redevelopment and Housing 168 West Alisal St., 3rd Floor Salinas, CA 93901
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MRWPCA	Mr. Keith Israel, General Manager Monterey Regional Water Pollution Control Agency 5 Harris Court, Bldg D Monterey, CA 93940
CSUMB	Ms. Kathleen Ventimiglia CSUMB, Director for Campus Planning and Development 100 Campus Center, CSU Monterey Bay Seaside CA 93955-8001 (831) 582-4304

	(831) 582-3729 kventimiglia@csumb.edu Alternate POC: Bob Brown, Director of Facilities
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CalAm	Mr. Craig E. Anthony General Manager, Monterey District California American Water 511 Forest Lodge Road, Suite 100 Pacific Grove, CA 93950
MPWMD	Darby W. Fuerst Monterey Peninsula Water Management District 5 Harris Court, Bldg G Monterey, CA 93940
FORA	Michael A. Houlemard, Jr. Executive Officer, Fort Ord Reuse Authority 100 12 th Street, Bldg 2880 Marina, CA 93933

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Marina Coast
Water District (MCWD)
11 Reservation Road
Marina, CA 93933

(831)384-6131

Office Hours:
Monday - Friday
8:00 a.m. to 5:30 p.m.

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Draft Initial Study/Mitigated Negative Declaration for the Marina Coast Water District — Watkins Gate Well and Pipeline Project for Public Review

This Initial Study (IS) assesses the environmental impacts of the proposed Marina Coast Water District (MCWD) Watkins Gate Well and Pipeline Project (the "proposed project"), located within Monterey County, CA. This IS has been prepared in accordance with the requirements of the California Environmental Quality Act (CEQA) (California Public Resources Code 21000-21177).

[View or download the Document \(PDF, 4.8 MB\)](#)

Draft Initial Study/Mitigated Negative Declaration for the Marina Coast Water District — Well No. 32 Replacement Project / Eastern Distribution System Project

This Initial Study (IS) assesses the environmental impacts of the proposed Marina Coast Water District (MCWD) Well No. 32 Replacement/Eastern Distribution System Project (the "proposed project"), located within Monterey County, CA. This IS has been prepared in accordance with the requirements of the California Environmental Quality Act (CEQA) (California Public Resources Code 21000-21177) and CEQA Guidelines (California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387).

[View or download the study \(PDF, 1.71 MB\)](#)

The District's Draft 2010 Urban Water Management Plan addresses water supply and water demands within the District's Marina and Ord Community Service Areas for the next 20-years.

[View or download the draft 2010 UWMP \(PDF, 4.3 MB\)](#)

[View or download the 2010 UWMP Notice of Availability and Schedule \(PDF, 50 KB\)](#)

Engineering Documents, Reports and References

Title	Version	View or Download
Water & Sewer Permit Process Frequently Asked Questions	2004-08-01	PDF
In-Tract Policy	2004-01-01	PDF
2005 Urban Water Management Plan		



MARINA COAST WATER DISTRICT

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DIRECTORS
WILLIAM Y. LEE
President

DAN BURNS
Vice President

HOWARD GUSTAFSON
KENNETH K. NISHI
JAN SHRINER

April 26, 2011

SUBJECT: NOTICE OF AVAILABILITY AND SCHEDULE FOR DRAFT 2010 UWMP

The Marina Coast Water District (MCWD) has prepared an updated Urban Water Management Plan (2010 UWMP) for submittal to the California Department of Water Resources, pursuant to the Urban Water Management Planning Act, as codified in the California Water Code Sections 10610-10656. The last UWMP was adopted in 2006.

The planning staffs of the Cities served by the District have been contacted for review and input on the development and water demand projections for the planning period, which runs to the year 2030. Our anticipated schedule for public review and plan adoption is:

April 26, 2011	Begin Public Comment Period for the 2010 UWMP
May 10, 2011	Conduct public hearing at the regularly scheduled MCWD Board meeting
May 16, 2011	Public Comment period closes
June 14, 2011	Adopt final UWMP at the regularly scheduled MCWD Board meeting
July 12, 2011	Deadline to submit UWMP to the California Department of Water Resources

The draft plan is available for public review at the District Offices located at 11 Reservation Road, Marina CA. 93933 and at 2840 4th Ave., Marina CA. 93933. A pdf version of the draft plan will be posted on the District's website.

For additional information, please contact:

Gary Rogers, Marina Coast Water District, 831.883.5935

or

Andy Sterbenz, Schaaf & Wheeler, Consulting Civil Engineers, 831.883.4848



MARINA COAST WATER DISTRICT

11 RESERVATION ROAD, MARINA, CA 93933-2099

Home Page: www.mcwd.org

TEL: (831) 384-6131 FAX: (831) 883-5995

DIRECTORS
WILLIAM Y. LEE
President

DAN BURNS
Vice President

HOWARD GUSTAFSON
KENNETH K. NISHI
JAN SHRINER

AMENDED 5-6-2011

Dual Locations

Agenda

Regular Board Meeting, Board of Directors Marina Coast Water District

11 Reservation Road, Marina, California
and

Delta King Hotel, 1000 Front Street, Sacramento, California
Tuesday, May 10, 2011, 6:45 p.m. PST

This meeting has been noticed according to the Brown Act rules. The Board of Directors now meets regularly on the second Tuesday of each month. The meetings normally begin at 6:45 p.m. at the District offices at 11 Reservation Road, Marina, California.

Mission: Providing high quality water, wastewater and recycled water services to the District's expanding communities through management, conservation and development of future resources at reasonable costs.

Vision: The Marina Coast Water District will be the leading public supplier of integrated water and wastewater services in the Monterey Bay Region.

1. Call to Order

2. Roll Call

3. Closed Session

A. Pursuant to Government Code 54956.9

Conference with Legal Counsel – Existing Litigation
(Subdivision (a) of Section 54956.9)

Ag Land Trust v. Marina Coast Water District and Does 1-100, Monterey County Superior Court Case No. M105019 (First Amended Petition for Writ of Mandate and Complaint for Declaratory Relief)

This agenda is subject to revision and may be amended prior to the scheduled meeting. A final agenda will be posted at the District office at 11 Reservation Road, Marina, 72 hours prior to the meeting. Copies will also be available at the Board meeting. A complete Board packet containing all enclosures and staff materials will be available for public review on Thursday, May 5, 2011 at the District office, Marina and Seaside City Halls, and at the Marina and Seaside Libraries. Information about items on this agenda or persons requesting disability related modifications and/or accommodations can contact the Board Clerk at: 831-883-5910. The next regular meeting of the Board of Directors is scheduled for June 14, 2011.

- B. Pursuant to Government Code Section 54956.9
Conference with Legal Counsel – Anticipated Litigation
Significant Exposure to Litigation Pursuant to Subdivision (b) of Section 54956.9
1 – Case
- C. Pursuant to Government Code Section 54957.6
Conference with Labor Negotiators
Agency designated representatives: William Lee and Dan Burns
Unrepresented employee: General Manager
- D. Pursuant to Government Code Section 54956.8
Conference with Real Property Negotiator
Property: Water Rights
Negotiating Parties: Marina Coast Water District and
Monterey Peninsula Water Management District
Under Negotiation: Terms and Conditions

7:00 p.m. Reconvene Open Session

4. Possible Action on Closed Session Items *The Board will report out on any action taken during Closed Session, and may take additional action in Open Session, as appropriate. Any closed session items not completed will be discussed at the end of the meeting.*

5. Pledge of Allegiance

6. Oral Communications *Anyone wishing to address the Board on matters not appearing on the Agenda may do so at this time. Please limit your comment to three minutes. The public may comment on any other items listed on the agenda at the time they are considered by the Board.*

7. Presentation

- A. Consider Adoption of Resolution No. 2011-30 in Recognition of Public Member, Mr. Richard Newhouse, for his Dedicated Service to the MCWD as a Member on the Water Conservation Commission

8. Public Hearing

- A. Receive Public Comment on the Draft 2010 Urban Water Management Plan

9. Consent Calendar *Board approval can be taken with a single motion and vote. A Board member or member of the public may request that any item be pulled from the Consent Calendar for separate consideration at this meeting or a subsequent meeting. The public may address the Board on any Consent Calendar item. Please limit your comment to three minutes.*

- A. Approve the Draft Summer 2011 Newsletter
- B. Receive the Quarterly Financial Statements for January 1, 2011 to March 31, 2011

- C. Approve the Expenditures for the Month of April 2011
- D. Approve the Draft Minutes of the Special Board Meeting of February 22, 2011
- E. Approve the Draft Minutes of the Special Board Meeting of March 29, 2011
- F. Approve the Draft Minutes of the Special Board Meeting of April 4, 2011
- G. Approve the Draft Minutes of the Special Board Meeting of April 8, 2011
- H. Approve the Draft Minutes of the Regular Board Meeting of April 12, 2011

10. Action Items *The Board will review and discuss agenda items and take action or direct staff to return to the Board for action at a following meeting. The public may address the Board on these Items as each item is reviewed by the Board. Please limit your comment to three minutes.*

- A. Consider Second Reading of Ordinance No. 54 Approving New District Rates, Fees & Charges for Marina Water and Wastewater

Action: The Board of Directors is asked to consider a second reading of Ordinance No. 54 approving new District rates, fees and charges for Marina water and wastewater. The Board of Directors will be asked to consider adopting Ordinance No. 54 on June 14, 2011 following a Prop. 218 process and public hearing.

- B. Consider Adoption of Resolution No. 2011-31 to Adopt the Initial Study/Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program for the Watkins Gate Well and Pipeline/Eastern Distribution System Project

Action: The Board of Directors is requested to adopt the Initial Study/Mitigated Negative Declaration for the Watkins Gate and Pipeline Project/Eastern Distribution System Project and Adopt Mitigation Monitoring and Reporting Program.

- C. Consider Adoption of Resolution No. 2011-32 to Approve an Amendment to the Professional Services Agreement with Luhdorff & Scalmanini Consulting Engineers for the Eastern Distribution System Watkins Gate Well Installation for a Not-To-Exceed Amount of \$36,500

Action: The Board of Directors is requested to approve an amendment to the Professional Services Agreement with Luhdorff & Scalmanini Consulting Engineers for the Eastern Distribution System Watkins Gate Well Installation for a Not-To-Exceed Amount of \$36,500.

- D. Consider Adoption of Resolution No. 2011-33 to Approve an Amendment to the Professional Services Agreement with Schaaf & Wheeler Consulting Civil Engineers for Engineering Services Related to the Eastern Distribution Project Watkins Gate Well & Pipeline Installation for a Not-To-Exceed Amount of \$167,100

Action: The Board of Directors is requested to approve an amendment to the Professional Services Agreement with Schaaf & Wheeler Consulting Civil Engineers for engineering services related to the Eastern Distribution Project Watkins Gate Well & Pipeline Installation for a Not-To-Exceed Amount of \$167,100.

- E. Consider Adoption of Resolution No. 2011-34 to Authorize the General Manager and/or Deputy General Manager/District Engineer to Sign a Memorandum of Understanding and License Agreement with UCP-East Garrison, LLC for Temporary Access to the Watkins Gate Well and Pipeline Project Site

Action: The Board of Directors is requested to authorize the General Manager and/or Deputy General Manager/District Engineer to sign a Memorandum of Understanding and License Agreement with UCP-East Garrison, LLC for temporary access to the site for Watkins Gate Well and Pipeline/Eastern Distribution System Project.

- F. Consider Revisiting the Director Appointment as Ex-Officio Member to the Fort Ord Reuse Authority Board of Directors

Action: The Board of Directors is requested to consider revisiting the Director appointment to the Fort Ord Reuse Authority Board of Directors as an ex-officio member.

11. Staff Report

- A. 1st Quarter 2011 Ord Community Water Consumption and Sewer Flow Report
- B. Information on Water Conservation Commission Membership

12. Workshop

- A. Review Board Procedures Manual

13. Informational Items *Informational items are normally provided in the form of a written report or verbal update and may not require Board action. The public may address the Board on Informational Items as they are considered by the Board. Please limit your comments to three minutes.*

- A. General Manager's Report
- B. District Engineer's Report

C. Counsel's Report –

- Legal Opinion on Brown Act Rules for Closed Session Items
- Legal Opinion on Advise Concerning Toro Area

D. Committee and Board Liaison Reports

- | | |
|--|-----------------------------------|
| 1. Water Conservation Commission | 7. JPIA Liaison |
| 2. Joint City-District Committee | 8. FORA |
| 3. Budget and Personnel Committee | 9. CalDesal |
| 4. MRWPCA Board Member | 10. Executive Committee |
| 5. Special Districts Association Liaison | 11. Community Outreach |
| 6. LAFCO Liaison | 12. Regional Desalination Reports |

E. Director's Comments

14. Adjournment *Set or Announce Next Meeting(s), date(s), time(s), and location(s):*

*Special Joint Meeting: Friday, June 10, 2011, 3:00 p.m.,
933 2nd Avenue, Marina*

*Regular Meeting: Tuesday, June 14, 2011, 6:45 p.m.,
11 Reservation Road, Marina*

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Marina Coast Water District
Agenda Transmittal

Agenda Item: 8-A

Meeting Date: May 10, 2011

Submitted By: Gary Rogers

Presented by: Gary Rogers

Reviewed By: Carl Niizawa, PE

Subject: Receive Public Comment on the Draft 2010 Urban Water Management Plan

Detailed Description: The Board will receive public comment on the District's Draft 2010 Urban Water Management Plan. Following the public hearing, the comments received will be considered and a final Urban Water Management Plan will be returned to the Board in June for consideration.

In December 2005 the Board approved the *2005 Urban Water Management Plan*. The California Urban Water Management Planning Act requires any municipal supplier serving over 3,000 connections or 3,000 acre-feet of water per year to prepare an urban water management plan every five years. The 2010 plan deadline was extended due to changes in the law which required the Department of Water Resources to develop additional procedures and guidelines for completion of Urban Water Management Plans (UWMP). The District must adopt the 2010 UWMP not later than July 1, 2011.

The District will receive and consider written comments on the draft 2010 UWMP until 5:00 p.m. on Monday, May 16, 2011. All comments received will be included in the final 2010 UWMP. Public advertisement for this document was executed through several circulars. This document and the associated notice of availability were sent out to various entities, posted at both District offices, and on the District website on April 26, 2011.

In accordance with the UWMP Act, notice of preparation of the proposed *2010 UWMP* was posted. It was mailed to the county and cities in January 2011 and placed on the District's website beginning in February 2011 and updated in March 2011. The draft development and water demand projections tables, which form the basis of the plan, were mailed to the land use jurisdictions (LUJs) for review on July 27, 2010, and discussed at the July 14, 2010 Fort Ord Reuse Authority's Water/Wastewater Oversight Committee meeting. In response to on-going communications with the LUJs and projected land use changes within many of the jurisdictions, the initial draft of the Plan was revised several times.

In response to the latest information provided by the US Census Bureau (2010 Decennial Census results) in April 2011, the District revised the baseline water demand of the March 2011 UWMP draft. The baseline water demand is now identified as 133 gallons per capita per day (gpcd) in the revised draft UWMP. This current demand rate is below the average water demand for the Central Coast Region.

Board Goals/Objectives: *Strategic Plan, Goal No. 1 - To manage and sustain the District's groundwater and desalinated water, recycled water and wastewater services, conservation activities, infrastructure and human resources at or above industry standards.*

Prior Committee or Board Action: On June 22, 2010, the Board approved Resolution No. 2010-37 Approving a PSA Amendment with Schaaf & Wheeler to Prepare the 2010 Urban Water Management Plan. On April 12, 2011, the Board received the Draft 2010 Urban Water Management Plan.

Financial Impact: ☒ Yes ☐ No

Funding Source/Recap: Preparation of the Draft *2010 UWMP* was funded through water rates of both the Ord Community and Central Marina.

Material Included for Information/Consideration: The Draft 2010 Urban Water Management Plan was provided for public review on April 26, 2011 and is also available on the District website, www.mcwd.org.

Recommendation: Hold a public hearing to accept comments from the public on the District's Draft 2010 Urban Water Management Plan.

Action Required: ☐ Resolution ☐ Motion ☒ Review

Board Action

Resolution No _____ Motion By _____ Seconded By _____

Ayes _____ Abstained _____

Noes _____ Absent _____

Reagendized _____ Date _____ No Action Taken _____



MARINA COAST WATER DISTRICT

11 RESERVATION ROAD • MARINA, CA 93933-2099

Home Page: www.mcwd.org

TEL: (831) 384-6131 • FAX: (831) 883-5995

DIRECTORS
WILLIAM Y. LEE
President

DAN BURNS
Vice President

HOWARD GUSTAFSON
KENNETH K. NISHI
JAN SHRINER

July 7, 2011

Department of Water Resources
Statewide Integrated Water Management
Water Use and Efficiency Branch
P.O. Box 942836
Sacramento, CA 94236-0001
Attention: Coordinator, Urban Water Management Plans

Dear Mr. Brostrom:

Enclosed please find one copy of the Marina Coast Water District 2010 Urban Water Management Plan (UWMP), including a data CD with the plan and supporting documents. The District Board of Directors adopted the UWMP at the June 14, 2010 Board Meeting.

Copies of this plan are being provided to the Monterey County Water Resources Agency, the California State Library and the jurisdictions served by MCWD. Electronic copies of the 2010 UWMP are available to the public at the District website, www.mcwd.org.

If you have any questions, please contact our project manager, Gary Rogers, at (831)883-5935, grogers@mcwd.org.

Very truly yours,

Carl Niizawa, PE
Deputy General Manager/District Engineer

Enclosure



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Vice President

HOWARD GUSTAFSON
KENNETH K. NISHI
JAN SHRINER

July 7, 2011

California State Library
Government Publications Section
P.O. Box 942837
Sacramento, CA 94237-0001
Attention: Coordinator, Urban Water Management Plans

Dear Coordinator:

As required by the California Water Code, enclosed please find one copy of the Marina Coast Water District 2010 Urban Water Management Plan (UWMP), including a data CD with the plan and supporting documents. The District Board of Directors adopted the UWMP at the June 14, 2010 Board Meeting.

If you have any questions, please contact our project manager, Gary Rogers, at (831)883-5935, grogers@mcwd.org.

Very truly yours,

Carl Niizawa, PE
Deputy General Manager/District Engineer

Enclosure



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DIRECTORS
WILLIAM Y. LEE
President

DAN BURNS
Vice President

HOWARD GUSTAFSON
KENNETH K. NISHI
JAN SHRINER

July 7, 2011

Mr. Curtis Weeks, General Manager
Monterey County Water Resources Agency
893 Blanco Circle
Salinas, CA 93901

Dear Mr. Weeks:

Enclosed please find one copy of the Marina Coast Water District 2010 Urban Water Management Plan (UWMP). The District Board of Directors adopted the UWMP at the June 14, 2010 Board Meeting.

Copies of this plan are being provided to the State Department of Water Resources, the California State Library and the jurisdictions served by MCWD. Electronic copies of the 2010 UWMP are available at the District website, www.mcwd.org.

If you have any questions, please contact our project manager, Gary Rogers, at (831)883-5935, grogers@mcwd.org.

Very truly yours,

Carl Niizawa, PE
Deputy General Manager/District Engineer

Enclosure

Urban Water Management Plan – Jurisdictional POC's

California Department of Water Resources	<p>Department of Water Resources Statewide Integrated Water Management Water Use and Efficiency Branch P.O. Box 942836 Sacramento, CA 94236-0001 Attention: Coordinator, Urban Water Management Plans</p> <p>Delivery service address: 901 P Street Sacramento, CA 95814</p>
California State Library	<p>California State Library Government Publications Section P.O. Box 942837 Sacramento, CA 94237-0001 Attention: Coordinator, Urban Water Management Plans</p> <p>Delivery service address: 900 N Street Sacramento, CA 95814</p>
City of Marina	<p>Mr. Anthony Altfeld, City Manager City of Marina 209 Cypress Avenue Marina, CA 93933</p>
City of Seaside	<p>Mr. Ray Corpuz, City Manager City of Seaside 440 Harcourt Ave. Seaside, CA 93955</p>
City of Del Rey Oaks	<p>Mr. Daniel Dawson, City Manager City of Del Rey Oaks 650 Canyon Del Rey Road Del Rey Oaks, CA 93940</p>
City of Monterey	<p>Mr. Fred Meurer, City Manager City of Monterey 580 Pacific Street Monterey, CA 93940</p>

County of Monterey	Mr. Jim Cook County of Monterey, Resource Management Agency, Redevelopment and Housing 168 West Alisal St., 3rd Floor Salinas, CA 93901
MCWRA	Mr. Curtis Weeks, General Manager Monterey County Water Resources Agency 893 Blanco Circle Salinas, CA 93901
MRWPCA	Mr. Keith Israel, General Manager Monterey Regional Water Pollution Control Agency 5 Harris Court, Bldg D Monterey, CA 93940
CSUMB	Ms. Kathleen Ventimiglia CSUMB, Director for Campus Planning and Development 100 Campus Center, CSU Monterey Bay Seaside CA 93955-8001
UCMBEST	Mr. Graham Bice Managing Director, UC MBEST Center 3239 Imjin Road, Suite 101 Marina. CA 93933
US Army	Presidio of Monterey, Directorate of Public Works IMWE-POM-PWO Attn: Christina Spang PO Box 5004 Monterey, CA 93944-5004
State Parks	Mr. Ken Gray, District Services Manager California State Parks 2211 Garden Road Monterey, CA 93940
CalAm	Mr. Craig E. Anthony General Manager, Monterey District California American Water 511 Forest Lodge Road, Suite 100 Pacific Grove, CA 93950

MPWMD	Darby W. Fuerst Monterey Peninsula Water Management District 5 Harris Court, Bldg G Monterey, CA 93940
FORA	Michael A. Houlemard, Jr. Executive Officer, Fort Ord Reuse Authority 100 12 th Street, Bldg 2880 Marina, CA 93933

Appendix E: Technical Memoranda

The following technical memoranda were prepared as interim reports during the development of this Urban Water Management Plan, and are included in this appendix.

1. Population Estimates Used for MCWD 2010 Urban Water Contingency Plan
2. MCWD Water Conservation Targets for UWMP
3. Water Shortage Contingency Plan Review
4. 2010 Census Adjustment to UWMP Tables

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TECHNICAL MEMORANDUM

TO: Gary Rogers, MCWD
Rich Youngblood, MCWD

DATE: November 10, 2010

FROM: Andrew Sterbenz, PE

JOB #: MCWD.39.07.018

SUBJECT: Population Estimates used for MCWD 2010 Urban Water Management Plan

Purpose

The purpose of this memorandum is to summarize the methodology and source data used to develop annual population estimates for the two Marina Coast Water District service areas. These estimates are used to calculate per capita water usage rates, as required under the State's 20x2020 Water Conservation Plan. A ten-year average water consumption rate must be calculated for a period ending not earlier than December 31, 2004 and not later than December 31, 2010. This average rate will be used as the base, against which the year 2015 and 2020 goals will be established.

Methods

The Urban Water Use Target Technical Methodologies, prepared by the California Department of Water Resources, requires that water districts use annual population estimates for cities as the basis of their analysis, when possible. Where this is not possible, they recommend using the 2000 decennial census results by census block to determine the average population per connection within the district service area, and to then apply that population factor to the average number of connections for each year. As is explained below, these methods were modified to better estimate the population within the Ord Community, which was not accounted by connection prior to the District assuming operation of the system.

The U.S. Census Bureau conducts a decennial census in years ending in zero. The results from the 1990 and 2000 censuses were obtained from the Census bureau website, www.census.gov. The results of the 2010 census will not be available until April 2011. The decennial census data is available at the following levels: state, county, tract, block group, block and named place. Blocks are the smallest geographic data areas, block groups are aggregates of blocks, tracts are aggregates of block groups, and counties are aggregates of tracts. Named places (typically cities) are aggregates of blocks, which may or may not align with block groups and tracts.

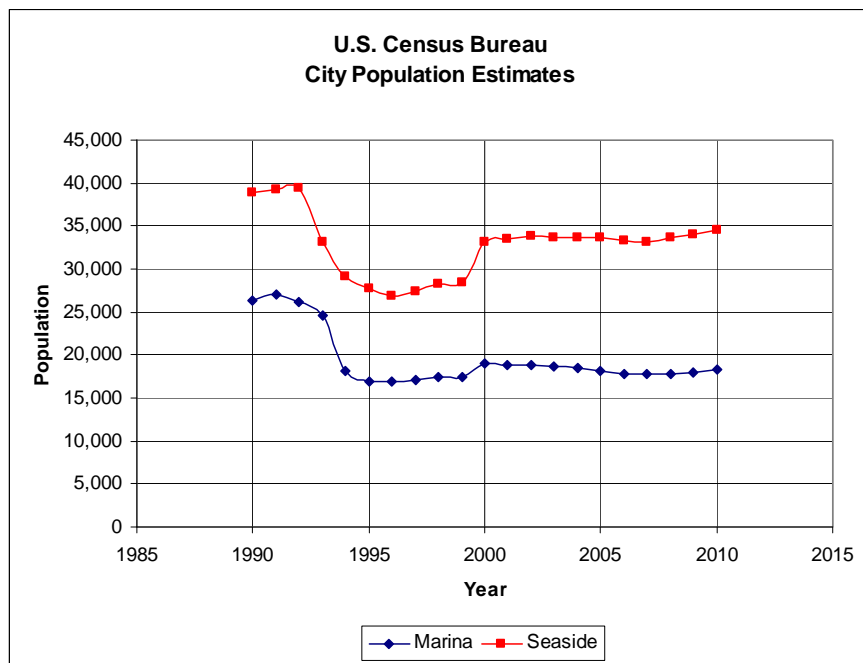
The District has two service areas, Central Marina and the Ord Community. Central Marina aligns with three census tracts: 142, 143.01 and 143.02. The Ord Community aligns with a

single census tract from the 1990 census, tract 141, which was divided into three tracts for the 2000 census, 141.01, 141.02 and 141.03. The clear division along census tract boundaries allows clean calculation of service area populations for the decennial census years. One unoccupied portion of the District service area south of South Boundary Road is within census tract 132. Future development is planned in tract 132 within Del Rey Oaks and the City of Monterey, but those areas can be omitted from estimates of current population. See Figure 1, Year 200 Census Tracts, attached.

There are two incorporated places within the District's service area, the City of Marina and the City of Seaside, with the balance of the service area in unincorporated Monterey County. The portion of Del Rey Oaks north of South Boundary Road was not included within its census boundary because that portion of Fort Ord was not occupied in the 1990 and 2000 census. The City of Marina includes all of tract 142, a portion of tract 141.01, and the occupied portions of tracts 141.02, 143.01 and 143.02. The City of Seaside includes portions of tracts 141.01 and 141.03. Seaside also includes tracts 135 to 139 and portions of 140, which are outside the District service area. Unincorporated Monterey County includes portions of tracts 141.01, 141.02 and 141.03. See the 1990 and 2000 Census Tract Maps, attached.

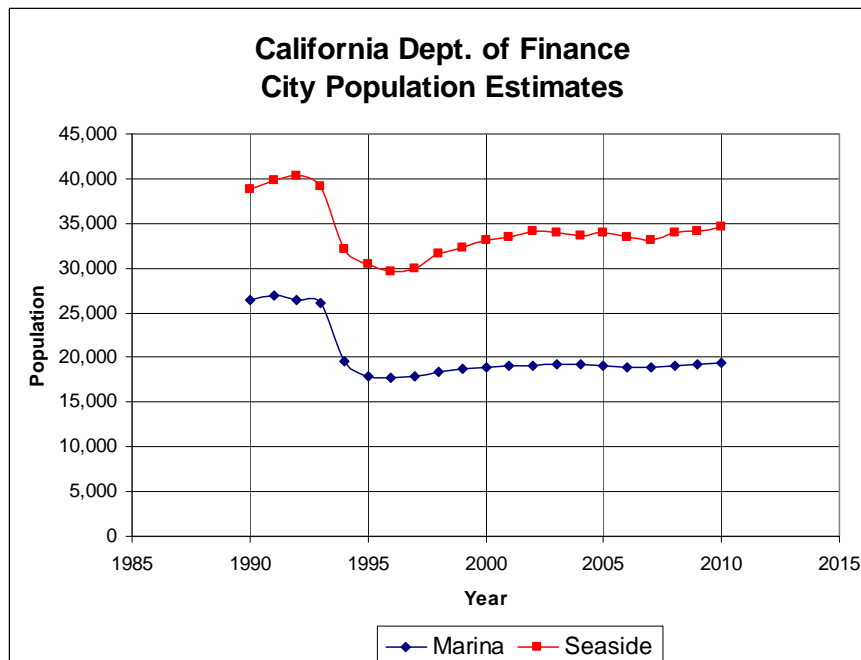
The U.S. Census Bureau prepares population estimates for states, counties and named places for the years between decennial censuses. These estimates are created annually for the preceding year, based upon a demographic model and the preceding census data. Estimates are not corrected to reflect the subsequent decennial census results. Census estimate tables SU-99-00 and SUB_EST2009 were obtained from the Census Bureau website. The Census Bureau also prepares projections of future population, but only to the state level. The population estimates for Marina and Seaside are graphed in Figure 2.

Figure 2



The California Department of Finance prepares future population projections by county and population estimates by named place for the current year. Department of Finance Estimate Table E-4 was obtained from the department website, <http://www.dof.ca.gov>, for the periods 1990-2000 and 2000-2010. These estimates for Marina and Seaside are graphed in Figure 3, and tabulated in Table 1 (attached). As can be seen, the Department of Finance estimates tracked to the decennial census results better than the U.S. Census Bureau estimates, so the Department of Finance estimates were used as the basis of estimating population for census tracts. The annual growth rates for each city, and the average growth rate for the combined Marina-Seaside population, were calculated in Table 1.

Figure 3



The closure of Fort Ord in 1994 accounts for the sudden population decline in 1993-1995. The military housing areas within Marina and Monterey County were unoccupied during the transition from military housing to affordable housing in Marina and campus housing within Monterey County. Military housing within Seaside declined in population, but remained occupied with families from the Presidio of Monterey and the Naval Post Graduate School. Both Marina and Seaside experienced an exodus of military residents who were assigned to Fort Ord but lived off-post in the civilian community.

By the time of the 2000 decennial census, those housing areas within the Ord Community that were to remain in use had been reoccupied, and CSUMB had completed their first phase of student dormitories. The Army had initiated a program of phased housing upgrades in the Presidio Annex but had a stable population. The Seaside Highlands housing area was being planned, but the other non-military residential areas within Seaside were occupied. Therefore, the 2000 census of the Ord Community is a valid baseline to estimate from.

To estimate the population of Central Marina between 1990 and 2000, the 1990 census tract populations were increased in years 1991-1993 using the Marina annual growth rate. The 2000 census populations for those tracts were then scaled backwards to estimate years 1995-1996.

The 1994 value is the mathematical average of the preceding and following years. This was necessary because the two estimating methods did not converge (the closure of Fort Ord skewed the growth rate as applicable to Central Marina).

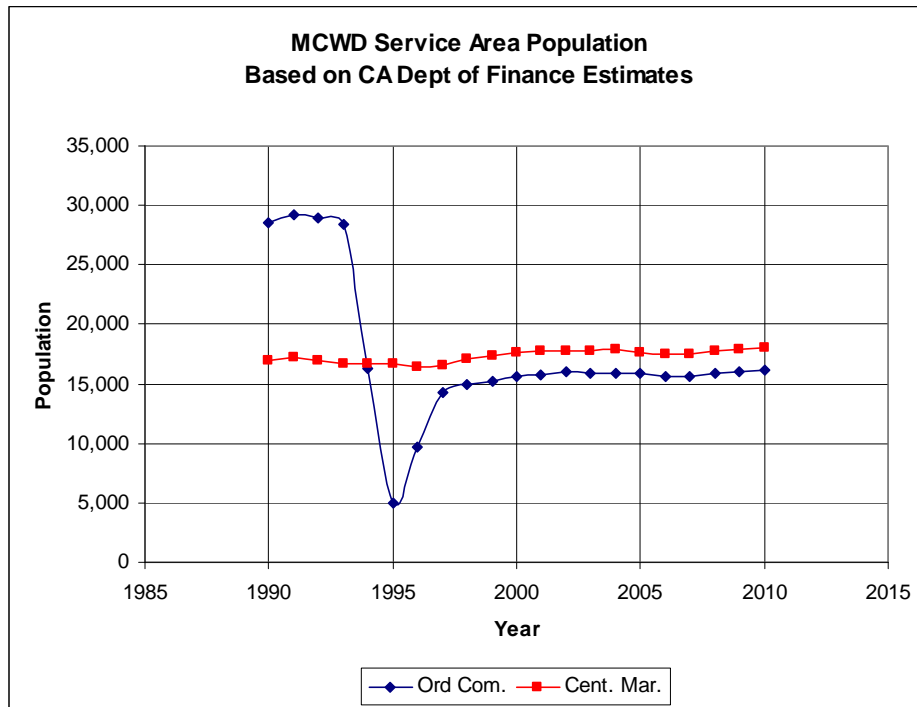
To estimate the population of the Ord Community between 1990 and 2000, the total population for 1990 census tract 141 was divided into the 2000 census tracts 141.01, 141.02 and 141.03. For the City of Marina, the population of tracts 142, 143.01 and 143.02 were subtracted from the city total, and the remainder was used as the population of tract 141.02. Similarly, the City of Seaside population outside the Ord Community was totaled and subtracted from the city total, and applied to tract 141.03. The remaining population for tract 141 was allocated to tract 141.01. These 1990 values were then increased in years 1991-1993 using the annual growth factors for Seaside in tract 141.03 and the combined growth factor in tract 141.01. Tract 141.01 is technically unincorporated Monterey County, but the combined growth rate for Marina-Seaside is considered more applicable for this area, which is only occupied within CSUMB. The population for tract 141.02 was calculated by estimating the Central Marina population, and subtracting it from the City of Marina estimate. Similarly, the 2000 census populations for those tracts were scaled backwards to estimate the populations in 1996-1999. To reflect the rapid decrease and recovery of the Ord Community population, estimated values were entered for 1995, based on the known change in residential uses and water usage reported for that year. The values for 1994 and 1996 are the mathematical averages of the preceding and following years.

To estimate the District population between 2000 and 2010, the growth rates for Marina and Seaside were applied to the 2000 census tracts, as follows. Tract 141.01 was scaled using the combined Marina-Seaside annual growth rate. Tract 141.03 was scaled using the Seaside annual growth rate. The three Marina census tracts were scaled up using the Marina annual growth rate to estimate the population of Central Marina. Tract 141.02 was calculated by subtracting the Central Marina estimate from the City of Marina estimate.

Results

Applying the annual growth rates from the Department of Finance as described above, the resulting population estimate is as shown in Figure 4, and in Table 1 (attached). Scaling the Central Marina population using the Department of Finance annual growth rate, and then entering the remainder in tract 141.02 may slightly overestimate the Central Marina service area population and under estimate the Ord Community, but this will not affect the calculation of average water usage rates across the entire system. Because the estimates for 1995 and 1996 are based on extrapolations, it is recommended they not be used in the 20x2020 water use estimates. Instead, the average water use should be based on a ten-year period beginning January 1, 1997, or later.

Figure 4



References

California Department of Finance website, www.dof.ca.gov, population estimate tables:

E-4 Historical Population Estimates for Cities, Counties and the State, 1991-2000, with 1990 and 2000 Census Counts

E-4 Population Estimates for Cities, Counties and the State, 2001-2010, with 2000 Benchmark

U.S. Census Bureau, American FactFinder website, www.census.gov

2000 Decennial Census Summary File 1 (SF1)

1990 Decennial Census Summary Tape File 1 (STF1)

Table SU-99-10, Population Estimates for States, Counties, Places, and Minor Civil Divisions: Annual Time Series, July 1, 1990 to July 1, 1999 (includes April 1, 1990 Population Estimates Base)

Table 4, Annual Estimates of the Resident Population for Incorporated Places in California: April 1, 2000 to July 1, 2009 (SUB-EST2009-04-06)

Census Tract Outline Map (Census 2000), Monterey County, CA, sheets CT06053_001, CT06053_C01, and CT06053_D01

1990 Census Tract/BNA Outline Map (Recreated), Monterey County, CA, sheets 90T06053_001 and 90T06053_C01

Urban Water Use Target Technical Methodologies, California Department of Water Resources,
October 1, 2010

Attachments

Table 1: Estimate of MCWD Service Area Populations

Figure 1, Year 2000 U.S. Census Tracts, MCWD Service Area

Census Tract/BNP Outline Map (Census 1990, Recreated), sheet 90T06053_001

Census Tract Outline Map (Census 2000), sheet CT06053_001

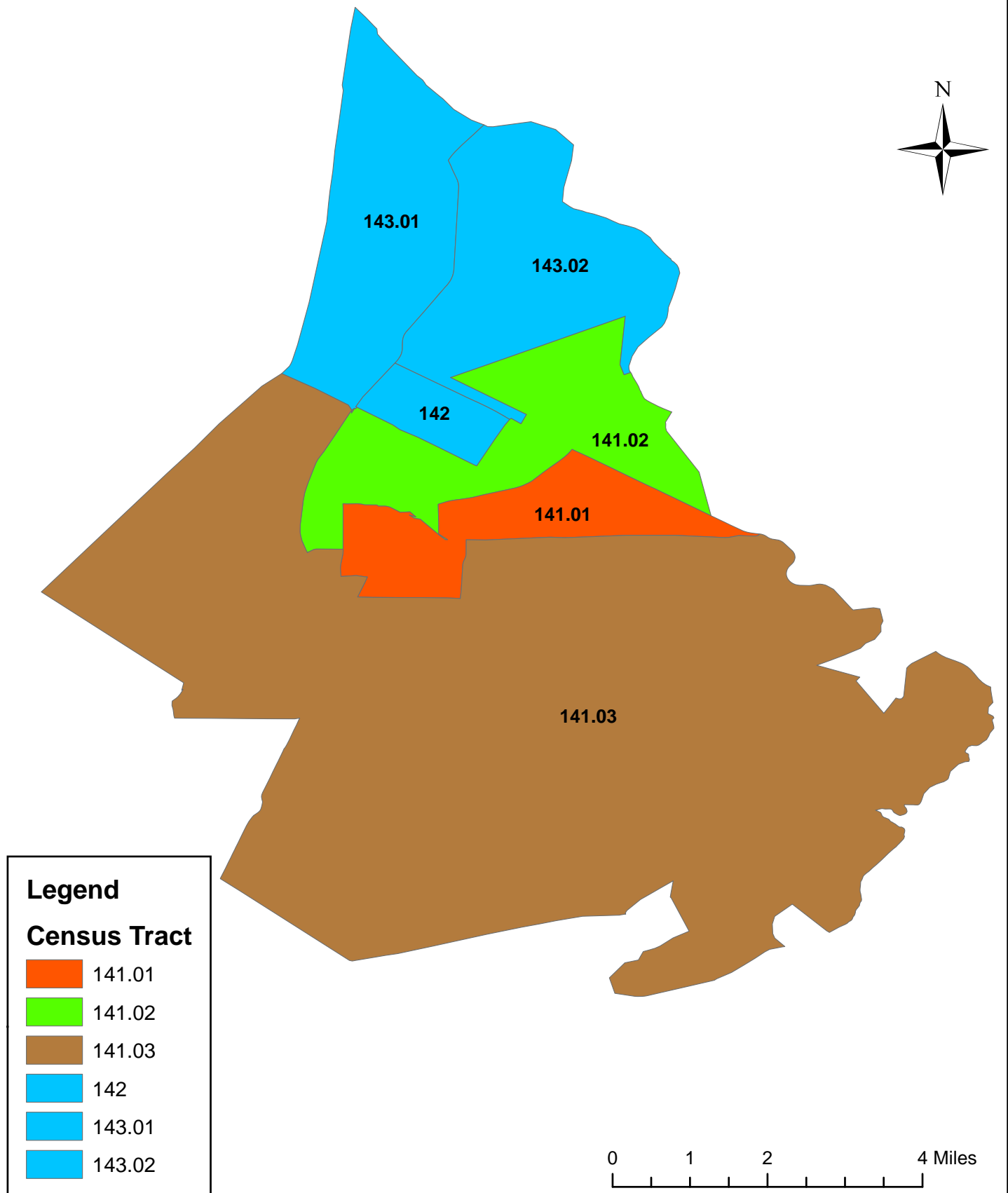
Table 1: Estimate of MCWD Service Area Population

	CA DoF-Places		CA DoF-Growth Rates			Census Tracts										
Year	Marina	Seaside	Marina	Seaside	Combined	Ord Community				Central Marina			Total	Total	Total	
						141	141.01	141.02	141.03	142	143.01	143.02	Ord Com.	Cent. Mar.	MCWD	
1990	26,512	38,826	base	base	base	28,591	3,550	9,519	15,522	9,865	3,562	3,566	28,591	16,993	45,584	
1991	26,929	39,812	1.016	1.025	1.021		3,626	9,669	15,855	10,020	3,618	3,622	29,150	17,260	46,411	
1992	26,361	40,395	0.979	1.015	1.000		3,627	9,465	15,859	9,809	3,542	3,546	28,951	16,896	45,847	
1993	26,146	39,217	0.992	0.971	0.979		3,551	9,388	15,528	9,729	3,513	3,517	28,467	16,758	45,225	
1994	19,509	32,179	0.746	0.821	0.791		1,776	4,694	9,764	9,407	3,572	3,742	16,233	16,722	32,955	
1995	17,968	30,483	0.921	0.947	0.937		500	500	4,000	9,086	3,632	3,968	5,000	16,685	21,685	
1996	17,731	29,539	0.987	0.969	0.976		4,079	888	4,670	8,966	3,584	3,915	9,637	16,465	26,102	
1997	17,861	30,009	1.007	1.016	1.013		7,658	1,275	5,340	9,032	3,610	3,944	14,273	16,586	30,859	
1998	18,445	31,682	1.033	1.056	1.047		8,019	1,317	5,638	9,327	3,728	4,073	14,974	17,128	32,102	
1999	18,663	32,347	1.012	1.021	1.018		8,160	1,332	5,757	9,438	3,772	4,121	15,249	17,331	32,580	
2000	18,925	33,097	1.014	1.023	1.020		8,322	1,351	5,890	9,570	3,825	4,179	15,563	17,574	33,137	
2001	19,077	33,536	1.008	1.013	1.011		8,417	1,362	5,968	9,647	3,856	4,213	15,747	17,715	33,462	
2002	19,148	34,129	1.004	1.018	1.013		8,523	1,367	6,074	9,683	3,870	4,228	15,963	17,781	33,744	
2003	19,174	33,888	1.001	0.993	0.996		8,488	1,369	6,031	9,696	3,875	4,234	15,888	17,805	33,693	
2004	19,250	33,647	1.004	0.993	0.997		8,462	1,374	5,988	9,734	3,891	4,251	15,824	17,876	33,700	
2005	19,030	33,962	0.989	1.009	1.002		8,477	1,358	6,044	9,623	3,846	4,202	15,880	17,672	33,551	
2006	18,855	33,451	0.991	0.985	0.987		8,367	1,346	5,953	9,535	3,811	4,164	15,666	17,509	33,175	
2007	18,838	33,183	0.999	0.992	0.995		8,322	1,345	5,905	9,526	3,807	4,160	15,572	17,493	33,065	
2008	19,067	34,024	1.012	1.025	1.021		8,493	1,361	6,055	9,642	3,854	4,210	15,909	17,706	33,615	
2009	19,224	34,175	1.008	1.004	1.006		8,542	1,372	6,082	9,721	3,885	4,245	15,996	17,852	33,848	
2010	19,445	34,628	1.011	1.013	1.013		8,650	1,388	6,162	9,833	3,930	4,294	16,201	18,057	34,258	

Notes:

1990 census tract 141 did not include the 3 block groups in the 2000 census. BG values estimated based on population for Marina and Seaside minus other BG's.
 Tract 141.01: 1991-1993 scaled from 1990 value using combined growth rate. 1995 value assumed. 1994 and 1996 values average of 1995 and adjacent year. 1997-2010 scaled from 2000 value.
 Tract 141.02: 1991-1993 and 1997-2010 are the City of Marina population minus Central Marina. 1995 value assumed. 1994 and 1996 values average of 1995 and adjacent year.
 Tract 141.03: 1991-1993 scaled from 1990 value using Seaside growth rate. 1995 value assumed. 1994 and 1996 values average of 1995 and adjacent year. 1997-2010 scaled from 2000 value.
 Tract 142: 1991-1993 scaled from 1990 value using Marina growth rate. 1997-2010 scaled from 2000 value. 1995 value is average of 1994 and 1996 values.
 Tract 143.01: 1991-1993 scaled from 1990 value using Marina growth rate. 1997-2010 scaled from 2000 value. 1995 value is average of 1994 and 1996 values.
 Tract 143.02: 1991-1993 scaled from 1990 value using Marina growth rate. 1997-2010 scaled from 2000 value. 1995 value is average of 1994 and 1996 values.

Figure 1: Year 2000 U.S. Census Tracts, MCWD Service Area



TECHNICAL MEMORANDUM

TO: Gary Rogers and Rich Youngblood, MCWD DATE: February 16, 2011

FROM: Andrew Sterbenz, PE JOB #: MCWD.39.07.018

SUBJECT: MCWD Water Conservation Targets for UWMP

The purpose of this memorandum is to discuss the calculation and selection of water conservation targets for the 2010 Urban Water Management Plan, as required by the Water Conservation Act of 2009 (SBx7-7). Commonly called the 20x2020 plan, this legislation established a statewide goal of reducing urban water per capita water demands by 20 percent by the year 2020.

An urban retail water supplier must set a 2020 water use target and a 2015 interim target using one of four methods. Three of these are defined in Section 10608.20(a)(1) of the Water Code, with the fourth to be developed by the California Department of Water Resources (DWR) by the end of 2010. The 2020 water use target must be calculated using one of the following four methods:

- Method 1: Eighty percent of the water supplier's *baseline per capita water use*.
- Method 2: Per capita daily water use estimated using the sum of performance standards applied to indoor residential use; landscaped area water use; and commercial, industrial, and institutional uses.
- Method 3: Ninety-five percent of the applicable state hydrologic region target as stated in the State's April 30, 2009, draft 20x2020 Water Conservation Plan.
- Method 4: An approach developed by DWR and reported to the Legislature by December 31, 2010. The proposed method uses conservation Best Management Practices (BMP) as prescribed by the California Urban Water Conservation Council (CUWCC)

A maximum conservation target, regardless of method used, is also defined as discussed below.

Gross water use is calculated as the total water entering the system minus wholesale water deliveries leaving the system. The District does not purchase or provide wholesale water, so this is simply the total well pumping for the period. Water suppliers may deduct from this total (1) recycled water use, (2) industrial process water use, and (3) agricultural irrigation use. None of these deductions currently apply to the District.

Baseline per capita water use is calculated as the gross water use for a year divided by the average population during that year. Years may be defined by the water supplier as calendar

year, fiscal year, or another 12-month reporting period. The water supplier will submit future compliance reports using the same reporting year. We recommend using calendar year because that is used for well pumping reporting to Monterey County Water Resources Agency (MCWRA) and for BMP Reporting to the CUWCC. Population estimates for the District service areas were previously submitted in a technical memorandum dated November 10, 2010. A ten-year average water consumption rate must be calculated for a period ending not earlier than December 31, 2004 and not later than December 31, 2010. The attached table shows population and water use by service area for the years 1995 to 2010, and the resulting 10-year average demand rates for periods ending in 2004 to 2010. If the baseline demand were less than 100 gallons per capita per day (gpcd), no additional conservation reduction would be required.

Conservation targets must be established choosing a representative year from the seven possible years (2004-2010), and using one of the four methods. As discussed in the Population Technical Memorandum, we recommend against using the periods ending in 2004 and 2005 due to the population variations that occurred in 1995 and 1996 due to the closure of Fort Ord. We recommend using the median value of 118.6 gpcd as the District baseline, from the period ending December 31, 2008. After calculating targets using the four methods, the targets are compared to the minimum water conservation target required under Section 10608.22 of the Water Code.

Method 1: The 2020 water demand target is 80% of the baseline demand (118.6 gpcd). This method yields a target of 94.9 gpcd.

Method 2: This method consists of establishing separate water demand targets for indoor water use, landscape water use and commercial, industrial and institutional (CII) water use. The indoor residential demand target is established in the legislation as 55 gpcd. Landscape water demand must meet the requirements of the Model Water Efficient Landscape Ordinance. CII water demand targets may be set at 10% below the baseline demand. In order to apply this method, detailed information is required for all irrigated landscapes (area, date installed, vegetation type, and metered or estimated water use). Because we did not have this level of data available, this method was not used.

Method 3: The 2020 water demand target is 95% of the hydrologic region target. The District is in Region 3, Central Coast, which already has the lowest per capita water demand in the state. In the 20x2020 Water Conservation Plan, the baseline demand for the Region 3 was calculated as 154 gpcd, and the 2020 urban water use target is 123 gpcd. The Method 3 target is 95% of 123 gpcd, or 116.9 gpcd.

Method 4: This method is still being developed by DWR. The proposed draft method is based upon estimating conservation savings using the CUWCC BMPs. The advantage of this method is that the CUWCC annual reports for 2015 and 2020 will serve as the interim and final compliance reports to DWR. Water savings calculator (workbook) is used to estimate the potential savings from programs targets at indoor, outdoor and commercial, industrial and institutional (CII) use sectors. As with Method 2, additional data will be required to use this method. Specifically, landscape irrigation demands must be segregated from residential and CII demands. Because this level of information was not available, we did not calculate targets under this method.

Maximum Conservation Target: This method consists of calculating a five-year average water consumption rate for a period ending not earlier than December 31, 2007 and not later than December 31, 2010. These results are tabulated below. The 2020 conservation target must be less than or equal to 95% of the 5-year base daily per capita usage, which would be 110.8 gpcd for the recommended baseline period ending December 31, 2008.

Table 1: 10-year and 5-year Baseline Demands

Year Ending Dec 31	10-year Average Demand	2020 Target = 80%	5-year Average Demand	Maximum 2020 Target
	(gpcd)	(gpcd)	(gpcd)	(gpcd)
2004	133.0	106.4		
2005	124.3	99.4		
2006	120.0	96.0		
2007	118.7	95.0	117.8	111.9
* 2008	118.6	94.9	116.7	110.8
2009	116.6	93.3	113.1	107.5
2010	115.0	92.0	112.4	106.8

* recommended baseline year

Using Method 1, the District may select any of the values from the 80% target column in Table 1. All of these meet the minimum 5% reduction requirement of the Water Conservation Act. Using Method 3, the target of 116.9 gpcd exceeds the required 5% minimum reduction, so the target is adjusted to be 110.8 gpcd (for the baseline period ending December 31, 2008). Using Method 3 allows the District to take credit for its ongoing aggressive water conservation efforts, without imposing additional customer restrictions.

We recommend that the District use the period ending December 31, 2008 as its baseline period, and that it use Method 3 to establish its conservation targets. This will result in a 2020 conservation target of 110.8 gpcd, and a 2015 interim target of 114.7 gpcd (equals the midpoint between the 2008 10-year average and the 2020 target).

References

Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use, California Department of Water Resources, October 2010

20x2020 Water Conservation Plan, California Department of Water Resources, February 2010

Attachments

Baseline Per Capita Water Demand Table

Per Capita Use														
Year	Marina System				Ord System				System-Wide	System-Wide	10-year	2020	5-year	Maximum
	Marina Pop.	Water Use (af)	Annual	Daily	Ord Pop.	Water Use (af)	Annual	Daily	Annual Per Capita (gals)	Daily Per Capita (gals)	Average End Yr (gpcd)	Goal (gpcd)	Average End Yr (gpcd)	Goal (gpcd)
			Per Capita (gals)	Per Capita (gals)			Per Capita (gals)	Per Capita (gals)						
1990	16,993		0	0	28,591		0	0	0	0				
1991	17,260		0	0	29,150		0	0	0	0				
1992	16,896		0	0	28,951		0	0	0	0				
1993	16,758		0	0	28,467		0	0	0	0				
1994	16,722		0	0	16,233		0	0	0	0				
1995	16,685	2,018	39,410	108	5,000	2,802	182,607	500	72,427	198				
1996	16,465	2,119	41,936	115	9,637	2,490	84,196	231	57,538	158				
1997	16,586	2,147	42,180	116	14,273	2,574	58,763	161	49,850	137				
1998	17,128	1,860	35,385	97	14,974	2,086	45,394	124	40,054	110				
1999	17,331	2,241	42,144	115	15,249	2,396	51,190	140	46,378	127				
2000	17,574	2,300	42,643	117	16,239	2,371	47,584	130	45,016	123				
2001	17,715	2,285	42,029	115	15,747	2,228	46,105	126	43,948	120				
2002	17,781	2,306	42,263	116	15,963	2,137	43,612	119	42,901	118				
2003	17,805	2,185	39,995	110	15,888	2,144	43,977	120	41,873	115				
2004	17,876	2,262	41,227	113	15,824	2,423	49,892	137	45,296	124	133.0	106.4		
2005	17,672	2,195	40,466	111	15,880	1,994	40,908	112	40,675	111	124.3	99.4		
2006	17,509	1,786	33,247	91	15,666	2,509	52,182	143	42,188	116	120.0	96.0		
2007	17,493	1,622	30,216	83	15,572	2,941	61,540	169	44,968	123	118.7	95.0	117.8	111.9
2008	17,706	1,833	33,740	92	15,909	2,269	46,470	127	39,765	109	118.6	94.9	116.7	110.8
2009	17,852	1,962	35,806	98	15,996	2,076	42,291	116	38,871	106	116.6	93.3	113.1	107.5
2010	18,057	1,743	31,461	86	16,201	2,389	48,053	132	39,308	108	115.0	92.0	112.4	106.8

Note: Water use from MCWD records (differs from MCWRA Annual GW Report)

Note: Population uses scaled DOF estimates

Note: DWR methodology calculates 10-year average as the mean of annual gpcc

TECHNICAL MEMORANDUM

TO: Gary Rogers and Rich Youngblood, MCWD DATE: December 14, 2010

FROM: Andrew Sterbenz, PE JOB #: MCWD.39.07.018

SUBJECT: Water Shortage Contingency Plan

The purpose of this memorandum is to discuss the District's Water Shortage Contingency Plan (WSCP) and to recommend updates for inclusion in the 2010 Urban Water Management Plan (UWMP).

We have reviewed the District's WSCP, adopted May 25, 2005, as included in the 2005 UWMP, with respect to the requirements of Water Code Section 10632. We recommend submitting an updated plan to the Board of Directors for approval. Several of the recommended changes are project updates and tense changes. For example, the 2005 WSCP discusses the interconnection of the Marina and Ord systems in the future tense. These systems are now connected and consolidated into a single public water system permit. Another item is the table summarizing revenue impacts of reduced water sales, which should be updated to reflect current energy prices. A draft update to the WSCP is attached.

A significant update is recommended to meet the requirements of Water Code Section 10632(d). Water Shortage Contingency Plans are required to include "additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning." As currently written, the plan emphasizes the District's Mandatory Restrictions on Water Waste (Code of Ordinances, section 3.36.030), which are always in effect, but does not add any additional restrictions as a means of reducing water use. A list of available water use reduction methods is included for voluntary adoption, but it will require a Board action at the time of the water shortage to make these restrictions mandatory. Considering the reliability of the District's source of supply (Salinas Valley Groundwater Basin), it is unlikely that the District will progress through Conservation Stages 1 through 5 in order. It is more likely that a mechanical failure or seismic event will leave a portion of the system temporarily inoperable, placing the District immediately into Stage 3, 4 or 5. Adding specific reduction measures to be taken at each mandatory stage will enable staff to quickly prepare and issue public information and instructions if a shortage occurs. The Board may still modify the required restrictions at the time of the event.

The District's five Conservation Stages and triggers are tabulated below:

Conservation Stage and Shortage Level	Triggering Mechanism
Stage One 0-10% Voluntary	1) system malfunction resulting in up to 10% shortage 2) increase in chlorides which do not threaten to exceed drinking water quality standard 3) increase in VOC concentrations which do not threaten to exceed standards with blending
Stage Two >10-25% Voluntary	1) system malfunction resulting in greater than 10% shortage 2) increase in chlorides which may threaten to exceed drinking water quality standard 3) increase in VOC concentrations which do not threaten to exceed standards with blending
Stage Three >25-35% Mandatory	1) system malfunction resulting in greater than 25% shortage 2) increase in chlorides which are expected to exceed drinking water quality standard 3) increase in VOC concentrations which do not threaten to exceed standards with blending or when remaining capacity is reduced by up to 25%
Stage Four >35-50% Mandatory	1) system malfunction resulting in greater than 35% shortage 2) increase in chlorides which are expected to exceed drinking water quality standard 3) increase in VOC concentrations which do not threaten to exceed standards with blending or when remaining capacity is reduced more than 35%
Stage Five >50% Mandatory	1) system malfunction resulting in greater than 50% shortage 2) increase in chlorides which may threaten to exceed drinking water quality standard 3) increase in VOC concentrations which do not threaten to exceed standards or when remaining capacity is reduced more than 50%

Listed below are suggested water use restrictions to implement during Conservation Stages 3, 4 and 5. These are based on the priorities for use listed in the Water Code, Chapter 3, which are (1) health and safety, (2) commercial, industrial and government use, (3) existing landscaping and (4) new demands. The measures are taken from Drought Management Plans from other municipalities. We have intentionally omitted any measure which would restrict water for a business use (e.g., vehicle washing in driveways is restricted but commercial car washes are not). The City of San Antonio, TX, drought management plan is attached for reference. This list is intended as a starting point for discussion and not as a final list for board approval. Per the current WSCP, Conservation Stages 1 and 2 are voluntary reductions requiring public information efforts, so they are not included.

Additionally, there are several actions listed in the current WSCP that we recommend removing. Under Stage 3, the fourth action on the list reads “No building permits will be issued or meters installed for new accounts that had not received building permits before the “Severe Shortage” was declared.” Under Mandatory Provisions on Water Waste, the final three options read, “f) elimination of the issuance of construction meters, g) shut-off of dedicated landscape irrigation meters, and h) moratorium on provision of new supply meters”. These options will result in financial impacts to the affected property or business owners (for landscape meters, only for golf courses or athletic venues), and may be considered punitive compared to the restrictions placed on other District customers.

Stage	Type Use	Restriction
3	Landscape Irrigation for Existing Landscapes, including Public Parks	<p>Landscape watering with recycled water may continue without restriction.</p> <p>Landscape watering with potable water shall be subject to the following limits:</p> <ul style="list-style-type: none"> (1) Landscape watering using sprinkler or irrigation systems is permitted only two days per week. Addresses ending in even numbers (0,2,4,6,8) may water on Mondays and Thursdays. Addresses ending in odd numbers (1,3,5,7,9) may water on Tuesdays and Fridays. If there is no street address, or if more than one street address is associated with a contiguous property, the irrigation days are Wednesday and Saturday. (2) Manual landscape watering with a soaker hose, handheld hose or watering can/bucket is allowed on any day.
3	Landscape Irrigation for New Landscapes, including Public Parks	<p>Landscape watering with recycled water may continue without restriction.</p> <p>Landscape watering with potable water shall be subject to the following limits:</p> <ul style="list-style-type: none"> (1) Landscape watering is permitted to maintain adequate growth on newly installed landscapes, for a period generally up to five (5) weeks. Property owners must notify the District of the address where new landscape is installed and the date of installation. (2) Following the initial establishment period, landscape watering using a sprinkler or irrigation system is permitted only on the days associated with the current conservation stage in effect.

Stage	Type Use	Restriction
3	Golf Courses, Athletic Fields	<p>Landscape watering with recycled water may continue without restriction.</p> <p>Landscape watering with potable water shall be subject to the following limits:</p> <ul style="list-style-type: none"> (1) All landscape out-of-play areas such as may be found around a clubhouse or entryway shall follow the general landscape irrigation restrictions. (2) All in-play areas may be irrigated during the standard watering hours (before 10:00 a.m. or after 5:00 p.m.). (3) Course operators shall implement a ten (10) percent reduction in irrigation water use.
3	Hotels, motels and bed and breakfasts	Hotels, motels and B&B's must offer and clearly notify guests of a "limited linen/towel exchange" program.
3	Swimming pools, hot tubs	Initially filling new and existing swimming pools prohibited. Draining and refilling existing swimming pools permitted only if repairing a pool leak or repairing, maintaining or replacing a pool component that has become hazardous. All pools and tubs shall be covered when not in use to reduce evaporation.
3	Industrial and Commercial	Reduction of water use by any means is encouraged. Compliance with mandatory demand reduction measures is required for outdoor water uses including landscape irrigation, swimming pools, and vehicle washing.
3	Vehicle and Equipment Washing	<p>Non-commercial washing of vehicles and mobile equipment (e.g., washing vehicle at a residence) is permitted only on assigned landscape watering days during landscape watering hours (before 10:00 a.m. or after 5:00 p.m.).</p> <p>Fleet managers are encouraged to only wash those vehicles as is necessary for health and safety.</p>
3	Heavy Construction	The use of potable water for dust control shall be reduced to the greatest extent possible.

Stage	Type Use	Restriction
4	Landscape Irrigation for Existing Landscapes, including Public Parks	<p>Landscape watering with recycled water may continue without restriction.</p> <p>Landscape watering with potable water shall be subject to the following limits:</p> <p>(1) Landscape watering using sprinkler or irrigation systems is permitted only one day per week. Addresses ending in numbers 0 or 1 may water on Mondays. Addresses ending in numbers 2 or 3 may water on Tuesdays. Addresses ending in numbers 4 or 5 may water on Wednesdays. Addresses ending in numbers 6 or 7 may water on Thursdays. Addresses ending in numbers 8 or 9 may water on Fridays. If there is no street address, or if more than one street address is associated with a contiguous property, the irrigation day is Wednesday.</p> <p>Manual landscape watering with a soaker hose, handheld hose or watering can/bucket is allowed on any day.</p>
4	Landscape Irrigation for New Landscapes, including Public Parks	<p>Landscape watering with recycled water may continue without restriction.</p> <p>The installation of new landscapes irrigated with potable water is discouraged.</p> <p>Landscape watering with potable water shall be subject to the following limits:</p> <p>(1) Landscape watering is permitted three (3) days a week to maintain adequate growth on newly installed landscapes, for a period generally up to five (5) weeks. Watering days for new landscapes are Tuesday, Thursday and Saturday. Property owners must notify the District of the address where new landscape is installed and the date of installation.</p> <p>Following the initial establishment period, landscape watering using a sprinkler or irrigation system is permitted only on the days associated with the current conservation stage in effect.</p>

Stage	Type Use	Restriction
4	Golf Courses / Athletic Fields	<p>Landscape watering with recycled water may continue without restriction.</p> <p>Landscape watering with potable water shall be subject to the following limits:</p> <ul style="list-style-type: none"> (1) All landscape out-of-play areas such as may be found around a clubhouse or entryway shall follow the general landscape irrigation restrictions. (2) All in-play areas may be irrigated during the standard watering hours (before 10:00 a.m. or after 5:00 p.m.). <p>Course operators shall implement a twenty (20) percent reduction in irrigation water use.</p>
4	Hotels, motels and bed and breakfasts	Hotels, motels and B&B's must limit linen/towel changes to once every two (2) nights or for the entire stay, whichever is shorter, except for health and safety.
4	Swimming pools, hot tubs	Initially filling new and existing swimming pools prohibited. Draining and refilling existing swimming pools permitted only if repairing a pool leak or repairing, maintaining or replacing a pool component that has become hazardous. All pools and tubs shall be covered when not in use to reduce evaporation.
4	Vehicle and Equipment Washing	<p>Non-commercial washing of vehicles and mobile equipment (e.g., washing vehicle at a residence) is permitted only on assigned landscape watering days during landscape watering hours (before 10:00 a.m. or after 5:00 p.m.).</p> <p>Fleet managers are encouraged to only wash those vehicles as is necessary for health and safety.</p>
4	Industrial and commercial	<p>Reduction of water use by any means is encouraged. The Board of Directors may establish mandatory use reduction targets, if needed.</p> <p>Compliance with mandatory demand reduction measures is required for outdoor water uses including landscape irrigation, swimming pools, and vehicle washing.</p>
4	Heavy Construction	The use of potable water for dust control shall be reduced to the greatest extent possible.
5	Landscape Irrigation for Existing Landscapes, including Public Parks	<p>Landscape watering with recycled water may continue without restriction.</p> <p>Landscape watering with potable water is prohibited.</p>

Stage	Type Use	Restriction
5	Landscape Irrigation for New Landscapes, including Public Parks	<p>Landscape watering with recycled water may continue without restriction.</p> <p>The installation of new landscapes irrigated with potable water is prohibited during Conservation Stage 5.</p> <p>New landscapes installed prior to declaration of Conservation Stage 5 may water two (2) days a week to maintain adequate growth on newly installed landscapes, for the remainder of the initial five (5) week establishment period. Watering days for new landscapes are Tuesday and Friday. Property owners must notify the District of the address where new landscape is installed and the date of installation</p>
5	Golf Courses / Athletic Fields	<p>Landscape watering with recycled water may continue without restriction.</p> <p>Landscape watering with potable water shall be subject to the following limits:</p> <ul style="list-style-type: none"> (3) All landscape out-of-play areas such as may be found around a clubhouse or entryway shall follow the general landscape irrigation restrictions. (4) All in-play areas may be irrigated during the standard watering hours (before 10:00 a.m. or after 5:00 p.m.). <p>Course operators shall implement a thirty (30) percent reduction in irrigation water use.</p>
5	Hotels, motels and bed and breakfasts	Hotels, motels and B&B's must limit linen/towel changes to once every three (3) nights or for the entire stay, whichever is shorter, except for health and safety.
5	Swimming pools, hot tubs	Filling new swimming pools and/or draining and refilling existing swimming pools is prohibited. All pools and tubs shall be covered when not in use to reduce evaporation. Contact District conservation staff if an existing swimming pool must be repaired and refilled during Conservation Stage 5.
5	Vehicle and Equipment Washing	Non-commercial washing of vehicles and mobile equipment is prohibited. Only commercial facilities with water recycling systems may be used.
5	Industrial and commercial	<p>Reduction of water use by any means is encouraged. The Board of Directors may establish mandatory use reduction targets, if needed.</p> <p>Compliance with mandatory demand reduction measures is required for outdoor water uses including landscape irrigation, swimming pools, and vehicle washing.</p>
5	Heavy Construction	The use of potable water for dust control shall be reduced to the greatest extent possible. The District may establish mandatory construction water budgets, if needed.

Attachments

Draft Water Shortage Contingency Plan in track-changes

San Antonio, TX, Code of Ordinances, Chapter 34, Water and Sewers, Article IV, Water Conservation and Reuse

MARINA COAST WATER DISTRICT ~~URBAN~~ WATER SHORTAGE CONTINGENCY ~~ANALYSIS AND~~ PLAN

1.0 INTRODUCTION AND BACKGROUND

This Water Shortage Contingency Plan is developed in compliance with California Water Code Section 10632. Requirements of subsections (a)-(i) are identified below and are accompanied by the required elements and information.

The Marina Coast Water District (MCWD) obtains ~~all~~-its ~~water supply~~~~groundwater~~ from the Salinas Valley Groundwater Basin (SVGB). The SVGB is not adjudicated and provides water for growers, municipalities and other municipal and industrial uses in the Salinas Valley. Due to cumulative basin pumping, coastal aquifers are experiencing seawater intrusion. MCWD continues ~~working to work~~ with Monterey County Water Resources Agency (MCWRA) in developing plans to coordinate and encourage preservation of the SVGB aquifers by all municipal and agricultural users.

In 2005, MCWD interconnected its two service areas, Central Marina and the Ord Community. This interconnection has improved system-wide reliability, making maximum use of available water storage tanks in the Ord Community and allowing both areas to be served by any of the six District wells. In 2007, the District consolidated the two systems under a single Public Water System Permit.

MCWD is actively pursuing development of a Regional Water Supply Project, in partnership with the Monterey County Water Resources Agency (MCWRA) and California-American Water Company (CAWC). The Regional Project will develop desalinated water from the seawater-intruded portion of the SVGB. This supply will meet current water demands within the CAWC Monterey service area, and future water demands within the MCWD Ord Community. The wells to be installed within the intruded portions of the SVGB ~~is~~ are intended to capture seawater along the coast before it can migrate to inland portions of the aquifer. The project also includes a recycled water component, that will provide non-potable water for landscape irrigation within the MCWD and CAWC service areas.

- ~~• One Systems Intereconnection. In 2005 MCWD will intertie its Central Marina and Ord Community water distribution systems. The intertie is driven by the immediate need to remove from service the Bayer Tank in Central Marina due to its poor structural condition. This intertie will enhance the robustness of both water distribution systems and provide each community an emergency, potable water source.~~
- ~~• Regional Urban Water Supply Planning. MCWD is an active participant in the regional urban water supply planning effort being led by the MCWRA. One possible regional project is the proposed desalination plant at Moss Landing. Project proponents include California-American Water Company, Pajaro/Sunny Mesa Water District, and the MCWRA. As planning for this project proceeds, MCWD will consider becoming directly involved as a water recipient.~~

Other coordinated efforts includes the following:

Water Awareness Committee of Monterey County (WAC). Through the WAC, representatives from several agencies throughout Monterey County work together coordinating conservation and other water awareness efforts including education programs, information booths for special events and public understanding of Monterey County water challenges and opportunities.

California Water Code Section 10632(-c-) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies, including but not limited to, a regional power outage, an earthquake or other disaster.

The MCWD developed and adopted an Emergency Response Plan for emergency and disaster occurrences with guidelines and agreements for cooperative efforts with other State and local agencies, as required by the State Health Department. This Plan contains actions MCWD would initiate in the event of a catastrophic reduction in its water supply.

2.0 STAGES OF ACTION

California Water Code Section 10632(a) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply and an outline of specific water supply conditions which are applicable to each stage.

The MCWD developed a five-stage Water Conservation Plan that includes two voluntary and three mandatory stages. Table 2-1 generally describes the various stages. Specific water supply conditions applicable to each stage, referred to as “triggering mechanisms” herein, are discussed in the next section.

Table 2-1: Water Conservation Stages and Reduction

<u>Stage</u>	<u>Demand Reduction Goal</u>	<u>Type Program</u>
Stage 1	10% reduction	Voluntary
Stage 2	15% reduction	Voluntary
Stage 3	25% reduction	Mandatory
Stage 4	35% reduction	Mandatory
Stage 5	50%+ reduction	Mandatory
Priorities for use of available water, based on California Water Code Chapter 3 are: 1. Health and Safety - interior residential and fire fighting 2. Commercial, Industrial, and Governmental - maintain jobs & economic base 3. Existing Landscaping - especially trees and shrubs 4. New Demand - projects without permits when shortage declared		

California Water Code Section 10632(b) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.

This requirement is oriented toward water supply systems that are primarily supplied via surface waters and therefore can be directly affected by short-term fluctuations in hydrology i.e., drought conditions. MCWD's total current water supply is produced through groundwater pumping from the large SVGB. MCWD supply availability from this basin has not historically varied due to short-term hydrologic conditions. The minimum water supply available within the driest three-year sequence is expected to match demands as discussed in the Urban Water Management Plan.

3.0 TRIGGERING MECHANISMS

The SVGB is currently the most important source of water for MCWD. In 2004, the MCWD's groundwater withdrawals of about 4,606~~0~~ acre-feet accounted for less than one percent (1%) of the estimated basin-wide annual extractions of roughly 550,000 acre-feet. Given this relatively small percentage, MCWD conservation and contingency management activities can play only a small part within the SVGB. The foremost concern in developing appropriate triggers is achieving the maximum practical protection of an adequate long-term water supply of acceptable quality for MCWD customers. To that end, triggering mechanisms should be tied to factors that, directly or indirectly, have the greatest potential effect on the quality and quantity of available groundwater.

Two general types of ~~general~~ threats could cause MCWD to ~~reduce demands to its system~~experience water shortages:

1. ~~un~~Anticipated catastrophic system failure due to an earthquake, terrorist attack or sudden contamination of water supply, or
2. ~~e~~Chronic system shortage due to seawater intrusion reaching water supply wells in concentrations such that those wells would have to be removed from service.

In the case of a catastrophic failure, the MCWD would assess the nature and extent of the failure, and the General Manager would identify the appropriate Conservation Stage in accordance with the expected level of water supply shortage. Should shortages be anticipated in amounts beyond fifty percent of normal demands, emergency actions will be taken in accordance with the MCWD's Emergency Response Plan, including enacting emergency ordinances as may be required by MCWD Board of Directors.

The chronic system threat to MCWD's present water supplies is seawater intrusion, which has occurred along the coastal margin of the Salinas Valley in response to historic over-drafting of the basin. Contamination from volatile organic compounds (VOCs) ~~have~~has also affected MCWD wells and could pose additional problems. Although seawater intrusion has not yet affected the deep zone (400-Foot Aquifer) of the SVGB (which is the source of supply for Marina's- Well No.10, No.11, and No.12), it is possible that continued extractions in the 400~~2~~-Foot Aquifer could ultimately lead to contamination of these water supplies by seawater. MCWD monitors the rate of seawater intrusion and plans to construct a new well in the deep aquifer and develop alternative water resources,~~which that~~ would be insulated from intrusion.

However, it is possible for intrusion to appear in a relatively short time span and reduce overall supplies available. Consequently, the MCWD has structured ~~its~~this Water Shortage Contingency Plan with the primary goal of reducing water supply demands to allow time for alternative water supply measures, including the drilling of alternate wells in areas unaffected by intrusion and/or contamination. A specific triggering mechanism for various levels of conservation is tied to concentrations of chlorides in MCWD wells, and possibly concentrations of VOCs, such as trichloroethylene (TCE) ~~currently~~which was previously observed at low levels in Well No. 9 in Central Marina and is occasionally detected at Well No. 29 in the Ord Community. Chloride concentration is directly related to the seawater intrusion problem, and both parameters (chloride and VOCs) are related to the overall basin viability as a secure source of water supply.

Chloride concentrations, which ~~are~~is the ~~proposed~~ trigger for the most advanced stages of conservation, ~~are~~is also a key indicator of water quality degradation due to seawater intrusion. Tests for statistically significant changes in chloride concentrations assist in the detection of the earliest stages of intrusion and are appropriate indicators of a water supply emergency. In addition, MCWD currently monitors its Ord Community wells for the presence of TCE and other organic compounds, and works with the U.S. Army regarding the Army's groundwater cleanup actions in the Ord Community.

~~MCWD is currently retiring Well No. 9 in Central Marina.~~

~~PROPOSED~~ TRIGGERING MECHANISMS FOR CONSERVATION STAGES

~~Triggering Mechanisms~~

These Triggering mechanisms shall be interpreted as guidelines and are summarized in Table 2-2. ~~—~~The General Manager and/or Board of Directors may impose any of the following conservation stages based upon facts and circumstances which may not have been otherwise anticipated in this plan.

Table 2-2 Conservation Level Triggering Mechanisms

<u>Conservation Stage and Shortage Level</u>	<u>Triggering Mechanism</u>
<u>Stage One</u> <u>0-10%</u> <u>Voluntary</u>	<u>1) system malfunction resulting in up to 10% shortage</u> <u>2) increase in chlorides which do not threaten to exceed drinking water quality standard</u> <u>3) increase in VOC concentrations which do not threaten to exceed standards with blending</u>
<u>Stage Two</u> <u>≥10-25%</u> <u>Voluntary</u>	<u>1) system malfunction resulting in greater than 10% shortage</u> <u>2) increase in chlorides which may threaten to exceed drinking water quality standard</u> <u>3) increase in VOC concentrations which do not threaten to exceed standards with blending</u>
<u>Stage Three</u>	<u>1) system malfunction resulting in greater than 25% shortage</u>

<u>>25-35%</u> <u>Mandatory</u>	<u>2) increase in chlorides which are expected to exceed drinking water quality standard</u> <u>3) increase in VOC concentrations which do not threaten to exceed standards with blending or when remaining capacity is reduced by up to 25%</u>
<u>Stage Four</u> <u>>35-50%</u> <u>Mandatory</u>	<u>1) system malfunction resulting in greater than 35% shortage</u> <u>2) increase in chlorides which are expected to exceed drinking water quality standard</u> <u>3) increase in VOC concentrations which do not threaten to exceed standards with blending or when remaining capacity is reduced more than 35%</u>
<u>Stage Five</u> <u>>50%</u> <u>Mandatory</u>	<u>1) system malfunction resulting in greater than 50% shortage</u> <u>2) increase in chlorides which may threaten to exceed drinking water quality standard</u> <u>3) increase in VOC concentrations which do not threaten to exceed standards or when remaining capacity is reduced more than 50%</u>

STAGE 1: Up to 10% - Voluntary

Stage 1 conservation ~~savings-measures~~ may be called for as a result of malfunction of all or portions of the water system that reduces supplies by up to 10% on a daily, peak seasonal or annual basis. It also may be called due to prolonged drought conditions and a need to focus public attention on water conservation.

Further triggering could also be based on:

- 1) detection of a statistically significant increase in chloride concentrations but where such concentrations do not threaten to exceed the CA DHS "Upper Level" secondary (aesthetics) drinking water standard currently set at 500 mg/l at the well(s) in question, or
- 2) detection of a statistically significant increase in VOC concentrations but where such concentrations do not threaten to exceed the primary drinking water maximum contaminant level (MCL) for each VOC at the well(s) in question and/or blending of this supply with other well supplies cannot maintain a distribution system concentration(s) below these standards.

STAGE 2: >10% to 25% - Voluntary

Stage 2 conservation ~~savings-measures~~ may be called ~~upon-for~~ due to malfunction or failure of all or portions of the water system that reduces supplies by greater than 10% on a daily, peak seasonal or annual basis.

Further triggering could also be based on:

- 1) detection of a statistically significant increase in chloride concentrations where

such concentrations may threaten to exceed the CA DHS “Upper Level” secondary (aesthetics) drinking water standard currently set at 500 mg/l at the well(s) in question, or

- 2) detection of a statistically significant increase in VOC concentrations, but where such concentrations do not threaten to exceed the primary drinking water MCL for each VOC at the well(s) in question and/or blending of this supply with other well supplies cannot maintain a distribution system concentration(s) below these standards.

STAGE 3: >25% to 35% - Mandatory

Stage 3 conservation ~~savings-measures~~ may be called for due to malfunction or failure of all or portions of the water system that reduces supplies by greater than 25% on a daily, peak seasonal or annual basis.

Further triggering could also be based on:

- 1) detection of an increase in chloride concentrations where such concentrations are expected to exceed the CA DHS “Upper Level” secondary (aesthetics) drinking water standard currently set at 500 mg/l at the well(s) in question, or
- 2) detection of VOC concentrations, but where such concentrations do not threaten to exceed the primary drinking water MCL for each VOC, and/or blending of this supply with other well supplies cannot maintain a distribution system concentration(s) below these standards, and/or when gross reduced well production of up to 25% is necessary to maintain adequate water quality.

STAGE 4: >35% to 50% - Mandatory

Stage 4 conservation ~~savings-measures~~ may be called for due to malfunction or failure of all or portions of the water system that reduces supplies by greater than 35% on a daily, peak seasonal or annual basis.

Further triggering could also be based on:

- 1) detection of an increase in chloride concentrations where such concentrations are expected to exceed the CA DHS “Upper Level” secondary (aesthetics) drinking water standard currently set at 500 mg/l at the well(s) in question, or
- 2) detection of VOC concentrations, but where such concentrations do not threaten to exceed the primary drinking water MCL for each VOC, and/or blending of this supply with other well supplies cannot maintain a distribution system concentration(s) below these standards, and/or gross reduced well production of up to 35% is necessary to maintain adequate water quality.

STAGE 5: >50% - Mandatory

Stage 5 conservation ~~savings-measures~~ may be called for due to in malfunction or failure of all or portions of the water system that reduces supplies by 50 % or more on a daily, peak seasonal or annual basis.

Further triggering could also be based on:

- 1) detection of an increase in chloride concentrations where such concentrations are expected to exceed the short term primary drinking water standard of 600 mg/l at the well(s) in question, or
- 2) detection of VOC concentrations but where such concentrations do not threaten to exceed the primary drinking water MCL for each VOC, and /or blending of this supply with other well supplies cannot maintain a distribution system concentration(s) below these standards, and/or gross reduced well production of over 50% is necessary to maintain adequate water quality.

4.0 CONSERVATION REQUIREMENTS AND APPEAL PROCEDURES

The following ~~is-are~~ MCWD's conservation requirements by customer type and stage and the appeals procedures. These requirements and procedures are adopted as part of MCWD's Water Shortage Contingency Plan.

STAGE 1: Up to 10% - Voluntary – Minimal Conservation Requirement

Stage 1 — ~~Minimal Conservation Requirement: up to 10 percent – Voluntary Program~~

MCWD shall:

- notify all customers of the water shortage
- mail information to every customer and reasonably available potential water user explaining the importance of significant water use reductions
- provide technical information to customers on ways to improve water use efficiency
- conduct media campaign to remind consumers of the need to save water
- publicize the showerhead, toilet rebate and other efficiency programs
- enforce mandatory restrictions on water waste as provided in MCWD Code, Chapter 3

STAGE 2: >10% to 25% -Voluntary – Moderate Conservation Requirement

Stage 2 — ~~Moderate Conservation Requirement: >10 to 25 percent – Voluntary Program~~

In addition to the actions listed in Stage 1, MCWD shall call for voluntary reductions of up to 25% for each connection based on the average use during a base period proposed by the Water Conservation Commission and adopted by MCWD's Board of Directors.

STAGE 3: >25% to 35% - Mandatory – Severe Conservation Requirement

Stage 3 — ~~Severe Conservation Requirement: >25 percent to 35 percent – Mandatory Program~~

In addition to the actions listed in Stage 1 and 2, MCWD shall establish mandatory annual allotments for each connection based on the average use during a base period proposed by the Water Conservation Commission and adopted by MCWD's Board of Directors. When Stage ~~three~~ 3 use reduction becomes necessary, administration and enforcement of water conservation rules becomes the major focus of MCWD. If necessary, additional temporary personnel may be hired and special meetings of the Water Conservation Commission and /or Board of Directors may be scheduled.

1. Each water service connection shall receive an allotted quantity of water, typically specified in hundred cubic feet (hcf) units per billing cycle, as calculated by the Water Conservation Coordinator.

2. The Board of Directors may pass an emergency ordinance increasing the usage rate for potable water in order to ensure stable revenues for operation and maintenance of MCWD.

3. As individual customers are notified of allotments, it is expected that many requests for special consideration will be received. These petitions must be processed rapidly, efficiently and fairly. Every application for waiver must be heard, evaluated and acted upon by the Water Conservation Commission as rapidly as possible. Every action by the Water Conservation Commission shall be referred to MCWD's Board of Directors for consideration. The procedures for appeal are defined, below.

4. No building permits will be issued or meters installed for new accounts that had not received building permits before the "Severe Shortage" was declared.

5. The following water use restrictions shall be imposed.

Stage	Type Use	Restriction
<u>3</u>	<u>Landscape Irrigation for Existing Landscapes, including Public Parks</u>	<p><u>Landscape watering with recycled water may continue without restriction.</u></p> <p><u>Landscape watering with potable water shall be subject to the following limits:</u></p> <p><u>(1) Landscape watering using sprinkler or irrigation systems is permitted only two days per week. Addresses ending in even numbers (0,2,4,6,8) may water on Mondays and Thursdays. Addresses ending in odd numbers (1,3,5,7,9) may water on Tuesdays and Fridays. If there is no street address, or if more than one street address is associated with a contiguous property, the irrigation days are Wednesday and Saturday.</u></p> <p><u>(2) Manual landscape watering with a soaker hose, handheld hose or watering can/bucket is allowed on any day.</u></p>
<u>3</u>	<u>Landscape Irrigation for New Landscapes, including Public Parks</u>	<p><u>Landscape watering with recycled water may continue without restriction.</u></p> <p><u>Landscape watering with potable water shall be subject to the following limits:</u></p> <p><u>(1) Landscape watering is permitted to maintain adequate growth on newly installed landscapes, for a period generally up to five (5) weeks. Property owners must notify the District of the address where new landscape is installed and the date of installation.</u></p> <p><u>(2) Following the initial establishment period, landscape watering using a sprinkler or irrigation system is permitted only on the days associated with the current conservation stage in effect.</u></p>
<u>3</u>	<u>Golf Courses, Athletic Fields</u>	<p><u>Landscape watering with recycled water may continue without restriction.</u></p> <p><u>Landscape watering with potable water shall be subject to the following limits:</u></p> <p><u>(1) All landscape out-of-play areas such as may be found around a clubhouse or entryway shall follow the general landscape irrigation restrictions.</u></p> <p><u>(2) All in-play areas may be irrigated during the standard watering hours (before 10:00 a.m. or after 5:00 p.m.).</u></p> <p><u>(3) Course operators shall implement a ten (10) percent reduction in irrigation water use.</u></p>
<u>3</u>	<u>Hotels, motels and bed and breakfasts</u>	<u>Hotels, motels and B&B's must offer and clearly notify guests of a "limited linen/towel exchange" program.</u>

<u>Stage</u>	<u>Type Use</u>	<u>Restriction</u>
<u>3</u>	<u>Swimming pools, hot tubs</u>	<u>Initially filling new and existing swimming pools prohibited. Draining and refilling existing swimming pools permitted only if repairing a pool leak or repairing, maintaining or replacing a pool component that has become hazardous. All pools and tubs shall be covered when not in use to reduce evaporation.</u>
<u>3</u>	<u>Industrial and Commercial</u>	<u>Reduction of water use by any means is encouraged. Compliance with mandatory demand reduction measures is required for outdoor water uses including landscape irrigation, swimming pools, and vehicle washing.</u>
<u>3</u>	<u>Vehicle and Equipment Washing</u>	<u>Non-commercial washing of vehicles and mobile equipment (e.g., washing vehicle at a residence) is permitted only on assigned landscape watering days during landscape watering hours (before 10:00 a.m. or after 5:00 p.m.).</u> <u>Fleet managers are encouraged to only wash those vehicles as is necessary for health and safety.</u>
<u>3</u>	<u>Heavy Construction</u>	<u>The use of potable water for dust control shall be reduced to the greatest extent possible.</u>

STAGE 4: >35% to 50% - Mandatory – Critical Conservation Requirement

Stage 4 — Critical Conservation Requirement: >35 to 50 percent — Mandatory Program

In addition to the actions listed in the previous stages, MCWD shall establish allotments based upon a 35% -50% curtailment of water use. All new and previous appeals for waiver shall be evaluated by field audit and shall be reheard by the Water Conservation Commission, if necessary, upon recommendation of MCWD staff. Water rates may be increased by the Board of Directors.

The following water use restrictions shall be imposed.

<u>Stage</u>	<u>Type Use</u>	<u>Restriction</u>
<u>4</u>	<u>Landscape Irrigation for Existing Landscapes, including Public Parks</u>	<p><u>Landscape watering with recycled water may continue without restriction.</u></p> <p><u>Landscape watering with potable water shall be subject to the following limits:</u></p> <p>(1) <u>Landscape watering using sprinkler or irrigation systems is permitted only one day per week. Addresses ending in numbers 0 or 1 may water on Mondays. Addresses ending in numbers 2 or 3 may water on Tuesdays. Addresses ending in numbers 4 or 5 may water on Wednesdays. Addresses ending in numbers 6 or 7 may water on Thursdays. Addresses ending in numbers 8 or 9 may water on Fridays. If there is no street address, or if more than one street address is associated with a contiguous property, the irrigation day is Wednesday.</u></p> <p><u>Manual landscape watering with a soaker hose, handheld hose or watering can/bucket is allowed on any day.</u></p>
<u>4</u>	<u>Landscape Irrigation for New Landscapes, including Public Parks</u>	<p><u>Landscape watering with recycled water may continue without restriction.</u></p> <p><u>The installation of new landscapes irrigated with potable water is discouraged.</u></p> <p><u>Landscape watering with potable water shall be subject to the following limits:</u></p> <p>(1) <u>Landscape watering is permitted three (3) days a week to maintain adequate growth on newly installed landscapes, for a period generally up to five (5) weeks. Watering days for new landscapes are Tuesday, Thursday and Saturday. Property owners must notify the District of the address where new landscape is installed and the date of installation.</u></p> <p><u>Following the initial establishment period, landscape watering using a sprinkler or irrigation system is permitted only on the days associated with the current conservation stage in effect.</u></p>

<u>Stage</u>	<u>Type Use</u>	<u>Restriction</u>
<u>4</u>	<u>Golf Courses / Athletic Fields</u>	<p><u>Landscape watering with recycled water may continue without restriction.</u></p> <p><u>Landscape watering with potable water shall be subject to the following limits:</u></p> <ol style="list-style-type: none"> <u>(1) All landscape out-of-play areas such as may be found around a clubhouse or entryway shall follow the general landscape irrigation restrictions.</u> <u>(2) All in-play areas may be irrigated during the standard watering hours (before 10:00 a.m. or after 5:00 p.m.).</u> <p><u>Course operators shall implement a twenty (20) percent reduction in irrigation water use.</u></p>
<u>4</u>	<u>Hotels, motels and bed and breakfasts</u>	<u>Hotels, motels and B&B's must limit linen/towel changes to once every two (2) nights or for the entire stay, whichever is shorter, except for health and safety.</u>
<u>4</u>	<u>Swimming pools, hot tubs</u>	<u>Initially filling new and existing swimming pools prohibited. Draining and refilling existing swimming pools permitted only if repairing a pool leak or repairing, maintaining or replacing a pool component that has become hazardous. All pools and tubs shall be covered when not in use to reduce evaporation.</u>
<u>4</u>	<u>Vehicle and Equipment Washing</u>	<p><u>Non-commercial washing of vehicles and mobile equipment (e.g., washing vehicle at a residence) is permitted only on assigned landscape watering days during landscape watering hours (before 10:00 a.m. or after 5:00 p.m.).</u></p> <p><u>Fleet managers are encouraged to only wash those vehicles as is necessary for health and safety.</u></p>
<u>4</u>	<u>Industrial and commercial</u>	<p><u>Reduction of water use by any means is encouraged. The Board of Directors may establish mandatory use reduction targets, if needed.</u></p> <p><u>Compliance with mandatory demand reduction measures is required for outdoor water uses including landscape irrigation, swimming pools, and vehicle washing.</u></p>
<u>4</u>	<u>Heavy Construction</u>	<u>The use of potable water for dust control shall be reduced to the greatest extent possible.</u>

STAGE 5: >50% - Mandatory – Emergency Conservation Requirement

Stage 5 ——— Emergency Conservation Requirement: >50 percent — Mandatory Program

Appropriate 50% water shortage allotments shall be calculated and noticed to customers. Appropriate administration and enforcement of this stringent program shall be the highest priority of MCWD activity. All resources of MCWD will be directed toward improvement and

increase of water supply to the system. Water rates may be further increased by the Board of Directors.

The following water use restrictions shall be imposed:-

<u>Stage</u>	<u>Type Use</u>	<u>Restriction</u>
<u>5</u>	<u>Landscape Irrigation for Existing Landscapes, including Public Parks</u>	<u>Landscape watering with recycled water may continue without restriction.</u> <u>Landscape watering with potable water is prohibited.</u>
<u>5</u>	<u>Landscape Irrigation for New Landscapes, including Public Parks</u>	<u>Landscape watering with recycled water may continue without restriction.</u> <u>The installation of new landscapes irrigated with potable water is prohibited during Conservation Stage 5.</u> <u>New landscapes installed prior to declaration of Conservation Stage 5 may water two (2) days a week to maintain adequate growth on newly installed landscapes, for the remainder of the initial five (5) week establishment period. Watering days for new landscapes are Tuesday and Friday. Property owners must notify the District of the address where new landscape is installed and the date of installation</u>
<u>5</u>	<u>Golf Courses / Athletic Fields</u>	<u>Landscape watering with recycled water may continue without restriction.</u> <u>Landscape watering with potable water shall be subject to the following limits:</u> <u>(3) All landscape out-of-play areas such as may be found around a clubhouse or entryway shall follow the general landscape irrigation restrictions.</u> <u>(4) All in-play areas may be irrigated during the standard watering hours (before 10:00 a.m. or after 5:00 p.m.).</u> <u>Course operators shall implement a thirty (30) percent reduction in irrigation water use.</u>
<u>5</u>	<u>Hotels, motels and bed and breakfasts</u>	<u>Hotels, motels and B&B's must limit linen/towel changes to once every three (3) nights or for the entire stay, whichever is shorter, except for health and safety.</u>
<u>5</u>	<u>Swimming pools, hot tubs</u>	<u>Filling new swimming pools and/or draining and refilling existing swimming pools is prohibited. All pools and tubs shall be covered when not in use to reduce evaporation. Contact District conservation staff if an existing swimming pool must be repaired and refilled during Conservation Stage 5.</u>
<u>5</u>	<u>Vehicle and Equipment Washing</u>	<u>Non-commercial washing of vehicles and mobile equipment is prohibited. Only commercial facilities with water recycling systems may be used.</u>

<u>Stage</u>	<u>Type Use</u>	<u>Restriction</u>
<u>5</u>	<u>Industrial and commercial</u>	<u>Reduction of water use by any means is encouraged. The Board of Directors may establish mandatory use reduction targets, if needed.</u> <u>Compliance with mandatory demand reduction measures is required for outdoor water uses including landscape irrigation, swimming pools, and vehicle washing.</u>
<u>5</u>	<u>Heavy Construction</u>	<u>The use of potable water for dust control shall be reduced to the greatest extent possible. The District may establish mandatory construction water budgets, if needed.</u>

Appeals Procedure

1. Any person who wishes to appeal a customer classification or allotment shall do so in writing by using the forms provided by MCWD.
2. Appeals will be reviewed by the Water Conservation Coordinator and staff. Site visits may be scheduled if required.
3. A condition of granting an appeal shall be that all plumbing fixtures or irrigation systems be replaced or modified for maximum water conservation.
4. Examples of appeals that may be considered are as follows:
 - a. Substantial medical requirements.
 - b. Commercial/Industrial/Institutional accounts where any additional water supply reductions will result in unemployment or inappropriate hardship, after confirmation by the MCWD staff that the account has instituted all applicable water efficiency improvements.
5. In the event an appeal is requested for irrigation of trees or vegetation, MCWD staff may use the services of a qualified consultant in determining the validity of the request. Costs for such consulting services shall be paid by the party or parties making the request.
6. The Water Conservation Coordinator shall refer all appeals to the Water Conservation Commission. The Water Conservation Commission may refer appeals to MCWD's Board of Directors.
7. If the Water Conservation Commission and the applicant are unable to reach accord, then the appeal shall be heard by the MCWD Board of Directors, who will make the final determination.
8. All appeals shall be reported monthly to the Board as a part of the Water Supply Report.

54.0 MANDATORY PROHIBITIONS ON WATER USE

California Water Code Section 10632(d). Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning. Section 10632(e) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.

The MCWD adopted a "Water Waste/Water Conservation" Ordinance (Ordinance No. 20) in April ~~of~~ 1990, which prohibits water waste and promotes water conservation. Since the initial adoption, revisions were adopted by the Board of Directors on ~~14~~ April 14, 1992 and ~~4~~ October 4, 1993. The ordinance has most recently been revised on and now appears as Chapter 3.36 of MCWD Code. Section 3.36.030, Mandatory Restrictions on Water Waste, details the applicable prohibitions of use. These prohibitions are in force at all times. Additional water use reduction methods available to water users or MCWD to adopt in order to comply with use reductions during the more restrictive stages of water shortages (Stages 4 and 5) include, but are not limited to, the following:

- a) elimination of turf irrigation with potable supplies;
- b) restriction of landscape watering to shrubs and trees by hand or drip irrigation only;
- c) elimination of vehicle washing except in car washes that have water recirculation systems;
- d) prohibition on filling or topping off of swimming pools where damage to pumping equipment will not result;
- e) elimination of water served in food service establishments unless requested;
- f) elimination of the issuance of construction meters;
- g) shut-off of dedicated landscape irrigation meters; and
- h) moratorium on provision of new supply meters.

If water use reductions called for in Stages 3-5 are not achieved, the MCWD may amend this Water Shortage Contingency Plan to make any of the above available conservation tactics mandatory.

65.0 PENALTIES OR CHARGES FOR EXCESSIVE USE

California Water Code Section 10632(f) Penalties or charges ~~for~~ excessive use.

Section 3.36.050 of MCWD Code provides for a system of violations and notices. Violation of provisions of this Water Shortage Contingency Plan shall be enforced under Section 3.36.050 of MCWD Code.

76.0 REVENUE AND EXPENDITURE IMPACTS

California Water Code Section 10632(g) – An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.

Enforcement of the ~~water~~ Water shortage Shortage contingency Contingency plan Plan is assumed to be covered by enhanced revenues ~~due to from~~ application of excess use charges and penalties. MCWD reserves may be ~~utilized~~ used temporarily should revenues remain below expectations. MCWD's rate structure is based upon adopted rate ranges and allows for modification of rates on short notice within those ranges. MCWD retains the ability to modify rates to meet all legitimate MCWD needs. Revenue impacts from water sales losses are estimated as follows, based upon ~~T~~ marginal commodity ~~ier 2~~ rates of \$2.35/hcf in Central Marina and \$2.86/hcf in the Ord Community ~~\$2.81/hcf~~, and recognizing approximately ~~40~~ 10% of MCWD's ~~supplies customers~~ are not metered as of ~~2005~~ 2010.

Table 6-3: Potential Revenue Impacts of Implementation of WSCP

	<u>Stage 1</u>	<u>Stage 2</u>	<u>Stage 3</u>	<u>Stage 4</u>	<u>Stage 5</u>
<u>Assumed Reduction</u>	<u>10 percent</u>	<u>20 percent</u>	<u>30 percent</u>	<u>40 percent</u>	<u>50 percent</u>
<u>Water Sales Loss</u>	<u>\$ 454,664</u>	<u>\$ 909,329</u>	<u>\$1,363,993</u>	<u>\$ 1,818,658</u>	<u>\$ 2,273,322</u>
<u>Revenue Source:</u> <u>Pumping savings at</u> <u>\$135/af</u>	<u>\$ 53,569</u>	<u>\$ 107,138</u>	<u>\$ 160,707</u>	<u>\$ 214,276</u>	<u>\$ 267,845</u>
<u>Net Revenue</u> <u>Reduction</u>	<u>\$ 401,095</u>	<u>\$ 802,191</u>	<u>\$1,203,286</u>	<u>\$ 1,604,382</u>	<u>\$ 2,005,477</u>
<u>Percent of Total</u> <u>Annual Water System</u> <u>Revenue</u>	<u>5%</u>	<u>11%</u>	<u>16%</u>	<u>21%</u>	<u>27%</u>

* Table based on FY2009-2010 water sales, \$7,501,854 for 3,970 acre-feet

87.0 WATER SHORTAGE CONTINGENCY PLAN IMPLEMENTATION

California Water Code Section 10632 (h) –A draft water shortage contingency resolution or ordinance.

MCWD Board of Directors will adopt this Water Shortage Contingency Plan in Resolution No. 2005-xx, which enables implementation of the Plan upon advice of staff based in part on the

triggering mechanisms discussed herein. [A draft of the resolution is attached as Appendix A to this Plan.](#)

98.0 WATER USE MONITORING PROCEDURES

California Water Code Section 10632 (i) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency plan.

Normal Monitoring Procedure:

In normal water supply conditions, production figures are recorded daily by MCWD O&M personnel. Totals are reported monthly to the Water Conservation Coordinator and Water Quality Manager. Production figures are reported in the Annual Report to the Drinking Water Program, which is submitted to the California Department of Health Services each year.

Stage 1 and 2 Water Shortages

During a Stage 1 or 2 water shortage, daily production figures will be reported to the O&M Superintendent and Water Conservation Coordinator. The Water Conservation Coordinator compares the weekly production to the target weekly production to verify that the reduction goal is being met. Monthly reports are forwarded to the General Manager, the Water Conservation Commission and the MCWD Board of Directors. If reduction goals are not met, the General Manager may notify the Board of Directors so that corrective action can be taken.

Stage 3 and 4 Water Shortages

During a Stage 3 or 4 water shortage, the procedure listed above will be followed, with the addition of a daily production report to the General Manager and weekly reports to the Water Conservation Commission and Board of Directors. Special meetings may be called for administration of the Water Shortage Contingency Plan.

Stage 5 [Water Shortage](#)

During a Stage 5 shortage, production figures will be reported to the O&M Superintendent hourly, and to the General Manager and the Water Conservation Coordinator daily. Reports will also be provided to MCWD's Board of Directors, the Monterey County Office of Emergency Services, and land use jurisdictions located within MCWD's service territory.

Chapter 34 WATER AND SEWERS*

***Charter references:** Authority of city to acquire and maintain property for water and sewer systems, § 3, par. 13(1), (23); powers with respect to sanitary sewer system, § 3, par. 10; public works department, § 60 et seq.

Cross references: Buildings generally, § 6-1 et seq.; fire prevention, § 11-1 et seq.; flood plains, § 12-1 et seq.; swimming pools, § 15-186 et seq.; standards and specifications for mobile home parks, § 18-61 et seq.; swimming in city parks, § 22-86; fishing in city parks, § 22-101; plumbing, § 24-1 et seq.; streets and sidewalks, § 29-1 et seq.; subdivisions, § 30-1 et seq.; zoning, § 35-1 et seq.

State law references: Authority of home rule cities to enact ordinances more stringent than minimum state standards with respect to water and sewage, Vernon's Ann. Civ. St. art. 4477-1, § 23.

Art. IV. Water Conservation and Reuse, §§ 34-271--34-425

Div. 1. Regulated Activities, §§ 34-271--34-286

Div. 2. Water Waste Enforcement, §§ 34-287--34-300

Div. 3. Reserved, §§ 34-301--34-315

Div. 4. Drought Management Plan, §§ 34-316--34-350

Div. 5. Reuse, §§ 34-351--34-425

ARTICLE IV. WATER CONSERVATION AND REUSE*

***Editor's note:** Ord. No. 80574, § 14, adopted Aug. 4, 1994, repealed former Art.

IV, §§ 34-271--34-283, relative to liquid waste transportation and disposal regulations, which derived from Ord. No. 64987, adopted May 7, 1987; and Ord. No. 69740, adopted June 29, 1989. Said Ord. No. 80574 enacted new provisions regarding similar subject matter which have been included in this chapter as Division 4 of Article V, § 34-511 et seq.

DIVISION 1. REGULATED ACTIVITIES

Sec. 34-271. Definitions.

As used in this article, the following terms shall have the following meanings:

Air conditioning system(s) means a mechanical system generally consisting of a compressor, thermostat and duct work permanently installed in a building for the purpose of controlling humidity and temperature. For the purposes of this division, an air conditioning system does not include window units.

Automatic irrigation controller means a device that automatically activates and deactivates an irrigation system at times selected by the operator.

Blowdown meter means a meter that tracks the amount of water discharged from a cooling tower system.

Commercial dining facility means a business that serves prepared food and beverages to be consumed on the premises.

Concentration means re-circulated water that has elevated levels of total dissolved solids as compared to the original make up water.

Conservation department means the Conservation Department of the San Antonio Water System.

Conductivity controller means a device used to measure the conductivity of total dissolved solids in the water of a cooling system and control the discharge of water in order to maintain efficiency.

Cooling tower means an open water recirculation device that uses fans or natural draft to draw or force air to contact and cool water through the evaporative process.

Director of conservation means the director of the department of conservation of the San Antonio Water System.

Impervious surface means patios, pathways and other areas where firm footing is desired, constructed in such a way that does not allow water to penetrate the ground. Examples include but are not limited to concrete slab patios, sidewalks and driveways, asphalt streets or pavers set with mortar.

Irrigation system means a system with fixed pipes and emitters or heads that apply water to landscape plants or turfgrass, including, but not limited to, in-ground and permanent irrigation systems.

Irrigation system analysis means a zone-by-zone analysis of an irrigation system that, at a minimum, includes a review of the following elements:

- (1) Design appropriateness for current landscape requirements;
- (2) Irrigation spray heads and valves;
- (3) Precipitation rates expressed in inches per hour;
- (4) Annual maintenance plan that includes irrigation system maintenance, landscape maintenance, and a basic summer and winter irrigation scheduling plan.

Large property means a tract of land or several tracts of land managed as a group such as commonly found in neighborhood common areas or medians and street setbacks commonly found associated with commercial development regardless of the number of meters or individual parcel sizes

associated with the property that equals or exceeds five (5) acres in size and has an irrigation system covering all or a portion of the property.

Large use property means any property that uses in 1 million gallons of water or more for irrigation purposes in a single calendar year.

Low-flow toilet means a tank toilet that uses one and sixth-tenths (1.6) gallons or less of water per flush.

Make-up meter means a meter that measures the amount of water entering a cooling tower system.

NPDES/TPDES permit holders means those entities that have valid state or federal permits commonly referred to as NPDES or TPDES [National Pollutant Discharge Elimination System/Texas Pollutant Discharge Elimination System] permits to satisfy requirements of the federal Clean Water Act.

Person means any individual, corporation (including a government corporation), organization, state or federal governmental subdivision or agency, political subdivision of a state, interstate agency or body, business, trust, partnership, limited partnership, association, firm, company, joint stock company, joint venture, commission or any other legal entity.

Pervious hardscape means patios, pathways and other areas where firm footing is desired, constructed in such a way that allows for water to penetrate the ground. Examples include flagstone set in sand and wood plank decks, but exclude concrete slab patios and sidewalks or pavers set with mortar.

Positive shut-off means a valve that is held in a closed position by system pressure until overridden by an outside force.

Power washer means a machine that uses water or a water-based product applied at high pressure to clean impervious surfaces.

Rain sensor means a device designed to stop the flow of water to an automatic irrigation system when rainfall has been detected.

Recycled water means domestic or municipal wastewater which has been treated to a quality suitable for a beneficial use in accordance with applicable law.

Requestor means a customer who requests a variance under this division.

Residential customer means a single or multi-family dwelling unit containing two (2) or fewer family units.

Summer dormancy means the ability of turfgrass to survive without water for a period of sixty (60) consecutive days during the months of May through September. Turfgrass with summer dormancy capabilities approved for use are set forth in the approved low water use plant list. The approved low water use plant list, as may be amended from time to time, shall be available from SAWS and located at www.saws.org/conservation.

Turfgrass means perennial ground cover plants and grasses that are adapted to regular mowing and traffic through management.

Vacuum system means a system, often consisting of a pump, chamber, and tubes, that is used to create a vacuum for any of a variety of purposes, including but not limited to medical, dental and industrial applications.

Variance administrator means staff person in the department of Conservation responsible for administering and hearing variance requests under this division.

Vehicle wash facility A permanently-located business that washes vehicles with

water or water-based product, including but not limited to self-service car washes, full-service car washes, roll-over/in-bay style car washes, and fleet maintenance wash facilities.

Vehicle wash fundraiser means any special-purpose vehicle wash event for which a fee is charged or donation accepted.

Water flow restrictor means an orifice or other device through which water passes at a restricted rate.

Xeriscape means a landscape consisting of a maximum of fifty (50) percent turfgrass, with the remaining percentage of landscape incorporating low water use plants and/or pervious hardscape. The approved low water use plant list, as may be amended from time to time, shall be available from SAWS and located at www.saws.org/conservation.

Zonal irrigation system means an irrigation system that segregates by station areas of shrubs, ground cover, bedding plants, and turf to accommodate a diversity of watering requirements.
(Ord. No. 100322, § 1(Att. A), 1-20-05)

Sec. 34-272. Activities to be regulated on and after effective dates.

The following activities shall be regulated in the manner set out herein on and after the respective dates indicated in the sections and subsections. A person affected by such regulations may request a variance in the manner set out in section 34-277. A violation of this section and subsections shall be subject to the enforcement provisions set out in section 34-278. It shall be and is hereby declared unlawful for any person to violate, refuse or fail to implement the requirements of this division.

(1) Power washers.

a. Effective January 1, 2006, a person who uses a power washer in any commercial

manner or for compensation shall register with the director of conservation, and obtain a certificate for such use.

b. Exempted from this requirement are persons who use power washers for personal use at their own home and homeowners who are performing a one-time clean up at a newly constructed house.

c. Holders of NPDES/TPDES permits are deemed certified.

Comment. This comment does not have force of law, but is offered for clarification only. The intent of this registration protocol is to complement and make effective mandates necessary to critical period conservation rules found elsewhere in this Code. The conservation rules in question are intended to prevent water waste under certain circumstances when critical periods are observed. Examples of persons subject to year round registration are those hired, employed or contracted to clean sidewalks, parking lots, commercial/public buildings and other impervious areas associated with commercial or domestic properties; professional painters; businesses using their own in-house power washers such as chain stores, grocery stores, and any other entity, public or private.

(2) Vehicle wash fundraisers. Effective March 1, 2005, any vehicle wash fundraiser shall be conducted at a vehicle wash facility using such facility's equipment.
(Ord. No. 100322, § 1(Att. A), 1-20-05)

Sec. 34-273. Activities to be regulated on and after January 1, 2006.

Except as provided by a specific and alternative application date, particularly systems analysis, the following activities shall be regulated in the manner set out herein on and after January 1, 2006. A person affected by such regulations may request a variance in the manner set out in section 34-277. A violation of this section

and subsections shall be subject to the enforcement provisions set out in section 34-278. It shall be and is hereby declared unlawful for any person to violate, refuse or fail to implement the requirements of this division.

(1) Minimum irrigation area and flow direction. Newly installed irrigation systems using pop-up spray or rotor technology shall not be used in landscaped areas which have both:

a. Dimensions less than five (5) feet in length and/or width; and,

b. Impervious pedestrian or vehicular traffic surfaces along two (2) or more perimeters.

Where pop-up sprays and rotor heads are allowed in newly installed irrigation systems, they:

a. Must direct flow away from any adjacent impervious surface; and

b. Shall not be placed within four (4) inches from an impervious surface.

c. Irrigation systems newly installed in single family dwellings may not cover more than 10,000 square feet of landscape with spray or rotor irrigation heads. The use of drip irrigation or micro-sprays may be used to expand the coverage size upon approval of the landscape plan by SAWS.

(2) Annual irrigation system analysis for athletic fields, golf courses, large use and large properties.

a. An annual irrigation system analysis shall be required for all athletic fields, golf courses, large use and large properties and shall be submitted in writing to the San Antonio Water System Conservation Department on or before May 1st of each year. Golf courses, athletic fields, and large properties that meet the definition of large use and large use properties regardless of size including residential properties must have a licensed irrigator sign-off on the annual irrigation system analysis. Golf courses, other than those utilizing recycled water for irrigation in accordance with an agreement with SAWS, shall comply with

residential irrigation requirements on areas other than ice boxes, fairways and greens.

b. Municipal tenants and lessees of golf courses, sports and athletic playing fields, and any other municipally owned properties, shall be responsible for compliance with this section and subsection. The SAWS shall look directly to such tenants and lessees for compliance unless the municipality concedes by contractual agreement with the tenant/lessee to assume the tenant/lessee's responsibility for compliance.

(3) Cooling towers. Effective January 1, 2006:

- a. Cooling towers, not utilizing recycled water, shall operate a minimum of four (4) cycles of **concentration**.
- b. Newly constructed cooling towers shall be operated with conductivity controllers, as well as make-up and blowdown meters.

(4) Ice machines. Newly installed ice machines shall not be single pass water-cooled.

(5) Commercial dining facilities.

- a. Commercial dining facilities shall:
 - a. Serve water only upon request.
 - b. Utilize positive shut-offs for hand-held dish-rinsing wands.
 - c. Utilize water flow restrictors for all garbage disposals.

(6) Vehicle wash facilities.

- a. Vehicle wash facilities, commencing operation on or after January 1, 2006, using conveyORIZED, touchless, and/or rollover in-bay technology shall reuse a minimum of fifty (50) percent of water from previous vehicle rinses in subsequent washes.
- b. Vehicle wash facilities, commencing operation on or after January 1, 2006, using reverse osmosis to produce water rinse with a lower mineral content, shall incorporate the unused concentrate in subsequent vehicle washes.
- c. Regardless of date of operation commencement, self-service spray wands used shall emit no more than three (3) gallons of water per minute.

(7) Vacuum systems. Vacuum systems shall not be water-cooled with single-pass potable water when alternative systems are available.

(8) Certain Plumbing Fixtures.

When installing certain plumbing fixtures on or after January 1, 2010; gravity flush toilets, bathroom aerators, showerheads, urinals; in any location, residential, commercial, industrial, or institutional, the fixtures will meet or exceed the following performance standards; and where the Environmental Protection Agency has accepted that specific plumbing fixtures by make and model, meet or exceed the WaterSense standards, such fixtures installed will be from the most current listing available at the time of installation:

- a. Gravity flush toilets shall have a maximum average water use of no more than 1.28 gallons per flush.
- b. Faucet aerators for bathrooms shall have a maximum water flow of 1.5 gallons per minute.
- c. Showerheads shall have a maximum water flow of 2.0 gallons per minute. All associated valves must be appropriate to the flows.
- d. Urinals shall have a maximum water use of 0.5 gallons per flush.

(9) Coin Operated Washing Machines.

All newly installed coin-operated washing machines, including but not limited to those that might be found in laundry-mats, apartment houses, dorms or communal use situations shall be selected from Consortium for Energy Efficiency (CEE) that meet or exceed the most current Tier 2 water and energy standards as determined by the CEE.

(10) Hot Water Lines.

Buildings without a dedicated hot-water return lines with runs exceeding 20 feet between the heating element and the end use fixture shall be insulated with R-4 sleeve insulation.

(Ord. No. 100322, § 1(Att. A), 1-20-05)

Sec. 34-274. Other activities to be regulated on and after January 1, 2006.

The following activities shall be regulated in the manner set out herein on and after January 1, 2006. A person affected by such regulations may request a variance in the manner set out in section 34-277. A violation of this section and subsections shall be subject to enforcement provisions set out in section 34-278. It shall be and is hereby declared unlawful for any person to violate, refuse or fail to implement the requirements of this division.

(1) Condensate collection.

Newly constructed commercial buildings installing air conditioning systems on and after January 1, 2006, shall have a single and independent condensate wastewater line to collect condensate wastewater to provide for future utilization as:

- a. Process water and cooling tower make-up, and/or
- b. Landscape irrigation water. Condensate wastewater shall not be allowed to drain into a storm sewer, roof drain overflow piping system public way or impervious surface.

(2) Rain sensors. Effective January, 1, 2006, rain sensors shall be installed and maintained on all irrigation systems equipped with automatic irrigation controllers.

(Ord. No. 100322, § 1(Att. A), 1-20-05)

Sec. 34-275. Landscaping regulations generally applicable on and after January 1, 2006.

Except as specifically provided with alternative effective dates, persons affected by the regulations set out herein below shall comply on and after January 1, 2006, and may request a variance to such regulations in the manner set out in section 34-277. A violation of this section and subsections shall be subject to the enforcement

provisions set out in section 34-278. It shall be and is hereby declared unlawful for any person to violate, refuse or fail to implement the requirements of this division.

(1) Xeriscape option. Effective January 1, 2006, homebuilders and/or developers subdividing lots and/or constructing new single family residential homes shall offer a xeriscape option in any series of landscaping options offered to prospective home buyers.

(2) Model. Effective January 1, 2006, homebuilders and/or developers who construct model homes for a designated subdivision shall have at least one model home per subdivision landscaped according to a xeriscape design.

(3) Zonal system. In-ground irrigation systems installed on and after January 1, 2006, shall be zonal irrigation systems.

(4) Turfgrass soil support.

- a. Turfgrass installed during or associated with new construction on and after January 1, 2006, shall have a minimum of four (4) inches of soil under the turfgrass.

- b. Drainage utility projects, water and power utility projects, public property maintenance or repair, and those governmental activities necessary to NPDES/TPDES compliance with federal or state rules and regulations implementing the federal Clean Water Act; or governmental actions to comply with the Americans with Disabilities Act, shall not be deemed new construction for purposes of this subsection.

(5) Turfgrass dormancy qualities.

Turfgrass installed after January 1, 2007, shall have summer dormancy capabilities.

(6) Irrigation system use, setting and schedule recommendations.

All irrigators installing irrigation systems permitted by the City of San Antonio shall provide to the irrigation system owner a recommended seasonal irrigation schedule and instructions on how to use the irrigation system and set the controller. Seasonal

schedules provided will be approved by SAWS Conservation Director or designee. The schedule will be affixed to the irrigation controller or an adjacent wall.

Legal comment. This comment does not have force of law, but is provided here for informational purposes only. The Texas Property Code, Chapter 202, Section 202.001, et. seq., entitled "Certain Restrictive Covenants," reflects a growing public interest in water conservation and its relationship to the public health, safety, and welfare.

Texas Property Code, Chapter 202, Section 202.007, provides that a property owners association may not include or enforce a provision in a dedicatory instrument that prohibits or restricts a property owner from implementing certain efficient irrigation systems, including underground drip or other drip systems. Any dedicatory instrument provision, attempting to restrict a property owner from installing such efficient systems, is void. Therefore, such restrictions, running counter to certain conservation efforts, cannot be enforced. Texas Real Property Code, Sec. 202.007(b). *Added by Acts 2003, 78 th Legislature, chapter 1024, § 1, Effective, September 1, 2003.*

As used within the Texas Property Code, "dedicatory instrument" means a governing instrument for the establishment, maintenance, and operation of a residential subdivision, planned unit development, condominium, townhouse regime, or any similar planned development. Texas Real Property Code, Sec. 202.007(1).

The Texas Property Code also allows that a property owners' association may restrict the type of turf used by a property owner in the planting of new turf [in the future] in order to encourage or require water conserving turf.

According to the Texas Property Code, property owners' associations may regulate, by dedicatory instrument or other legal means, installation of efficient irrigation systems, including establishing visibility limitations for aesthetic purposes.

The SAWS endorses and advocates the use of dedicatory instruments and other legal obligations among private parties which understandings may support and promote a culture of water conservation. (Ord. No. 100322, § 1(Att. A), 1-20-05)

Sec. 34-276. Variances.

The authority to grant a variance and an appeal from such variance to the provisions of this division, is hereby delegated to the San Antonio Water System in the manner described herein. A determination by the San Antonio Water System pursuant to this section shall be deemed final for purposes of appeal. Appeal procedures are detailed below.

(1) **Variance.** A person who is affected by these provisions may seek a variance in the manner set out herein. A person shall request a variance within thirty (30) days of the date a provision becomes apparently applicable to that person's activities and/or properties. For example, a person will have standing to seek a variance within thirty (30) days following receipt of a formal (citation) or informal notice of violation; prior to a notice of violation; or at the discretion of the variance administrator when, in the administrator's judgment, to deny standing to pursue a variance would clearly deny the applicant an opportunity to have justice and equity done for the applicant's case. In the latter situation, for purposes of justice and equity, the standard for allowing a variance application to be heard or considered are the common notions of rightness and fair play.

(2) **Time, date, place.** A person seeking a variance under these provisions shall make such request in writing to the conservation department. Such request shall be reviewed by the variance administrator. If the

application, on its face, warrants a variance, the administrator may grant the request without hearing. Otherwise, the administrator shall review such request within thirty (30) days of receipt and shall inform the requestor in writing of the time, date and place for variance hearing, if necessary.

(3) **Representation and notice of SAWS' response, first hearing.** The requestor may be represented by a duly authorized representative and may introduce such evidence as the requestor believes to be relevant. The administrator and appropriate conservation department personnel shall hear the request. The requestor shall receive written notification by the administrator within thirty (30) days of the date of the hearing whether such variance is granted or denied.

(4) **Appeal.** In the event the variance is granted, the decision of the administrator shall be final. Should the variance be denied, however, the requestor shall have ten (10) days from receipt of the denial of the variance to seek an appeal in writing. Within thirty (30) days of the written request for an appeal from the denial of a variance, the director shall hear the appeal. The requestor shall be informed in writing of the time, date and place where such appeal shall be heard. The requestor and/or his authorized representatives may present evidence to the director why such appeal should be granted. The director shall inform the requestor within thirty (30) days of the date of the hearing of the appeal whether the appeal has been granted or denied. The determination of the director shall be final and shall be in writing. If a judicial appeal is pursued, applicant must take such appeal to district court or other court of competent jurisdiction within thirty (30) days of the director's final determination, which further appeal shall be pursued under appropriate standards of the substantial evidence rule.

(5) **Variance qualifications.** Variances to the regulated activities in this division 1 may

be issued through the department of conservation's variance administrator provided that the general intent of this division has been met, and compliance with article IV, division 1, is proven to be impracticable to accomplish and to cause unnecessary hardship. The criteria to determine hardship shall include, but not be limited to, a showing of level of capital outlay and technical complexity in relation to conservation benefit to be derived, and time and effort required to accomplish compliance with this division.

(6) **Specific criteria to be used for the granting of variances.** The SAWS director of conservation shall also develop specific criteria to be used for the granting of variances from the provisions of this division, which are appropriate to the provision for which a variance is being sought. Such criteria shall be applied equally to each request for variance under a particular provision. A requestor shall be furnished with the criteria to be utilized by the administrator and/or director prior to his/her variance application and/or appeal being heard. (Ord. No. 100322, § 1(Att. A), 1-20-05)

Sec. 34-277. Enforcement.

(a) The president/CEO or his designee of the San Antonio Water System is hereby authorized to enforce this division in the manner and to the extent allowed by law, including, but not limited to, filing complaints with the city municipal prosecutor's office for such violations, serving notices of violations of this division and filing civil enforcement actions. Such authorization does not diminish the city attorney's authority in regard to enforcement of chapter 34 provisions.

(b) **Presumption and exception.** For purposes of this division, it shall be presumed that the person, in whose name a water meter connection is registered with the water purveyor servicing the property, is the

responsible party who has made, caused, allowed, or permitted a violation of the provisions of this division. Proof that the particular premises had a water meter connection registered in the name of the defendant cited in a criminal complaint filed pursuant to this division shall constitute a prima facie presumption that the defendant is a person who made, caused, allowed or permitted a violation pursuant to the provisions of this division. [Exception to this presumption is found in subsection 34-273(2), wherein a city, whose premises are used by a tenant/lessee, is generally not responsible for the tenant/lessee's compliance. In such cases the tenant/lessee of the city is responsible for compliance and the city shall have no duty to enforce against the tenant/lessee except to the extent the city's municipal courts may be fully utilized by the SAWS enforcement officers or other duly authorized governmental personnel charged with enforcement duties.]

(c) The president/CEO or his or her designee is authorized and instructed to commence any action, in law or in equity, including the filing of criminal charges, deemed necessary for the purpose of enforcing this division. The San Antonio Water System president/CEO or the designee may seek civil penalties, as may be allowed by statute, and any other legal or equitable relief available under common law, Chapter 54 of the Texas Local Government Code as it may be amended to address the subject matter of this division, or any other applicable city, state or federal code or statute.

(d) Criminal. Any person violating any provision of this division 1 of article IV shall be guilty of a class C misdemeanor and upon citation and conviction, shall be punished by a fine not less than fifty dollars (\$50.00) and not more than one hundred dollars (\$100.00) for the first offense; a fine not less than two hundred and fifty dollars (\$250.00) and not more than five hundred dollars (\$500.00) for the second offense; a fine of not less than one thousand dollars

(\$1,000.00) and not more than two thousand dollars (\$2,000) for the third and additional offenses. Each violation of a particular section of this division shall constitute a separate offense, and each day an offense continues shall be considered a new violation for purposes of enforcing this division.

(e) Civil. Civil penalties, imposed by courts of competent jurisdiction in civil actions for violations of this division, may also be assessed as may be allowed by applicable state law in any amount to be authorized by the state. Under Chapter 54 of the Texas Local Government Code, the SAWS and the office of the city attorney may presently pursue civil enforcement for injunctive relief and the imposition of one thousand dollars (\$1,000.00) per day civil penalties appropriately imposed by the Court. This statutory remedy is in addition to the city's common law right to bring civil actions for injunctive relief to stop harmful acts, independent of authority found in the Texas Local Government Code.

(f) If, for any reason, any section, sentence, clause or part of this division is held legally invalid, such judgment shall not prejudice, affect, impair or invalidate the remaining sections of this division, but shall be confined to the specific section, sentence, clause, or part of this division held legally invalid. (Ord. No. 100322, § 1(Att. A), 1-20-05) Secs. 34-278--34-286. Reserved.

DIVISION 2. WATER WASTE ENFORCEMENT*

***Editor's note:** Ord. No. 92179, § 1, adopted July 27, 2000, amended Div. 2 in its entirety, in effect repealing and reenacting said division to read as herein setout. The former Div. 2, §§ 34-287--34-300 pertained to wasting water and derived from Ord. No. 17390, §§ 1-8, adopted March 20, 1952; Ord. No. 17692, § 1, adopted May

29, 1952; Code 1959, §§41-30--41-36; Ord. No. 80574, § 7, adopted Aug. 4, 1994; Ord. No. 83703, § 1, adopted Feb. 29, 1996.

Sec. 34-287. Definitions.

As used in this article, the following terms shall have the following meanings:

Beneficial use. The amount of water that is economically necessary for a purpose not otherwise prohibited by the city, state or federal law or regulation, when reasonable intelligence and reasonable diligence is used in applying water for that purpose.

Impervious surface area. Any structure or any street, driveway, sidewalk, patio or other surface area covered with asphalt, concrete, brick, paving, tile or other material preventing water to penetrate the ground.

Landscaping watering. Water to any member of the plant kingdom, including any tree, shrub, vine, herb, flower, succulent, groundcover, grass or turf species, that is growing or has been planted out of doors.

Person. Any individual, corporation (including a government corporation), organization, state or federal governmental subdivision or agency, political subdivision of a state, interstate agency or body, business, trust, partnership, limited partnership, association, firm, company, joint stock company, joint venture, commission or any other legal entity.

Prescribed hours for sprinkling. Between the hours of 12:00 a.m. and 10:00 a.m. and 8:00 p.m. and midnight when the Aquifer Management Plan, Article IV, Division 4 is not in effect, and during the hours specified therein when the Aquifer Management Plan is in effect.

SAWS. San Antonio Water System.

Waste. Water without obtaining maximum beneficial use thereof. Waste shall also

include, but not be limited to, causing, suffering, or permitting a flow of water used for landscaping watering to run into any river, creek or other natural water course or drain, superficial or underground channel, bayou, or unto any sanitary or storm sewer, any street, road or highway or other impervious surface area, or upon the lands of another person or upon public lands. Waste shall also include, but not be limited to, any discharge of water used for commercial, industrial, municipal or domestic purposes to any storm, sanitary sewer, or septic system without the user first having obtained maximum beneficial use thereof. Waste shall also include, but not be limited to, failure to repair any controllable leak on property owned by any registered meter holder.

Water. Include, but not be limited to potable water supplied by a water purveyor; groundwater well, surface water from any river, creek, natural watercourse, pond, lake or reservoir, and recycled water supplied by a water purveyor. (Ord. No. 92179, § 1, 7-27-00; Ord. No. 92503, § 1, 9-14-00)

Sec. 34-288. Violations.

It shall be a violation punishable by city municipal fine for any San Antonio Water System water and/or waste water service customer residing or doing business within the corporate limits of the city and its extraterritorial jurisdiction, to intentionally, knowingly, recklessly, or criminally negligently to allow or cause water waste, to allow or cause landscape watering outside the prescribed hours for landscape watering, or to allow or cause any violation of any provision of this division or of the Aquifer Management Plan, Article IV, Division 4. (Ord. No. 92179, § 1, 7-27-00; Ord. No. 2008-10-02-0885, § 3(Exh. A), 10-2-08)

Sec. 34-289. Continued violations.

At locations of repeated or continued violations, the President/CEO of the San

Antonio water system shall have the authority to discontinue the supply of potable water to the registered meter holder. (Ord. No. 92179, § 1, 7-27-00)

Sec. 34-290. Enforcement personnel.

The President/CEO or the designee of the San Antonio water system is hereby authorized to enforce this division in the manner and to the extent allowed by law, including, but not limited to, filing complaints with the city municipal prosecutor's office for such violations, serving notices of violations of this division and filing civil enforcement actions. (Ord. No. 92179, § 1, 7-27-00)

Sec. 34-291. Education and enforcement.

As the success of conservation generally, and specifically of this division and the Aquifer Management Plan, Article IV, Division 4, depends largely on public cooperation, San Antonio water system policies shall implement customer education programs as a primary enforcement tool and shall establish and maintain a water conservation "hot line," so that the public may provide the San Antonio water system with information relating to violators. (Ord. No. 92179, § 1, 7-27-00)

Sec. 34-292. Defenses to prosecution.

(a) It shall be a defense to prosecution that landscape watering was performed on any plant or seed planted in or transplanted to an area within such period of time as to accomplish a reasonable establishment and maintenance of growth, generally three weeks.

(b) It shall be a defense to prosecution that landscape watering was performed by a commercial enterprise in the business of growing or maintaining plants for sale, such as plant nurseries; provided, however, that such landscape watering shall be performed solely for the establishment, growth, and maintenance of such plants and not wasted.

(Ord. No. 92179, § 1, 7-27-00; Ord. No. 92503, § 1, 9-14-00)

Sec. 34-293. Registered water meter user presumed liable.

For purposes of this division, in any case where water has been used in a manner contrary to any provision of this division or of the Aquifer Management Plan, Article IV, Division 4, it shall be presumed that the person in whose name a water meter connection is registered with the water purveyor servicing the property, has intentionally, knowingly, recklessly, or negligently made, caused, used or permitted to be used, the water in such a contrary manner. Proof that the particular premises had a water meter connection registered in the name of the defendant cited in a criminal complaint filed pursuant to this division shall constitute *prima facie* presumption that the defendant is a person who made, caused, used or permitted to be used, water in a manner contrary to any provision of this division or of the Aquifer Management Plan, Article IV, Division 4. (Ord. No. 92179, § 1, 7-27-00)

Sec. 34-294. Additional enforcement remedies.

The President/CEO or his or her designee is authorized and instructed to commence any action, in law or in equity, including the filing of criminal charges, deemed necessary for the purpose of enforcing this division. The San Antonio water system President/CEO or the designee may seek civil penalties and any other legal or equitable relief available under common law, Chapter 54 of the Texas Local Government Code or any other applicable city, state or federal code or statute. (Ord. No. 92179, § 1, 7-27-00; Ord. No. 92503, § 1, 9-14-00)

Sec. 34-295. Penalties.

Criminal. Any person violating any provision of this division or of the Aquifer Management Plan, Article IV, Division 4,

shall be guilty of misdemeanor and upon citation therefore and conviction thereof, shall be punished by a fine not less than fifty dollars (\$50.00) and not more than one hundred dollars (\$100.00) for the first offense, a fine not less than two hundred and fifty dollars (\$250.00) and not more than five hundred dollars (\$500.00) for the second offense, and a fine not less than one thousand dollars (\$1,000.00) and not more than two thousand dollars (\$2,000.00) for the third or any additional offense. Each violation of a particular section of this division or of the Aquifer Management Plan Article IV, Division 4, shall constitute a separate offense, and each day an offense continues shall be considered a new violation for purposes of enforcing this division.

Civil. Civil penalties for violations of this division or of the Aquifer Management Plan, Article IV, Division 4, may also be assessed as allowed by applicable state law in an amount not to exceed one thousand dollars (\$1,000.00) per violation. Each violation of a particular section of this division or of the Aquifer Management Plan Article IV, Division 4, shall constitute a separate violation, and each day a violation continues shall be considered a new violation for purposes of enforcing this division. (Ord. No. 92179, § 1, 7-27-00)

Sec. 34-296. Nuisance.

The violation of any part of this division shall be a nuisance which may be abated and enjoined by the San Antonio water system. Any person creating a public nuisance shall be subject to the provision of the Code governing such nuisances, including reimbursing the San Antonio water system for any costs incurred in removing, abating or remedying said nuisance. The owner of any property where said nuisance has occurred shall be liable to the city, acting through and on behalf of the San Antonio water system, for the cost of such abatement and shall pay such cost on demand and the city, acting through and on behalf of the San Antonio water system, shall have a right to

file a lien on the property to secure payment of the cost of such abatement. (Ord. No. 92179, § 1, 7-27-00)

Sec. 34-297. Access to premises.

The San Antonio water system and all persons or agents employed thereby shall, at all reasonable hours, have free access to premises to ascertain if water is being wasted within the corporate limits of the city or the extent of jurisdictional authority and whether provisions of the Aquifer Management Plan Article IV, Division 4, have been, and are being, complied with in all respects. (Ord. No. 92179, § 1, 7-27-00)

Sec. 34-298. Access to information.

Any water purveyor operating within the corporate limit of the city shall provide enforcement personnel of the San Antonio water system, upon request, with the identity, mailing address and telephone number of any person in whose name a water meter is registered or customer account is maintained. (Ord. No. 92179, § 1, 7-27-00)

Sec. 34-299. Severability.

If, for any reason, any section, sentence, clause or part of this division is held legally invalid, such judgement shall not prejudice, affect, impair or invalidate the remaining sections of this division, but shall be confined to the specific section, sentence, clause, or part of this division held legally invalid. (Ord. No. 92179, § 1, 7-27-00)

Sec. 34-300. This article to prevail if conflict.

In the event any section of this article conflicts in effect or application with any other section of the Code or ordinance, the section(s) of this division shall prevail. (Ord. No. 92179, § 1, 7-27-00)

DIVISION 3. RESERVED*

***Editor's note:** Ord. No. 92179, § 1, adopted July 27, 2000, repealed Div. 3, §§ 34-301--34-309, which pertained to restrictions on landscape waterings, and derived from Ord. No. 80574, § 6, adopted Aug. 4, 1994.

Secs. 34-301--34-315. Reserved.

DIVISION 4. DROUGHT MANAGEMENT PLAN*

***Editor's note:** Ord. No. 2007-02-08-0149, § 1(Exh. A), adopted February 8, 2007, amended division 4 in its entirety to read as herein set out. Formerly, division 4 pertained to the aquifer management plan, and derived from Ord. No. 80574, § 12, adopted August 4, 1994; Ord. No. 82533, § 1, adopted July 20, 1995; Ord. No. 83703, §§ 2--5, adopted February 29, 1996; Ord. No. 83860, §§ 2--7, adopted March 28, 1996; Ord. No. 84082, §§ 1, 2, adopted May 9, 1996; Ord. No. 84286, § 6, adopted July 18, 1996; Ord. No. 85945, § 1, adopted April 24, 1997; Ord. No. 91738, § 1, adopted May 4, 2000; Ord. No. 92179, § 1, adopted July 27, 2000; Ord. No. 92503, § 1, adopted September 14, 2000.

Sec. 34-316. Adoption of a drought management plan, water use reduction measures, and aquifer stage conditions applicable system-wide, including within the corporate limits of the city and its extraterritorial jurisdiction.

The drought management plan, including the water use reduction measures and associated implementation conditions set out therein, is hereby adopted and applicable throughout the San Antonio Water System water and waste water service area, including within the corporate limits of the city and its extraterritorial jurisdiction. All San Antonio

Water System water and/or waste water service customers shall comply with the provisions of this division.

(Ord. No. 2007-02-08-0149, § 1(Exh. A), 2-8-07; Ord. No. 2008-10-02-0885, § 3(Exh. A), 10-2-08)

***Editor's note:** Ord. No. 2008-10-02-0885, § 3(Exh. A), adopted October 2, 2008, changed the title of § 34-316 from "Adoption of a drought management plan, water use reduction measures, and aquifer stage conditions" to "Adoption of a drought management plan, water use reduction measures, and aquifer stage conditions applicable system-wide, including within the corporate limits of the city and its extraterritorial jurisdiction."

Sec. 34-317. Definitions.

Advanced plan means, submitted to and approved by SAWS, an irrigation schedule based on precipitation rates for irrigation systems that allows athletic fields to be irrigated more than one day a week.

Aesthetic use means the use of water for artificially created fountains, waterfalls, lakes, streams, rivers, lagoons, and ponds, where such use is primarily ornamental and serves no other functional purpose.

Agricultural irrigation means irrigation for the purpose of growing crops commercially for human consumption or to use as feed for livestock or poultry.

Athletic field means a sports playing field, the essential feature of which is turf grass, used primarily for organized sports for schools, professional sports, or sanctioned league play.

Base usage means the average monthly total water usage for the three (3) lowest months of November and December and the following January and February during each of the three (3) consecutive twelve-month

periods preceding the commencement of the user's use of water.

Basic plan means, submitted to and approved by SAWS, an irrigation schedule for athletic fields that allows each athletic field at a particular location to be irrigated one day a week.

Bucket means a deep, cylindrical container holding five (5) gallons or less, used singly by one person.

Certified vehicle wash facility means a vehicle wash facility that meets the requirements of SAWS certified vehicle wash program.

Computer controlled irrigation system (CCIS) means a system comprised of a computer controller (digital operating system), software, interface modules, satellite field controllers, soil sensors, weather station, or similar devices that is capable of achieving maximum efficiency and conservation in the application of water for irrigation. A CCIS, at a minimum, should be designed to:

- (1) Prevent over watering, flooding, pooling, evaporation and run-off, and
- (2) Prohibit sprinkler system from applying water at an rate exceeding the soil holding capacity of the land under irrigation.

Conforming means a golf course that has a CCIS in place and is utilizing the system to achieve maximum conservation and the goals of this division. Conforming facilities shall have a conservation plan approved and on file with SAWS.

Drip irrigation means an irrigation system (drip, porous pipe, etc.) that applies water at low-flow levels directly to the roots of the plant.

Drought, for the purposes of this division, is not intended to be limited to any meteorological definition of the term. "Drought" is intended to have broad meaning and refers to any condition,

whether man-made or natural, where the available water supply or resources are not meeting the water demand, or if the water supply or resources are being depleted at a faster rate than they are being replenished.

Evapotranspiration rate (ET rate) means the rate which the combination of evaporation from soil surface and transpiration from vegetation will occur for specific climatic conditions.

Existing landscaping plant means a landscaping plant existing after such period of time as to accomplish an establishment and maintenance of growth.

Fountain means an artificially created jet or stream of water, a structure, often decorative, from which a jet or stream of water issues.

Golf course means an irrigated and landscaped playing area made up of greens, tees, fairways, roughs and related areas used for the playing of golf.

Hand-held hose means a hose physically held by one person, fitted with a manual or automatic shutoff nozzle.

Health care facility means any hospital, clinic, nursing home or other health care or medical research facility.

Hose-end sprinkler means a sprinkler that applies water to landscape plants that is piped through a flexible, movable hose.

Household use means the use of water, other than uses in the outdoor category, for personal needs or for household purposes, such as drinking, bathing, heating, cooking, sanitation or cleaning, whether the use occurs in a residence or in a commercial or industrial facility.

Industrial use means the use of water for or in connection with commercial or industrial activities, including manufacturing, bottling, brewing, food processing, scientific research

and technology, recycling, production of concrete, asphalt, and cement, commercial uses of water for tourism, entertainment, and hotel or motel lodging, generation of power other than hydroelectric, and other business activities.

Irrigation suspension program (ISP) means a program administered by the Edwards Aquifer Authority pursuant to which agricultural irrigators within the Edwards Aquifer Authority's boundaries voluntarily agree to suspend some irrigation use of the underground water from the Edwards Aquifer in consideration for payments voluntarily funded by ISP participants.

Irrigation system, also referred to as an in-ground or permanent irrigation system, means a system with fixed pipes and emitters or heads that apply water to landscape plants.

Lake, lagoon or pond, for the purposes of this division, is an artificially created body of fresh or salt water.

Landscape watering means the application of water to grow or maintain landscaping plants, such as flowers, ground covers, turf or grasses (other than golf courses or athletic fields), shrubs, and trees, but for purposes of this division does not include essential use without waste of water by a commercial nursery to the extent the water is used for production rather than decorative landscaping.

Landscape plant means any member of the kingdom plantae, including any tree, shrub, vine, herb, flower, succulent, groundcover or grass species, that grows or has been planted out-of-doors.

Livestock means cattle, sheep, goats, hogs, poultry, horses, and game, domestic, exotic and other animals and birds, including zoo animals, used for commercial or personal purposes.

Livestock use means the use of water for drinking by or washing of livestock.

Maintenance level means the level of water in a swimming pool required for proper operation of circulation and filter equipment for the swimming pool.

msl means elevation above mean sea level.

Mulch means any material such as bark, leaves, straw or other materials left loose and applied to the soil surface to reduce evaporation.

New landscape means any contiguous area where new landscape plant(s) are installed where no other planted plants currently exists. A new plant(s) added to an existing landscape is not considered a new landscape for the purposes of an establishment variance.

New landscaping plant means any plant or seed planted in or transplanted to an area within such period of time as to accomplish a reasonable establishment and maintenance of growth. Application of grass seed to an existing stand of grass or turf is not considered new landscaping for the purposes of this chapter.

Non-conforming means a golf course that is not conforming. Non-conforming golf courses must follow the reduction measures and guidelines set forth in section 34-332.

Organic material means organic substances in differing stages of decay.

Other outdoor use means the use of water outdoors for the maintenance, cleaning and washing of structure and mobile equipment, including automobiles and boats, or the washing of streets, driveways, sidewalks, patios and other similar areas.

Park means a tract of land, other than a golf course, maintained by a city, private organization, or individual, as a place of beauty or public recreation.

Previous surface means any ground surface which can absorb water or other liquids.

Power production use means the use of water for steam generation and the use of water for cooling and for replenishment of cooling reservoirs.

Precipitation rate means the speed at which a sprinkler or irrigation system applies water. Precipitation rates are measured in inches per hour or inches per minute.

Private residential swimming pool. (See "swimming pool").

Property address means the street address of a property, unless multiple street addresses are served by a single meter, in which case the mailing address will be used.

Public means municipally-owned or operated facilities.

Public swimming pool. (See "swimming pool").

River, stream or brook, for the purposes of this division 4, means an artificially created flow of water in a channel or bed, as a brook, rivulet or small river.

SAWS means the San Antonio Water System.

Soaker hose means a flexible hose that is designed to slowly emit water across the entire length based on water pressure, and connect directly to a flexible hose or spigot. Does not include hose that by design or use send a fine spray in the air.

Soil holding capacity means the amount of moisture in the soil that can occur without becoming saturated.

Sprinkler means an emitter that applies water to the landscape plants in a stream or spray that travels through the air. Sprinkler

irrigation can be applied by an irrigation system or hose-end sprayer or a hose that sprays water in the air.

Swimming pool means any structure, basin, chamber, or tank including hot tubs, containing an artificial body of water for swimming, diving, or recreational bathing, and having a depth of two (2) feet or more at any point.

Private residential swimming pool means any swimming pool located on private property under the control of the homeowner, the use of which is limited to swimming or bathing by the homeowner's family or invited guests.

Public swimming pool means any swimming pool, other than a private residential swimming pool, intended to be used collectively by persons for swimming or bathing, operated by any person as defined herein, whether owner, lessee, operator, licensee, or concessionaire, regardless of whether a fee is charged for such use. The term includes, but is not limited to, apartment community pools, condominium association pools and community association pools.

TDS means total dissolved solids.

Trigger level means the mean sea level of the Edwards Aquifer as indicated by the J-17 index well.

Turf means a surface layer of earth containing mowed grass with roots.

Vehicle wash facility means a place or business intended for the sole purpose of washing cars and/or other motor vehicles. Such establishments shall utilize self service, rollover in-bay or conveyor washing technology with catchments' systems and oil-water separators that are intended to treat wastewater prior to entering the sanitary sewer. Such systems shall be designed and maintained to prevent runoff into streets,

storm drains and/or local creeks and tributaries.

Vegetable garden means any non-commercial vegetable garden planted primarily for household use; "non-commercial" includes incidental direct selling of produce from such a vegetable garden to the public.

Water conservation plan means the water conservation plan must include proof of irrigation efficiency of sixty (60) percent or greater and demonstrate specific measures to be taken to reduce consumption to meet the reduction goal established for each stage I, II, III, and IV. A plan should also include precipitation rates and irrigation schedules with run times. SAWS may, on a case by case basis, waive the requirements for irrigation efficiency and/or submission of a water conservation plan.

Waterfall, for the purposes of this division, means an artificially created steep descent of water from a height, cascade.

Water utility use means water used for withdrawal, treatment, remediation, transmission and distribution by potable water system.

Watering day means a day designated for landscape watering limited to the standard 24-hour period of 12:00 a.m. to midnight. Thus, if it is stage I and Wednesday is a designated watering day, the period of time referenced is Wednesday morning between midnight to 10:00 a.m., and Wednesday evening between 8:00 p.m. and midnight.

Zonal irrigation system means an irrigation system which segregates by station areas of shrubs, ground cover, bedding plants, and turf to accommodate a diversity of watering requirements.
(Ord. No. 2007-02-08-0149, § 1(Exh. A), 2-8-07)

Sec. 34-318. Bases of water use

reduction measures and aquifer stage conditions.

The water use reduction measures shall be based on the aquifer stage conditions or other condition considerations specified in section 34-319. The aquifer stage conditions shall be based on the Edwards Aquifer water levels in well AY-68-37-203 in the city (also known as "Dodd Field Test Well" or "J-17") as set out in section 34-322, or on aquifer water quality or other aquifer, seasonal or weather conditions not based on water levels in J-17 (set out in section 34-324).

(Ord. No. 2007-02-08-0149, § 1(Exh. A), 2-8-07)

Sec. 34-319. Implementation of water use reduction measures and stages, generally.

When the aquifer falls to six hundred sixty-five (665) feet above msl, city and SAWS staff shall begin preparations for public awareness, education and enforcement of the respective stage provisions. Stage I water use reduction measures shall be declared to be in effect when the aquifer level in the index well J-17 falls to six hundred sixty (660) feet above msl. Stage II water use reduction measures shall be declared to be in effect when the aquifer level in the index well J-17 falls to six hundred fifty (650) feet above msl. Subsequent stages of the water use reduction measures shall be automatically implemented when the conditions set out in sections 34-322 and 34-324 are met, including a condition that if the total supply of water from the Edwards Aquifer and other available sources is insufficient to meet customer demand, while complying with applicable regulations governing water supply withdrawals. The determination whether SAWS is able to comply with the applicable regulations governing water supply withdrawals shall be based upon consideration of pumping trends, seasonal adjustments and current and forecast precipitation. After a monitoring period of thirty (30) days and due

consideration of all of the above described conditions, the city manager, or designee, in consultation with SAWS president/CEO or designee, may declare later stages of drought or delay a later stage of drought. Specific water use reduction measures are set out in section 34-332 and shall cover the categories of regulated uses, applicable stages and corresponding required water use reduction measures.

(Ord. No. 2007-02-08-0149, § 1(Exh. A), 2-8-07)

Sec. 34-320. Declaration of water use reduction measures, stages in effect; notice by publication required.

(a) The city manager, in consultation with SAWS, is hereby authorized to declare that each "trigger level" or other condition has been reached as described in section 34-322 (table I) and that the water use reduction measures and each respective stage are in effect.

(b) Notices of the implementation and termination of the water use reduction measures and each of the various stages, as appropriate, shall be publicly announced and published in a daily newspaper for a minimum of one (1) day. The implementation or termination of the measures and each of the stages shall become effective immediately upon publication of the respective notice.
(Ord. No. 2007-02-08-0149, § 1(Exh. A), 2-8-07)

Sec. 34-321. Water advisory council to be organized.

When the water use reduction measures are declared to be in effect, a water advisory council, composed of water purveyors and other interested jurisdictions, shall meet. This group shall provide a forum for information exchange and cooperation to

ensure that the aquifer management plan is understood and equitably implemented.
(Ord. No. 2007-02-08-0149, § 1(Exh. A), 2-8-07)

Sec. 34-322. Declaration and termination of stages I through IV.

Declaration and termination of stages I through IV shall occur according to the following schedule:

Table I

TABLE INSET:

<i>Stage</i>	<i>Conditions for Declaration</i>	<i>Conditions for Termination</i>
I	When the Edwards Aquifer level in the index well J-17 falls to six hundred sixty (660) feet above msl.	When the Edwards Aquifer levels remain above six hundred sixty (660) msl. for thirty (30) consecutive days and it is determine conditions warrant termination of the measures (Sec. 34-325).
II	When the Edwards Aquifer level in the index well J-17 falls to six hundred fifty (650) feet above msl.	When the Edwards Aquifer levels remain above six hundred fifty (650) msl. for thirty (30) consecutive days and it is determine conditions warrant termination of the measures (Sec. 34-325). Conditions will terminate if all restrictions are terminated or if a previous less restrictive stage will apply.
III	A. When the Edwards Aquifer level in the index well J-17 falls to six hundred forty (640) feet above msl. B. The total supply of water from the Edwards Aquifer and other available sources is insufficient to meet customer demand while complying with applicable regulations governing water supply withdrawals.	When the Edwards Aquifer levels remain above six hundred forty (640) msl. for thirty (30) consecutive days and it is determine conditions warrant termination of the measures. Conditions will determine if all restrictions are terminated or if a previous less restrictive stage will apply (Sec. 34-325).
IV	A. When the Edwards Aquifer level in the index well J-17 falls to six hundred thirty (630) feet above msl. B. After a 30-day monitoring period once stage III is declared, the total supply of water from the Edwards Aquifer and other available sources is insufficient to meet customer demand while complying with applicable regulations governing water supply withdrawals.	When the Edwards Aquifer levels remain above six hundred thirty (630) msl. for thirty (30) consecutive days and it is determine conditions warrant termination of the measures. Conditions will determine if all restrictions are terminated or if a previous less restrictive Stage will apply (Sec. 34-325).

(Ord. No. 2007-02-08-0149, § 1(Exh. A), 2-8-07)

Sec. 34-323. Designated landscape irrigation times and days.

During any period when stage restrictions have been declared to be in effect, irrigation with a sprinkler or irrigation system of existing landscape on any property (other than golf courses and

athletic fields, the restrictions for which are set out in section 34-332) may occur only on certain designated days and at certain times, as follows:

(1) For stage I, II, III, and IV the landscape irrigation days for residential and commercial properties will be according to the street address and according to the following schedule. If the last digit of the street address ends in:

**0 or 1 the irrigation day is Monday,
2 or 3 the irrigation day is Tuesday,
4 or 5 the irrigation day is Wednesday,
6 or 7 the irrigation day is Thursday,
8 or 9 the irrigation day is Friday.**

If there is no street address associated with the property such as a parkway or if there is more than one (1) street address associated with a single contiguous property the irrigation day is Wednesday.

(2) For stage I the following times and associated irrigation methods apply: Irrigation with a hose-end sprinkler or in-ground irrigation system is allowed on the day specified in subsection (1) between the hours of 3:00 a.m. to 8:00 a.m. and 8:00 p.m. to 10:00 p.m. Landscape irrigation with a drip irrigation system or five-gallon bucket is allowed during stage II hours on any day. Landscape irrigation with a handheld hose is allowed at any time on any day.

(3) For stage II the following times and associated irrigation methods apply: Irrigation with a soaker hose, hose-end sprinkler or in-ground irrigation system is allowed on the day specified in subsection (1) between the hours of 3:00 a.m. to 8:00 a.m. and 8:00 p.m. to 10:00 p.m. Landscape irrigation with a drip irrigation system or five-gallon bucket is allowed during stage II hours on any day. Landscape irrigation with a handheld hose is allowed at any time on any day.

(4) For stage III, the following times and associated irrigation methods apply: Irrigation with a soaker hose, hose-end sprinkler or in-ground irrigation system is allowed on the day specified in subsection (1) every other week beginning on the second Monday after the stage III has been declared, between the hours of 3:00 a.m. to 8:00 a.m. and 8:00 p.m. to 10:00 p.m. Landscape irrigation with a drip irrigation system or five-gallon bucket is allowed on every Monday, Wednesday and Friday during stage III hours. Landscape irrigation with a handheld hose is allowed at any time on any day.

(5) For stage IV, stage III landscape irrigation restrictions remain in effect. In addition, a drought surcharge is assessed on all water accounts of SAWS, in accordance with section 34-128. Additional restrictions on water use may be established at the discretion of the city council. (Ord. No. 2007-02-08-0149, § 1(Exh. A), 2-8-07)

Sec. 34-324. Implementation of additional water use reduction measures.

(b) Whenever aquifer quality measures thirty (30) percent TDS above historical average and above the maximum TDS value for any public supply water well, the city manager or designee, in consultation with SAWS president/CEO or designee, shall establish appropriate additional measures to protect the aquifer.

(a) Implementation of additional water use reduction measures may be based on consideration of aquifer water quality or on other aquifer, seasonal or weather conditions not based on water levels in J-17, or other conditions as determined by the city.

(c) Regardless of consideration of aquifer quality, whenever city council may determine that other aquifer, seasonal, or weather conditions not based on water levels in J-17 warrant, the city council may also declare the city impose additional restrictions for all water uses.

(d) A prohibition of sprinkler irrigation may be declared by the city manager, in consultation with the city council, the San Antonio Water System's board of trustees and the Edwards Aquifer Authority's board of directors when the Edwards Aquifer Authority's board of directors have declared a prohibition of all sprinkler irrigation throughout the entire Edwards Aquifer region.

(Ord. No. 2007-02-08-0149, § 1(Exh. A), 2-8-07)

Sec. 34-325. Termination of water use reduction measures, stages.

When the aquifer level at J-17 rises to six hundred sixty (660) feet msl during a period when the water use reduction measures have been declared in effect, the city manager, or his or her designee, in consultation with SAWS president/CEO, or designee, shall monitor consistency of aquifer levels for the next thirty (30) days to determine if conditions warrant termination of the measures, and such determination shall

include consideration of pumpage trends, seasonal adjustments, and current and forecast precipitation unless conditions significantly change to warrant an earlier review for stage termination. After this monitoring period and due consideration of all of the above-described conditions, the city manager, or designee, in consultation with SAWS president/CEO, or designee, may declare the measures terminated.

Notice of the termination of the water use reduction measures and each of its various stages, as appropriate, shall be publicly announced and published in a daily newspaper for a minimum of one (1) day. Termination of the measures and each of its stages shall become effective immediately upon publication of the respective notice.

(Ord. No. 2007-02-08-0149, § 1(Exh. A), 2-8-07)

Secs. 34-326--34-331. Reserved.

Sec. 34-332. Specific water use reduction measures.

Specific water use reduction measures, their corresponding stages and scope are set out in table A stage I, table B stage II, table C stage III and table D stage IV, below

Table A--Stage I Restrictions

TABLE INSET:		
<i>Stage</i>	<i>Measures For</i>	<i>Scope of Restrictions</i>
I	Essential Services	Fire-fighting and medical uses--no restrictions. Reductions in fire hydrant and sewer line flushing encouraged.
I	Water Utility Use	Water utilities are encouraged to implement voluntary measures, such as improving leak detection surveys and repair programs and stabilizing and equalizing system pressure.
I	Power Production	Water used for power production shall be voluntarily reduced.
I	Military	Compliance with mandatory reduction measures for those uses

		in the outdoor, essential and utility categories.
I	Agriculture	Reduction of water use by any means available is encouraged.
I	Live Stock Use	Reduction of water use by any means available is encouraged.
I	Industrial, Commercial, and Other	A. Reduction of water use by any means available is encouraged. Compliance with the mandatory demand reduction measures is required for those uses in the outdoor category, including landscape watering, swimming pools, hot tubs and similar facilities, golf courses, aesthetic uses such as fountains; such restrictions specifically include industrial users, as well as all others. B. Use of gray water, treated wastewater or reuse water, cooling tower blow down, condensate water is a defense to prosecution. Alternate on-site reclaimed sources may be approved through variance on a case by case basis. C. If one hundred (100) percent use of gray water, treated wastewater or reuse water, condensate water, cooling tower blow will be used signs identifying this property as using recycled or reclaimed water source must be posted on site at a location where the general public can view it.
I	Hotels, Motels, Bed and Breakfasts	Hotels, motels, and B&B's encouraged to voluntarily offer the option of a "no linen/towel change" program.
I	Households	Reduction of water use by any means available is encouraged. Compliance with the mandatory demand reduction measures shall be achieved for those uses in the outdoor category, such as landscape watering, swimming pools, hot tubs, pressure washing and similar facilities.
I	Swimming Pools, Hot Tubs	All swimming pools other than public swimming pools must be covered with an effective evaporation cover or screen or evaporation shields covering at least twenty-five (25) percent of the surface of the pool when the pool is not in active use. Active use includes necessary maintenance that requires removal of the cover, screen, or shields. Active use of public, commercial and apartment pools is whenever the pool is not officially closed.
I	Aesthetic Water Features	A. Outside and indoor prohibited. The one hundred (100) percent use of treated wastewater, condensate, or cooling tower blow down is defense to prosecution under this paragraph. Alternate on-site reclaimed sources may be approved through variance on a case-by-case basis. B. If one hundred (100) percent use of gray water, treated wastewater or reuse water, condensate water, cooling tower blow will be used signs identifying this property as using

		recycled or reclaimed water source must be posted on site at a location where the general public can view it.
I	Pressure or Power Washing	<p>Use of water to wash any impervious outdoor ground covering, such as a parking lot, driveway, street or sidewalk, is prohibited. The washing of any impervious surfaces for immediate health and safety shall be a defense to prosecution under this paragraph. A variance from SAWS should be obtained for any washing of impervious surfaces. No run-off leading to a storm drain is allowed. Commercial pressure or power washers must be registered to work in the city (section 34-272.1).</p> <p>A. Citizens are encouraged to wash their vehicles no more than twice a month.</p> <p>B. Non-commercial washing of vehicles and mobile equipment (e.g., washing vehicle at a residence) is permitted only on assigned residential landscape sprinkling watering days before 10:00 a.m. and after 8:00 p.m. (subsections 34-323(1)–(7)) with a pressure washer, hand-held hose equipped with an automatic shut-off nozzle, or bucket of five (5) gallons or less, but is prohibited between the hours of 10:00 a.m. and 8:00 p.m.</p> <p>C. Fleet managers are encouraged to only wash those vehicles as is necessary for health and safety.</p> <p>D. Use of gray water, condensate water, cooling tower blow down treated wastewater or recycled water is a defense to prosecution and may be used to irrigate any day before 10:00 a.m. and after 8:00 p.m. Alternate on-site reclaimed sources may be approved through variance for the SAWS Conservation Department on a case by case basis.</p>
I	Vehicle and Equipment Washing	
I	Landscape Irrigation for Existing Plants	<p>A. Landscape watering using sprinkler or irrigation systems is permitted only on designated landscape watering days (subsection 34-323(1)). For stage I the following times and associated irrigation methods apply: Irrigation with a hose-end sprinkler or in-ground irrigation system is allowed on the day specified in subsection 34-323(1) between the hours of 12:00 a.m. to 10:00 a.m. and 8:00 p.m. to midnight. Landscape irrigation with a soaker hose, handheld hose, drip irrigation system or five (5) gallon bucket is allowed at any time on any day.</p> <p>B. A user may file with SAWS a request for an exception to the designated days and times. The request must include: (1) a statement indicating compelling reasons why the user is unable to meet the specific designated watering times and days; (2) a water conservation plan demonstrating a significant overall reduction of water use, and (3) evidence of having filed with SAWS the annual irrigation check up required for properties that are five (5) acres or more and have in-ground irrigation</p>

		<p>(section 34-273.2). The water conservation plan must also include proof of irrigation efficiency of sixty (60) percent or greater and demonstrate specific measures to be taken to reduce consumption to meet the reduction goal established for stage I, II, III, and IV. SAWS may, on a case by case basis, waive the requirements for irrigation efficiency and/or submission of a water conservation plan. Upon the approval of the water conservation plan as set forth herein, the user may be granted an exception.</p> <p>C. The one hundred (100) percent use of gray water, treated wastewater or reuse water, condensate water, cooling tower blow down is a defense to prosecution and may be used to irrigate any day without waste. Alternate on-site reclaimed sources may be approved through variance from the SAWS Conservation Department on a case by case basis.</p> <p>D. If one hundred (100) percent use of gray water, treated wastewater or reuse water, condensate water, cooling tower blow will be used during additional days or hours allowed in subsections 34-323(1)–(7) signs identifying this property as using recycled or reclaimed water source must be posted on site at a location where the general public can view it.</p>
I	Landscape Irrigation for New Landscapes	<p>A. Landscape watering permitted to maintain adequate growth until established on newly installed landscapes, generally five (5) weeks. Property owners should submit electronically on-line at www.saws.org to the SAWS Conservation Department their name, address where the new landscape is to be installed and the date of installation in order to receive a confirmation electronic email from SAWS. A copy of the confirmation must be posted at a place visible from the street at the property the variance was received at.</p> <p>Thereafter, landscape watering using sprinkler or irrigation systems for landscaping plants is permitted only on the day and times associated with the current stage in effect at the termination of the variance.</p> <p>B. The one hundred (100) percent use of gray water, treated wastewater or reuse water, condensate water, cooling tower blow down is a defense to prosecution and may be used to irrigate any day without waste. Alternate on-site reclaimed sources may be approved through variance from the SAWS Conservation Department on a case by case basis.</p> <p>C. If one hundred (100) percent use of gray water, treated wastewater or reuse water, condensate water, cooling tower blow will be used during additional days or hours allowed in subsections 34-323(1)–(7) signs identifying this property as using recycled or reclaimed water source must be posted on site</p>

		at a location where the general public can view it.
I	Golf Courses	<p>Golf Courses shall be required to submit a water conservation plan and shall have on file with SAWS the annual irrigation check Up as described in section 34-273.2 and shall be defined as "conforming" or "non-conforming" and shall reduce water usage under the following terms:</p> <p>A. All landscape out-of-play areas such as may be found around a club house or entryway shall follow general landscape irrigation restrictions (subsections 34-323(1)–(3)).</p> <p>B. All in-play areas may be irrigated with a sprinkler or irrigation system between the hours of 12:00 a.m. to 10:00 a.m. and 8:00 p.m. to midnight.</p> <p>C. Conforming golf courses shall implement a ten (10) percent reduction in the replacement of daily evapotranspiration rate ("ET rate") or daily soil-holding capacity, achieved by use of an existing and properly operating CCIS (as defined) capable of achieving such water conservation goals.</p> <p>D. A non-conforming golf course shall not use more than 1.8 times the base usage. If not separately metered an irrigation audit showing precipitation rates and run times along with a conservation plan shall be submitted and approved by SAWS for the purpose of establishing acceptable irrigation run times and days as approved by SAWS.</p> <p>E. The one hundred (100) percent use of gray water, treated wastewater or reuse water, condensate water, cooling tower blow down is a defense to prosecution and may be use to irrigate any day without waste. Alternate on-site reclaimed sources may be approved through variance from the SAWS Conservation Department on a case by case basis.</p> <p>F. If one hundred (100) percent use of gray water, treated wastewater or reuse water, condensate water, cooling tower blow will be used during additional days or hours allowed in subsections 34-323(1)–(5) signs identifying this property as using recycled or reclaimed water source must be posted on site at a location where the general public can view it.</p>
I	Public Parks	<p>A. Public park owner/operators shall be required to submit a water conservation plan and have on file with the SAWS Conservation Department an irrigation check up as required by section 34-273.2.</p> <p>B. Public parks shall limit irrigation with an irrigation system to those days and times required by subsections 34-323(1)–(3)</p> <p>C. The one hundred (100) percent use of gray water, treated wastewater or reuse water, condensate water, cooling tower blow down is a defense to prosecution and may be use to irrigate any day without waste. Alternate on-site reclaimed</p>

		sources may be approved through variance from the SAWS Conservation Department on a case by case basis. D. If one hundred (1000) percent use of gray water, treated wastewater or reuse water, condensate water, cooling tower blow will be used during additional days or hours allowed in subsections 34-323(1)–(3) signs identifying this property as using recycled or reclaimed water source must be posted on site at a location where the general public can view it.
I	Athletic Fields	<p>A. An athletic field shall either irrigate according to a basic plan or an advance plan. Plans shall be on file and approved by SAWS in advance of use. The advanced plan showing precipitation rates and run times along with a conservation plan shall be submitted and approved by SAWS for the purpose of establishing acceptable irrigation run times and days as approved by SAWS. A basic plan outlines which day of the week (Monday–Friday) which athletic field would be irrigated.</p> <p>B. All landscape out-of-play areas such as may be found around a club house or entryway shall follow general landscape irrigation restrictions (subsections 34-323(1)–(5)).</p>

Table B--Stage II Restrictions

TABLE INSET:

<i>Stage</i>	<i>Measures For</i>	<i>Scope of Restrictions</i>
II	In General	Stage I restrictions remain the same except as added to or replaced below.
II	Agriculture	The escape of irrigation tailwater, as that term is commonly used in the agricultural community, is prohibited. Water loss through percolation in transmission canals is prohibited.
II	Hotels, Motels, Bed and Breakfasts	Hotels, motels and B&B's must offer and clearly notify guests of a "no linen/towel change" program.
II	Swimming Pools, Hot Tubs.	<p>Filling of all new and existing swimming pools prohibited, unless at least thirty (30) percent of water obtained from a source other than Edwards Aquifer. Replenishing to maintenance level permitted. Draining permitted only onto pervious surface, or onto pool deck where the water is transmitted directly to a pervious surface, only if:</p> <ol style="list-style-type: none"> Draining excess water from pool due to rain in order to lower water to maintenance level; Repairing, maintaining or replacing pool component that has

		become hazardous; or 3. Repairing pool leak Refilling of public swimming pool permitted only if pool has been drained for the repairs, maintenance or replacement set out in items 2 or 3 above.
II	Landscape Irrigation for Existing Landscapes	Landscape watering using sprinkler or irrigation systems is permitted only on designated landscape watering days (subsection 34-323(1)). For stage II the following times and associated irrigation methods apply: Irrigation with a soaker hose, hose-end sprinkler or in-ground irrigation system is allowed on the day specified in subsection 34-323(1) between the hours of 3:00 a.m. to 8:00 a.m. and 8:00 p.m. to 10:00 p.m. Landscape irrigation with a drip irrigation system or five-gallon bucket is allowed during stage II hours on any day. Landscape irrigation with a handheld hose is allowed at any time on any day.
I I	Landscape Irrigation for New Landscapes	A. Landscape watering permitted to maintain adequate growth until established on newly installed landscapes, generally three (3) weeks. Property owners should submit electronically on-line at www.saws.org to the SAWS Conservation Department their name, address where the new landscape is to be installed and the date of installation in order to receive a confirmation electronic email from SAWS. A copy of the confirmation must be posted at a place visible from the street at the property the variance was received at. Thereafter, landscape watering using sprinkler or irrigation systems for landscaping plants is permitted only on the day and times associated with the current stage in effect at the termination of the variance. B. The one hundred (100) percent use of gray water, treated wastewater or reuse water, condensate water, cooling tower blow down is a defense to prosecution and may be used to irrigate any day without waste. Alternate on-site reclaimed sources may be approved through variance from the SAWS Conservation Department on a case by case basis. C. If one hundred (100) percent use of gray water, treated wastewater or reuse water, condensate water, cooling tower blow will be used during additional days or hours allowed in subsections 34-323(1)-(7) signs identifying this property as using recycled or reclaimed water source must be posted on site at a location where the general public can view it.
II	Golf Courses	Golf Courses shall be required to submit a water conservation plan and shall have on file with SAWS the annual irrigation check up as described in section 34-273.2 and shall be defined as "conforming" or "non-conforming" and shall reduce water

		usage under the following terms: A. All landscape out-of-play areas such as may be found around a club house or entryway shall follow general landscape irrigation restrictions (subsections 34-323(1)-(3)). B. All in-play areas may be irrigated with a sprinkler or irrigation system between the hours of 12:00 a.m. to 10:00 a.m. and 8:00 p.m. to midnight. C. Conforming golf courses shall implement a twenty (20) percent reduction in the replacement of daily evapotranspiration rate ("ET rate") or daily soil-holding capacity, achieved by use of an existing and properly operating CCIS (as defined) capable of achieving such water conservation goals. D. A non-conforming golf course shall not use more than 1.6 times the base usage. If not separately metered an irrigation audit showing precipitation rates and run times along with a conservation plan shall be submitted and approved by SAWS for the purpose of establishing acceptable irrigation run times and days as approved by SAWS. E. The one hundred (100) percent use of gray water, treated wastewater or reuse water, condensate water, cooling tower blow down is a defense to prosecution and may be used to irrigate any day without waste. Alternate on-site reclaimed sources may be approved through variance from the SAWS Conservation Department on a case by case basis. F. If one hundred (100) percent use of gray water, treated wastewater or reuse water, condensate water, cooling tower blow will be used during additional days or hours allowed in subsections 34-323(1)-(3) signs identifying this property as using recycled or reclaimed water source must be posted on site at a location where the general public can view it.
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Table C--Stage III Restrictions

TABLE INSET:

<i>Stage</i>	<i>Measures For</i>	<i>Scope of Restrictions</i>
III	In General	Stage I, II restrictions remain the same except as added to or replaced below.
III	Industrial, Commercial, and Other	Additional reductions may be imposed by the city council if conditions warrant.
III	Hotels, Motels, Bed and Breakfasts	Hotels, motels, B&B's must limit linen/towel changes to once every three (3) nights or for the entire stay, which ever is shorter, except for health and safety.

III	Landscape Irrigation for Existing Landscapes	Landscape watering using sprinkler or irrigation systems is permitted only on designated landscape watering days (subsection 34-323(1)). For stage III the following times and associated irrigation methods apply: Irrigation with a soaker hose, hose-end sprinkler or in-ground irrigation system is allowed on the day specified in subsection 34-323(1) every other week beginning on the second Monday after the stage III has been declared, between the hours of 3:00 a.m. to 8:00 a.m. and 8:00 p.m. to 10:00 p.m. Landscape irrigation with a drip irrigation system or five-gallon bucket is allowed on every Monday, Wednesday and Friday during stage III hours. Landscape irrigation with a handheld hose is allowed at any time on any day.
III	Landscape Irrigation for New Landscapes	A. Installation of new landscapes is permitted only if not more than fifty (50) percent of the available landscape area is planted with turf; all applicable provisions of section 34-274.2 and section 34-275, including proper horticultural practices such as the use of mulch and zonal irrigation systems if a permanent irrigation system is installed and a minimum of four (4) inches of soil under turf. In addition, drip systems in mulched beds are required. B. A user may file with SAWS a request to install more than fifty (50) percent turf. The request must include: (1) a statement or plan describing the landscaping plan; and (2) a statement indicating how the landscaping plan will achieve the goals of this chapter. Upon the approval of the alternate landscaping plan as set forth herein, the user may be granted an exception.
III	Golf Courses	A. A conforming golf courses shall implement a thirty (30) percent reduction (or twenty (20) percent reduction, if the conforming golf course is an ISP participant) in replacement of daily ET rate or daily soil holding capacity, achieved by use of an existing and properly operating CCIS (as defined) capable of achieving such water conservation goals. B. A non-conforming golf course shall not use more than 1.4 times the base usage. If not separately metered an irrigation audit showing precipitation rates and run times along with a conservation plan shall be submitted and approved by SAWS for the purpose of establishing acceptable irrigation run times and days as approved by SAWS.

TABLE INSET:

Table D--Stage IV Restriction

Stages	Measures For	Scope of Restrictions
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IV	In General	The most restrictive requirements of either Stage I, II, III restrictions remain the same except as added to or replaced below.
IV	Commercial Surcharge	A surcharge is assessed on all irrigation accounts and assumed irrigation (section 34-124) of the San Antonio Water System as described in section 34-128. Surcharge is to remain in effect for a minimum of one (1) complete billing month. The surcharge shall remain in effect if stage IV is still in effect at the beginning of the next billing month.
IV	Residential Surcharge	A surcharge is assessed on all water accounts of the San Antonio Water System as described in section 34-128. Surcharge is to remain in effect for a minimum of one complete billing month. The surcharge shall remain in effect if stage IV is still in effect at the beginning of the next billing month.
IV	Vehicle and Equipment Washing	During Stage IV any vehicle wash facility that is not certified as a SAWS certified vehicle wash facility will not be able to operate. Upon receiving certification vehicle wash facilities may resume operating hours.
IV	Additional Restrictions	Additional restrictions including but not limited to a ban on lawn watering with irrigation systems or hose end sprinklers may be established at the discretion of the city council.

(Ord. No. 2007-02-08-0149, § 1(Exh. A), 2-8-07)

Sec. 34-333. Severability.

If, for any reason, any section, sentence, clause or part of this division is held legally invalid, such judgment shall not prejudice, affect, impair or invalidate the remaining sections of this division, but shall be confined to the specific section, sentence, clause, or part of this division held legally invalid.
(Ord. No. 2007-02-08-0149, § 1(Exh. A), 2-8-07)

In the event any section of this division conflicts in effect or application with any other section of a City Code or ordinance, the section(s) of this division shall prevail.
(Ord. No. 2007-02-08-0149, § 1(Exh. A), 2-8-07)

Secs. 34-335--34-350. Reserved.

DIVISION 5. REUSE

Secs. 34-351--34-425. Reserved.

Sec. 34-334. This division to prevail if conflict.

TECHNICAL MEMORANDUM

TO: Gary Rogers and Rich Youngblood, MCWD DATE: April 15, 2011

FROM: Andrew Sterbenz, PE JOB #: MCWD.39.07.018

SUBJECT: 2010 Census Adjustment to UWMP tables

The purpose of this memorandum is to discuss the impacts of the 2010 Decennial Census results on the 2010 Urban Water Management Plan. The census results for California were published in early April. The change primarily affects the water conservation baseline and targets.

The published results of the 2010 Census are tabulated below. As you can see, the total population for District in year 2010 is approximately 4,000 persons lower than what we had estimated, a difference of 12 percent. Our estimate was based on pro-rating the California Department of Finance (DOF) projections for the Cities of Marina and Seaside across the District's service areas. The decrease of population in the Central Marina service area while the city population increased is due to "migration" from Central Marina into the Marina portion of the Ord Community, predominantly in Preston Park. More affordable housing came available and was filled, while more expensive housing is now vacant. The decrease in Ord Community population occurred in the census tract containing CSUMB (from 8,322 persons in 2000 to 4,299 persons in 2010), as shown in Table 2. This is somewhat odd considering that the campus population has been stable or increasing over the past decade, and may indicate an error in the census data.

Table 1. Census Results

	Decennial Census			CA DoF	UWMP
	1990	2000	2010	Estimate	Estimate
				2010	2010
City of Marina	26,422	18,927	19,718	19,445	
City of Seaside	38,945	33,108	33,025	34,628	
Central Marina Svc Area	16,993	17,574	16,834		18,057
Ord Community Svc Area	28,591	16,239	13,646		16,201
Total MCWD	45,584	33,813	30,480		34,258

Service Area population based on Decennial Census Tract populations

UWMP 2010 estimate based on pro-rated CA DoF projections

Table 2. Ord Community Census Results

Ord Community	2000	2010	Comments
Marina	1,351	2,259	Increase reflects Preston Park housing
CSUMB	8,322	4,299	Decrease indicates possible error
Seaside	5,890	7,088	Increase reflects Seaside Highlands
Total	15,563	13,646	

Based on the available data (CSUMB had 2,450 students living on campus during the 2010 census, plus faculty and staff living in 785 housing units), the 2010 census population appears correct. Looking at more detailed census data in Table 3, it appears that the population of the Central Campus (dormitories) was over-estimated in the 2000 census. A review of CSU enrollment data shows that the total CSUMB enrollment in Spring 2000 was 2,191, which is significantly lower than the census results. The error in the 2000 census appears to be approximately 4,000 persons.

Table 3. CSUMB Census Detail

CSUMB	2000	2010
Central Campus (Dorms)	5,488	1,611
East Campus Housing	2,834	2,688
Total	8,322	4,299

In reflecting the census data in the UWMP, we have two options. We can correct the 2000 census population for CSUMB and the resulting population estimate for the Ord Community service area, or we can use the previous estimate based upon the California Department of Finance projections. The only element of the UWMP affected by the population change is the water conservation baseline per capita water demand, the reduction targets for years 2015 and 2020, and the projected per capita use in future years. The targets previously estimated are shown in Table 4.

Table 4. District Baseline and Targets

Description	Year	Amount
Baseline Water Demand	2008	118.6 gpcd
Method 3 Target (95% of Regional Target)	2020	116.9 gpcd
Maximum Target (95% of 5-year baseline)	2020	110.8 gpcd
Interim Target	2015	114.7 gpcd

To correct the population, we subtract 4,000 persons from the CSUMB census tract population in 2000 and adjust the remaining years proportionally. Making no other corrections, the revised District population estimate for 2010 becomes 30,100 persons (see Table 5, attached). The actual 2010 population was 30,480. This is within 1.5% of the actual value, so we recommend making only this revision, and using the resulting annual populations as the basis for calculating historic per capita water demands (and not attempt further adjustments to match the actual split between Marina and Ord). The resulting per capita water demands are shown in Table 6.

Table 6. Per Capita Water Demands

Year	Central Marina			Ord Community			System-Wide		
	Marina Pop.	Annual Water Use (MG)	Daily Per Capita (gals)	Ord Pop.	Annual Water Use (MG)	Daily Per Capita (gals)	Daily Per Capita (gals)	10-year Average (gpcd)	5-year Average (gpcd)
1995	16,685	657.6	108	5,000	913.0	500	198		
1996	16,465	690.5	115	7,796	811.4	285	170		
1997	16,586	699.6	116	10,593	838.7	217	155		
1998	17,128	606.1	97	11,119	679.7	167	125		
1999	17,331	730.4	115	11,327	780.6	189	144		
2000	17,574	749.4	117	16,239	772.7	130	123		
2001	17,715	744.6	115	11,701	726.0	170	137		
2002	17,781	751.5	116	11,867	696.2	161	134		
2003	17,805	712.1	110	11,808	698.7	162	131		
2004	17,876	737.0	113	11,757	789.5	184	141	145.8	
2005	17,672	715.1	111	11,805	649.6	151	127	138.6	
2006	17,509	582.1	91	11,645	817.5	192	132	134.8	
2007	17,493	528.6	83	11,572	958.3	227	140	133.3	134.0
2008	17,706	597.4	92	11,827	739.3	171	124	133.3	132.7
2009	17,852	639.2	98	11,891	676.5	156	121	130.9	128.7
2010	18,057	568.1	86	12,043	778.5	177	123	130.9	127.9

Continuing to use 2008 as the baseline year, the revised baseline and targets are as shown in Table 7. The baseline per capita water demand increases to 133.3 gpcd, but remains below the Central Coast Regional Average of 154 gpcd. The Method 1 target (20% reduction) would be 107 gpcd. The District may still elect to use Method 3 to establish its water conservation target, which remains 117 gpcd. In assessing the minimum reduction (5% of the 5-year baseline), we obtain a value of 126.1 gpcd. This is greater than the Method 3 target, so the 2020 target remains 117 gpcd. The interim target for 2015 is calculated as the average of 133.3 and 117, which equals 125 gpcd.

Table 7. Revised District Baseline and Targets

Description	Year	Amount
Baseline Water Demand	2008	133.3 gpcd
Method 3 Target (95% of Regional Target)	2020	117 gpcd
Maximum Target (95% of 5-year baseline)	2020	126.1 gpcd
Interim Target	2015	125 gpcd

Carrying the corrected population into the projection of future water demands results in higher per capita demand rates, but the revised conservation targets are also higher, as shown in Table 8. A combination of recycled water use and increased water conservation incentives should allow the District to meet these targets.

Table 8. Projected Per Capita Water Demands

	2010	2015	2020	2025	2030
Projected Demand (AFY)	4,553	6,913	9,895	11,136	12,214
Projected Recycled Water (AFY)*	0	780	1,359	2,514	2,960
Net Potable Demand (AFY)	4,553	6,133	8,536	8,622	9,254
Projected Population	32,184	43,371	57,718	64,361	69,887
Projected demand per person (gpcd)	126.3	126.2	132.0	119.6	118.2
Water Use Targets (gpcd)	0	125	117	117	117
Remainder to address (gpcd)	0	1.2	15.0	2.6	1.2

*Based on 2006 Basis of Design Report, includes project phase 2

Based on the above discussion, we recommend using the corrected tables in this memorandum in the 2010 Urban Water Management Plan. Using the previous baseline calculations resulted in too low of a water conservation target, which would be more difficult for the District to achieve when calculating per capita use using the current census.

Attachment: Table 5

Table 5: Revised Estimate of MCWD Service Area Population

	CA DoF-Places		CA DoF-Growth Rates			Census Tracts										
Year	Marina	Seaside	Marina	Seaside	Combined	Ord Community			Central Marina			Total	Total	Total		
						141	141.01	141.02	141.03	142	143.01	143.02	Ord Com.	Cent. Mar.	MCWD	
1990	26,512	38,826	base	base	base	28,591	3,550	9,519	15,522	9,865	3,562	3,566	28,591	16,993	45,584	
1991	26,929	39,812	1.016	1.025	1.021		3,626	9,669	15,855	10,020	3,618	3,622	29,150	17,260	46,411	
1992	26,361	40,395	0.979	1.015	1.000		3,627	9,465	15,859	9,809	3,542	3,546	28,951	16,896	45,847	
1993	26,146	39,217	0.992	0.971	0.979		3,551	9,388	15,528	9,729	3,513	3,517	28,467	16,758	45,225	
1994	19,509	32,179	0.746	0.821	0.791		1,776	4,694	9,764	9,407	3,572	3,742	16,233	16,722	32,955	
1995	17,968	30,483	0.921	0.947	0.937		500	500	4,000	9,086	3,632	3,968	5,000	16,685	21,685	
1996	17,731	29,539	0.987	0.969	0.976		2,239	888	4,670	8,966	3,584	3,915	7,796	16,465	24,262	
1997	17,861	30,009	1.007	1.016	1.013		3,977	1,275	5,340	9,032	3,610	3,944	10,593	16,586	27,179	
1998	18,445	31,682	1.033	1.056	1.047		4,165	1,317	5,638	9,327	3,728	4,073	11,119	17,128	28,248	
1999	18,663	32,347	1.012	1.021	1.018		4,238	1,332	5,757	9,438	3,772	4,121	11,327	17,331	28,657	
2000	18,925	33,097	1.014	1.023	1.020		4,322	1,351	5,890	9,570	3,825	4,179	11,563	17,574	29,137	
2001	19,077	33,536	1.008	1.013	1.011		4,371	1,362	5,968	9,647	3,856	4,213	11,701	17,715	29,416	
2002	19,148	34,129	1.004	1.018	1.013		4,426	1,367	6,074	9,683	3,870	4,228	11,867	17,781	29,648	
2003	19,174	33,888	1.001	0.993	0.996		4,408	1,369	6,031	9,696	3,875	4,234	11,808	17,805	29,613	
2004	19,250	33,647	1.004	0.993	0.997		4,395	1,374	5,988	9,734	3,891	4,251	11,757	17,876	29,633	
2005	19,030	33,962	0.989	1.009	1.002		4,403	1,358	6,044	9,623	3,846	4,202	11,805	17,672	29,477	
2006	18,855	33,451	0.991	0.985	0.987		4,346	1,346	5,953	9,535	3,811	4,164	11,645	17,509	29,154	
2007	18,838	33,183	0.999	0.992	0.995		4,322	1,345	5,905	9,526	3,807	4,160	11,572	17,493	29,065	
2008	19,067	34,024	1.012	1.025	1.021		4,411	1,361	6,055	9,642	3,854	4,210	11,827	17,706	29,533	
2009	19,224	34,175	1.008	1.004	1.006		4,436	1,372	6,082	9,721	3,885	4,245	11,891	17,852	29,742	
2010	19,445	34,628	1.011	1.013	1.013		4,492	1,388	6,162	9,833	3,930	4,294	12,043	18,057	30,100	

Notes:

1990 census tract 141 did not include the 3 block groups in the 2000 census. BG values estimated based on population for Marina and Seaside minus other BG's.
 Tract 141.01: 1991-1993 scaled from 1990 value using combined growth rate. 1995 value assumed. 1994 and 1996 values average of 1995 and adjacent year. 1997-2010 scaled from corrected 2000 value.
 Tract 141.02: 1991-1993 and 1997-2010 are the City of Marina population minus Central Marina. 1995 value assumed. 1994 and 1996 values average of 1995 and adjacent year.
 Tract 141.03: 1991-1993 scaled from 1990 value using Seaside growth rate. 1995 value assumed. 1994 and 1996 values average of 1995 and adjacent year. 1997-2010 scaled from 2000 value.
 Tract 142: 1991-1993 scaled from 1990 value using Marina growth rate. 1997-2010 scaled from 2000 value. 1995 value is average of 1994 and 1996 values.
 Tract 143.01: 1991-1993 scaled from 1990 value using Marina growth rate. 1997-2010 scaled from 2000 value. 1995 value is average of 1994 and 1996 values.
 Tract 143.02: 1991-1993 scaled from 1990 value using Marina growth rate. 1997-2010 scaled from 2000 value. 1995 value is average of 1994 and 1996 values.

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Appendix F: Water Shortage Contingency Plan with Resolution of Adoption

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June 14, 2011

Resolution No. 2011 - 45
Resolution of the Board of Directors
Marina Coast Water District
Adopting an Updated Water Shortage Contingency Plan

RESOLVED by the Board of Directors ("Directors") of the Marina Coast Water District ("District"), at a regular meeting duly called and held on June 14, 2011, at the business office of the District, 11 Reservation Road, Marina, California as follows:

WHEREAS, Section 10632 of the California Water Code requires the Marina Coast Water District to maintain a Water Shortage Contingency Plan within its Urban Water Management Plan; and,

WHEREAS, the District maintains a Water Shortage Contingency Plan and desires to update said plan in accordance with the Water Code and provide a guidance document for management of water shortages within the District; and,

WHEREAS, the District received public comments on the draft Water Shortage Contingency Plan.

NOW, THEREFORE, BE IT RESOLVED, that the Board of Directors of the Marina Coast Water District does hereby:

1. Approve and adopt the Water Shortage Contingency Plan, and,
2. Authorize the General Manager and/or Deputy General Manager/District Engineer to file the Water Shortage Contingency Plan with the California Department of Water Resources as part of the District's 2010 Urban Water Management Plan.


PASSED AND ADOPTED on June 14, 2011, by the Board of Directors of the Marina Coast Water District by the following roll call vote:

Ayes: Directors Nishi, Gustafson, Burns, Lee

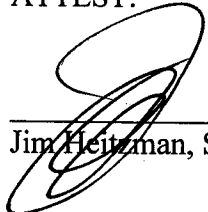
Noes: Directors Shriner

Absent: Directors None

Abstained: Directors None


William Y. Lee, President


ATTEST:



Jim Heitzman, Secretary

CERTIFICATE OF SECRETARY

The undersigned Secretary of the Board of the Marina Coast Water District hereby certifies that the foregoing is a full, true and correct copy of Resolution No. 2011-45 adopted June 14, 2011.



Jim Heitzman, Secretary

MARINA COAST WATER DISTRICT WATER SHORTAGE CONTINGENCY PLAN

1.0 INTRODUCTION AND BACKGROUND

This Water Shortage Contingency Plan is developed in compliance with California Water Code Section 10632. Requirements of subsections (a)-(i) are identified below and are accompanied by the required elements and information.

The Marina Coast Water District (MCWD) obtains its water supply from the Salinas Valley Groundwater Basin (SVGB). The SVGB is not adjudicated and provides water for growers, municipalities and other municipal and industrial uses in the Salinas Valley. Due to cumulative basin pumping, coastal aquifers are experiencing seawater intrusion. MCWD continues to work with Monterey County Water Resources Agency (MCWRA) in developing plans to coordinate and encourage preservation of the SVGB aquifers by all municipal and agricultural users.

In 2005, MCWD interconnected its two service areas, Central Marina and the Ord Community. The interconnection has improved system-wide reliability, making maximum use of available water storage tanks in the Ord Community and allowing both areas to be served by any of the six District wells. In 2007, the District consolidated the two systems under a single Public Water System Permit.

MCWD is actively pursuing development of a Regional Water Supply Project, in partnership with the Monterey County Water Resources Agency (MCWRA) and California-American Water Company (CAWC). The Regional Project will develop desalinated water from the seawater-intruded portion of the SVGB. This supply will meet current water demands within the CAWC Monterey service area and future water demands within the MCWD Ord Community. The wells to be installed within the intruded portions of the SVGB are intended to capture seawater along the coast before it can migrate to inland portions of the aquifer. The project also includes a recycled water component that will provide non-potable water for landscape irrigation within the MCWD and CAWC service areas.

One other coordinated effort includes the Water Awareness Committee of Monterey County (WAC). Through the WAC, representatives from several agencies throughout Monterey County work together coordinating conservation and other water awareness efforts including education programs, information booths for special events and public understanding of Monterey County water challenges and opportunities.

California Water Code Section 10632(c) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies, including but not limited to, a regional power outage, an earthquake or other disaster.

The MCWD developed and adopted an Emergency Response Plan for emergency and disaster occurrences with guidelines and agreements for cooperative efforts with other State and local agencies, as required by the State Health Department. This Plan contains actions MCWD would initiate in the event of a catastrophic reduction in its water supply.

2.0 STAGES OF ACTION

California Water Code Section 10632(a) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply and an outline of specific water supply conditions which are applicable to each stage.

The MCWD developed a five-stage Water Conservation Plan that includes two voluntary and three mandatory stages. Table 1 generally describes the various stages. Specific water supply conditions applicable to each stage, referred to as “triggering mechanisms” herein, are discussed in the next section.

Table 1: Water Conservation Stages and Reduction

<u>Stage</u>	<u>Demand Reduction Goal</u>	<u>Type Program</u>
Stage 1	10% reduction	Voluntary
Stage 2	15% reduction	Voluntary
Stage 3	25% reduction	Mandatory
Stage 4	35% reduction	Mandatory
Stage 5	50%+ reduction	Mandatory
Priorities for use of available water, based on California Water Code Chapter 3 are: 1. Health and Safety - interior residential and fire fighting 2. Commercial, Industrial, and Governmental - maintain jobs & economic base 3. Existing Landscaping - especially trees and shrubs 4. New Demand - projects without permits when shortage declared		

California Water Code Section 10632(b) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.

This requirement is oriented toward water supply systems that are primarily supplied via surface waters and therefore can be directly affected by short-term fluctuations in hydrology i.e., drought conditions. MCWD's total current water supply is produced through groundwater pumping from the large SVGB. MCWD supply availability from this basin has not historically varied due to short-term hydrologic conditions. The minimum water supply available within the driest three-year sequence is expected to match demands as discussed in the Urban Water Management Plan.

3.0 TRIGGERING MECHANISMS

The SVGB is currently the most important source of water for MCWD. In 2004, the MCWD's groundwater withdrawals of about 4,600 acre-feet accounted for less than one percent (1%) of the estimated basin-wide annual extractions of roughly 550,000 acre-feet. Given this relatively small percentage, MCWD conservation and contingency management activities can play only a small part within the SVGB. The foremost concern in developing appropriate triggers is achieving the maximum practical protection of an adequate long-term water supply of acceptable quality for MCWD customers. To that end, triggering mechanisms should be tied to factors that, directly or indirectly, have the greatest potential effect on the quality and quantity of available groundwater.

Two general types of threats could cause MCWD to experience water shortages:

1. Unanticipated catastrophic system failure due to an earthquake, terrorist attack or sudden contamination of water supply, or
2. Chronic system shortage due to seawater intrusion reaching water supply wells in concentrations such that those wells would have to be removed from service.

In the case of a catastrophic failure, the MCWD would assess the nature and extent of the failure, and the General Manager would identify the appropriate Conservation Stage in accordance with the expected level of water supply shortage. Should shortages be anticipated in amounts beyond fifty percent of normal demands, emergency actions will be taken in accordance with the MCWD's Emergency Response Plan, including enacting emergency ordinances as may be required by MCWD Board of Directors.

The chronic system threat to MCWD's present water supplies is seawater intrusion, which has occurred along the coastal margin of the Salinas Valley in response to historic over-drafting of the basin. Contamination from volatile organic compounds (VOCs) has also affected MCWD wells and could pose additional problems. Although seawater intrusion has not yet affected the deep zone (900-Foot Aquifer) of the SVGB (which is the source of supply for Marina's Well No.10, No.11, and No.12), it is possible that continued extractions in the 900-Foot Aquifer could ultimately lead to contamination of these water supplies by seawater. MCWD monitors the rate of seawater intrusion and plans to construct a new well in the deep aquifer and develop alternative water resources that would be insulated from intrusion. However, it is possible for intrusion to appear in a relatively short time span and reduce overall supplies available. Consequently, the MCWD has structured this Water Shortage Contingency Plan with the primary goal of reducing water supply demands to allow time for alternative water supply measures, including the drilling of alternate wells in areas unaffected by intrusion and/or contamination. A specific triggering mechanism for various levels of conservation is tied to concentrations of chlorides in MCWD wells and possible concentrations of VOCs, such as trichloroethylene (TCE) which was previously observed at low levels in Well No. 9 in Central Marina and is occasionally detected at Well No. 29 in the Ord Community. Chloride concentration is directly related to the seawater intrusion problem, and both parameters (chloride and VOCs) are related to the overall basin viability as a secure source of water supply.

Chloride concentration, which is the trigger for the most advanced stages of conservation, is also a key indicator of water quality degradation due to seawater intrusion. Tests for statistically significant changes in chloride concentrations assist in the detection of the earliest stages of intrusion and are appropriate indicators of a water supply emergency. In addition, MCWD currently monitors its Ord Community wells for the presence of TCE and other organic compounds, and works with the U.S. Army regarding the Army's groundwater cleanup actions in the Ord Community.

TRIGGERING MECHANISMS FOR CONSERVATION STAGES

These Triggering mechanisms shall be interpreted as guidelines and are summarized in Table 2. The General Manager and/or Board of Directors may impose any of the following conservation

stages based upon facts and circumstances which may not have been otherwise anticipated in this plan.

Table 2 Conservation Level Triggering Mechanisms

Conservation Stage and Shortage Level	Triggering Mechanism
Stage One 0-10% Voluntary	1) system malfunction resulting in up to 10% shortage 2) increase in chlorides which do not threaten to exceed drinking water quality standard 3) increase in VOC concentrations which do not threaten to exceed standards with blending
Stage Two >10-25% Voluntary	1) system malfunction resulting in greater than 10% shortage 2) increase in chlorides which may threaten to exceed drinking water quality standard 3) increase in VOC concentrations which do not threaten to exceed standards with blending
Stage Three >25-35% Mandatory	1) system malfunction resulting in greater than 25% shortage 2) increase in chlorides which are expected to exceed drinking water quality standard 3) increase in VOC concentrations which do not threaten to exceed standards with blending or when remaining capacity is reduced by up to 25%
Stage Four >35-50% Mandatory	1) system malfunction resulting in greater than 35% shortage 2) increase in chlorides which are expected to exceed drinking water quality standard 3) increase in VOC concentrations which do not threaten to exceed standards with blending or when remaining capacity is reduced more than 35%
Stage Five >50% Mandatory	1) system malfunction resulting in greater than 50% shortage 2) increase in chlorides which are expected to exceed drinking water quality standard 3) increase in VOC concentrations which do not threaten to exceed standards with blending or when remaining capacity is reduced more than 50%

STAGE 1: Up to 10% - Voluntary

Stage 1 conservation measures may be called for as a result of malfunction of all or portions of the water system that reduces supplies by up to 10% on a daily, peak seasonal or annual basis. It also may be called due to prolonged drought conditions and a need to focus public attention on water conservation.

Further triggering could also be based on:

- 1) detection of a statistically significant increase in chloride concentrations but where such concentrations do not threaten to exceed the CA DHS “Upper Level” secondary (aesthetics) drinking water standard currently set at 500 mg/l at the well(s) in question, or
- 2) detection of a statistically significant increase in VOC concentrations but where such concentrations do not threaten to exceed the primary drinking water maximum contaminant level (MCL) for each VOC at the well(s) in question and/or blending of this supply with other well supplies cannot maintain a distribution system concentration(s) below these standards.

STAGE 2: >10% to 25% - Voluntary

Stage 2 conservation measures may be called for due to malfunction or failure of all or portions of the water system that reduces supplies by greater than 10% on a daily, peak seasonal or annual basis.

Further triggering could also be based on:

- 1) detection of a statistically significant increase in chloride concentrations where such concentrations may threaten to exceed the CA DHS “Upper Level” secondary (aesthetics) drinking water standard currently set at 500 mg/l at the well(s) in question, or
- 2) detection of a statistically significant increase in VOC concentrations, but where such concentrations do not threaten to exceed the primary drinking water MCL for each VOC at the well(s) in question and/or blending of this supply with other well supplies cannot maintain a distribution system concentration(s) below these standards.

STAGE 3: >25% to 35% - Mandatory

Stage 3 conservation measures may be called for due to malfunction or failure of all or portions of the water system that reduces supplies by greater than 25% on a daily, peak seasonal or annual basis.

Further triggering could also be based on:

- 1) detection of an increase in chloride concentrations where such concentrations are expected to exceed the CA DHS “Upper Level” secondary (aesthetics) drinking water standard currently set at 500 mg/l at the well(s) in question, or
- 2) detection of VOC concentrations, but where such concentrations do not threaten to exceed the primary drinking water MCL for each VOC, and/or blending of this supply with other well supplies cannot maintain a distribution system concentration(s) below these standards, and/or when gross reduced well production of up to 25% is necessary to maintain adequate water quality.

STAGE 4: >35% to 50% - Mandatory

Stage 4 conservation measures may be called for due to malfunction or failure of all or portions

of the water system that reduces supplies by greater than 35% on a daily, peak seasonal or annual basis.

Further triggering could also be based on:

- 1) detection of an increase in chloride concentrations where such concentrations are expected to exceed the CA DHS “Upper Level” secondary (aesthetics) drinking water standard currently set at 500 mg/l at the well(s) in question, or
- 2) detection of VOC concentrations, but where such concentrations do not threaten to exceed the primary drinking water MCL for each VOC, and/or blending of this supply with other well supplies cannot maintain a distribution system concentration(s) below these standards, and/or gross reduced well production of up to 35% is necessary to maintain adequate water quality.

STAGE 5: >50% - Mandatory

Stage 5 conservation measures may be called for due to in malfunction or failure of all or portions of the water system that reduces supplies by 50 % or more on a daily, peak seasonal or annual basis.

Further triggering could also be based on:

- 1) detection of an increase in chloride concentrations where such concentrations are expected to exceed the short term primary drinking water standard of 600 mg/l at the well(s) in question, or
- 2) detection of VOC concentrations but where such concentrations do not threaten to exceed the primary drinking water MCL for each VOC, and /or blending of this supply with other well supplies cannot maintain a distribution system concentration(s) below these standards, and/or gross reduced well production of over 50% is necessary to maintain adequate water quality.

4.0 CONSERVATION REQUIREMENTS AND APPEAL PROCEDURES

The following are MCWD’s conservation requirements by customer type and stage and the appeal procedures. These requirements and procedures are adopted as part of MCWD’s Water Shortage Contingency Plan.

STAGE 1: Up to 10% - Voluntary – Minimal Conservation Requirement

MCWD shall:

- notify all customers of the water shortage
- mail information to every customer and reasonably available potential water user explaining the importance of significant water use reductions
- provide technical information to customers on ways to improve water use efficiency
- conduct media campaign to remind consumers of the need to save water
- publicize the showerhead, toilet rebate and other efficiency programs
- enforce mandatory restrictions on water waste as provided in MCWD Code, Chapter 3

STAGE 2: >10% to 25% -Voluntary – Moderate Conservation Requirement

In addition to the actions listed in Stage 1, MCWD shall call for voluntary reductions of up to 25% for each connection based on the average use during a base period proposed by the Water Conservation Commission and adopted by MCWD's Board of Directors.

STAGE 3: >25% to 35% - Mandatory – Severe Conservation Requirement

In addition to the actions listed in Stage 1 and 2, MCWD shall establish mandatory annual allotments for each connection based on the average use during a base period proposed by the Water Conservation Commission and adopted by MCWD's Board of Directors. When Stage 3 use reduction becomes necessary, administration and enforcement of water conservation rules becomes the major focus of MCWD. If necessary, additional temporary personnel may be hired and special meetings of the Water Conservation Commission and /or Board of Directors may be scheduled.

1. Each water service connection shall receive an allotted quantity of water, typically specified in hundred cubic feet (hcf) units per billing cycle, as calculated by the Water Conservation Coordinator.
2. The Board of Directors may pass an emergency ordinance increasing the usage rate for potable water in order to ensure stable revenues for operation and maintenance of MCWD.
3. As individual customers are notified of allotments, it is expected that many requests for special consideration will be received. These petitions must be processed rapidly, efficiently and fairly. Every application for waiver must be heard, evaluated and acted upon by the Water Conservation Commission as rapidly as possible. Every action by the Water Conservation Commission shall be referred to MCWD's Board of Directors for consideration. The procedures for appeal are defined, below.
4. No building permits will be issued or meters installed for new accounts that had not received building permits before the "Severe Shortage" was declared.
5. The following water use restrictions shall be imposed.

Stage	Type Use	Restriction
3	Landscape Irrigation for Existing Landscapes, including Public Parks	<p>Landscape watering with recycled water may continue without restriction.</p> <p>Landscape watering with potable water shall be subject to the following limits:</p> <ol style="list-style-type: none"> (1) Landscape watering using sprinkler or irrigation systems is permitted only two days per week. Addresses ending in even numbers (0,2,4,6,8) may water on Mondays and Thursdays. Addresses ending in odd numbers (1,3,5,7,9) may water on Tuesdays and Fridays. If there is no street address, or if more than one street address is associated with a contiguous property, the irrigation days are Wednesday and Saturday. (2) Manual landscape watering with a soaker hose, handheld hose or watering can/bucket is allowed on any day.
3	Landscape Irrigation for New Landscapes, including Public Parks	<p>Landscape watering with recycled water may continue without restriction.</p> <p>Landscape watering with potable water shall be subject to the following limits:</p> <ol style="list-style-type: none"> (1) Landscape watering is permitted to maintain adequate growth on newly installed landscapes, for a period generally up to five (5) weeks. Property owners must notify the District of the address where new landscape is installed and the date of installation. (2) Following the initial establishment period, landscape watering using a sprinkler or irrigation system is permitted only on the days associated with the current conservation stage in effect.
3	Golf Courses, Athletic Fields	<p>Landscape watering with recycled water may continue without restriction.</p> <p>Landscape watering with potable water shall be subject to the following limits:</p> <ol style="list-style-type: none"> (1) All landscape out-of-play areas such as may be found around a clubhouse or entryway shall follow the general landscape irrigation restrictions. (2) All in-play areas may be irrigated during the standard watering hours (before 10:00 a.m. or after 5:00 p.m.). (3) Course operators shall implement a ten (10) percent reduction in irrigation water use.
3	Hotels, motels and bed and breakfasts	Hotels, motels and B&B's must offer and clearly notify guests of a "limited linen/towel exchange" program.

Stage	Type Use	Restriction
3	Swimming pools, hot tubs	Initially filling new and existing swimming pools prohibited. Draining and refilling existing swimming pools permitted only if repairing a pool leak or repairing, maintaining or replacing a pool component that has become hazardous. All pools and tubs shall be covered when not in use to reduce evaporation.
3	Industrial and Commercial	Reduction of water use by any means is encouraged. Compliance with mandatory demand reduction measures is required for outdoor water uses including landscape irrigation, swimming pools, and vehicle washing.
3	Vehicle and Equipment Washing	Non-commercial washing of vehicles and mobile equipment (e.g., washing vehicle at a residence) is permitted only on assigned landscape watering days during landscape watering hours (before 10:00 a.m. or after 5:00 p.m.). Fleet managers are encouraged to only wash those vehicles as is necessary for health and safety.
3	Heavy Construction	The use of potable water for dust control shall be reduced to the greatest extent possible.

STAGE 4: >35% to 50% - Mandatory – Critical Conservation Requirement

In addition to the actions listed in the previous stages, MCWD shall establish allotments based upon a 35% -50% curtailment of water use. All new and previous appeals for waiver shall be evaluated by field audit and shall be reheard by the Water Conservation Commission, if necessary, upon recommendation of MCWD staff. Water rates may be increased by the Board of Directors.

The following water use restrictions shall be imposed.

Stage	Type Use	Restriction
4	Landscape Irrigation for Existing Landscapes, including Public Parks	Landscape watering with recycled water may continue without restriction. Landscape watering with potable water shall be subject to the following limits: (1) Landscape watering using sprinkler or irrigation systems is permitted only one day per week. Addresses ending in numbers 0 or 1 may water on Mondays. Addresses ending in numbers 2 or 3 may water on Tuesdays. Addresses ending in numbers 4 or 5 may water on Wednesdays. Addresses ending in numbers 6 or 7 may water on Thursdays. Addresses ending in numbers 8 or 9 may water on Fridays. If there is no street address, or if more than one street address is associated with a contiguous property, the irrigation day is Wednesday. Manual landscape watering with a soaker hose, handheld hose or

Stage	Type Use	Restriction
		watering can/bucket is allowed on any day.
4	Landscape Irrigation for New Landscapes, including Public Parks	<p>Landscape watering with recycled water may continue without restriction.</p> <p>The installation of new landscapes irrigated with potable water is discouraged.</p> <p>Landscape watering with potable water shall be subject to the following limits:</p> <p>(1) Landscape watering is permitted three (3) days a week to maintain adequate growth on newly installed landscapes, for a period generally up to five (5) weeks. Watering days for new landscapes are Tuesday, Thursday and Saturday. Property owners must notify the District of the address where new landscape is installed and the date of installation.</p> <p>Following the initial establishment period, landscape watering using a sprinkler or irrigation system is permitted only on the days associated with the current conservation stage in effect.</p>
4	Golf Courses / Athletic Fields	<p>Landscape watering with recycled water may continue without restriction.</p> <p>Landscape watering with potable water shall be subject to the following limits:</p> <p>(1) All landscape out-of-play areas such as may be found around a clubhouse or entryway shall follow the general landscape irrigation restrictions.</p> <p>(2) All in-play areas may be irrigated during the standard watering hours (before 10:00 a.m. or after 5:00 p.m.).</p> <p>Course operators shall implement a twenty (20) percent reduction in irrigation water use.</p>
4	Hotels, motels and bed and breakfasts	Hotels, motels and B&B's must limit linen/towel changes to once every two (2) nights or for the entire stay, whichever is shorter, except for health and safety.
4	Swimming pools, hot tubs	Initially filling new and existing swimming pools prohibited. Draining and refilling existing swimming pools permitted only if repairing a pool leak or repairing, maintaining or replacing a pool component that has become hazardous. All pools and tubs shall be covered when not in use to reduce evaporation.
4	Vehicle and Equipment Washing	<p>Non-commercial washing of vehicles and mobile equipment (e.g., washing vehicle at a residence) is permitted only on assigned landscape watering days during landscape watering hours (before 10:00 a.m. or after 5:00 p.m.).</p> <p>Fleet managers are encouraged to only wash those vehicles as is necessary for health and safety.</p>

Stage	Type Use	Restriction
4	Industrial and commercial	Reduction of water use by any means is encouraged. The Board of Directors may establish mandatory use reduction targets, if needed. Compliance with mandatory demand reduction measures is required for outdoor water uses including landscape irrigation, swimming pools, and vehicle washing.
4	Heavy Construction	The use of potable water for dust control shall be reduced to the greatest extent possible.

STAGE 5: >50% - Mandatory – Emergency Conservation Requirement

Appropriate 50% water shortage allotments shall be calculated and noticed to customers. Appropriate administration and enforcement of this stringent program shall be the highest priority of MCWD activity. All resources of MCWD will be directed toward improvement and increase of water supply to the system. Water rates may be further increased by the Board of Directors.

The following water use restrictions shall be imposed:

Stage	Type Use	Restriction
5	Landscape Irrigation for Existing Landscapes, including Public Parks	Landscape watering with recycled water may continue without restriction. Landscape watering with potable water is prohibited.
5	Landscape Irrigation for New Landscapes, including Public Parks	Landscape watering with recycled water may continue without restriction. The installation of new landscapes irrigated with potable water is prohibited during Conservation Stage 5. New landscapes installed prior to declaration of Conservation Stage 5 may water two (2) days a week to maintain adequate growth on newly installed landscapes, for the remainder of the initial five (5) week establishment period. Watering days for new landscapes are Tuesday and Friday. Property owners must notify the District of the address where new landscape is installed and the date of installation

Stage	Type Use	Restriction
5	Golf Courses / Athletic Fields	<p>Landscape watering with recycled water may continue without restriction.</p> <p>Landscape watering with potable water shall be subject to the following limits:</p> <p>(3) All landscape out-of-play areas such as may be found around a clubhouse or entryway shall follow the general landscape irrigation restrictions.</p> <p>(4) All in-play areas may be irrigated during the standard watering hours (before 10:00 a.m. or after 5:00 p.m.).</p> <p>Course operators shall implement a thirty (30) percent reduction in irrigation water use.</p>
5	Hotels, motels and bed and breakfasts	Hotels, motels and B&B's must limit linen/towel changes to once every three (3) nights or for the entire stay, whichever is shorter, except for health and safety.
5	Swimming pools, hot tubs	Filling new swimming pools and/or draining and refilling existing swimming pools is prohibited. All pools and tubs shall be covered when not in use to reduce evaporation. Contact District conservation staff if an existing swimming pool must be repaired and refilled during Conservation Stage 5.
5	Vehicle and Equipment Washing	Non-commercial washing of vehicles and mobile equipment is prohibited. Only commercial facilities with water recycling systems may be used.
5	Industrial and commercial	<p>Reduction of water use by any means is encouraged. The Board of Directors may establish mandatory use reduction targets, if needed.</p> <p>Compliance with mandatory demand reduction measures is required for outdoor water uses including landscape irrigation, swimming pools, and vehicle washing.</p>
5	Heavy Construction	The use of potable water for dust control shall be reduced to the greatest extent possible. The District may establish mandatory construction water budgets, if needed.

Appeals Procedure

1. Any person who wishes to appeal a customer classification or allotment shall do so in writing by using the forms provided by MCWD.
2. Appeals will be reviewed by the Water Conservation Coordinator and staff. Site visits may be scheduled if required.
3. A condition of granting an appeal shall be that all plumbing fixtures or irrigation systems be

replaced or modified for maximum water conservation.

4. Examples of appeals that may be considered are as follows:

- a. Substantial medical requirements.
- b. Commercial/Industrial/Institutional accounts where any additional water supply reductions will result in unemployment or inappropriate hardship, after confirmation by the MCWD staff that the account has instituted all applicable water efficiency improvements.

5. In the event an appeal is requested for irrigation of trees or vegetation, MCWD staff may use the services of a qualified consultant in determining the validity of the request. Costs for such consulting services shall be paid by the party or parties making the request.

6. The Water Conservation Coordinator shall refer all appeals to the Water Conservation Commission. The Water Conservation Commission may refer appeals to MCWD's Board of Directors.

7. If the Water Conservation Commission and the applicant are unable to reach accord, then the appeal shall be heard by the MCWD Board of Directors, who will make the final determination.

8. All appeals shall be reported monthly to the Board as a part of the Water Supply Report.

5.0 MANDATORY PROHIBITIONS ON WATER USE

California Water Code Section 10632(d). Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning. Section 10632(e) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.

The MCWD adopted a "Water Waste/Water Conservation" Ordinance (Ordinance No. 20) in April of 1990, which prohibits water waste and promotes water conservation. Since the initial adoption, revisions were adopted by the Board of Directors on April 14, 1992 and October 4, 1993. The ordinance has most recently been revised on and now appears as Chapter 3.36 of MCWD Code. Section 3.36.030, Mandatory Restrictions on Water Waste, details the applicable prohibitions of use. These prohibitions are in force at all times. Additional water use reduction methods available to water users or MCWD to adopt in order to comply with use reductions during the more restrictive stages of water shortages (Stages 4 and 5) include, but are not limited to, the following:

- a) elimination of turf irrigation with potable supplies;
- b) restriction of landscape watering to shrubs and trees by hand or drip irrigation only;
- c) elimination of vehicle washing except in car washes that have water recirculation systems;
- d) prohibition on filling or topping off of swimming pools where damage to pumping equipment will not result;
- e) elimination of water served in food service establishments unless requested;
- f) elimination of the issuance of construction meters;
- g) shut-off of dedicated landscape irrigation meters; and
- h) moratorium on provision of new supply meters.

If water use reductions called for in Stages 3-5 are not achieved, the MCWD may amend this Water Shortage Contingency Plan to make any of the above available conservation tactics mandatory.

6.0 PENALTIES OR CHARGES FOR EXCESSIVE USE

California Water Code Section 10632(f) Penalties or charges for excessive use.

Section 3.36.050 of MCWD Code provides for a system of violations and notices. Violation of provisions of this Water Shortage Contingency Plan shall be enforced under Section 3.36.050 of MCWD Code.

7.0 REVENUE AND EXPENDITURE IMPACTS

California Water Code Section 10632(g) – An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.

Enforcement of the Water Shortage Contingency Plan is assumed to be covered by enhanced revenues from application of excess use charges and penalties. MCWD reserves may be used temporarily should revenues remain below expectations. MCWD's rate structure is based upon adopted rate ranges and allows for modification of rates on short notice within those ranges. MCWD retains the ability to modify rates to meet all legitimate MCWD needs. Revenue impacts from water sales losses are estimated as follows, based upon Tier 2 rates of \$2.35/hcf in Central Marina and \$2.86/hcf in the Ord Community, and recognizing approximately 10% of MCWD's customers are not metered as of 2010.

Table 3: Potential Revenue Impacts of Implementation of WSCP

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Assumed Reduction	10 percent	20 percent	30 percent	40 percent	50 percent
Water Sales Loss	\$ 454,664	\$ 909,329	\$1,363,993	\$ 1,818,658	\$ 2,273,322
Revenue Source: Pumping savings at \$135/af	\$ 53,569	\$ 107,138	\$ 160,707	\$ 214,276	\$ 267,845
Net Revenue Reduction	\$ 401,095	\$ 802,191	\$1,203,286	\$ 1,604,382	\$ 2,005,477
Percent of Total Annual Water System Revenue	5%	11%	16%	21%	27%

* Table based on FY2009-2010 water sales, \$7,501,854 for 3,970 acre-feet

8.0 WATER SHORTAGE CONTINGENCY PLAN IMPLEMENTATION

California Water Code Section 10632 (h) A draft water shortage contingency resolution or ordinance.

MCWD Board of Directors adopt the Water Shortage Contingency Plan in Resolution No. 2005-31, which enables implementation of the Plan upon advice of staff based in part on the triggering mechanisms discussed herein. The resolution is attached as Appendix A to this Plan.

9.0 WATER USE MONITORING PROCEDURES

California Water Code Section 10632 (i) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency plan.

Normal Monitoring Procedure:

In normal water supply conditions, production figures are recorded daily by MCWD O&M personnel. Totals are reported monthly to the Water Conservation Coordinator and Water Quality Manager. Production figures are reported in the Annual Report to the Drinking Water Program, which is submitted to the California Department of Health Services each year.

Stage 1 and 2 Water Shortages

During a Stage 1 or 2 water shortage, daily production figures will be reported to the O&M Superintendent and Water Conservation Coordinator. The Water Conservation Coordinator compares the weekly production to the target weekly production to verify that the reduction goal is being met. Monthly reports are forwarded to the General Manager, the Water Conservation Commission and the MCWD Board of Directors. If reduction goals are not met, the General Manager may notify the Board of Directors so that corrective action can be taken.

Stage 3 and 4 Water Shortages

During a Stage 3 or 4 water shortage, the procedure listed above will be followed, with the

addition of a daily production report to the General Manager and weekly reports to the Water Conservation Commission and Board of Directors. Special meetings may be called for administration of the Water Shortage Contingency Plan.

Stage 5 Water Shortage

During a Stage 5 shortage, production figures will be reported to the O&M Superintendent hourly, and to the General Manager and the Water Conservation Coordinator daily. Reports will also be provided to MCWD's Board of Directors, the Monterey County Office of Emergency Services, and land use jurisdictions located within MCWD's service territory.

Appendix G: Urban Water Management Plan Checklist

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DWR Table I-2 Urban Water Management Plan Checklist, organized by subject

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
PLAN PREPARATION				
4	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	10620(d)(2)		Section 1.3 and Appendix C (data) Appendix D (notices)
6	Notify, at least 60 days prior to the public hearing on the plan required by Section 10642, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Any city or county receiving the notice may be consulted and provide comments.	10621(b)		Appendix D
7	Provide supporting documentation that the UWMP or any amendments to, or changes in, have been adopted as described in Section 10640 et seq.	10621(c)		Appendix A
54	Provide supporting documentation that the urban water management plan has been or will be provided to any city or county within which it provides water, no later than 60 days after the submission of this urban water management plan.	10635(b)		Appendix D – transmittal letter will be added
55	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.	10642		Section 1.2 and Appendix D
56	Provide supporting documentation that the urban water supplier made the plan available for public inspection and held a public hearing about the plan. For public agencies, the hearing notice is to be provided pursuant to Section 6066 of the Government Code. The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water. Privately-owned water suppliers shall provide an equivalent notice within its service area.	10642		Sections 1.2, 1.4 and Appendix D
57	Provide supporting documentation that the plan has been adopted as prepared or modified.	10642		Appendix A
58	Provide supporting documentation as to how the water supplier plans to implement its plan.	10643		Section 1.5

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
59	Provide supporting documentation that, in addition to submittal to DWR, the urban water supplier has submitted this UWMP to the California State Library and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. This also includes amendments or changes.	10644(a)		Appendix D – transmittal letter will be added
60	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the urban water supplier has or will make the plan available for public review during normal business hours	10645		Appendix D – MCWD web page will be added
SYSTEM DESCRIPTION				
8	Describe the water supplier service area.	10631(a)		Section 2.1
9	Describe the climate and other demographic factors of the service area of the supplier	10631(a)		Sections 2.2 and 2.4
10	Indicate the current population of the service area	10631(a)	Provide the most recent population data possible. Use the method described in “Baseline Daily Per Capita Water Use.” See Section M.	Section 2.3 and Appendix E
11	Provide population projections for 2015, 2020, 2025, and 2030, based on data from State, regional, or local service area population projections.	10631(a)	2035 and 2040 can also be provided to support consistency with Water Supply Assessments and Written Verification of Water Supply documents.	Section 2.3 and Appendices C and E
12	Describe other demographic factors affecting the supplier’s water management planning.	10631(a)		Section 2.4
SYSTEM DEMANDS				
1	Provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	10608.20(e)		Section 3.4
2	<i>Wholesalers:</i> Include an assessment of present and proposed future measures, programs, and policies to help achieve the water use reductions. <i>Retailers:</i> Conduct at least one public hearing that includes general discussion of the urban retail water supplier’s implementation plan for complying with the Water Conservation Bill of 2009.	10608.36 10608.26(a)	Retailers and wholesalers have slightly different requirements	Section 3.5

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
3	Report progress in meeting urban water use targets using the standardized form.	10608.40		N/A - initial year
25	Quantify past, current, and projected water use, identifying the uses among water use sectors, for the following: (A) single-family residential, (B) multifamily, (C) commercial, (D) industrial, (E) institutional and governmental, (F) landscape, (G) sales to other agencies, (H) saline water intrusion barriers, groundwater recharge, conjunctive use, and (I) agriculture.	10631(e)(1)	Consider 'past' to be 2005, present to be 2010, and projected to be 2015, 2020, 2025, and 2030. Provide numbers for each category for each of these years.	Sections 3.1, 3.2, 3.3 and Appendix C
33	Provide documentation that either the retail agency provided the wholesale agency with water use projections for at least 20 years, if the UWMP agency is a retail agency, OR, if a wholesale agency, it provided its urban retail customers with future planned and existing water source available to it from the wholesale agency during the required water-year types	10631(k)	Average year, single dry year, multiple dry years for 2015, 2020, 2025, and 2030.	N/A – District is neither a wholesale supplier nor a wholesale customer
34	Include projected water use for single-family and multifamily residential housing needed for lower income households, as identified in the housing element of any city, county, or city and county in the service area of the supplier.	10631.1(a)		Section 3.3.1
SYSTEM SUPPLIES				
13	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, and 2030.	10631(b)	The 'existing' water sources should be for the same year as the "current population" in line 10. 2035 and 2040 can also be provided.	Sections 4.4, 4.5, 4.6
14	Indicate whether groundwater is an existing or planned source of water available to the supplier. If yes, then complete 15 through 21 of the UWMP Checklist. If no, then indicate "not applicable" in lines 15 through 21 under the UWMP location column.	10631(b)	Source classifications are: surface water, groundwater, recycled water, storm water, desalinated sea water, desalinated brackish groundwater, and other.	Section 4.1, 4.2
15	Indicate whether a groundwater management plan been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	10631(b)(1)		Section 4.2.2
16	Describe the groundwater basin.	10631(b)(2)		Section 4.2.1
17	Indicate whether the groundwater basin is adjudicated? Include a copy of the court order or decree.	10631(b)(2)		Section 4.2.2

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
18	Describe the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. If the basin is not adjudicated, indicate "not applicable" in the UWMP location column.	10631(b)(2)		N/A, but Section 4.2.2 describes Zone of Benefit Agreement
19	For groundwater basins that are not adjudicated, provide information as to whether DWR has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition. If the basin is adjudicated, indicate "not applicable" in the UWMP location column.	10631(b)(2)		Section 4.2.1, last paragraph, Section 4.2.2 and Section 4.2.6
20	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	10631(b)(3)		Section 4.1
21	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	10631(b)(4)	Provide projections for 2015, 2020, 2025, and 2030.	Section 4.4
24	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	10631(d)		Section 4.3
30	Include a detailed description of all water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and multiple-dry years, excluding demand management programs addressed in (f)(1). Include specific projects, describe water supply impacts, and provide a timeline for each project.	10631(h)		Section 4.4
31	Describe desalinated water project opportunities for long-term supply, including, but not limited to, ocean water, brackish water, and groundwater.	10631(i)		Section 4.4.1, 4.4.2 and 4.5
44	Provide information on recycled water and its potential for use as a water source in the service area of the urban water supplier. Coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.	10633		Sections 4.4.1 and 4.6
45	Describe the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	10633(a)		Section 4.6

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
46	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	10633(b)		Section 4.6
47	Describe the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.	10633(c)		N/A – none currently used
48	Describe and quantify the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.	10633(d)		Section 4.6
49	The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	10633(e)		Section 4.4 and 4.6
50	Describe the actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.	10633(f)		Section 4.6 last paragraph
51	Provide a plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.	10633(g)		Section 4.6
WATER SHORTAGE RELIABILITY AND WATER SHORTAGE CONTINGENCY PLANNING ^b				
5	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	10620(f)		Sections 4.2, 4.4, 4.5, 4.6 and 6
22	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage and provide data for (A) an average water year, (B) a single dry water year, and (C) multiple dry water years.	10631(c)(1)		Section 5.1
23	For any water source that may not be available at a consistent level of use - given specific legal, environmental, water quality, or climatic factors - describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.	10631(c)(2)		Sections 4.2.4, 4.2.5 and 5.2
35	Provide an urban water shortage contingency analysis that specifies stages of action, including up to a 50-percent water supply reduction, and an outline of specific water supply conditions at each stage	10632(a)		Section 5.5.2 and Appendix F

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
36	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.	10632(b)		Section 5.1
37	Identify actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.	10632(c)		Section 5.5.1 and Appendix F
38	Identify additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.	10632(d)		Appendix F
39	Specify consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.	10632(e)		Appendix F
40	Indicated penalties or charges for excessive use, where applicable.	10632(f)		Section 5.5.3 and Appendix F
41	Provide an analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.	10632(g)		Section 5.5.4 and Appendix F
42	Provide a draft water shortage contingency resolution or ordinance.	10632(h)		Appendix F
43	Indicate a mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.	10632(i)		Section 5.5.5 and Appendix F
52	Provide information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments, and the manner in which water quality affects water management strategies and supply reliability	10634	For years 2010, 2015, 2020, 2025, and 2030	Sections 4.2.4, 4.2.5, 4.2.6 and 4.5

MCWD 2010 Urban Water Management Plan
Appendix G: DWR Table I-2, UWMP Checklist

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
53	Assess the water supply reliability during normal, dry, and multiple dry water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. Base the assessment on the information compiled under Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.	10635(a)		Section 5.1
DEMAND MANAGEMENT MEASURES				
26	Describe how each water demand management measures is being implemented or scheduled for implementation. Use the list provided.	10631(f)(1)	Discuss each DMM, even if it is not currently or planned for implementation. Provide any appropriate schedules.	Section 6.3
27	Describe the methods the supplier uses to evaluate the effectiveness of DMMs implemented or described in the UWMP.	10631(f)(3)		Section 6.3
28	Provide an estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the ability to further reduce demand.	10631(f)(4)		Section 6.3, 6.6
29	Evaluate each water demand management measure that is not currently being implemented or scheduled for implementation. The evaluation should include economic and non-economic factors, cost-benefit analysis, available funding, and the water suppliers' legal authority to implement the work.	10631(g)	See 10631(g) for additional wording.	Section 6.3.10 – wholesaler DMM does not apply to MCWD
32	Include the annual reports submitted to meet the Section 6.2 requirements, if a member of the CUWCC and signer of the December 10, 2008 MOU.	10631(j)	Signers of the MOU that submit the annual reports are deemed compliant with Items 28 and 29.	CUWCC reporting tool not available at time of plan preparation. Section 6 text included instead. CUWCC report will be completed separately

a The UWMP Requirement descriptions are general summaries of what is provided in the legislation. Urban water suppliers should review the exact legislative wording prior to submitting its UWMP.

b The Subject classification is provided for clarification only. It is aligned with the organization presented in Part I of this guidebook. A water supplier is free to address the UWMP Requirement anywhere with its UWMP, but is urged to provide clarification to DWR to facilitate review.

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Appendix H: Comments Received on the Draft Plan

No verbal comments were submitted at the Public Hearing for the UWMP. Two comment letters were received:

1. City of Marina, Development Services Department, dated May 16, 2011, with attached letter from Brezak & Associates Planning, dated May 9, 2011
2. Monterey Peninsula Water Management District, dated May 10, 2011

Responses follow each letter.

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CITY OF MARINA
Development Services Department
3056 Del Monte Boulevard | Marina, CA 93933
Tel: (831) 384-7324 Fax: (831) 384-7063
www.ci.marina.ca.us | DSD@ci.marina.ca.us

May 16, 2011

Jim Heitzman
Marina Coast Water District
11 Reservation Road
Marina, CA 93933

Jim:
Mr. Heitzman,

This letter is in response to our review of the District's Draft 2010 Urban Water Management Plan. The City of Marina has engaged the services of Jim Brezack & Associates to review this plan and attached are their preliminary comments. As you know this plan is very important to the City of Marina and its future developments, including those on the former Fort Ord. In the past, the City and District staff worked closely on the 2005 plan, particularly in two key areas: 1) the verification of projected demand based on development and land use assumptions, and; 2) the use of specific water demand factors that reflect the water conservation policies and practices of the District, City of Marina and the Monterey Bay area.

It is my understanding that this plan will be before the District Board on June 14, 2011 for review and consideration for approval. The City of Marina may have additional comments beyond those presented with this letter, and will endeavor to provide those to the District in advance of the June 14 Board meeting.

I look forward to our future discussions on this important planning document.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Yount".

Douglas A. Yount
Development Services Director
City of Marina

Cc: City Manager
Community Development Director
Jim Brezack, Brezack & Associates

Brezack&AssociatesPlanning

Mr. Douglas A. Yount
City of Marina Director Development Services
3056 Del Monte Boulevard, Suite 205
Marina, CA 93933

May 9, 2011

Subject: MCWD Public Review Drat 2010 Urban Water Management Plan
Comments

Dear Mr. Yount:

This letter provides a summary of findings from our review of the current Marina Coast Water District (MCWD) Public Review Draft 2010 Urban Water Management Plan (UWMP or Plan) dated March 17, 2011. The purpose of the review is to identify potential conflicts and issues that might exist with the City of Marina's (City's) development interests and suggests comments that that the City might make to MCWD for their resolution.

The UWMP has been developed in compliance with California's Urban Water Management Planning Act as embodied in the California Water Code (CWC) Division 6, Part 2.6, Section 10610, et. seq. The following comments are based upon Brezack and Associates Planning's review of the Public Review Draft 2010 UWMP provided by the City.

Comment 1: Section 1.5 Plan Implementation; Page 3; Line 4

"The District requires the various land use jurisdiction to allocate water supply to new developments based on the Water Supply Assessments."

Since this statement occurs in the opening section of the Plan it is understandable that it is intended to be introductory and therefore general in nature. However, the importance of commenting on this generalized statement is that it could lead the reader to a misconception that all "new developments" are subject to the preparation of a WSA or a WVR. As is pointed out in detail in other sections of the Plan, WSA's and WVR's are only applicable to specific projects that meet threshold conditions. It is suggested that this statement be expanded to clarify the limited applicability of WSA's and WVR's.

Additionally, the above statement is somewhat misleading, as to authority for the requirement of a WSA/WVR. While MCWD as the water purveyor is responsible for preparation, the requirement is from the CWC.

Lastly, SB 221 addresses the requirements for a Written Verification of Sufficient Water

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Supply, which has a more limited application than WSA's. That is, projects that do not include a "subdivision" as defined by Gov. § 66473.7(a)(1) are not subject to the requirements for the preparation of a WVR.

A "Subdivision" means a proposed residential development of more than 500 dwelling units, except that for a public water system that has fewer than 5,000 service connections, "subdivision" means any proposed residential development that would account for an increase of 10 percent or more in the number of the public water system's existing service connections."

Comment 2: LAFCO and MCWD's Service Boundaries are not distinguished in Figure 2.2

It is suggested that additional clarification would result if the Plan distinctly identified the LAFCO Service area and Ord Service Area boundaries in Figure 2.2. This distinction is important for the reader to better understand the applicability of the Plan, especially in consideration of the planned "sun-setting" of the Fort Ord Reuse Authority (FORA), identified herein in 2014. Since the Plan will be in effect throughout FORA's sun-setting, with a revised Plan not required by the CWC until 2015, it would be useful for the Plan to outline in greater depth how MCWD, FORA and LAFCO would address the applicability of the Plan, the preparation, review and approvals of WSA's and WVR's minimally for the period 2014 – 2015.

Comment 3: Section 2.1 District Location, History, Operation; Page 8; Line 1 "At some indeterminate date, MCWD, FORA, and ..."

The intent of the Urban Water Management Planning Act (UWMPA) is not met by the Draft Plan since the Ord Service Area is subject to sunset in 2014, prior to the requirement for the preparation of a 2015 UWMP update. As requested in Comment 2 above, it would be useful and important to identify the plans to continue water service, preparation, review and approval of WSA's and WVR's to Ord by MCWD after FORA sunsets.

Comment 4: Table 2.2 Historic Population

The historical populations throughout the remainder of Ord as shown in Table 3.8, appear to be missing from table 2.2.

Comment 5: Section 3 – Water Demands

The un-metered areas of the Ord Community represent 45% of the Ord Communities water use. Please provide a basis for the assumption of 0.33 AFY per residential connection. A focus on metering of the Ord Community would benefit overall accuracy, in compliance with the California Urban Water Council's Best Management Practices.

Comment 6 Table 3.1 and 3.2 – Water Deliveries in 2005, 2010

The calculation of Ac-Ft for Ord Non-metered appears to be slightly off based upon the assumed 0.33 AFY per residential connection.

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*Example: 1230 customers * 0.33 AFY/customer = 406 AF.*

However, Table 3.1 presents 410 AF.

Comment 7: Table 3.1 and 3.2 – Water Deliveries in 2005, 2010

For Central Marina, it is noted that the number of customers increased by 3%, however, water demand was determined to have decreased by 10%. While this is likely to have resulted from greater conservation efforts, an explanation would be useful to the reader.

Comment 8: Section 3.2.1 Central Marina Service Area

The Marina General Plan estimates water consumption for the City will average 7,720 AFY. Table 3.5 of the UWMP estimates a total of 5,644 AFY. This discrepancy should be evaluated and a conclusion as to the disparity of projections should be provided.

Comment 9: Section 3.2.3 Demand Projection Methodology; Paragraph 2

It is unclear what the basis is for the additional 15% for landscaping for non-residential uses. Please provide a description.

Comment 10: Section 3.2.4 Summary Demand Projects; Paragraph 1; Page 16

"The 2005 UWMP was primarily based upon land development forecasts and broad demand factors."

The demand factors for the 2005 UWMP seem to be similar to those used in the 2010 UWMP shown in Table 3.4. The Plan should discuss the similarities and differences between the 2005 Plan and the Draft 2010 Updated Plan. Additionally, since several WSA's and WVR's were adopted under the 2005 Plan, it would be important to understand these differences.

Comment 11: Table 3.5 Water Demand by Jurisdiction

The City of Marina has ongoing development of an Ord Community Projected Water Demand Model (Water Demand Model) for its land use approval process. While differences between the City's model and the analysis used by MCWD should be reviewed and coordinated, it is important to note that the City predicts a total water demand of 1,753 AFY. Table 3.5 presents a total water demand of 1,739 AFY. Review of Appendix Table C3: Water Demand Project Details shows discrepancies between the Water Demand Model unit multipliers and those used in calculation of Table 3.5. In addition, values for areas of Non-Residential Development used to calculate Table 3.5 differ from those used in the Water Demand Model. Some developments that are included in the Water Demand Model are not included in the calculations for Table 3.5. It is recommended that MCWD review the land use assumptions used in Appendix Table C3 and consult with the City for ongoing verification.

Comment 12: Table 3.7 Lower income Housing Demands

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The Table indicates that existing demands are estimated at 0.25 AFY/EDU. It is not clear why actual metered data is not used for existing demands. An explanation should be provided to describe this difference in the Plan.

Comment 13: Table 3.8 Per Capita Demands

It is noted throughout that Plan that the Ord portion of the service area has 10% of water use that is unmetered. The Plan should present a verification of the accuracy of the Ord water demands given this condition.

Comment 14: Section 3.5 Plan for Meeting Urban Conservation Targets; Paragraph 2; Page 22; "...will include the replacement of a significant amount of water distribution system... should reduce system water loss..."

It is recommended that Table 3.5 be updated to remove the 348 AF allocated for water loss.

Comment 15: Section 3.5 Plan for Meeting Urban Conservation Targets; Paragraph 3; Page 23; "The project is expected to provide ..."

The sentence should read, "... 780 afy in 2015, 1,359 afy in 2020..."

Comment 16: Section 3.5 Plan for Meeting Urban Conservation Targets; Paragraph 5; Page 23; *Conservation and Reclamation are on hold.*

An explanation should be provided to identify how this condition will be resolved given the flat economy that is occurring and described throughout the Plan. An explanation should be provided to describe what MCWD is doing to increase water use efficiency.

Comment 17 Table 4.2 Groundwater Allocations;

Table 4.2 does not match Table 3.5. Please resolve.

Comment 18: General

It is recommended that the City review the land use planning allocations and unit demand factors assumed for the City of Marina portion of the Ord Community and Central Marina as presented in Appendix Table C3 of the UWMP.

Please feel free to contact me at 925-478-8520 if you have any further questions or concerns.

Brezack & Associates Planning

Sincerely,

Jim Brezack
Brezack and Associates Planning

Response to Letter 1

City of Marina, Development Services Department [May 16, 2011] with attached letter from Brezak & Associates Planning [May 9, 2011]

1. The text will be edited to reflect that water supply assessments are required under SB221 and SB610, that MCWD prepares these for the land use jurisdictions when requested, and the District provides water to the subject projects per the allocations made by the jurisdictions.
2. The legend of figure 2.2 was updated as recommended.
3. The text in section 2.1 was updated to discuss the District's plan to continue service to the Ord Community.
4. MCWD did not serve Fort Ord in those years. A note of explanation was added.
5. 0.33 AFY is the District standard for one equivalent dwelling unit (1 EDU). Please note that the non-metered use drops to 19% in 2010.
6. Yes, the values in the source report appear to be rounded.
7. District-wide, both the number of accounts and the amount of water used increased between 2005 and 2010, and the average use per connection remained just under 0.5 AFY/account. The number of accounts does not accurately track the population served, so we chose not to draw any conclusions from the Central Marina subset of the data.
8. The number quoted from the Marina General Plan is for the year 2020, and that projection included the planned Airport Golf Course. As discussed in the text of Section 3.2.4, much of that projected development has been deferred, some of it beyond the 20-year planning horizon. Also, number you quote (5,644 AFY) does not correspond to any year in Table 3.5. The closest value is the year 2030 total for the City of Marina of 5,793 AFY. This includes Central Marina, the Marina Ord Community and the Marina Sphere.
9. The 15% landscape factor was used in the 2005 UWMP. Reviewing Table C.3, we realized that the factor is not used in the 2010 plan, so the sentence will be removed from page 14. Landscape use in the current plan is based on estimated area and landscape type.
10. The generic water demand factors are the same as those used in the 2005 UWMP. More specific factors are used in some of the water supply assessments, and those factors are carried into Table C.3.
11. The City has not provided a copy of their Water Demand Model, nor have they provided specific comments on Table C.3. We provided a draft of Table C3 to the City for comments in July, with follow-up requests in August, October and November 2010. A copy of the Public Review Draft of the 2010 UWMP, including the appendices, was provided to the City in April 2011.

12. Many of the existing affordable housing units are a subset of a master-metered account (typically an apartment complex). Calculating the existing water demand would involve using the average rate per unit for these master-metered accounts. It is not clear that the report would be materially improved by adding this additional information.

13. Baseline water use is calculated using gross water production from the well meter data, not demand from customer meters. The percentage of non-metered customers does not affect this total.

14. The 2005 UWMP carried the provision for line loss as a demand, so we followed that precedent. This accounts for 5% of the 6,600 AFY Ord Community groundwater supply.

15. We will correct the text to read 780 AFY in 2015.

16. The sentence does not state that conservation is on hold, only that construction of the recycled water project has been deferred.

17. Table 3.5 includes the 300 AFY from the Marina Desalination Plant, Table 4.2 is groundwater only. Footnote 3 in Table 3.5 explains the difference.

18. We concur that the City should review Table C3.



RECEIVED
MAY 18 2011

BY:

May 10, 2011

Mr. Gary Rogers
Marina Coast Water District
11 Reservation Road
Marina, California 93933-2099

Subject: Marina Coast Water District - Draft Urban Water Management Plan

Dear Mr. Rogers:

The Monterey Peninsula Water Management District (MPWMD) appreciates the opportunity to comment on the Marina Coast Water District's (MCWD) Draft Urban Water Management Plan dated April 2011. Our comments are provided below.

Section: 4.2.2 Basin Management and Section 4 Water Supplies

These sections do not reference the Seaside Basin Watermaster or discuss the impacts of the Seaside Groundwater Basin adjudication decision as the decision relates to basin management and water supplies.

Section: 6.3.5 Large Landscape Conservation Programs and Incentives

MPWMD supports MCWD's adoption of the Model Water Efficient Landscape Ordinance. MPWMD recommends that MCWD encourage all New Construction to implement Rainwater collection/irrigation systems and Graywater collection/irrigation systems as a component of their design. New structures should be encouraged to include one or more rainwater Cisterns and a system to provide at least 75 percent of exterior irrigation during normal rainfall years.

Thank you for the opportunity to review and provide feedback on the MCWD's Draft Urban Water Management Plan. If you have any questions or would like to discuss our comments, please contact me at 831-658-5601 or steph@mpwmd.net.

Sincerely,

A handwritten signature in black ink, appearing to read "Steph", written over a horizontal line.

Stephanie Pintar
Water Demand Manager

cc: Darby W. Fuerst, General Manager

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Response to Letter 2**Monterey Peninsula Water Management District [May 10, 2011]**

1. The District does not provide water from the Seaside Groundwater Basin, therefore including a discussion of that basin management plan would be confusing to the reader. The text in Section 4.2.2 was edited to clarify this distinction.
2. Comment noted by the District.

MARINA COAST WATER DISTRICT

2010 URBAN WATER MANAGEMENT PLAN



Prepared by

Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS

June 2011

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MARINA COAST WATER DISTRICT

2010 URBAN WATER MANAGEMENT PLAN



Board of Directors

William Lee, President
Dan Burns, Vice-President
Howard Gustafson
Kenneth K. Nishi
Jan Shriner

Prepared by

Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS
3239 IMJIN ROAD, SUITE 129
MARINA, CA 93933



June 2011

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Table of Contents

Section 1 - Plan Preparation	1
1.1 Background	1
1.2 Public Participation in Plan Development	1
1.3 Agency Coordination	2
1.4 Plan Adoption	3
1.5 Plan Implementation	3
Section 2 - System Description	4
2.1 District Location, History and Operations	4
2.2 Climate	8
2.3 Population	9
2.4 Demographic Factors	10
Section 3 - Water Demands	12
3.1 Current Water Use	12
3.2 Projected Water Demands	13
3.2.1 Central Marina Service Area	13
3.2.2 Ord Community Service Area	14
3.2.3 Demand Projection Methodology	15
3.2.4 Summary Demand Projections	17
3.3 Predicted Water Demand by Sector	19
3.3.1 Lower Income Housing Demands	19
3.4 Water Conservation Baseline and Targets	21
3.5 Plan for Meeting Urban Conservation Targets	24
Section 4 - Water Supplies	26
4.1 Water Sources	26
4.2 Groundwater	26
4.2.1 Salinas Valley Groundwater Basin	26
4.2.2 Basin Management	30
4.2.3 Integrated Regional Water Management Plan	32
4.2.4 Seawater Intrusion	32
4.2.5 Groundwater Contamination and Control	37
4.2.6 Salinas Valley Water Project	40
4.3 Water Transfer Opportunities	43
4.4 Future Water Supply	43
4.4.1 Water Augmentation for Ord Community Supplies	45
4.4.2 Regional Desalination Project	46
4.4.3 Surface Water Supplies	47
4.4.4 Future Water Supply Assessments and Written Verifications of Supply	47
4.5 Desalinated Water	48
4.6 Recycled Water	49
Section 5 - Water Supply Reliability and Water Shortage Contingency Planning	53
5.1 Water Supply Reliability - Single and Multiple Dry Year and Demand Comparison ..	53
5.2 Water Quality Impacts on Reliability	53
5.3 Water Quality Monitoring	53
5.4 Water Production System Reliability	55

5.5	Water Shortage Contingency Plan	56
5.5.1	Actions in the Event of a Catastrophic Interruption	56
5.5.2	Stages of Action, Mandatory Provisions, Reduction Methods	57
5.5.3	Penalties or Charges for Excessive Use	57
5.5.4	Revenue and Expenditure Impacts.....	58
5.5.5	Mechanism to Determine Actual Water Use Reductions – Monitoring Procedures 58	
5.6	Drought Planning	59
Section 6 -	Conservation and Demand Management Measures.....	60
6.1	Introduction.....	60
6.2	Summary of Measures Currently Under Implementation.....	60
6.3	Description and Status of Demand Management Measures	60
6.3.1	DMM 1 - Water Survey Programs for Single-Family and Multi-Family Residential Customers.	61
6.3.2	DMM 2 - Residential Plumbing Retrofit	62
6.3.3	DMM 3 - System Water Audits, Leak Detection and Repair	63
6.3.4	DMM 4 - Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections.....	64
6.3.5	DMM 5 - Large Landscape Conservation Programs and Incentives	64
6.3.6	DMM 6 - High-Efficiency Washing Machine Rebate Programs.....	65
6.3.7	DMM 7 - Public Information Programs.....	66
6.3.8	DMM 8 - School Education Programs.....	66
6.3.9	DMM 9 - Conservation Programs for Commercial, Industrial, and Institutional (CII) Accounts	67
6.3.10	DMM 10 – Wholesale Agency Assistance	68
6.3.11	DMM 11 - Conservation Pricing	68
6.3.12	DMM 12 - Conservation Coordinator.....	68
6.3.13	DMM 13 - Water Waste Prohibition	69
6.3.14	DMM 14 - Residential Ultra-Low Flow Toilet Replacement Programs	69
6.4	Funding and Legal Authority.....	70
6.5	Existing Conservation Savings, Savings Measurement, and Effects on Ability to Further Reduce Demand	70
Section 7 -	Completed UWMP Checklist	72

Appendices

- A. Resolution of Urban Water Management Plan Adoption
- B. References
- C. Land Use Forecast and Water Demand Projections by Jurisdiction
- D. Notices and Letters to Public Agencies
- E. Technical Memoranda
 - 1. Population Estimates Used for MCWD 2010 Urban Water Contingency Plan
 - 2. MCWD Water Conservation Targets for UWMP
 - 3. Water Shortage Contingency Plan Review
 - 4. 2010 Census Adjustment to UWMP Tables
- F. Water Shortage Contingency Plan with Resolution of Adoption

- G. DWR Table I-2, Urban Water Management Plan Checklist organized by subject
H. Comments Received on the Draft Plan

List of Tables

Table i	Acronyms Used in this Report.....	iv
Table ii	Units of Measure Used in this Report	iv
Table 1.1	Coordination with Appropriate Agencies	2
Table 2.1	Local Evapotranspiration Rates	9
Table 2.2	Historic Population	9
Table 2.3	Projected Population	10
Table 3.1	Water Deliveries in 2005	12
Table 3.2	Water Deliveries in 2010	12
Table 3.3	Water Supply Assessments Used to Update the UWMP.....	15
Table 3.4	Water Demand Factors Applied in the UWMP	16
Table 3.5	Water Demand by Jurisdiction (afy).....	18
Table 3.6	Water Demand by Sector (afy)	19
Table 3.7	Lower Income Housing Demands (afy).....	21
Table 3.8	Per Capita Water Demands	23
Table 3.9	District Baseline and Targets	24
Table 3.10	Projected Per Capita Water Demands	24
Table 4.1	Groundwater Production (acre-feet)	26
Table 4.2	Groundwater Allocations	32
Table 4.3	Ord Community Groundwater Shortfalls	44
Table 4.4	Projected Demand by Source, Minimum Recycled Use (afy).....	44
Table 4.5	Projected Demand by Source, Maximum Recycled Use (afy)	44
Table 4.6	Recycled Water Allocations (afy).....	45
Table 4.7	Non-Potable Water Demand Projections (ac-ft/yr)	51
Table 5.1	Water Shortage Contingency Plan - Stages of Action.....	57
Table 5.2	Water Shortage Contingency – Penalties and Charges.....	58
Table 5.3	Potential Revenue Impacts of Implementation of WSCP.....	58
Table 6.1	Summary of DMM Implementation	61

List of Figures

Figure 2.1	MCWD Vicinity Map.....	6
Figure 2.2	MCWD Service Areas	7
Figure 2.3	Local Climate Averages	8
Figure 4.1	Salinas Valley Groundwater Basin.....	28
Figure 4.2	Historic Seawater Intrusion by Year	34
Figure 4.3	Historic Seawater Intrusion by Year	35
Figure 4.4	Groundwater Contamination Plumes	39

Table i. Acronyms Used in this Report

Acronym	Description
afy, ac-ft/yr	Acre-feet/year
ccf, hcf	Hundred cubic feet
gpd	Gallons per day
gpcd	Gallons per capita day, or gallons per person per day
mgd	Million gallons per day
BMP	Best management practice
CAW, CalAm	California American Water Company
CDPH	California Department of Public Health
CSUMB	California State University – Monterey Bay
DMM	Demand management measure
DWR	California Department of Water Resources
FORA	Fort Ord Reuse Authority
LAFCO	Local Agency Formation Commission
MCWD, District	Marina Coast Water District
MCWRA	Monterey County Water Resources Agency
MPWMD	Monterey Peninsula Water Management District
MRWPCA	Monterey Regional Water Pollution Control Agency
OMC	Ord Military Community
POM	Presidio of Monterey
SB	California Senate Bill
SRDP	Salinas River Diversion Project
SVWP	Salinas Valley Water Project
SVGB	Salinas Valley Groundwater Basin
UCMBEST	University of California Monterey Bay Education, Science and Technology Center
UWMP	Urban Water Management Plan

Table ii. Units of Measure Used in this Report

Unit	Equals
1 acre-foot	= 43,560 cubic feet = 325,851 gallons
1 cubic foot	= 7.48 gallons
1 CCF	= 100 cubic feet = 748 gallons
1 MGD	= 1,000,000 gallons/day = 1,120 acre-feet / year

Section 1 - Plan Preparation

1.1 Background

The California Water Code, Division 6, Part 2.6, Section 10610 et. seq. (California Urban Water Management Planning Act) requires any municipal water supplier serving over 3,000 connections or 3,000 acre-feet of water per year (afy) to prepare an urban water management plan.

In adopting the Urban Water Management Planning Act, the state declared as policy that:

- a) The management of urban water demand and efficient use of water shall be actively pursued to protect both the people of the state and their water resources;
- b) The management of urban water demands and efficient use of urban water supplies shall be a guiding criterion in public decisions;
- c) Urban water suppliers shall be required to develop water management plans to actively pursue the efficient use of available supplies.

Through the Urban Water Management Planning Act, the state recognizes that water is a limited, though renewable, resource and that a long-term reliable supply of water is essential to protect the economy. It also recognizes that, while conservation and efficient use of water is a statewide concern, planning for this use is best done at the local level. Therefore each supplier is required to submit its plan to the State Department of Water Resources.

In preparing this 2010 Urban Water Management Plan (UWMP), the Marina Coast Water District (MCWD) reviewed its 2005 and 2000 UWMPs, schedule of water conservation best management practices actions and other supply development actions. The economic downturn that occurred in late 2007 and continues through today greatly delayed the projected redevelopment of the former Fort Ord, as is reflected in the updated demand projection tables in this report.

1.2 Public Participation in Plan Development

MCWD has encouraged public participation in the development of this Urban Water Management Plan. Notice of plan development was placed on MCWD's website in February 2011. MCWD's Water Conservation Commission, a public advisory group which helps shape MCWD's conservation programs, was also notified. MCWD also updated its water shortage contingency plan, which was reviewed in a public meeting of the Commission. Following Commission review, the water shortage contingency plan was reviewed in a public meeting of the MCWD Board of Directors and adopted (see Appendix F).

On April 27, 2011 the draft UWMP was made available for public inspection at MCWD's offices and at local libraries. A public hearing was held for the plan on May 10, 2011 as noted in the resolution reproduced in Appendix A.

1.3 Agency Coordination

The Urban Water Management Planning Act modified under SB 1518, effective January 1, 2003, requires MCWD to notify affected land use jurisdictions of plan development and provide an opportunity to review the draft plan. Copies were sent to each affected land use jurisdiction and the Monterey County Water Resources Agency (MCWRA). A notice of hearing for the draft UWMP was sent to all land use jurisdictions it serves including the cities of Marina, Monterey, Seaside, and Del Rey Oaks, UCMBEST, CSUMB and Monterey County (see Table 1.1). MCWD has also coordinated with the MCWRA, through which MCWD jointly holds trust responsibility for groundwater resources MCWD uses to serve customer demands. Additionally, MCWD notified the Fort Ord Reuse Authority of the plan's development and availability. Copies of these notices are in Appendix D.

MCWD will provide each of the land use jurisdictions above and the California State Library with a copy of the final plan. A final copy of the plan and appendices will be posted on the MCWD website: www.mcwd.org.

Table 1.1 Coordination with Appropriate Agencies

Coordinating Agencies	Participated in developing the plan	Commented on the draft	Attended public meetings	Was contacted for assistance	Was sent a copy of the draft plan	Was sent a notice of intention to adopt	Not involved/ No information
MCWRA					X	X	
City of Marina	X	X			X	X	
City of Seaside					X	X	
City of Del Rey Oaks	X				X	X	
City of Monterey	X				X	X	
County of Monterey (RDH)	X				X	X	
U.S. Army	X				X	X	
CSUMB	X				X	X	
UCMBEST	X				X	X	
State Parks	X				X	X	
FORA	X			X	X	X	
CalAm					X	X	
MRWPCA					X	X	
MPWMD		X			X	X	
General Public			X				

1.4 Plan Adoption

The 2010 Urban Water Management Plan was adopted by the Marina Coast Water District Board of Directors on June 14, 2011. A copy of the resolution approving the plan is included in Appendix A.

1.5 Plan Implementation

The District has adopted policies and procedures that facilitate implementation of the plan, with many of the actions already in progress:

- The District Code of Ordinances includes mandatory prohibitions on water waste, water shortage contingency actions, and enforcement provisions.
- MCWD prepares Water Supply Assessments and Written Verifications of Supply for proposed projects and provides them to the land use jurisdiction.
- MCWD reviews project plans compared to water allocations made by the land use jurisdictions. If a development's proposed connections exceed the allocated supply, MCWD contacts the affected jurisdiction to resolve the discrepancy before allowing the connections in question.
- MCWD monitors new developments to ensure the average water demand does not exceed the water allocation made by the land use jurisdiction, and works with project owners and the affected jurisdiction when water uses habitually exceeds the allocation.
- New water supply projects as reflected in this plan are in the approved Capital Improvements Program. MCWD has entered into formal agreements with Monterey County Water Resources Agency, Monterey Regional Water Pollution Control Agency and California American Water for the regional desalination project and the urban recycled water project, as discussed in Section 4.
- MCWD has a full-time water conservation staff that provides customer assistance and manages the rebate programs discussed in Section 6.

Section 2 - System Description

2.1 District Location, History and Operations

The Marina Coast Water District is located on the coast of the Monterey Bay at the northwest end of the Salinas Valley (Figure 2.1). The District was formed in 1960 to provide potable water service to all residential, commercial, industrial, environmental, and fire protection uses in the unincorporated community of Marina. The original boundary was coincident with the Marina Fire District. In 1970, MCWD constructed a wastewater treatment plant and installed a wastewater collection system to serve the community. The City of Marina incorporated in 1975, but MCWD remained separate. In 1991, MCWD constructed a pilot recycled water system, providing tertiary treated wastewater for irrigation of public streetscapes and parks near the wastewater plant. This system operated only until 1992, when the wastewater collection system was connected to the regional wastewater system operated by the Monterey Regional Water Pollution Control Agency. The Marina wastewater treatment plant was retired, and MCWD now provides wastewater collection services only, with treatment performed at the regional plant. In 1996, MCWD constructed a seawater desalination facility to explore the feasibility of extracting seawater through shallow wells along the beach. MCWD's current Local Area Formation Commission (LAFCO) service area encompasses 3.2 square miles, and its sphere of influence encompasses an addition 2.4 square miles.

The District also provides potable water delivery and wastewater conveyance services within the boundaries of the former Fort Ord Army Base, known as the Ord Community. The Ord Community lies to the southeast of the City of Marina and the District's Central Marina service area (see Figure 2.2). The Ord Community encompasses a 44 square mile area, of which about 20 square miles is designated for redevelopment, with the balance being parks and open space.

In 1991 the former Army base was downsized and realigned pursuant to the Defense Base Closure and Realignment Act of 1990, with closure in 1994. Portions of the base were retained for use by the U.S. Army under the control of the Presidio of Monterey (Presidio Annex), with the balance being converted to civilian use under the guidance of the Fort Ord Reuse Authority (FORA), a public agency created for this purpose by the State of California. FORA's membership includes the land use jurisdictions encompassed by the former Fort Ord lands and others on the Monterey Peninsula. FORA is governed by a 13-member board with representatives from the following jurisdictions:

- City of Carmel
- City of Del Rey Oaks
- City of Marina
- City of Monterey

- City of Pacific Grove
- City of Salinas
- City of Sand City
- City of Seaside
- County of Monterey

The Base Reuse Plan also included provisions for three institutions of higher learning:

- California State University, Monterey Bay (CSUMB)
- University of California, Monterey Bay Environmental Science and Technology Center (UCMBEST)
- Monterey Peninsula College

FORA has the statutory authority to provide for public capital facilities, including but not limited to, water and wastewater facilities on the former Fort Ord. However, FORA has a limited statutory life and needed a reliable, long-term entity to provide public services to the area.¹ In May 1997, the FORA Board approved the preparation of a Public Benefit Conveyance (PBC) application to the federal government for transfer of the water distribution and wastewater collection systems to MCWD. In June 1997, the U.S. Army and MCWD signed a caretaker agreement authorizing MCWD to operate the water and wastewater collection systems. In February 1998, MCWD and FORA executed an agreement for water and wastewater facilities, providing for the ownership and operation of water and wastewater facilities acquired from the federal government for the benefit of FORA. The Water and Wastewater Oversight Committee of the FORA Board oversees the operation of these facilities by MCWD. Title for these systems was transferred to MCWD in 2001, and the systems were subsequently interconnected. In 2007, MCWD combined the water system permits for the Central Marina and Ord Community service areas into a single California Department of Public Health permit.

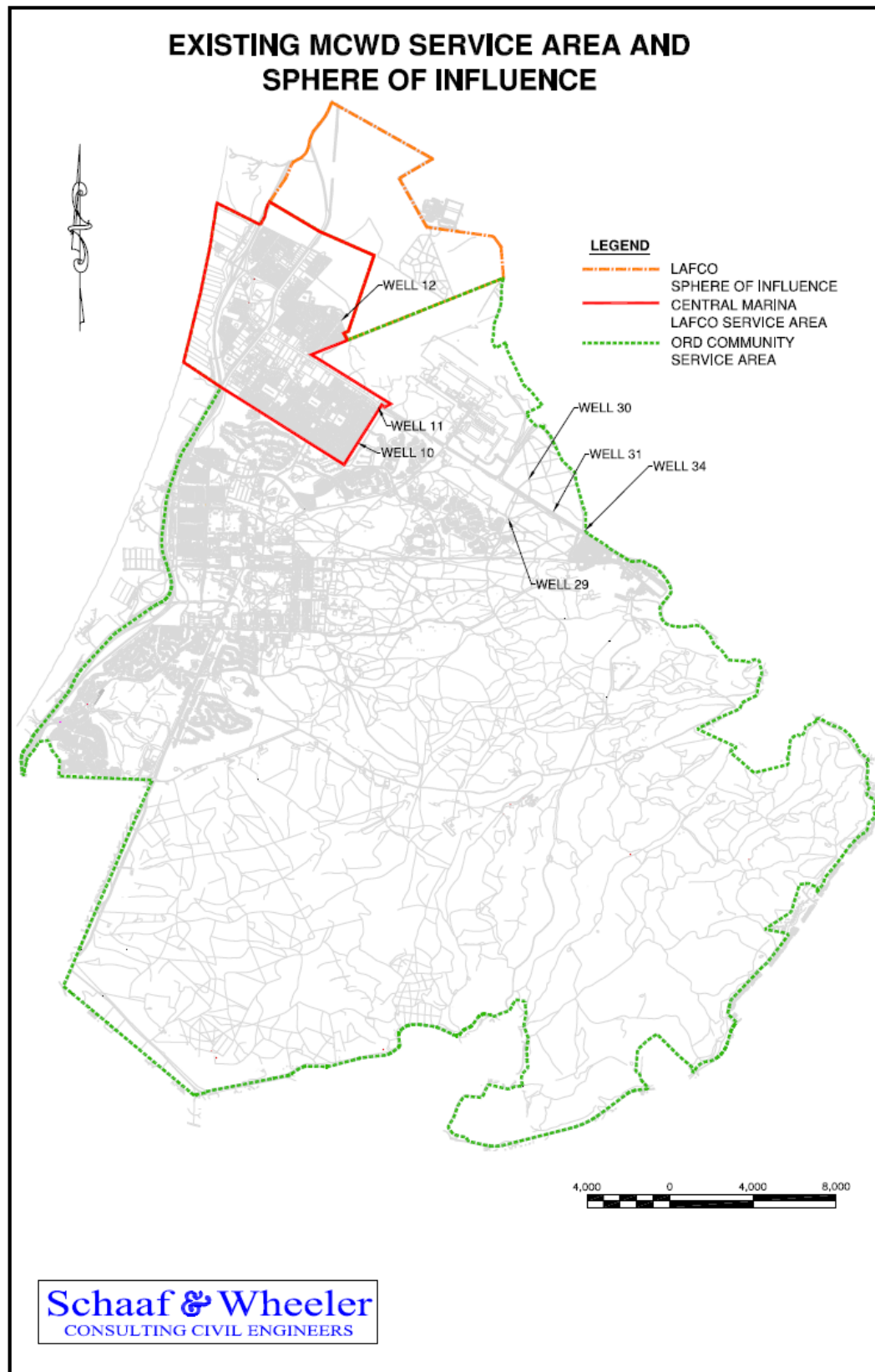
The FORA Board retains the authority to allocate Salinas Valley groundwater supplies as provided for under an agreement between the federal government and the Monterey County Water Resources Agency (MCWRA) dated September 1993. This agreement provides for groundwater extraction rights of 6,600 afy, an amount consistent with the former average groundwater use at Fort Ord while under military operation. Consistent with this agreement, MCWD operates the Ord Community service area under a separate water allocation and cost center.

¹ Pursuant to Government Code 67700, FORA will sunset on June 30, 2014. To the extent water allocation functions of FORA need to be continued, additional legal arrangements among the land use jurisdictions on the former Fort Ord and the MCWD will be necessary.

Figure 2.1 MCWD Vicinity Map

Marina Coast Water District Vicinity Map



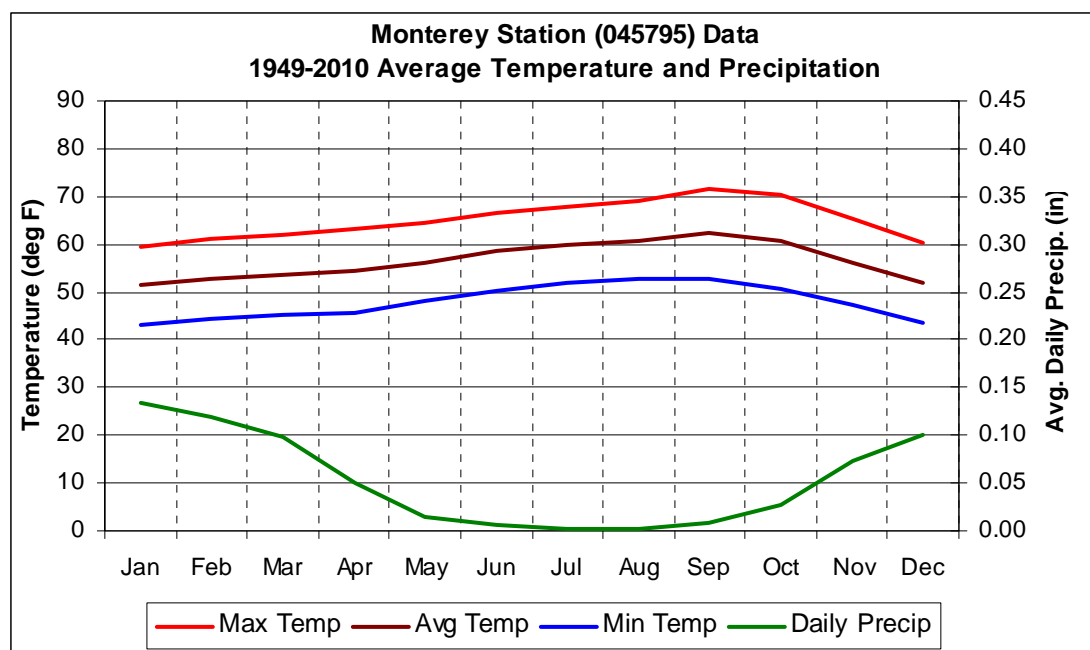
Figure 2.2 MCWD Service Areas

Service to the Ord Community is provided exclusively under the 1998 agreement with FORA. In 2006, the Local Agency Formation Commission (LAFCO) of Monterey County published the Municipal Services Review of the Monterey Peninsula Area, and stated that MCWD may pursue annexation of the Ord Community. At some indeterminate date, MCWD, FORA and LAFCO may consider a formal annexation of all or portions of the former Fort Ord into the District. No formal decisions have yet been made.

2.2 Climate

Marina has a cool summer-type Mediterranean climate with precipitation falling exclusively as rain, predominantly between October and May. The nearest official weather station is seven miles away in Monterey, California. Average climate data from this station from 1949-2010 is depicted in Figure 2.3.

Figure 2.3 Local Climate Averages



The moderating effect of the Pacific Ocean and its relatively cold water allows for mild summertime temperatures in Marina. This effect suppresses summertime irrigation demands for landscaping as compared to inland locations, especially when advection fog moves in from the Pacific Ocean, enveloping the immediate coast in response to heating inland. Unlike inland locations, summertime temperatures generally peak in September rather than July.

Peak summertime temperatures usually occur when high pressure is resident in the Great Basin (Santa Ana conditions), allowing for an offshore flow and compressional heating of the atmosphere.

Precipitation averages about 20 inches annually. Table 2.1 depicts monthly average evapotranspiration (ET_o) at the nearest California Irrigation Management Information System (CIMIS) stations. Note that the ET_o rate increases the more distant from the coast.

Table 2.1 Local Evapotranspiration Rates (inches)

City	CIMIS Station ID	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ET _o
Castroville	19	1.4	1.7	3.0	4.2	4.6	4.8	4.0	3.8	3.0	2.6	1.6	1.4	36.2
Monterey	89	1.7	1.8	2.7	3.5	4.0	4.1	4.3	4.2	3.5	2.8	1.9	1.5	36.0
Salinas North	116	1.2	1.5	2.9	4.1	4.6	5.2	4.5	4.3	3.2	2.8	1.5	1.2	36.9

2.3 Population

MCWD historically served only the City of Marina, which incorporated in 1975. In 1997, the District began providing service to the Ord Community under agreement with FORA. Table 2.2 depicts MCWD's growth from 1960 to 2010. Between 1920 and 1970, population increases for Marina were quite steady. From 1970 to 1980 the population nearly tripled. Growth rates moderated in the 1980s, with the population reaching a near-term peak in 1990. With the closure of Fort Ord as a military base in 1994, the City and MCWD experienced a decline in population. A longer discussion of historic population can be found in Appendix E.

Table 2.2 Historic Population

Service Area	1960	1970	1980	1990	2000	2010
City of Marina*	3,310	8,343	20,647	26,436	18,927	19,718
Ord Community**					14,886	10,762
Total	3,310	8,343	20,647	26,436	33,813	30,480

Source: U.S. Census Bureau

*City of Marina totals include the portion of the city within the Ord Community

**Ord Community totals excludes the City of Marina portion. Ord population shown only for period served by MCWD.

With redevelopment of the Fort Ord lands, population growth is expected to return, with population projections shown in Table 2.3. These projections include redevelopment of the Ord Community, including portions of the cities of Seaside, Del Rey Oaks, and Monterey, campuses for the University of California and California State University, and lands remaining under the jurisdiction of the County of Monterey within the boundaries of the former Fort Ord.

Table 2.3 Projected Population

Service Area	Existing*	2010**	2015	2020	2025	2030
Ord Community	13,646	15,350	24,888	33,995	39,028	43,438
Central Marina	16,834	16,834	18,483	23,723	25,333	26,449
Total	30,480	32,184	43,371	57,718	64,361	69,887

* 2010 Census, actual service area populations.

** Values reflect 2010 census total plus the projected year 2010 development

The above projections are based upon the existing population plus the anticipated occupancy of new residential development, as projected in Section 3. A more detailed discussion of the methodology can be found in Appendices C and E. The projected totals are significantly lower than those in the 2005 Urban Water Management Plan (e.g., the 2005 Plan total projected population for 2025 was 98,700 persons versus 64,361 with this 2010 Plan) due to the economic downturn that dramatically slowed the pace of redevelopment in the Ord Community. Some of that development has been deferred beyond the 20-year planning horizon of this report.

2.4 Demographic Factors

Three industries have historically driven the local economy: agriculture in the Salinas Valley, tourism along the Pacific Coast and the Monterey Peninsula, and the military with bases at Fort Ord, the Presidio of Monterey and the Naval Postgraduate School. The closure of Fort Ord in 1994 greatly reduced the military contribution, but that has been replaced by higher education on the former Fort Ord. California State University – Monterey Bay is the largest campus within the Ord Community, which also contains the smaller campuses of Monterey College of Law and Monterey Peninsula College. The University of California Monterey Bay Education, Science and Technology Center is located at the Marina Airport. Brandman University and Golden Gate University also operate satellite campuses in the local area.

Tourism and recreation are significant portions of MCWD's current and future customer base. Central Marina currently has hotels and visitor-serving commercial sectors, as well as Marina State Beach. The Ord Community has Fort Ord Dunes State Park and approximately 24 square miles of open space managed by the Bureau of Land Management. The existing Bayonet and Blackhorse Golf Courses are being developed by the City of Seaside into a resort community. The City of Del Rey Oaks plans to add a golf resort to their portion of the Ord Community.

Within the District's service area there is a high percentage of residential use (95% of customer accounts, 85% of total water sales). This high percentage results in a low per capita water demand. Residents have historically worked on the former Fort Ord, as well in the nearby urban centers of Monterey, Salinas and the more distant San Jose/Silicon Valley; or in the agricultural industry of rural Monterey County.

As Central Marina and the Ord Community are redeveloped, a mix of commercial, office and light industrial uses are proposed, which will increase the average per capita water demand rate.

Industries with high water-use are anticipated to be constrained due to the limited water supply available to the jurisdictions.

Section 3 - Water Demands

3.1 Current Water Use

Marina Coast Water District has two separate service areas: Central Marina, which encompasses the portion of the City outside the former Fort Ord, and the Ord Community. All water service connections in the Central Marina area are metered. Fort Ord did not have individual service meters while it was an active military base, and portions of the housing areas within the Ord Community remain without meters. Water meters continue to be installed in areas of the Ord Community in phases by the various property owners. Water use by customer type for calendar year 2005 is shown in Table 3.1, and year 2010 is shown in Table 3.2. The water use in the Ord Community without meters is estimated at 0.33 acre-feet/year per residential connection.

Table 3.1 Water Deliveries in 2005

Water use sectors	Central Marina		Ord Community		Ord Non-metered		Total
	# Cust.	Ac-Ft	# Cust.	Ac-Ft	# Cust.	Ac-Ft	Ac-Ft
Single family	3,243	898.8	378	126.6	1,230	410.0	1,435.4
Multi-family	239	575.4	973	362.8	1,425	475.0	1,413.2
Commercial	210	235.5	43	49.3			284.9
Industrial	0	0.0	3	4.1			4.1
Institutional/governmental	25	88.0	96	242.6			330.6
Landscape	63	119.5	63	283.0			402.5
Agriculture	0	0.0	0	0.0			0.0
Other	0	0.0	0	0.0			0.0
Total	3,780	1,917.2	1,556	1,068.3	2,655.0	885.0	3,870.5

Table 3.2 Water Deliveries in 2010

Water Use Sectors	Central Marina		Ord Community		Ord Non-metered		Total
	# Cust.	Ac-Ft	# Cust.	Ac-Ft	# Cust.	Ac-Ft	Ac-Ft
Single family	3,305	829.8	1,011	200.8	601	210.0	1,240.6
Multi-family	251	505.0	1,385	592.4	600	200.0	1,297.4
Commercial	234	232.5	70	95.4			327.9
Industrial	0	0.0	3	6.7			6.7
Institutional/governmental	25	67.9	136	214.6			282.6
Landscape	72	107.9	105	705.6			813.5
Agriculture	0	0.0	0	0.0			0.0
Other	0	0.0	0	0.0			0.0
Total	3,887	1,743.2	2,710	1,815.5	1,201.0	410.0	3,968.7

Two significant undeveloped areas north of Central Marina: Armstrong Ranch and the CEMEX (formerly RMC Lonestar) Property. A portion of the Armstrong Ranch has been annexed into the District and the City of Marina and is currently slated for predominantly residential urban development. No development plans currently exist for the CEMEX Property. MCWD currently serves minor domestic uses on the Armstrong Ranch, and in the future, MCWD will serve

municipal and industrial demands as they may occur on these properties. Present agricultural demands are met via private wells.

MCWD began providing water for irrigation of Bayonet/Blackhorse Golf Courses in Seaside in 2010. Prior to this, the City of Seaside provided irrigation supply from wells within the Seaside Groundwater Basin, which was the source of supply for this demand at the time the former Fort Ord closed.

3.2 Projected Water Demands

3.2.1 Central Marina Service Area

In October 2000, the City of Marina adopted a comprehensive General Plan laying out future land use over a 20-year planning horizon to the year 2020. The General Plan was amended in 2005 and 2006, and the housing element was updated in 2009. In the adopted General Plan the City's population (anticipated to expand into current spheres of influence) is projected to be 38,800 by 2020². This includes increases in both Central Marina and the City's portion of the Ord Community. The economic downturn that began in 2007 has delayed much of this redevelopment by five to ten years. The Marina General Plan estimates water consumption for the City will average 7,720 afy based upon the projected land uses and population. It also includes portions of the Ord Community that are either within the City limits or within its adopted and proposed spheres of influence. These areas include portions of the UCMBEST Center and CSUMB, which have specific allocations of water under the FORA Reuse Plan.

The City's average per-capita water demand is low, and has been trending downward for the last ten years due to aggressive water conservation programs. Per capita demands will continue to be affected by conservation efforts, future land use changes as well as increases in density of housing use (persons/unit). Marina has had a historically low job-to-housing balance ratio due, in part, to the fact that the City has been a bedroom community to the former Fort Ord, Monterey and San Jose areas. The General Plan will allow for greater balance in jobs-to-housing. This trend will tend to increase the average per capita water consumption, as more commercial and industrial activity will occur relative to population. If density of housing use increases, this would have an opposite influence, suppressing per capita demand.

In the 2005 UWMP, the City of Marina forecasted planned development through 2025. These plans within the City of Marina include 276 single-family homes, 1,050 hotel rooms and 102,000 square feet of retail uses. The City is currently working on their Downtown Vitalization Specific Plan. Under this plan, the City projects the addition of 380,000 square-feet of commercial space and 2,400 new multi-family dwelling units, targeting a pedestrian friendly downtown. The draft specific plan is reflected in this UWMP.

² This population includes an estimated 3,400 residents of the existing Fredericks-Schoonover Park, a housing area in Marina's sphere of influence.

Marina's General Plan accounts for growth within portions of the Armstrong Ranch, which was annexed into the City in 2007. The Marina Station Development Project on the Armstrong Ranch comprises 1,464 residential units and about 856,000 square feet of retail, office and light industrial space. Development density will be constrained by the available water supply as provided under the 1996 Annexation Agreement and Groundwater Mitigation Framework for Marina Area Lands, annexing the Armstrong Ranch lands to the MCWRA Zones 2 and 2A. According to that agreement, the Salinas Basin groundwater allocation for the Armstrong Ranch is 920 afy. This is further discussed in Section 4.

Similarly, the CEMEX Property, for which there are no near-term development plans, has a groundwater allocation under the annexation agreement of 500 afy, corresponding to current estimated use on the property. If CEMEX were to be developed for visitor-serving or recreation uses, it could only occur after the year 2020 pursuant to the Urban Growth Boundary Initiative. Planned development in these areas is included in the subtotals discussed in Section 3.2.4.

3.2.2 Ord Community Service Area

The Fort Ord Reuse Authority developed the Draft Fort Ord Reuse Plan in 1996, and released the associated Draft Environmental Impact Report (DEIR). This plan and DEIR assessed the impacts of planned reuse on the environment, including demand for utility services. The DEIR noted that at full build out, some 40 to 60 years in the future, water demands for Ord Community lands would be 18,262 afy, or 11,662 afy in excess of current potable water supply now available to the lands under groundwater allocations from the Salinas Valley groundwater basin. Recognizing that plans did not exist to accommodate this excess demand, it was concluded in the DEIR that the Reuse Plan had a significant unavoidable environmental impact. It was also stated that the 7,000 acre-foot water use on the former Fort Ord lands (6,600 Salinas Basin, 400 Seaside Basin) provided sufficient supplies to allow for expected redevelopment through 2015.

In adopting a Final EIR, Reuse Plan and Master Resolution governing redevelopment of former Fort Ord lands to civilian uses, FORA agreed to constrain redevelopment on former Fort Ord lands by limiting the number of new residential housing units to 6,000 until the Reuse Plan is reassessed, and additional water supplies identified. FORA further recognized that the supply of Salinas Basin groundwater available to serve redevelopment, or reuse, projects is limited by a 1993 agreement with the MCWRA. Under that 1993 Agreement, 6,600 afy of Salinas Basin groundwater is available for use on Ord Community lands. Since the closure of Fort Ord, that total quantity of water has been allocated between FORA and the U.S. Army, with FORA sub-allocating its share of this Salinas Basin groundwater supply to its member land-use jurisdictions to support redevelopment projects within the Ord Community. FORA manages its groundwater allocation and sub-allocations through a Development and Resource Management Plan that annually tracks water use.

In 2010 and 2011, as part of this UWMP update, MCWD surveyed land use jurisdictions responsible for development decisions within the Ord Community Service area for their development plans through the year 2030. Where used in this plan, individual responses from the Cities of Marina, Seaside, Del Rey Oaks and Monterey, the County of Monterey, CSUMB, UCMBEST, and the U.S. Army are detailed in Appendix C. These responses were correlated with the City of Marina General Plan Housing Element, City of Seaside General Plan Housing Element, the City of Seaside's Implementation Plan, 2007-2012, Seaside-Fort Ord Redevelopment Project Area, and the Monterey County General Plan.

3.2.3 Demand Projection Methodology

The primary method for developing future water demands in this Plan is through consolidating information from approved Specific Plans and the associated Water Supply Assessments, when available. Water supply assessments have been prepared per the requirements of SB 610 for the developments listed in Table 3.3. These documents contain detailed estimates of water demand for residential, commercial and irrigation use type, and are used as the basis of water supply allocation by the land use jurisdiction to the projects.

Table 3.3 Water Supply Assessments Used to Update the UWMP

Development	Jurisdiction	Year Prepared
Cypress Knolls	Marina	2006
Dunes on Monterey Bay (University Villages)	Marina	2007
Marina Heights	Marina	2003
Marina Station	Marina	2006
Resort at Del Rey Oaks	Del Rey Oaks	2007
Seaside Main Gate	Seaside	2007
East Garrison	Monterey County	2004
Whispering Oaks Business Park	Monterey County	2010

Where water supply assessments do not exist, land-use development forecasts were used. California State University Monterey Bay and the U.S. Army – Ord Military Community provided projections from their approved master plans. The City of Marina provided information on the proposed Downtown Vitalization Specific Plan. The projections provided by the other land use jurisdictions for areas outside specific plan areas reflect planning estimates based on the approved General Plans. The anticipated additional land uses in various categories were tabulated by year, and demands were calculated by applying water use factors for those uses. These factors (see Table 3.4) are general in nature and ultimate actual use can vary significantly, especially among the broad categories of commercial and industrial uses.

MCWD modified its District Code in August 2005 to require additional conservation measures in the construction of new development and remodeling. These new requirements include incorporation of hot water recirculation systems and high efficiency clothes washers for residential units, and zero-use urinals for non-residential construction. These residential

requirements are expected to achieve the State water conservation goal of an average indoor per capita consumption rate of 55 gallons per person per day.

It has been observed that during the development process and in the preparation of water supply assessments and written verifications of supply, more sophisticated forecasts are made by disaggregating indoor and outdoor uses when the proposed land use data is sufficient to support such analyses. These assessments generally result in lower projected water demands than the general methods used in this Plan. In a long-term forecast such as provided here, the precise types of uses and plot plans that will be constructed and maintained over the long term cannot be precisely known. As development proceeds, market forces will dictate the specific land uses within non-residential zones and refined plans for residential uses will allow for more detailed consumption projections. The Urban Water Management Planning Act recognizes this fundamental nature of demand forecasting in requiring updated Urban Water Management Plans every five years. In the case of MCWD, where development in the next twenty years is expected to dramatically change the nature of the community and more than double its population and water demands, these periodic updates will be critical to MCWD's ability to plan for future demands as they are identified.

Table 3.4 Water Demand Factors Applied in the UWMP

Land Use	Units	Multiplier
SF Residential (< 5 units / acre)	dwelling unit	0.5
SF Residential (5-8 units / acre)	dwelling unit	0.33
Residential (8-15 units / acre)	dwelling unit	0.25
Multi family (> 15 units / acre)	dwelling unit	0.25
Hotel, Motel and Timeshares	unit	0.17
Retail	square-feet	0.00021
Restaurant*	square-feet	0.00145
Office / R&D	square-feet	0.000135
Other Commercial	square-feet	0.0003
Light Industrial	square-feet	0.00015
Governmental	square-feet	0.0003
Institutional	square-feet	0.0003
Schools (K-12)*	square-feet	0.0003
Higher Education*	square-feet	0.0003
Landscape (non-turf)	acre	2.1
Landscape (turf)	acre	2.5

* typical per seat factor converted to square-feet

3.2.4 Summary Demand Projections

The projected water demands in this Urban Water Management Plan are lower than those in the 2005 UWMP. This reduction is due to a number of factors.

First and foremost, the economic downturn that began in 2007 severely slowed the pace of redevelopment in the Ord Community. Five residential developments were under construction in 2007: East Garrison in Monterey County, Dunes on Monterey Bay and Marina Heights in Marina, Seaside Resort in Seaside and Doe Park (formerly Stilwell) Housing in the Ord Military Community. Of these, only Doe Park was completed. The other developments are not expected to resume construction until 2012 at the earliest. Similarly, most of the other development within the Ord Community has been delayed. Full reuse of the former Fort Ord may not occur until 2030 or later, versus the previous prediction of full reuse before 2020. Deferred projects include the golf resort near the Marina Airport, the Seaside east housing developments, and 2 million square-feet of projected office/research and development space within UCMBEST.

The second factor responsible for the lower water demand is the change from using broad demand factors applied to land development forecasts, upon which the 2005 UWMP was based. Many of the specific plans have since been completed, and this forecast is based upon the more detailed water supply assessments.

The third factor contributing to reduced water demand is that housing within CSUMB and portions of the Ord Military Community are now metered, and data shows that actual water use is lower than previously estimated. The remaining non-metered accounts are being addressed as part of the phased upgrading of family housing within the Ord Military Community.

Table 3.5 depicts the total expected growth in demands from all currently expected development and population growth through 2030. Demand values reflect current demands plus the projected development within each jurisdiction. Included for comparison are the existing allocations of groundwater supply by jurisdiction, which are explained in Section 4.

Table 3.5 Water Demand by Jurisdiction (afy)

	Jurisdiction	2009*	2010	2015	2020	2025	2030	Allocation
Ord	CSUMB	621	403 ¹	441	631	754	778	1,035
	Del Rey Oaks	0	0	326	527	527	527	243
	City of Monterey	0	0	0	92	92	92	65
	County of Monterey	4	4	627	1,087	1,087	1,087	710
	UCMBEST	2	2	93	276	474	474	230
	City of Seaside	430	792 ²	1,130	1,351	1,664	2,093	1,012
	U.S. Army	658	752	792	838	997	997	1,577
	State Parks and Rec.	0	0	12	18	20	25	45
	Marina Ord Comm.	280	281	812	1,537	1,738	1,739	1,625 ³
	Marina Sphere	10	10	10	10	10	10	10
	FORA Strategic Res.	0	0	0	0	0	0	0
	Assumed Line Loss	71	348	348	348	348	348	348
Marina	Armstrong Ranch	0	0	0	550	680	680	920
	RMC Lonestar	0	0	0	0	0	500	500
	Marina Central	1,962	1,962	2,324	2,630	2,746	2,864	3,020
Subtotal - Ord		2,076	2,592	4,591	6,715	7,712	8,172	6,900
Subtotal - Marina		1,962	1,962	2,324	3,181	3,426	4,044	4,440
Total		4,038	4,554	6,915	9,896	11,137	12,216	11,340

*Actual demands from calendar year 2009

1. 2010 demands for CSUMB reflect 100% metered use

2. Demands for Seaside include Seaside Resort Golf Course starting in 2010

3. Allocation includes 1325 afy groundwater and 300 afy existing desalination plant

It should be noted that in 2010, the District began providing Salinas Valley groundwater for landscape irrigation at Seaside Resort (Bayonet and Blackhorse Golf Courses). This demand had been previously met with Seaside basin groundwater, from existing wells owned by the City of Seaside. As discussed in Section 4, the District plans to supply recycled water for urban landscape irrigation in the near future. This early conversion to MCWD supply from the City's allocation of Salinas Valley groundwater allowed the City of Seaside to reduce their pumping from the Seaside Aquifer, as part of that basin's management plan. When the recycled water system is completed and delivering recycled water to Seaside Resort, the City may reallocate that potable supply to another project.

Table 3.5 shows that the current groundwater allocation for Central Marina is sufficient to meet projected demands through 2030. The City's Downtown Vitalization Specific Plan is projected for build-out by the year 2040, and will require the development of additional water supply for that service area by 2035. The Ord Community is projected to exceed its current Salinas Valley groundwater allocation by the year 2020, with some jurisdictions exceeding their sub-allocations by 2015. This is discussed in detail in Section 4, Water Supply.

3.3 Predicted Water Demand by Sector

Table 3.6 shows the projected water consumption by use sector in the period 2010-2030.

Table 3.6 Water Demand by Sector (afy)

Water use sectors	Existing*	2010	2015	2020	2025	2030
Single family	1,479	1,365	2,191	3,249	3,577	3,881
Multi-family	1,353	1,353	1,714	2,196	2,532	2,769
Commercial	347	348	1,262	2,010	2,290	2,319
Industrial	6	6	113	297	387	887
Institutional/Governmental	300	303	374	435	609	614
Landscape	422	814	897	1,308	1,327	1,330
Agriculture	0	0	0	0	0	0
Other (provision for loss)	131	364	364	400	416	416
Total	4,038	4,554	6,915	9,896	11,137	12,216

* Actual demands for 2009

Note: Provision for loss includes both Central Marina and the Ord Community

3.3.1 Lower Income Housing Demands

The Water Code requires water suppliers to document water demand projections for lower income single family and multi-family housing within their UWMPs. Lower income is defined in Section 50079.5 of the Health and Safety Code as less than 50% of the area median household income.

The housing elements of the general and specific plans for the land use jurisdictions served by MCWD all include Affordable Housing requirements. Affordable Housing, as required in the California Redevelopment Law and specified within Monterey County, includes four income levels: very low, low, moderate and workforce. Only the first two levels, very low income and low income, must be reported separately in the UWMP. The following discussion explains how the current and projected lower income housing water demands were estimated.

The City of Marina has a significant amount of existing affordable housing. Within the Central Marina Service Area, the City has 258 low and very low income multi-family units, and 2 single-family ownership units. Within the Ord Community, the City has 542 affordable housing units, of which 409 are low and very low income. All of the existing units are multi-family duplex, four-plex or apartments. The City requires new residential development of twenty or more units to include a minimum of 20% affordable housing. Within that 20%, 6% must be very low income, 8% must be low income and 6% must be moderate income. Based on approved specific plans, lower income projections for the City include 102 town homes and 23 single family homes in Marina Station, 116 apartments in Cypress Knolls, 108 apartments and 53 duplexes in the Dunes on Monterey Bay, and 205 apartments within Marina Station. Of the 200 proposed dwelling units within the TAMC Transit Oriented Design development, 14% or 28 units are assumed to be lower income. Infill development is projected for Central Marina, but it is

unknown if any projects will exceed the 20 dwelling threshold requiring an affordable component.

The City of Seaside currently has 41 affordable multi-family units in the Ord Community, of which 36 are designated for lower income households. An additional 10 existing units will be restricted to low and moderate income housing in 2012, of which 5 are assumed to be low income. Within the current housing projection, the City will require 25 affordable single family units in Seaside Resort to be affordable, and 72 affordable units elsewhere in the Ord Community. Of this, 68 units, or 67%, are assumed to be lower income.

Monterey County requires 20% of all residential development or redevelopment to be affordable housing. Within that 20%, 6% must be very low income, 8% must be low income and 6% must be moderate income. Workforce housing requirements are then assigned on a project by project basis. Within the East Garrison Development, 196 low and very low income housing units are identified in the project specific plan, greatly exceeding the minimum requirement. The proposed Monterey Horse Park has not reached the point of having a draft specific plan or EIR, so we have assumed that 14% of the proposed 482 housing units, or 67 units, will be lower income. Please note that the County may opt to consider the Ord Redevelopment Area collectively, which will reduce the actual Horse Park requirement.

UCMBEST is expected to develop 330 multi-family and 200 single family units within the Ord Community, in unincorporated areas within the Marina Sphere of Influence. For these projects, we have assumed that 14% of the units will be restricted for lower incomes, as required by both the County and City.

The City of Del Rey Oaks has not yet developed its portion of the Ord Community. In the Environmental Impact Report for the Resort at Del Rey Oaks, 138 affordable apartment units (multi-family) are identified. We estimate 97 of those units will be lower income, based on the Monterey County ratio of 70% of affordable being low or very low income.

Two institutional entities within the Ord Community, CSUMB and the U.S. Army, provide housing within the Ord Community for their students and employees. Because the assignment of this housing is governed by different rules than the California Redevelopment Law, we have assumed it to be workforce housing (and not low income) for the purpose of this report.

For projects with an approved Water Supply Assessment (WSA), the projected water demands were based upon the demand rates for the applicable type of housing unit in the WSA. For existing housing units and all other projected development, demands were estimated using the multi-family residential demand factor of 0.25 acre-feet per year. The time-phasing of lower income housing was assumed to match that of the larger development. The results are shown in Table 3.7.

Table 3.7 Lower Income Housing Demands (afy)

	Jurisdiction	Existing*	2010	2015	2020	2025	2030
Ord	CSUMB		0	0	0	0	0
	Del Rey Oaks		0	24	24	24	24
	City of Monterey		0	0	0	0	0
	County of Monterey		0	43	80	80	80
	UCMBEST		0	3	14	26	26
	City of Seaside	9	9	27	30	74	134
	U.S. Army		0	0	0	0	0
	State Parks and Rec.		0	0	0	0	0
	Marina Ord Comm.	102	102	285	415	559	699
	Marina Sphere		0	0	0	0	0
Marina	Armstrong Ranch		0	0	48	55	55
	RMC Lonestar		0	0	0	0	0
	Marina Central	65	65	85	105	119	133
Subtotal - Ord		111	111	383	563	763	963
Subtotal - Marina		65	65	85	153	174	188
Total		176	176	469	716	937	1,151

*Existing demands estimated at 0.25 AFY/EDU

3.4 Water Conservation Baseline and Targets

The Water Conservation Act of 2009 (SBx7-7) requires each retail urban water supplier to establish baseline daily per capita water demand and water conservation targets, as outlined in California's 20x2020 Water Conservation Plan. The plan establishes a statewide goal of reducing average per capita water demand by twenty percent by the year 2020. The State estimated the average statewide demand for 2005 at 192 gallons per capita day (gpcd), with a statewide conservation target of 154 gpcd in 2020. An interim statewide target of 173 gpcd (ten percent reduction) by the year 2015 was also established. In the 20x2020 Plan, regional baselines and targets were also established.

The Marina Coast Water District is in the Central Coast Hydrologic Region. The regional baseline water demand was estimated to be 154 gpcd, the lowest in the state. The regional conservation targets are 139 gpcd by the year 2015, and 123 gpcd by the year 2020.

The Department of Water Resources (DWR) published detailed methodologies as to how baselines and targets are to be calculated. Baseline per capita water demands are calculated as a ten-year average water consumption rate for a period ending not earlier than December 31, 2004 and not later than December 31, 2010. This is calculated as gross annual water demand divided by average annual population. Water suppliers may choose any consecutive ten-year period within the allowable window, corresponding to calendar years, fiscal years or other standard reporting intervals. Once established, the baseline demand must be used for compliance

reporting in 2015 and 2020, and the same reporting year (calendar, fiscal, etc.) must be used. If the system-wide average water demand is 100 gpcd or less, the water supplier is not required to achieve additional conservation savings.

Historic water demand for MCWD is shown in Table 3.8. Annual population values were estimated using estimates from the California Department of Finance, as detailed in Appendix E. As can be seen, MCWD's average water demand has been at or below the regional 2020 target of 123 gpcd since 2009. The 10-year averages ending in 2004 and 2005 were not considered in selecting a baseline period, due to the large population changes in the mid-1990's when Fort Ord closed. Of the remaining periods, MCWD selected the period ending December 31, 2008, for calculating the baseline water demand, which is 133.3 gpcd. This period includes years with and without construction activity in the Ord Community, and is considered a more representative median than the lower value in later years.

Per Section 10608.20 of the Water Code, there are four methodologies available for calculating compliance targets, as listed below. A more detailed discussion of the methods and analysis are included at Appendix E.

- Method 1: Eighty percent of the water supplier's baseline per capita water use.
- Method 2: Per capita daily water use estimated using the sum of performance standards applied to indoor residential use; landscaped area water use; and commercial, industrial, and institutional uses.
- Method 3: Ninety-five percent of the applicable state hydrologic region target as stated in the State's April 30, 2009, draft 20x2020 Water Conservation Plan.
- Method 4: An approach developed by DWR and reported to the Legislature by December 31, 2010. The proposed method uses conservation Best Management Practices (BMP) as prescribed by the California Urban Water Conservation Council (CUWCC). This method is similar to Method 2, but requires more detailed information on current water uses.

Table 3.8 Per Capita Water Demands

Year	Central Marina			Ord Community			System-Wide		
	Marina Pop.	Annual Water Use (MG)	Daily Per Capita (gals)	Ord Pop.	Annual Water Use (MG)	Daily Per Capita (gals)	Daily Per Capita (gals)	10-year Average (gpcd)	5-year Average (gpcd)
1995	16,685	657.6	108	5,000	913.0	500	198		
1996	16,465	690.5	115	7,796	811.4	285	170		
1997	16,586	699.6	116	10,593	838.7	217	155		
1998	17,128	606.1	97	11,119	679.7	167	125		
1999	17,331	730.4	115	11,327	780.6	189	144		
2000	17,574	749.4	117	16,239	772.7	130	123		
2001	17,715	744.6	115	11,701	726.0	170	137		
2002	17,781	751.5	116	11,867	696.2	161	134		
2003	17,805	712.1	110	11,808	698.7	162	131		
2004	17,876	737.0	113	11,757	789.5	184	141	145.8	
2005	17,672	715.1	111	11,805	649.6	151	127	138.6	
2006	17,509	582.1	91	11,645	817.5	192	132	134.8	
2007	17,493	528.6	83	11,572	958.3	227	140	133.3	134.0
2008	17,706	597.4	92	11,827	739.3	171	124	133.3	132.7
2009	17,852	639.2	98	11,891	676.5	156	121	130.9	128.7
2010	18,057	568.1	86	12,043	778.5	177	123	130.9	127.9

* Annual population values based upon CA Dept. of Finance estimates.

Water suppliers may select any of the four methods to calculate compliance water demand targets. They must also calculate the maximum allowable target, and select the lower of the two. The alternate maximum method consists of calculating a five-year average water consumption rate for a period ending not earlier than December 31, 2007 and not later than December 31, 2010. The 2020 conservation target must be less than or equal to 95% of the 5-year base daily per capita usage. MCWD selected the period ending December 31, 2008, for its 5-year baseline period, as reflected in Table 3.9.

Water demands within the District are already significantly below the state and regional averages due to aggressive water conservation practices. Therefore, MCWD has elected to use Method 3, which is a goal of 5% below the regional target. As seen in Table 3.9, the maximum allowable target is greater than the Method 3 target, so the Method 3 target may be used. The interim (2015) target is the average of the 10-year baseline and the 2020 target.

Table 3.9 District Baseline and Targets

Description	Year	Amount
Baseline Water Demand	2008	133 gpcd
Maximum Target (95% of 5-year baseline)	2020	126 gpcd
Method 3 Target (95% of Regional Target)	2020	117 gpcd
Interim Target	2015	125 gpcd

3.5 Plan for Meeting Urban Conservation Targets

Table 3.10 shows the total projected water demands for the District, the projected population and the resulting per capita water demands. The average demand per person increases in the future due to the projected non-residential development. Population projections are based upon the projected housing developments and the associated persons per unit in the respective specific plans. Where specific plans do not exist, the average persons per unit for the City or census tract were used. Population tables are included in Appendix C.

Table 3.10 Projected Per Capita Water Demands

	2010	2015	2020	2025	2030
Projected Demand (AFY)	4,553	6,913	9,895	11,136	12,214
Projected Recycled Water (AFY)*	0	780	1,359	2,514	2,960
Net Potable Demand (AFY)	4,553	6,133	8,536	8,622	9,254
Projected Population	32,184	43,371	57,718	64,361	69,887
Projected demand per person (gpcd)	126.3	126.2	132.0	119.6	118.2
Water Use Targets (gpcd)	0	125	117	117	117
Projected Target Exceedance (gpcd)	0	1.2	15.0	2.6	1.2

*Based on 2006 Basis of Design Report, includes Project Phase 2

To reduce per capita demands below the compliance targets, the District has four strategies, in addition to the on-going water conservation efforts:

- First, MCWD is implementing an urban recycled water project for landscape irrigation.
- Second, the design standards for new construction exceed the State's plumbing code requirements.
- Third, the remaining non-metered customers will be metered and have a financial incentive to reduce water use.
- Finally, the phased redevelopment of the Ord Community will include the replacement of a significant amount of water distribution system that is over 50-years old. These replacements should reduce system water losses but are not reflected in this table.

As seen in the bottom line of Table 3.10, Projected Target Exceedance, these measures will come close to achieving the conservation targets, but additional effort will be required. A portion of the Projected Target Exceedance may be realized through pipeline loss reduction (the demand projections include a provision for 348 afy of loss, while the actual loss in 2009 was under 100

afy). Also, the projection of predominantly non-residential development in the 2015-2020 time period causes per capita demands to peak in 2020, but the actual development schedules may differ. MCWD will monitor annual water demand, and adjust incentive programs as needed to meet the conservation targets.

The use of recycled water to serve non-potable demands is a conservation measure recognized in the 20x2020 State Conservation Plan. As detailed in Section 4, MCWD included recycled water in the Regional Urban Water Augmentation Program, completed the project design and CEQA documents in 2007, and has only deferred implementation due to the economic slow-down which has delayed redevelopment of the Ord Community. As shown in Table 3.10, the project is expected to provide 780 afy in 2015, and increase by phases to 2,960 afy in 2030.

MCWD has adopted design guidelines and standards that exceed the state plumbing code requirements for water conserving fixtures, codified in Section 3.36 of the District Ordinances. New residential development is required to include high-efficiency toilets, hot-water recirculation systems, and when provided, clothes washers must meet high efficiency standards. Non-residential development must include waterless urinals and HET or dual-flush toilets. All landscapes over 2,500 square-feet are separately metered and must meet the requirements of the State's model water-efficient landscape ordinance.

In 2010, CSUMB installed water meters in the final section of their faculty and student housing area such that no unmetered water accounts remain within CSUMB's jurisdiction. MCWD has seen a reduction in water demand in this area, now that the occupants are billed directly for their water use.

The final jurisdiction on Fort Ord with non-metered accounts is the Ord Military Community. The Army is removing and replacing their older housing areas by phases, and when complete, all housing units will be metered. The POM garrison staff is investigating the cost benefit of installing meters in some existing areas, due to the cost savings they would realize.

Section 4 - Water Supplies

4.1 Water Sources

The primary source of water supply for the Marina Coast Water District is the Salinas Valley Groundwater Basin, described in detail in Section 4.2. Both Central Marina and the Ord Community Service areas have relied upon this source of supply since the areas were initially developed. The District owns and operates its production wells, and does not purchase wholesale water supply.

Table 4.1 depicts recent groundwater production for the Central Marina and Ord Community service areas. Note that well capacity is not included in the table. MCWD has redundant well pumping capacity to accommodate maintenance shut-downs during peak days.

Table 4.1 Groundwater Production (acre-feet)

Year	Central Marina	Ord Community	Total (ac-ft)
2001	2,285	2,228	4,513
2002	2,306	2,137	4,443
2003	2,185	2,144	4,330
2004	2,262	2,423	4,685
2005	2,195	1,994	4,188
2006	1,786	2,509	4,295
2007	1,622	2,941	4,563
2008	1,833	2,269	4,102
2009	1,962	2,076	4,038
2010	1,744	2,389	4,133

The three water production wells in the Central Marina service area are in the Deep Aquifer, as described in Section 4.2.1. MCWD is currently the only significant user of the Deep Aquifer. The three wells in the Ord Community service area are in the 400-foot Aquifer. MCWD is currently adding a new well in the Deep Aquifer in the Ord Community.

Additionally, MCWD has a seawater desalination plant located at its main office adjacent to Marina State Beach. This facility is not currently in use, but has a design capacity of 300 acre-feet per year. It is discussed in Section 4.4.

4.2 Groundwater

4.2.1 Salinas Valley Groundwater Basin

Potable water for MCWD's Marina and Ord Community service areas comes from wells developed in the Salinas Valley Groundwater Basin.³ This groundwater basin underlies the Salinas Valley from San Ardo to the coast of Monterey Bay and is divided into four

³ See Figure 2.2 for well locations.

hydrologically linked subareas: Pressure, East Side, Forebay and Upper Valley (Figure 4.1). MCWD's wells for both its Marina and Ord Community service areas are located within the Pressure Subarea of the Salinas Valley Groundwater Basin. (See Figure 2.2 for well locations and Figure 4.1 for basin subareas).

The basin in the Pressure subarea is further divided into three distinct aquifers, consisting of aerially extensive, horizontally continuous, deposits of sand and gravel that exist at various depths below ground surface in the subarea. These three aquifers are commonly referred to as the 180-Foot, 400-Foot and Deep aquifers. The 180-Foot and 400-Foot aquifers derive their names from the average depth below the valley floor at which the water bearing sand and gravel deposits are encountered. The Deep Aquifer consists of an aggregation of all sand and gravel deposits that exist below the 400-Foot Aquifer including the Aromas Sand, the Paso Robles Formation and the Purisima Formation, not all of which are hydraulically connected.

The 180-Foot Aquifer extends from Monterey Bay to Chualar beneath the Salinas Valley and westward from the valley under northern Ord Community and Central Marina. South of Chualar and in the Forebay area, the distinction between the 180-Foot and 400-Foot aquifers becomes less defined as the aquitards that separate them become discontinuous.

The 400-Foot Aquifer is comprised of geological materials assigned to older alluvium deposits and Aromas Sand. The aquifer system is present beneath the northern Salinas Valley and also extends westward beneath the northern portions of the former Fort Ord and Central Marina. In the Forebay area, the 400-Foot Aquifer locally blends with the 180-Foot Aquifer receiving recharge from the Salinas River through the overlying deposits.

The Deep Aquifer System consists of two geologic formations – the Paso Robles and the underlying Purisma Formations. These formations are aerially extensive, stretching throughout the Salinas Basin and to the north and south. The lowermost unit extends to the north outcropping in Soquel and to the south where it grades into the Santa Margarita Formation, an important aquifer in the Seaside Basin. Although slightly arbitrary in definition, the Deep Aquifer is commonly believed to begin at depths of approximately 600 feet below sea level and extend to depths of 2,000 or more feet in some locations. Non-water bearing Monterey Shale that constitutes the bottom of the Salinas Groundwater Basin underlies the Deep Aquifer system.

Figure 4.1 Salinas Valley Groundwater Basin⁴

⁴ Source: MCWRA 2009 Groundwater Summary Report

Studies by the United States Geological Survey indicate that Deep Aquifer water in the vicinity of Marina is not of recent origin. Uncorrected Carbon 14 dating of water from a test well in the vicinity of Marina's Deep Aquifer wells indicates the water is between 22,000 and 31,000 years old. The ancient nature of this water raises the possibility that recharge to this aquifer may be insufficient to sustain current pumping, but monitoring well data at the Marina Airport⁵ indicates the aquifer is subject to seasonal variations similar to the upper aquifers. Recent stratigraphic analyses have indicated that these aquifers are connected hydraulically, with water from the 180-foot and 400-foot aquifers recharging the Deep Aquifer.⁶

Because the overlying clay layers isolate the aquifer systems in the Pressure Subarea from potential surface water recharge, most importantly the Salinas River, the primary mechanism for recharge is from lateral flow from the adjacent subareas. This means that most recharge for the aquifer systems in the Pressure Subarea comes from lateral flow from either the Eastside or Forebay Subareas. Additionally, the deeper aquifers are believed to be recharged in whole or in part by water that has moved through the overlying aquifers (i.e., flow from the 180-Foot Aquifer partially recharges the 400-Foot Aquifer that in turn partially recharges the Deep Aquifer). Most of the recharge for the Pressure Subarea derives from the Forebay Subarea due to the presence of the Salinas River and MCWRA's active management of Nacimiento and San Antonio reservoir releases to maximize river recharge.

In a healthy condition, Salinas Basin groundwater would move through the basin and into the Monterey Bay through subsurface freshwater outcrops. As a result of basin-wide pumping, water levels in the Pressure and East Side subareas have declined over time, contributing to a decrease in the amount of groundwater moving toward and into Monterey Bay. The other basin subareas – Forebay and Upper Valley – tend to recharge rapidly and recover historic groundwater levels each year. The result has been a reversal of the seaward gradient. The basin currently experiences a landward gradient of seawater (intrusion), where the seawater has contaminated coastal aquifers and wells. While historic groundwater pumping throughout the basin created the overdraft, only the basin's coastal areas adjacent or near to the Bay suffer from seawater intrusion. Seawater intrusion is further discussed in Section 4.2.4.

The Salinas Valley Groundwater Basin has been in an overdraft condition with seawater intrusion of about 8,900 afy at its coastal margins.⁷ MCWD's groundwater withdrawals are about 4,600 afy, or less than 1.0 percent of total annual basin withdrawals of about 511,000 afy⁸. Other than MCWD, only a small number of wells tap the deep aquifer, some of which also draw from

⁵ MCWD Well 34 Basis of Design Report, Martin B. Feeney, PG, September 2009

⁶ Deep Aquifer Investigation Study, WRIME, 2003.

⁷ Salinas Valley Water Project Engineer's Report, RMC, 2003.

⁸ 2009 Groundwater Summary Report, MCWRA, 2010

the 400-Foot aquifer. Prior to receiving recycled water for crop irrigation, some agricultural lands in the Castroville area pumped water from the Deep Aquifer. These agricultural wells are currently used to meet supplemental needs during peak summer demands periods and are also part of the monitoring network overseen by MCWRA. Delivery of recycled water has contributed to a recovery in groundwater levels in this area, and completion of the Salinas Valley Water Project in 2010 should further reduce groundwater pumping to sustainable levels.

4.2.2 Basin Management

Two regional water management agencies have jurisdiction over groundwater production in the vicinity of MCWD. The MCWRA is responsible for regulation and supply of water from the Salinas groundwater basin, which is MCWD's source of water supply. The Salinas Valley Groundwater Basin has not been adjudicated. The Monterey Peninsula Water Management District (MPWMD) is responsible for regulation and supply of water from the Seaside Groundwater Basin, which was formally adjudicated in 2006. These two basins are adjacent to each other under Ord Community lands. MCWD recognizes the jurisdiction of the two regional groundwater management entities, and so has not independently developed a groundwater management plan pursuant to Water Code § 10750.

Where groundwater basins are in or projected to be in overdraft, the Water Code requires UWMPs to provide detailed descriptions of efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition. In the Salinas Basin, an urban water supplier like MCWD that accounts for less than 1 percent of total basin pumping, cannot by itself eliminate or remedy a condition that results from basin-wide activities. MCWD can and does work cooperatively with MCWRA, and is taking actions to protect and preserve its ability and right to access groundwater, and to augment groundwater supplies with new sources of supply. MCWD is developing a Seawater Desalination Project and a Recycled Water Project, as discussed in Section 4.4.

MCWRA has been and is currently working to eliminate basin overdraft and seawater intrusion. The current program builds upon action taken in the 1940s when MCWRA's predecessor agency, the Monterey County Flood Control and Water Conservation District, initiated development of the Nacimiento and San Antonio dams and reservoirs to augment water resources within the County. From the time it was formed, MCWD has cooperated with the MCWRA to further water resources development within the Salinas Valley.

In 1991 and 1992, MCWRA developed and approved the Monterey County Water Recycling Projects to deliver recycled wastewater for irrigation use in the Castroville area, so that groundwater pumping could be reduced in that area. The project is commonly referred to as the Castroville Seawater Intrusion Project (CSIP). In the project, recycled water is produced and used along the coast in lieu of pumping groundwater for agricultural irrigation. The project has operated successfully since 1997, reducing basin overdraft and seawater intrusion.

To fully eliminate basin overdraft and seawater intrusion, MCWRA's Salinas Valley Water Project (SVWP) was developed (see Section 4.2.6). The project included modifying the spillway at Nacimiento Reservoir, adjusting the operations of Nacimiento and San Antonio reservoirs to increase releases into the Salinas River, and construction of the Salinas River Diversion Project near Marina. Water diverted from the river is added to the CSIP distribution system, further reducing the volume of coastal groundwater pumped for agriculture. The projects were completed in 2010, and are in their first full year of operation. MCWRA modeling concludes that this component will eliminate basin overdraft and intrusion.

MCWD is within MCWRA Zones 2/2A, zones of benefit and assessment for the Nacimiento and San Antonio Reservoirs. Both the Army and MCWD entered into agreements with MCWRA, which allows MCWD to participate in and benefit from MCWRA's regional basin management planning process. Under the terms of the Army's Agreement (assumed by MCWD in 2001), MCWD may provide up to 6,600 afy of Salinas Valley Groundwater to the Ord Community. This amount is about equal to the historic demand from Army uses at Fort Ord. Of this, MCWRA requires that not more than 5,200 afy may be pumped from the 180-Foot and 400-Foot aquifers, to reduce the risk of seawater intrusion. When Fort Ord closed, the Army retained 1,577 afy of this allocation to meet the needs of the Ord Military Community. The Fort Ord Reuse Authority sub-allocated the remaining groundwater supply among the land use or land owning jurisdictions on the Ord Community as shown in Table 4.2. This table also includes groundwater supply available to MCWD under its agreement with MCWRA. MCWD may provide up to 3,020 afy of Salinas Valley Groundwater to customers in the City of Marina, outside of the Ord Community. Additionally, two adjacent major private properties within the City of Marina's LAFCO sphere of influence – the Armstrong Ranch and the Lonestar property – were included in the agreement and are approved for annexation to MCWRA's Zones 2 and 2A. The groundwater available for those properties is included in Table 4.2.

Table 4.2 Groundwater Allocations

	Jurisdiction	Allocation
Ord	CSUMB	1,035
	Del Rey Oaks	243
	City of Monterey	65
	County of Monterey	710
	UCMBEST	230
	City of Seaside	1,012
	U.S. Army	1,577
	State Parks and Rec.	45
	Marina Ord Comm.	1,325
	Marina Sphere	10
	FORA Strategic Res.	0
	Assumed Line Loss	348
Marina	Armstrong Ranch	920
	RMC Lonestar	500
	Marina Central	3,020
	Subtotal - Ord	6,600
	Subtotal - Marina	4,440
	Total	11,040

4.2.3 Integrated Regional Water Management Plan

In 2005, the Monterey County Water Resource Agency, the Marina Coast Water District and the Castroville Water District formed the Salinas Valley Water Management Group to spearhead regional planning for the Salinas Valley Region of Monterey County. In May 2006, they published the Salinas Valley Integrated Regional Water Management Functionally Equivalent Plan. The plan outlined regional goals, objectives and strategies in the areas of water supply, water quality, flood protection and environmental enhancement. Strategies in the Functionally Equivalent Plan that addressed water supply were the Salinas Valley Water Project, the MCWD Eastern Distribution System and the City of Soledad Water Recycling Project. The Salinas Valley Water Project addresses basin overdraft, and is discussed in Section 4.2.6 of this report. The MCWD Eastern Distribution System is a long-term plan to relocate District wells further inland, outside the areas affected by seawater intrusion. This project does not add additional groundwater supply. The City of Soledad Water Recycling Project would add tertiary treatment to the City's wastewater plant, producing Title 22 recycled water for agricultural and urban irrigation. Additional projects were considered in the Functionally Equivalent Plan for future implementation.

4.2.4 Seawater Intrusion

While sufficient production capacity (versus water availability) to meet the projected ultimate demand within MCWD's service area can be provided, there is concern that seawater intrusion

may eventually degrade water quality in MCWD's Marina and Ord Community service areas and render it unfit for domestic water supplies without further treatment, such as desalination. Similarly, there has been concern that hazardous substance contamination detected at the former Fort Ord might adversely affect the quality of water MCWD is serving within its Marina and Ord Community service areas (discussed in Section 4.2.5). As discussed below, both concerns are being actively managed to ensure ongoing protection of the quality of MCWD's groundwater sources of supply.

Seawater intrusion in the 180-Foot and 400-Foot aquifers is tracked using chloride concentration. A chloride concentration of 500 milligrams per liter (mg/L) is the short-term California Department of Public Health Secondary Drinking Water Standard for chloride and is used as a measure of impairment of water. The line of chloride concentration (isohaline) of 500 mg/L water is used as the basis for determining the seawater intrusion front as shown on Figure 4.2 and Figure 4.3. As can be seen in the figures, seawater intrusion has been recorded for over 50-years. Wells within the intruded areas were progressively moved further inland or into deeper aquifers.

Historically, MCWD supplied its Marina service area with water from 11 wells (MCWD-1 through MCWD-9, and two replacement wells) screened in the 180-Foot and 400-Foot aquifers. Between 1960 and 1992, some of those wells indicated varying degrees of seawater intrusion and were replaced, first moving from the 180-Foot aquifer to the 400-Foot aquifer, and later moving to the Deep Aquifer. The District currently has three wells in the Deep Aquifer, MCWD-10, MCWD-11 and MCWD-12, constructed in 1982, 1985 and 1989 respectively. These wells are depicted in Figure 2.2.

The U.S. Army's original wells serving the former Fort Ord were located in the Main Garrison area near Marina. When wells indicated varying degrees of seawater intrusion, the Army in 1985 installed four wells further inland. Located near the intersection of Reservation and Blanco Roads in Marina (Figure 2.2), the wells draw from the 180-Foot and 400-Foot Aquifers (well numbers FO-29, FO-30, FO-31 and FO-32). Well FO-32 suffered a screen failure and was shut down in the late 1990s. The remaining three wells are currently supplying MCWD's Ord Community service area.

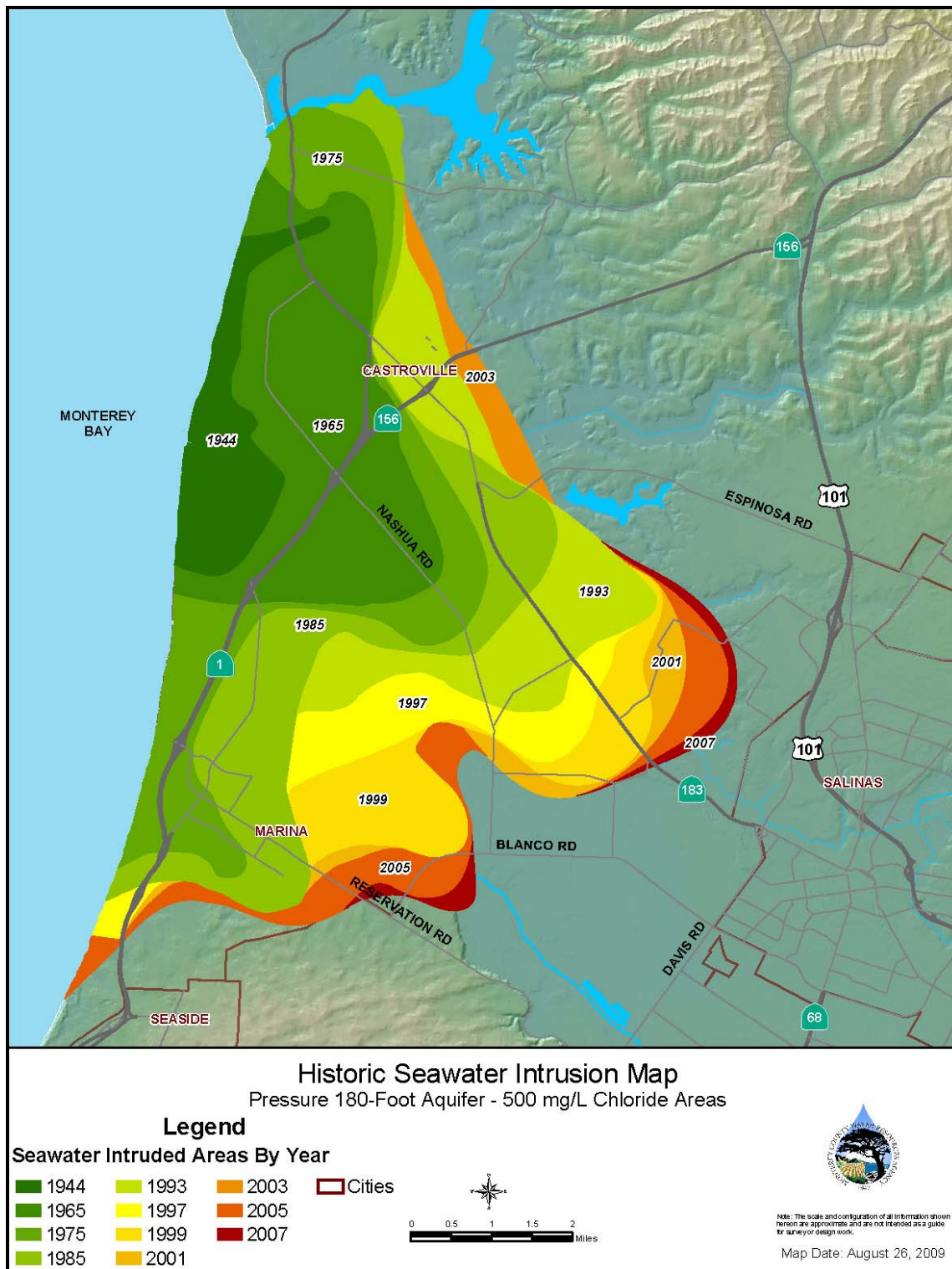
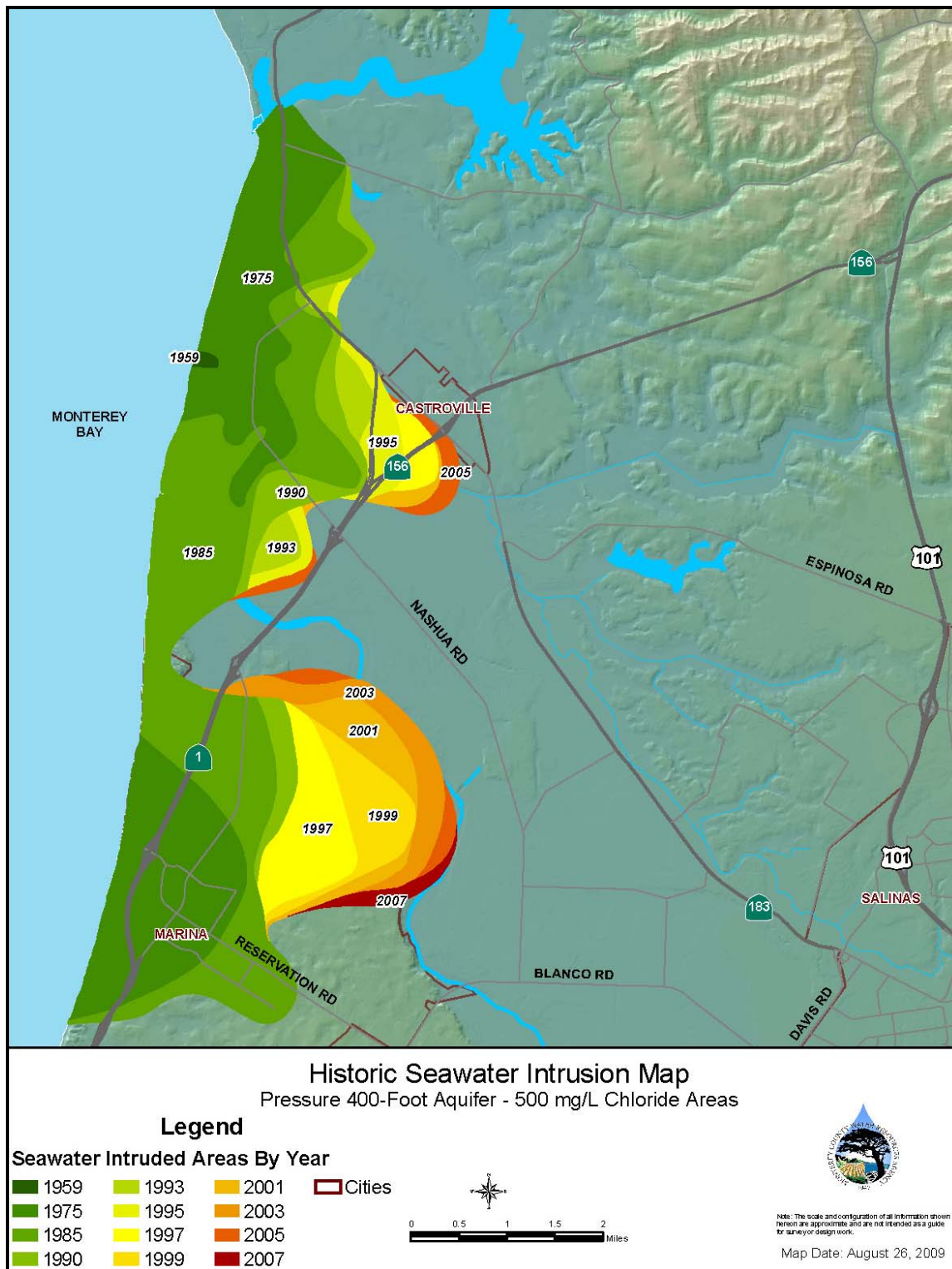
Figure 4.2 Historic Seawater Intrusion by Year⁹⁹ Source: MCWRA website

Figure 4.3 Historic Seawater Intrusion by Year¹⁰¹⁰ Source: MCWRA website

Recent studies for MCWRA indicate that the seawater intrusion front continues to migrate inland in the vicinity of Marina and the Ord Community. Continued pumping from the 180-Foot Aquifer threatens the wells currently supplying the Ord Community. MCWD's Water System Master Plan identifies the need for a phased replacement of these wells. Additional data on the migration and extent of seawater contamination can be found in the Final Report Hydrogeologic Investigation of the Salinas Valley Basin in the Vicinity of Fort Ord and Marina, Salinas Valley California, April 2001.

There is some concern that the Deep Aquifer may become affected by seawater intrusion. MCWD operates a monitoring well installed between Monterey Bay and the Marina production wells. That monitoring well serves as an early warning system to identify any seawater intrusion that might later affect MCWD's production wells, located further inland. That early warning would provide advance notice to install or begin operating one or more back-up wells to replace any potential future loss of production capacity.

It should be noted that water from the deep wells contains acceptable levels of chloride and total dissolved solids, which should not be misinterpreted as a sign of seawater intrusion. This natural salinity does not prevent the use of this water for municipal demands. The levels of chloride (average 79 mg/L) and total dissolved solids (average 380 mg/L) have not increased in the 25-years MCWD has operated the deep wells.

Another concern is that the Deep Aquifer may be connected to, and affect seawater intrusion in, the upper aquifers. Preliminary findings regarding the Deep Aquifer in the Ord Community area indicate that there is some vertical connectivity between the Deep Aquifer and the overlying aquifers. According to the Deep Aquifer Investigative Study, WRIME, May 2003, increased pumping of the Deep Aquifer would be expected to increase the rate of seawater intrusion in the middle and upper aquifers, but to a lesser extent than if the increased pumping occurred in the middle or upper aquifers. In that report, WRIME modeled the effect of increasing groundwater pumping from the Deep Aquifer by two to five times the baseline rate of 4,800 afy. The model predicted that, in the absence of other actions to control seawater intrusion, the landward flow of groundwater would increase as a result.

In 2008, that model was updated by Geoscience Support Services, Inc¹¹, and WRIME¹² to analyze the Regional Desalination Project (discussed in section 4.4.2). In those studies, the pumping of seawater-intruded groundwater from the 180-Foot Aquifer was modeled using 10-wells (Geoscience) and 5-wells (WRIME). Both studies concluded that pumping intruded

¹¹ North Marina Ground Water Model, Evaluation of Potential Projects, July 25, 2008

¹² Groundwater Modeling Simulation of Impacts for Monterey Regional Water Supply Project, 20,000 AFY Desalination Pumping Scenario, October 29, 2008

groundwater from the 180-Foot Aquifer along the coast would halt and eventually reverse the landward flow of seawater-intruded groundwater in the upper aquifer.

MCWD is adding a new well (FO-34) which will be in the Deep Aquifer. The selection of this source of supply was based upon data from new Deep Aquifer monitoring wells constructed in the last decade, water production and quality data from MCWD's Marina wells, and water quality data for the upper aquifers from MCWD's Fort Ord wells.¹³ As indicated in the above studies, the use of this aquifer would have less impact on regional seawater intrusion than completing a well in the upper aquifers.

MCWD is fully cooperating with the MCWRA's program to actively manage and protect the long-term availability of the Salinas Valley groundwater resource. Existing management efforts, reviewed above, include the successful implementation of the Castroville Seawater Intrusion Project and implementation of the annexation agreements that limit groundwater pumping and provide assessment revenue supporting MCWRA's activities to augment Basin water supplies. Those activities include ongoing operation of Nacimiento and San Antonio reservoirs to maximize groundwater recharge through dry-season storage releases that percolate through the Salinas River's streambed. As described in more detail in Section 4.2.6 below, those activities also include the MCWRA's development, approval and implementation of the Salinas Valley Water Project to permanently end seawater intrusion.

4.2.5 Groundwater Contamination and Control

The former Fort Ord was identified by the U.S. Environmental Protection Agency (EPA) as a National Priority List federal Superfund site on the basis of groundwater contamination discovered on the installation in 1990. The facility was listed "fenceline to fenceline," all 28,000 acres. Initial investigations pinpointed 39 sites of concern in addition to two Operable Units (the Fritzsche Army Airfield Fire Drill Pit and the Fort Ord landfill) which had been investigated during the 1980s. The sites of concern included motor pools, vehicle maintenance areas, dry cleaners, sewage treatment plants, firing ranges, hazardous waste storage areas, and unregulated disposal areas. An additional two sites were added during the investigation process: one, a defueling area located at Fritzsche Army Airfield; the other, a fire drill burn pit in East Garrison. In all, 43 sites were investigated.¹⁴

In 2001, trichloroethylene (TCE), a cleaning solvent, was detected by the Army in one of the three water supply wells at the former Fort Ord. Subsequently, upon the transfer of ownership of the well to MCWD, MCWD also detected the presence of TCE in June 2002. TCE levels detected are below the Maximum Contaminant Levels (MCL) for potable use. The contamination is coming from an abandoned landfill and a fire training pit that were formerly

¹³ MCWD Well 34 Basis of Design Report, Martin B. Feeney, PG, September 2009

¹⁴ www.Fortordcleanup.com Mactec Engineering and Consulting, Inc.

used by the Army, but are now closed. The Army has responded to the landfill contamination problem by installing extensive groundwater cleanup systems to remove the contamination and prevent its further migration. The Army has also been monitoring groundwater quality at the former Fort Ord for a number of years to better understand the location and movement of groundwater contamination caused by the closed landfills.

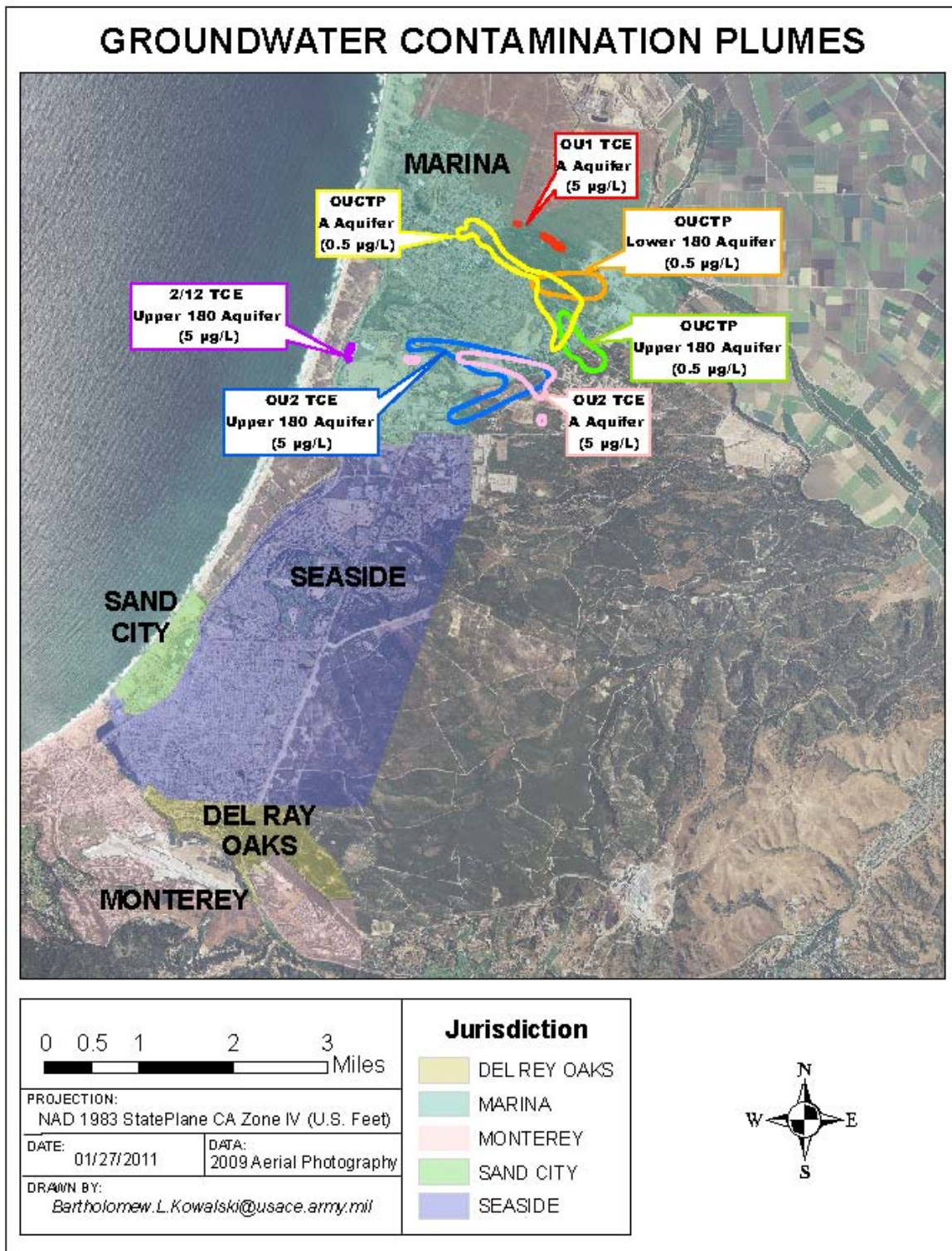
The amount of TCE in one well was 0.53 to 0.81 µg/L (parts per billion)¹⁵. State and federal safe drinking water MCL standards for TCE are set at 5.0 parts per billion, or approximately ten times higher than detected. Detection of TCE, even at the low concentration levels, was reported by MCWD, as required by law, to the California Department of Public Health (DPH). No additional action was deemed necessary by DPH because the concentration levels are well below the MCL of 5.0 parts per billion. Both MCWD and the Army regularly monitor the former Fort Ord wells to assess concentration changes. The 2009 TCE detections in the Ord Community wells ranged from non-detect to 1.3 parts per billion. TCE detections have been intermittent since the initial detection in 2001.

MCWD continues to monitor the affected well, and all other wells, for TCE and other contaminants on a regular basis. Any changes in contaminant plume migration due to increased MCWD pumping will be monitored and appropriate actions taken. MCWD maintains close coordination with the U.S. Army Corps of Engineers, who manages groundwater cleanup efforts on the former Fort Ord. The Corps of Engineers recently published an update to their mitigation program, depicted in Figure 4.4.

The Defense Department is required by law to clean up contamination to below allowable contaminant levels set by the State Department of Public Health as a public health protection measure. Groundwater samples are taken quarterly and compiled in annual status reports. Additionally, all data is summarized in documents known as five-year reviews. It is expected that final groundwater cleanup may take another 30 years to complete. Additional information on groundwater cleanup and other base contamination remediation actions can be found at www.fortordcleanup.com.

Because Fort Ord is on the National Priority List, section 9604(i) of the federal Superfund law (Comprehensive Environmental Response Compensation and Liability Act, or “CERCLA”) requires the federal Agency for Toxic Substances and Disease Registry (“ATSDR”) to complete an assessment of whether any hazardous substances at the site pose a threat to human health. ATSDR analyzed whether hazardous substances released at Fort Ord might threaten human health by contaminating drinking water wells serving Marina and Ord Community. ATSDR’s final health assessment concludes as follows:

¹⁵ EPA test method 524.2 is accurate to +/- 20%.

Figure 4.4 Groundwater Contamination Plumes¹⁶¹⁶ Source: U.S. Army Corps of Engineers, Fort Ord Office

- There are no detections of groundwater contaminants at levels of health concern in the presently “active” drinking water wells on Ord Community. The water at Ord Community is safe to drink. Because the drinking water wells currently in use in the Ord Community are located far from sources of contamination, drilled to deep aquifers that are not likely to be contaminated, and monitored regularly, the Ord Community’s drinking water supply should be safe to drink in the future.
- Because the concentration of groundwater contamination detected in the past in the Ord Community and Marina drinking water wells was low and the duration of exposure was short, adverse health effects will not likely result.
- The water supplied by drinking water wells presently used by Marina is safe to drink. Further, because Marina’s drinking water wells are drilled to deep aquifers and the quality of the water is monitored regularly, Marina’s drinking water should be safe to drink in the future.

See ATSDR Public Health Assessment, Fort Ord, Marina, Monterey County, California (Community Health Concerns and Potential Pathways of Exposure).

The Salinas Basin has experienced nitrate contamination, a pollutant coming primarily from animal confinement activities (dairies, feedlots) and from irrigated agriculture, sewage treatment plant effluent and septic tanks. This contaminant is a concern, particularly in upper reaches of the 180-Foot Aquifer. Although certain wells in the Salinas Valley have exceeded the state health standard of 45 mg/L of nitrate as NO₃, nitrate levels in the 400-Foot Aquifer are low due to intervening clay layers between the 180-Foot and 400-Foot aquifers.

No nitrate contamination is evident in, or in the vicinity of, any of the MCWD’s wells. Due to the location of the nitrate sources at or near the ground surface, remote from MCWD’s wells, with contamination in only the upper reaches of the shallowest, 180-Foot Aquifer, nitrate contamination does not pose a threat to MCWD’s sources of groundwater supply.

4.2.6 Salinas Valley Water Project

MCWRA has maintained and operated Nacimiento and San Antonio reservoirs since they became operational in 1957 and 1967, respectively. The operation of both reservoirs has been, and continues to be, for two primary hydrologic functions: flood control and conservation, i.e. the storage and release of runoff to regulate Salinas Valley groundwater recharge through the Salinas River.

On June 4, 2002, the MCWRA adopted a basin-wide program, known as the Salinas Valley Water Project (SVWP or Project), to continue addressing water supply issues in the Salinas Valley groundwater basin. MCWRA’s adoption of the SVWP followed its certification of a Final Environmental Impact Report on June 4, 2002. The Project’s documentation including the Final

Engineers Report and complete Environmental Impact Report can be accessed at: http://www.mcwra.co.monterey.ca.us/welcome_svwp_n.htm.

The objectives of the SVWP are:

- Halting seawater intrusion;
- Continuing conservation of winter flows for recharge of the Salinas Valley basin through summer releases;
- Providing flood protection;
- Improving long-term hydrologic balance between recharge and withdrawal; and
- Providing a sufficient water supply to meet water needs through the year 2030.

The SVWP was specifically developed to provide for the long-term management and protection of groundwater resources in the Salinas Valley groundwater basin by: (1) providing a source of water to the Basin by reoperating Nacimiento and San Antonio reservoirs and capturing water via a seasonal surface diversion structure to provide water for agriculture; and (2) maintaining present conservation release practices to recharge the groundwater basin. To do that, the SVWP includes the following components:

- Modification of Nacimiento Dam spillway;
- Reoperation of Nacimiento and San Antonio reservoirs;
- Salinas River recharge, conveyance and diversion;
- Distribution/delivery of water; and
- Delivery area pumping management.

The Project includes operation and maintenance of the Nacimiento and San Antonio reservoirs, modification of the spillway at Nacimiento Dam, and installation of a rubber inflatable dam on the Salinas River to allow for capture of about 10,000 acre-feet (ac-ft) of dry weather flows to be made available for in lieu of groundwater pumping for irrigation.

The Salinas Valley Project anticipates that current demands on the basin will decline by about 20,000 afy by 2030 due to urban and agricultural conservation efforts, conversion of agricultural lands and some crop shifting.¹⁷ This overall decline is expected to occur despite a near doubling of the population served by the Salinas Valley groundwater basin, from 188,949 in 1995 to 355,829 in 2030. This population growth will increase urban demands by about 40,000 afy.

¹⁷ Salinas Valley Plan 1998, p. 3-15

Additional water to balance basin recharge with withdrawals will be provided through capture and diversion of reservoir releases down the Salinas River, otherwise lost to the ocean; additional recycled water from the Monterey County Recycled Water Projects; and modification of the spillway at Nacimiento Reservoir, which will allow reoperation of this reservoir and the San Antonio Reservoir, producing the additional system yield. In total, by 2030 an additional yield of 37,000 afy is expected.

Funding for the Salinas Valley Water Project under a special property assessment was subject to a vote of property owners by mail-in ballot in accordance with Proposition 218. Results of the vote were announced on April 8, 2003. Parcel ballots were returned with an 85 percent weighted voting of assessed valuation voting yes, far greater than the majority plus 1 percent required for approval.

A final Environmental Impact Report/Environmental Impact Statement for the Project was certified in June of 2002. The Project was constructed in 2008 to 2010, and the Salinas River Diversion Facility was placed in operation in April 2010.

The Salinas Valley Water Project is projected to halt seawater intrusion in the Pressure subarea of the Salinas Basin based on the 1995 pumping baseline.¹⁸ However, given the lack of full understanding of the relationship between the Salinas Basin as a whole, and the Pressure subarea in the vicinity of the former Fort Ord, it is uncertain whether this outcome will be borne out at currently expected levels of pumping increases in the coastal margins of the Pressure subarea. MCWRA has also acknowledged that the Project as currently constituted may not halt intrusion in the long run and that additional surface water deliveries into the coastal region through a third phase of the Plan might be needed. MCWRA intends to monitor the effects of the implementation of the Plan and pursue additional remedies as needed if seawater intrusion is not arrested. The MCWD will participate in this monitoring and evaluation process to assure SVWP modifications are made as necessary to assure that its water supplies are protected from seawater intrusion.

The State Water Resources Control Board has also been closely monitoring the MCWRA's ongoing efforts to stop seawater intrusion in the Salinas Valley Groundwater Basin and has provided almost \$7 million in funding to the MCWRA for development of this seawater intrusion solution. After reviewing the technical documents assessing the beneficial effect of the Salinas Valley Water Project on seawater intrusion, the SWRCB concluded "that seawater intrusion can be stopped."¹⁹

¹⁸ Salinas Valley Water Project Draft EIR/EIS, Section 5.3.2.

¹⁹ Salinas Valley Water Project Final EIR at page 2-129

4.3 Water Transfer Opportunities

MCWD does not share a boundary with other wholesale or retail water suppliers on its west, north or eastern boundary, but it does share boundaries with Seaside Municipal Water System and the California American Water Company – Monterey Service Area (CAW) along MCWD's southern boundary. Under current law, water supply from the Salinas Valley Groundwater Basin cannot be exported to customers in other basins. Therefore, any connections made must be for emergency use only or of a "zero-balance type" (volume added must equal volume withdrawn),.

In 2006, the District investigated the possibility of interconnecting with the Seaside Municipal Water System at a point near Seaside High School. Proposed was an emergency-only connection, for use in the event of large fire demands or catastrophic system failures. Although not constructed at the time, the possibility of a future emergency connection still exists.

In 2008-2009, the District constructed a new water main in General Jim Moore Blvd to serve the southern portion of the Ord Community, particularly Del Rey Oaks which is at the southern end of General Jim Moore Blvd. At that time, CAW was working with the Monterey Peninsula Water Management District to develop an aquifer storage and recovery project for the Seaside Groundwater Basin, with injection wells located at the northern end of General Jim Moore Blvd. A joint-use agreement was entered into by MCWD and CAW for this new pipeline. Under the agreement, both agencies meter the amount of water added to and taken from the pipeline. The system must be managed to a net zero-balance in accord with current law.

Additional transfer opportunities exist within Zone 2/2A of the Salinas Valley Groundwater Basin. MCWD could purchase the rights to existing groundwater supplies currently used elsewhere in the Salinas Valley and transfer the water to the District service area. This would require curtailment or reduction of well pumping on the donor land to allow increased pumping from District wells. Such transfers would have to be performed on a willing-seller, willing-buyer basis and with the cooperation of the Monterey County Water Resources Agency.

4.4 Future Water Supply

Looking at the projected demands in Table 4.3, the total Ord Community groundwater supply of 6,600 afy falls short of the total 2030 Ord Community demand of 8,172 afy by 1,572 afy. Considering only at those jurisdictions with shortfalls, the Ord Community shortfall becomes 2,428 afy (calculated as the sum of the jurisdictional shortfalls). In the 2005 UWMP, the 20-year projected demand for the Ord Community exceeded the available groundwater supply by 5,304 afy (= 11,904 - 6,600). The 2010 reduction in the projected shortfall is due to redevelopment projects pushed out beyond the 20-year planning horizon, due to the economic downturn. As in the 2005 UWMP, the Central Marina service area is not projected to exceed its current SVGB groundwater allocation within the planning period.

Table 4.3 Ord Community Groundwater Shortfalls

Jurisdiction	2030 Demand	Allocation	Shortage
CSUMB	778	1,035	0
Del Rey Oaks	527	243	284
City of Monterey	92	65	27
County of Monterey	1,087	710	377
UCMBEST	474	230	244
City of Seaside (Ord Portion)	2,093	1,012	1081
U.S. Army	997	1,577	0
State Parks and Rec.	25	45	0
City of Marina (Ord Portion)	1,739	1,325	414
Marina Sphere	10	10	0
FORA Strategic Res.	0	0	0
Assumed Line Loss	348	348	0
Total	8,172	6,600	2,428

As discussed in the following subsections, MCWD has been actively working towards developing additional water supplies to meet the needs of the Ord Community. This new supply will come in the form of recycled water for urban landscape irrigation and desalinated water for potable demand.

Two future scenarios are shown in the Table 4.4 and Table 4.5. Table 4.4 shows the minimum (Phase 1) use of recycled water, as described in the Environmental Impact Report for the Regional Urban Water Augmentation Project. The total amount of new supply projected in the year 2030 is 2,515 afy ($= 1,359 + 1,156$).

Table 4.4 Projected Demand by Source, Minimum Recycled Use (afy)

	2010	2015	2020	2025	2030
Groundwater	4,554	6,134	8,262	9,053	9,701
Recycled Water	0	780	1,359	1,359	1,359
Desalinated Water	0	0	275	725	1,156

Table 4.5 shows the maximum use of recycled water by customers (Project Phases 1 and 2). The total amount of new supply projected in the year 2030 is 3,306 afy ($= 2,960 + 346$), which reduces groundwater pumping from the SVGB. In both tables, the desalination supply is the net potable shortfall after recycled water is supplied. Expanded tables showing demands by jurisdiction are in Appendix C.

Table 4.5 Projected Demand by Source, Maximum Recycled Use (afy)

	2010	2015	2020	2025	2030
Groundwater	4,554	6,134	8,262	8,260	8,909
Recycled Water	0	780	1,359	2,514	2,960
Desalinated Water	0	0	275	363	346

4.4.1 Water Augmentation for Ord Community Supplies

MCWD's water supply plans include utilizing a combination of recycled water and desalination to meet its future demands as identified in the Fort Ord Base Reuse Plan. These plans are further described in MCWD's Environmental Impact Report for the Regional Urban Water Augmentation Project (RUWAP), certified in October 2004, and later amended in October 2006 and February 2007. The RUWAP proposes to provide an additional water supply of 2,400 acre-feet per year (AFY) for the Ord Community area (also known as the former Fort Ord military base) as identified in the Fort Ord Reuse Plan.

The Water Augmentation Project as evaluated in the EIR consists of two distinct alternatives and one hybrid alternative. One alternative considers wastewater recycling becoming the augmentation supply, another where desalination forms the supply, and a third alternative where equal amounts of recycled and desalinated water are produced (1,500 afy desalination, including incorporation of the currently idle desalination plant producing 300 afy and 1,500 afy recycled supply). These alternatives are discussed in further detail below.

On June 10, 2005, the MCWD and FORA boards of directors endorsed the "hybrid alternative" from the October 2004 Regional Urban Water Augmentation Project EIR and directed the staffs to begin scoping to develop specific plans for the additional 2,400 afy of supply to MCWD, with 300 afy of recycled water available to the Monterey Peninsula. The hybrid alternative includes a recycled water component and a desalinated water component. In 2007, the EIR was amended to increase the recycled water component to a maximum of 1,727 afy (1,427 for the Ord Community plus 300 afy for the Monterey Peninsula), with the total project remaining at 2,400 afy. Also in 2007, the Fort Ord Reuse Authority allocated the project's recycled water component among the land use jurisdictions in the Ord Community, as shown in Table 4.6.

Table 4.6 Recycled Water Allocations (afy)

Jurisdiction	Allocation
CSUMB	87
Del Rey Oaks	280
City of Monterey	0
County of Monterey	134
UCMBEST	60
City of Seaside (Ord Portion)	453
U.S. Army	0
State Parks and Rec.	0
City of Marina (Ord Portion)	345
Assumed Line Loss	68
Total	1,427

4.4.2 Regional Desalination Project

The Water for Monterey County Coalition (formerly called the Monterey Regional Plenary Oversight Group (REPOG) or the Monterey Regional Water Supply Reliability Collaboration), was formed in 2007 with the goal of developing a comprehensive water resource plan for the Monterey Region. To accomplish this goal, the UCSC Center for Integrated Water Research (CIWR), and later the Strategic Economic Applications Company, facilitated a series of meetings with all interested parties. The objective was to have the various interested parties collaborate on a solution, or perhaps several complementary solutions, to supplying the water needs of the Monterey Region in a cost-effective and sustainable way. Representatives from government entities, water agencies, non-governmental organizations, citizen groups, and private firms attended the regional dialogue meetings, which were open to the public. Residents from different areas in Monterey County also attend regularly. These meetings were initially funded by MCWD as part of the public outreach effort for the RUWAP. The funding base expanded to include MCWRA and MRWPCA as partners in the project, and ultimately included the California Public Utilities Commission – Division of Ratepayer Advocates (CPUC-DRA). Information on the meetings can be found at <http://ciwr.ucsc.edu/monterey/index.html>. This working group continued to meet on a regular basis until 2010, when the EIR for the Coastal Water Project was completed.

Early in this process, it became apparent to the participants that while the initial capital costs are very high for water supply projects such as urban recycled water use or seawater desalination, the marginal costs of adding capacity are significantly lower. The working group investigated the possibility of expanding the proposed RUWAP facilities to include customers in other jurisdictions. Areas considered included the Monterey Peninsula for recycled water supply and the North Monterey County – Granite Ridge area for potable supply. The Seaside Groundwater Basin aquifer storage and recovery (ASR) project being developed by MPWMD was also discussed.

Concurrent with the REPOG effort, California American Water Company (CAW) completed the initial planning and environmental assessment of the Coastal Water Project (CWP). This project was intended to supply 12,500 afy to meet the needs of the Monterey Peninsula, as a replacement for water supply from the Carmel River. CAW had been ordered to reduce pumping from the river under State Water Resources Control Board Order 95-10. The project included a 10 mgd seawater desalination plant to be located north of Marina along the Monterey Bay. Because CAW is a private company, the CPUC-DRA was the CEQA lead agency for the project EIR.

Seeing an opportunity for efficiency through combined efforts, MCWD, CAW, MCWRA and CPUC worked cooperatively to study and include a regional desalination facility in the CWP EIR as an alternative project to the CAW-only desalination facility. As discussed later under desalination, the regional alternative became the preferred project in the final EIR, which was published in October 2009 and certified in 2010. MCWD has entered into agreements with

MCWRA, CAW and MRWPCA to facilitate the construction of this facility. In the final EIR for the Coastal Water Project, projected demands for the Marina Coast Water District reflected the 2,400 afy of new water supply and 300 afy of replacement desalinated seawater supply identified in the earlier RUWAP EIR.

4.4.3 Surface Water Supplies

The District is located along the Salinas River, and MCWD Board of Directors has considered purchasing surface water rights in the Salinas River Basin as a means of meeting long-term (beyond 2030) demands. MCWD has previously been in negotiations with a senior (pre-1914) water right holder. No decisions have been made as to the purchase of surface water supplies, but that option potentially is available to meet additional demands beyond the 20-year planning horizon. Also, a second phase of the SVWP, examined at a program level in the SVWP EIR, calls for surface water to be made available to coastal urban water agencies in the future.

4.4.4 Future Water Supply Assessments and Written Verifications of Supply

In the Ord Community the approved FORA Base Reuse Plan limits the amount of planned development by the land use jurisdictions. If that limitation were lifted, and the long-term development that is projected by the land use jurisdictions beyond the current limits now imposed by the Base Reuse Plan were permitted and constructed in the future, additional water supplies beyond the planned 2,400 afy Regional Urban Water Augmentation Project would be required. On June 10, 2005, the MCWD and FORA board of directors endorsed the “hybrid alternative” from the September 2004 Regional Urban Water Augmentation Project EIR. This Project need is consistent with water required by the existing Fort Ord Base Reuse Plan. The 2030 net supply imbalance is 2,428 afy, of which 2,400 afy may be met under the RUWAP EIR. The potable component of the Augmentation Project will be allocated by FORA among its member land-use jurisdictions, just as FORA allocated its share of the 6,600 ac-ft of Salinas Valley groundwater and Phase 1 recycled water among its member land-use jurisdictions. No assumption is made here regarding reallocation of groundwater within the Ord Community, as each jurisdiction may foresee development beyond the 20-year planning horizon of this report. While Phase 2 recycled water supply was projected in Table 4.4 for illustrative purposes, formal allocation by FORA or its successor agency would be required before such water could be provided. MCWD will continue to track actual development’s consumption of water against estimates in order to plan supplemental supplies as may be necessary.

The water augmentation supply is expected to be on-line by 2016. MCWD has not considered this supply to be “available” in its written verifications of supply because it does not meet the legal requirements to support tract map approvals, building permits or will-serve letters under SB 221. MCWD currently issues water supply verifications under the requirements of SB 221 and will-serve letters based on final subdivision map phases considering only that water which is currently available (SVGB and Marina desalination supply), up to the point where a given land

use jurisdiction's allocation is fully allocated to projects. For purposes of this UWMP and requirements of SB 610 water supply assessments, the water augmentation supply is considered available for planning purposes within the 20 year time frame of the UWMP.

4.5 Desalinated Water

The District owns a small seawater desalination plant located at its former wastewater treatment plant site on Reservation Road between Dunes Drive and the Monterey Bay. The source water for the plant comes from a shallow well located on Marina State Beach. This was constructed as a pilot facility, used to verify that adequate seawater supply could be produced from beach wells, and to test the use of beach injection wells for the disposal of brine (the salty water that remains after potable supply is separated from seawater using reverse osmosis). The Monterey Bay is a national marine sanctuary, so open ocean intakes and discharges were not allowed.

This plant is considered an available supply in the context of this UWMP, and SB 610 and 221. It is currently idle; however, the supply from the plant could be restored to function, if necessary²⁰. The plant is scheduled to be replaced when a larger desalination facility is constructed, as described below. The supply is currently allocated to the Ord Community under an agreement with three developers in the Marina portion of the Ord Community.

Under its Regional Urban Water Augmentation Project, MCWD evaluated replacing this plant with a larger facility capable of producing up to 3,000 afy of potable water per year. Of the 3,000 afy, 2,400 afy was proposed to augment the future needs for Ord Community, 300 afy was replacement for the current plant's capacity; and an additional 300 afy was considered to help satisfy demands on the Monterey Peninsula, outside of MCWD's service area. In the final EIR for the Regional Urban Water Augmentation Project, the desalination portion was reduced to 1,500 afy, with 1,200 afy for the Ord Community and 300 afy to replace the existing Central Marina plant.

In 2006, California American Water Company (CAW) began the preliminary design of their Coastal Water Project, which would provide up to 11 million gallons per day (12,320 afy) for their Monterey Service Area, in order to reduce withdrawals from the Carmel River and the Seaside groundwater basin. Two sites were considered, one in Moss Landing at the former National Refractory site, and one in North Marina adjacent to the Monterey Regional Water Pollution Control Agency (MRWPCA) regional wastewater treatment plant. The MRWPCA site was preferred because of the existing deep ocean outfall that may be used for brine disposal. MCWD had a pre-existing purchase option for land on the Armstrong Ranch adjacent to the MRWPCA plant, which facilitated an agreement between the two agencies. MCWD subsequently purchased the land.

²⁰ In the 2007 MCWD Desalting Plant Condition Assessment prepared by CH2M-Hill, the time required to rehabilitate the existing plant was estimated at 12 to 16 months.

MCWD has entered into an agreement with the MCWRA and CAW to jointly develop a Regional Desalination Facility, to be located adjacent to the MRWPCA treatment plant, with an initial capacity of 10 mgd. The source water for the plant will be seawater-intruded groundwater from the 180-Foot Aquifer. This provides a source of supply that does not involve an open ocean intake. Wells in the intruded portion of the 180-Foot Aquifer will both capture seawater that is entering the aquifer, and mitigate the existing intrusion. MCWRA will construct and operate the well-field, which will extend beyond MCWD's LAFCO Boundary. Because a portion of this supply is Salinas Valley groundwater which cannot be provided to customers outside MCWRA Zones 2/2A, MCWD will be required to take that portion of the plant yield. Initially, CAW will take the full desalinated seawater yield. When the potable demands in the Ord Community exceed the available groundwater allocation, MCWD may take desalinated seawater (in addition to the groundwater component), up to the limits established in the CWP EIR. This project is in the preliminary design phase, and is expected to be let as a design-build contract in early 2012.

4.6 Recycled Water

MCWD collects wastewater in its two wastewater collection systems serving the City of Marina and the Ord Community, and conveys it to an interceptor operated by the Monterey Regional Water Pollution Control Agency (MRWPCA). The wastewater is then conveyed to the MRWPCA regional treatment plant (RTP) northeast of Marina. Wastewater is treated to secondary treatment standards at the RTP facilities and that water not designated for further treatment and recycling is discharged via an ocean outfall. Water designated for further treatment is conveyed to the adjacent Salinas Valley Reclamation Plant (SVRP) that currently produces about 14,000 ac-ft of tertiary-treated recycled water meeting the standards of Title 22 of the California Code of Regulations. The recycled water is delivered to the Castroville Seawater Intrusion Project (CSIP), irrigating farmland in the greater Castroville area, reducing demands on Salinas Valley groundwater and retarding seawater intrusion in that area. While MCWD has senior rights to recycled water through its agreement with the MRWPCA, MCWD does not currently use recycled water within its two service areas.²¹

The Marina Coast Water District has two points of connection to the regional wastewater collection system. Central Marina connects via a dedicated pump station. The total flow at that station was approximately 1,300 afy in 2010. The Ord Community connects via a gravity pipeline with a metering flume. The total flow at the flume was just under 1,000 afy in 2010. As redevelopment occurs and water use increases, a portion of the increased wastewater flows may be made available as recycled water for urban use. The SVRP is capable of producing an

²¹ MCWD was the first agency to contract for recycled water with the MRWPCA, preceding subsequent contracts by others for recycled water supply.

average of 29.6 mgd of recycled water or about 33,000 afy. However, as agricultural demands are seasonal, this capacity cannot be fully utilized year round. To increase water yield based on current wastewater flows, storage capacity to capture winter flows for summertime use would be required. As wastewater flows increase due to urban development, additional recycled water may be produced. The SVRP currently produces 14,000 afy.

In 1989, MCWD entered into an annexation agreement with MRWPCA. This agreement established MCWD's first right to receive tertiary treated wastewater from the SVRP. MCWD has the right to obtain treated wastewater from MRWPCA's regional treatment plan equal in volume to that of the volume of MCWD wastewater treated by MRWPCA and additional quantities not otherwise committed to other uses. As a result, both Central Marina and the Ord Community have a right to the recycled water return flow. Although several methods of delivering recycled water from MRWPCA to Central Marina have been studied, none has yet been constructed. Detailed plans for the Ord Community recycled water delivery have been developed, as discussed below.

MCWD operated its own water reclamation facility from 1994 to 1997 under the California Regional Water Quality Control Board (RWQCB) Waste Discharge Requirement (WDR) No 91-95 and Monitoring Report No. 92-95. These water reclamation requirements specify the user sites, water quantity, water quality, and a monitoring and reporting program. In 1997 MCWD discontinued production at its water reclamation facility and directed the raw wastewater flow to the MRWPCA RTP under the annexation agreement.

MCWD and MRWPCA have been jointly pursuing an urban recycled water project,²² which forms the recycled water alternative in the Regional Urban Water Augmentation Project. Planning for this project found that a total of 1,727 afy could be made available for urban use without adding seasonal recycled water storage (Phase 1 Project). About 1,485 afy of recycled water demands would be met within MCWD. However, this level of recycled water supply would only be available under terms and conditions of Amendment No. 3 to the 1992 MRWPCA/MCWRA Agreement. The remaining 242 afy of the Phase 1 supply could be used in other jurisdictions on the Monterey Peninsula. Seasonal storage would allow recycled water, for which there would otherwise be little demand during the winter, to be made available for irrigation demands in warmer months, rather than discharging treated wastewater to the ocean. Projected Phase II demands that could be served through additional distribution lines and seasonal storage facilities could bring the total recycled water demand to about 3,000 afy, with 2,171 afy of demand that could be served within MCWD.

In 2006, the District began design of the recycled water system. In the Basis of Design Report, the projected non-potable water demands were recalculated, as shown in Table 4.7. Potential

²² Regional Urban Recycled Water Distribution Project Report, RBF, 2003.

Phase 1 uses generally included planned or existing landscapes along the recycled trunk main alignment, such as the existing Bayonet/Blackhorse Golf Course in Seaside, the sports fields at CSUMB, and the proposed golf resort in Del Rey Oaks. The total of existing irrigation demands (1,935 afy, see Table 4.7) exceeds the size of the Phase 1 project (1,427 afy, see Table 4.6), which targets customers along the main pipeline route. Potential Phase 2 uses generally included planned or existing landscapes that required construction of lateral pipelines from the trunk main. Potential customers identified but not included in the Phase 1 project may be included in the future Phase 2.

Construction of a recycled water distribution system was estimated to cost \$34 million in the 2006 Basis of Design Report. Therefore, the system should serve the maximum number of urban irrigation customers to minimize the per customer costs.

Table 4.7 Non-Potable Water Demand Projections (ac-ft/yr)

Jurisdiction	Phase 1	Phase 2	Total
CSUMB	202	109	311
Del Rey Oaks	338		338
City of Monterey			0
County of Monterey	47	614	661
UCMBEST	55		55
City of Seaside (Ord Portion)	806	140	946
U.S. Army		38	38
State Parks and Rec.		5	5
City of Marina (Ord Portion)	435	391	826
Marina Sphere			0
Marina Central	52	87	139
Subtotal	1,935	1,384	3,319
Outside MCWD	300	59	359
Total	2,235	1,443	3,678

Under the RUWAP EIR, the Recycled Water Project was resized to 1,727 afy, with 1,427 afy going to the Ord Community and 300 afy going to the Monterey Peninsula. Phase 2 of the project was not addressed in the EIR, but remains an available demand management strategy for both MCWD and California American Water.

MCWD, in coordination with the MRWPCA and MCWRA as part of its Water Augmentation Project, is currently planning a transmission line through Marina, the Ord Community, and into the City of Monterey. MCWD has constructed approximately four miles of recycled pipeline to date, taking advantage of opportunities to install pipelines while roads were being reconstructed by the Fort Ord Reuse Authority. MCWD has designed the remainder of the recycled water distribution system, and is awaiting funding and redevelopment water demands before

proceeding with the construction. MRWPCA is working with MPWMD and CAW regarding recycled water deliveries for the Monterey Peninsula.

Subject to Monterey County Department of Environmental Health and State Department of Public Health approval, MCWD requires the installation of recycled water pipelines to serve all recreational and common irrigated open space areas within new developments (MCWD Code § 4.28.030, Recycled Water Service Availability). This requirement is waived only when the land use jurisdiction indicates that future recycled water will not be allocated to a project. The City of Seaside has adopted a more restrictive standard, requiring residential front yards to be plumbed for future recycled water in addition to recreational and common areas.

Section 5 - Water Supply Reliability and Water Shortage Contingency Planning

5.1 Water Supply Reliability - Single and Multiple Dry Year and Demand Comparison

The Urban Water Management Planning Act requires a description of a water provider's supply reliability and vulnerability to shortage for an average water year, a single dry year or multiple dry years. Such analysis is most clearly relevant to water systems that are supplied by surface water. Since the bulk of MCWD's supply is groundwater and the remainder is from desalinated supply, short- and medium-term hydrologic events over a period of less than five years usually have little bearing on water availability. Groundwater systems tend to have large recharge areas. The Salinas Basin is aided by two large storage reservoirs, Nacimiento and San Antonio, providing about 700,000 ac-ft of storage. These reservoirs regulate surface water inflow to the basin shifting winter flows into spring and summer releases for consumptive use, which also allows for increased basin recharge. The Salinas Valley Water Project is expected to increase the average level of groundwater storage, moving the basin from a situation where average storage is declining to a net increase in storage of about 6,000 ac-ft annually. Provided groundwater is protected from contamination and long-term safe yields in the basin are respected, water is available annually without regard to short-term droughts. This is due to the large storage volume of the basin that can be utilized to offset annual variations in surface runoff. Therefore, MCWD's groundwater supply is fully available in annual average, single dry year and multiple dry years.

5.2 Water Quality Impacts on Reliability

The reliability of MCWD's water supplies relative to seawater intrusion and groundwater contamination are discussed at length in Section 4.2.4. Water quality and contamination monitoring programs are discussed in Section 4.2.5. While neither seawater intrusion nor groundwater contamination pose an immediate threat to water supply reliability, MCWD maintains active monitoring of intrusion and contamination status and participates in the analytical and management efforts undertaken by the Monterey County Water Resources Agency with respect to seawater intrusion remediation actions and by the U. S. Army Corps of Engineers relative to groundwater cleanup on the Former Fort Ord.

5.3 Water Quality Monitoring

Water quality monitoring and lab analysis is performed by Marina Coast Water District by its lab staff and under contract with state certified laboratories. Water samples from wells, water treatment plants, and point-of-use locations are collected and tested to assure water delivered to customers meets both state and federal standards. Results from water quality testing are published annually in MCWD's annual Consumer Confidence Report.²³ The quality of MCWD's

²³ See www.mcwd.org/water_quality.html.

water supplies meets the requirements of all current state and federal drinking water quality regulations.

Groundwater from the Marina and Ord water supply wells is disinfected with chlorine as a safeguard against microorganisms. In Marina, chlorine is also used to treat the naturally occurring sulfides at Well 12 that can cause odors.

MCWD's state-certified laboratory performs extensive water quality monitoring of the Marina and Ord drinking water supply. Regulations require weekly monitoring for coliform bacteria in the distribution system. The presence of coliform bacteria may indicate the presence of disease-causing organisms. One water sample from each of five sampling sites in Marina and from each of five in Ord is collected and analyzed each week. A different set of five is analyzed each week in a month for each water system. There are a total of 20 different sample sites in Marina and 20 different sample sites in the Ord Community from which water samples are collected.

To make sure that water quality is maintained from source to delivery, MCWD's laboratory also performs weekly monitoring of general physical and chemical parameters. Each week five water samples are collected from the Marina and Ord coliform sampling sites, from the Marina and Ord source wells and from the water reservoir in Marina. The water samples are tested for color, odor, turbidity, temperature, pH, conductivity, free chlorine residual and sulfides.

In addition, the Marina and Ord source wells are also tested for chloride, fluoride, nitrate, bromide and sulfate. The purpose of this monitoring is to detect any abnormal concentrations that might indicate problems within the system.

When in operation, the State requires the MCWD to monitor water quality at different stages of the Marina Desalination Plant treatment processes. Water samples are collected from the ocean (Monterey Bay), at the plant's seawater intake well and from its finished product water on a daily, weekly, monthly and quarterly schedule. Water samples are tested for coliform organisms, free chlorine residual, pH, turbidity, conductivity, total dissolved solids, temperature, chloride, sulfate, alkalinity, hardness and corrosive index. This monitoring program ensures that the desalination plant is operating properly and is producing water that meets or exceeds state and federal standards. As mentioned in Section 4.5, this plant is not currently in operation.

MCWD monitors for compliance over 110 constituents in drinking water in varying schedules. Many of these constituents are naturally occurring substances. The Marina and Ord source wells, Marina's reservoir and the desalination plant are tested for general minerals such as calcium, magnesium, hardness; inorganic chemicals such as arsenic, chromium and other metals; organic chemicals such as solvents, pesticides and herbicides; radioactivity including radon; asbestos and other chemicals that are still not regulated and have no state or federal standards. Regulations also require that MCWD test for disinfection (chlorination) by-products such as total trihalomethanes and haloacetic acids in the distribution system. Lead and copper are tested from

indoor water samples to check if materials used in home or building plumbing contribute to levels of lead and copper.

5.4 Water Production System Reliability

MCWD has undertaken specific measures to ensure its ability to supply water in the event that groundwater production is impaired by mechanical failure or any other potential problem, including water quality impairment.

In 2005, MCWD completed installation of the Ord/Marina Inter-Tie Project connecting the Ord Community water production and distribution system to the Central Marina water production and distribution system. The Ord/Marina Inter-Tie Project connected these two water systems that had been operated separately (each with three wells) into a single, six-well system that can be operated in an integrated manner to ensure physical production reliability for the system as a whole. The wells in Central Marina are in the Deep Aquifer, while the wells in the Ord Community are in the 180-Foot and 400-Foot aquifers. The connection added system redundancy, a basic emergency-response feature of many water systems. In 2007, MCWD combined the two water systems under a single permit from the California Department of Public Health.

Each of the five inter-ties connecting the Ord Community and Marina water systems is fitted with a bi-directional flow meter that continuously monitors and records the volume of water moving through each inter-tie, when it is being operated. These meters, combined with the existing meters on the wells, ensure a full accounting for all water produced by MCWD. The Supervisory Control and Data Acquisition (SCADA) system ensures that production of Salinas Valley groundwater delivered to the Ord Community remains within the 6,600 afy limitation imposed by the 1993 annexation agreement with the MCWRA, and that production of Salinas Valley groundwater delivered to Central Marina remains within the 3,020 afy limitation imposed by the 1996 annexation agreement with the MCWRA.

In 2007, MCWD completed the Marina Water System Master Plan for the combined system, which identified capital improvement projects required to improve reliability and meet the projected development demands. In 2008-09, MCWD replaced the D-Zone water tank with a larger reservoir, and replaced the E-Zone reservoir with a hydropneumatic booster pump station. The preliminary designs have been completed for new storage tanks in the A- and B- pressure zones. MCWD is awaiting the resumption of development activity to complete those projects.

MCWD is currently destroying Well 32 in the Ord Community, and constructing a replacement well (Well 34) on the same site into the Deep Aquifer. This maintains redundant capacity and reduces the risk of contamination at the well. Well 32 had been constructed in the 180-Foot and 400-Foot aquifers, which are experiencing seawater intrusion closer to the coast. Preliminary planning has begun on an additional well further inland along Reservation Road.

5.5 Water Shortage Contingency Plan

To prepare a water supplier for the event of a water shortage, including a drought or an emergency shortage, the Act requires an UWMP to include a Water Shortage Contingency Plan (WSCP). The WSCP needs to include the following specific elements:

- Actions to be undertaken by the water supplier to prepare for, and implement during, a catastrophic interruption of water suppliers (e.g., a regional power outage, an earthquake, or other disaster).
- Stages of action, including up to a 50-percent supply reduction, and an outline of specific supply conditions at each stage.
- Additional, mandatory provisions against specific water use practices during water shortages (e.g., street cleaning).
- Consumption reduction methods in the most restrictive (drought) stages for up to a 50 percent reduction in demand.
- Penalties or charges for excessive use, where applicable.
- An analysis of the impacts of each of the actions and conditions described in the WSCP on the revenues and expenditures of the urban water supplier and proposed measures to overcome those impacts.
- A draft water shortage contingency resolution or ordinance.
- Description of a mechanism for determining actual water use reductions pursuant to the WSCP.

The District Board of Directors adopted an updated Water Shortage Contingency Plan on June 14, 2011, in Resolution No. 2011-46. The updated WSCP adds specific restrictions on water use that may be implemented at the time of a water shortage. Stages of action and triggers were not changed from the previously adopted WSCP. The Resolution and WSCP are included in Appendix F. Article 3.36.050 of MCWD Code of Ordinances allows for enforcement of the WSCP.

5.5.1 Actions in the Event of a Catastrophic Interruption

MCWD developed and adopted an Emergency Response Plan (ERP) in 2007 for emergency and disaster occurrences with guidelines and agreements for cooperative efforts with other State and local agencies, as required by the State Department of Public Health. The ERP contains actions MCWD would initiate in the event of a catastrophic reduction in its water supply. Article 2.09, Local Emergency, of the District Code of Ordinances details the procedure for declaring an emergency and the procedures authorized for immediate response. MCWD conducts periodic table-top exercises with the emergency response offices of the jurisdictions it serves, and annual reviews of its emergency response plan.

5.5.2 Stages of Action, Mandatory Provisions, Reduction Methods

The District's Water Shortage Contingency Plan includes stages of action, mandatory provisions, and consumption reduction methods. Because the Salinas Valley Groundwater Basin supply is not drought susceptible, the triggers for the Stages of Action listed in Table 5.1 reflect mechanical failures and/or water quality concerns, which are more likely to impact MCWD. The mandatory provisions and consumption reduction methods for each stage are detailed in the Water Shortage Contingency Plan at Appendix F.

Table 5.1 Water Shortage Contingency Plan - Stages of Action

Stage No.	Water Supply Conditions			% Shortage
	System Malfunction	Exceed Chloride Standard?	VOC Standards	
1	10% shortage	Not threatened	Not exceeded w/blending	0 - 10
2	10% - 25% shortage	May be threatened	Not exceeded w/blending	10 - 25
3	25% - 35% shortage	Expected	Not exceeded w/blending <u>or</u> remaining capacity reduced by up to 25%	25 - 35
4	35% - 50% shortage	Expected	Not exceeded w/blending <u>or</u> remaining capacity reduced by up to 35%	35 - 50
5	>50% shortage	Expected	Not exceeded w/blending <u>or</u> remaining capacity reduced by up to 50%	>50

5.5.3 Penalties or Charges for Excessive Use

Article 3.36.050 of District Code of Ordinances provides for a system of notices and fees for violations. Article 3.36.060 also allows for recovery of costs incurred abating a violation. Violation of provisions of the WSCP shall be enforced under these parts of the MCWD Code.

Table 5.2 summarizes the penalties and charges detailed in Article 3.36.050. The Code does not currently include more stringent penalties or charges for higher stages of a water shortage, but the Board of Directors may consider additional penalties if an extended shortage should occur. Section 4 of the WSCP includes procedures for making appeals to the Board for relaxation of water use restrictions.

Table 5.2 Water Shortage Contingency – Penalties and Charges

Penalties or Charges	Stage When Penalty Takes Effect
<i>Penalty for excess use:</i> Written notice, date for correction	Applicable to all stages (i.e., not stage-specific)
<i>Charge for excess use:</i> \$100 administrative fee for 1 st notice; \$200 for 2 nd notice; \$500 for each additional violation within one (1) year.	
<i>Other:</i> Costs of abatement	
<i>Other:</i> Costs of enforcement	
<i>Other:</i> Civil penalty of 50% of abatement and enforcement costs.	

5.5.4 Revenue and Expenditure Impacts

Enforcement of the Water Shortage Contingency Plan is assumed to be covered by enhanced revenues from application of excess use charges and penalties. District reserves may be used temporarily should revenues remain below expectations. MCWD's rate structure is based upon adopted rate ranges and allows for modification of rates on short notice within those ranges. MCWD retains the ability to modify rates to meet all legitimate District needs. Revenue impacts from water sales losses are estimated as follows, based upon Tier 2 rates of \$2.35/hcf in Central Marina and \$2.86/hcf in the Ord Community, and recognizing approximately 10% of MCWD's customers are not metered as of 2010.

Table 5.3 Potential Revenue Impacts of Implementation of WSCP

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Assumed Reduction	10 percent	20 percent	30 percent	40 percent	50 percent
Water Sales Loss	\$ 454,664	\$ 909,329	\$1,363,993	\$ 1,818,658	\$ 2,273,322
Revenue Source: Pumping savings at \$135/af	\$ 53,569	\$ 107,138	\$ 160,707	\$ 214,276	\$ 267,845
Net Revenue Reduction	\$ 401,095	\$ 802,191	\$1,203,286	\$ 1,604,382	\$ 2,005,477
Percent of Total Annual Water System Revenue	5%	11%	16%	21%	27%

* Table based on FY2009-2010 water sales, \$7,501,854 for 3,970 acre-feet

5.5.5 Mechanism to Determine Actual Water Use Reductions – Monitoring Procedures

Implementing the WSCP is intended to reduce water use to levels specified by stage. Crucial to the implementation is determining how effective any enacted measures are in actually reducing water use.

The WSCP includes increasingly frequent reporting of water usage, based on daily O&M recording of production figures, to the MCWD Board per increasingly severe stages. The

monitoring, reporting, and subsequent analyses are meant to determine the extent of water use reductions. Furthermore, the WSCP includes provisions for the MCWD Board to alter WSCP actions at each stage (i.e., tighten restrictions) if usage reduction targets are not being met. Essentially, a feedback loop of monitoring, reporting, and action will be used to effectively implement the WSCP.

5.6 Drought Planning

As discussed in Section 5.1, the Salinas Valley Groundwater Basin is managed by MCWRA so as not to be susceptible to drought. However, the District is pursuing two sources of new water supply that are not drought susceptible: desalination of seawater-intruded groundwater and urban use of recycled water. Both of these projects are discussed in Section 4.

Section 6 - Conservation and Demand Management Measures

6.1 Introduction

Water conservation is defined as any action taken to reduce water consumption or loss of available supply for use, such as leaks in the production and delivery system prior to the customer's meter. Demand management refers to a subset of conservation methods a water supplier may undertake to reduce demand on the water system. The Urban Water Management Planning Act requires a description of 14 specified conservation and demand management measures that are described in the Memorandum of Understanding Regarding Urban Water Conservation in California (MOU), known as the Best Management Practices or BMPs. For those measures not being currently implemented or planned for implementation, an evaluation of those measures and a comparison against expanded or additional water supplies must be made. Preference in the act is given to those measures offering lower incremental costs than expanded or additional supplies. The act also requires that economic and non-economic factors, including environmental, social, health, customer impact and technological, be considered in the evaluation. However no specific guidance on evaluation methodology is given.

6.2 Summary of Measures Currently Under Implementation

MCWD signed the California Urban Water Conservation Council (CUWCC) MOU in 1991 and began implementing water conservation and demand management practices as part of its overall integrated water management program. Table 6.1 summarizes MCWD's water conservation program and the status of implementation of each demand management measure (DMM). MCWD's 2009-2010 CUWCC BMP Report is currently being prepared and will be available at the CUWCC website, www.cuwcc.org, once the on-line reporting system is updated.

6.3 Description and Status of Demand Management Measures

The Urban Water Management Planning Act under California Water Code Section 10631 (f)(1) requires a description of a water supplier's water demand management measures that are being implemented or are scheduled for implementation. It also requires an evaluation of water demand management measures specified in the act that are not currently being implemented or scheduled for implementation. As noted above, preference is given to implementing measures that offer lower incremental costs than expanded or additional water supplies.

MCWD is continually seeking to improve its conservation program and features that are cost-effective or otherwise are a wise investment in resource management. The District completed its Urban Water Conservation Feasibility Study in 2004, and has been implementing the recommendations by phases. In 2005, The District added a Water Conservation Specialist position to the staff, which greatly increased the capacity for customer assistance.

Table 6.1 Summary of DMM Implementation

Demand Management Measure	Implementation Status		
	Currently Implemented	Planned Actions	Recommendation
DMM 1 – Water Survey Programs for Residential Water Customers	Yes	MCWD will contact highest users	
DMM 2 – Residential Plumbing Retrofits	Yes		Link to DMMs 1, 3, 13 & 14; expand public awareness
DMM 3 – System Water Audits, Leak Detection, Repair	Yes	Automatic meter reading adds real-time leak monitoring	Continue annual audits.
DMM 4 – Metering with Commodity Rates	Yes		Review annually
DMM 5 – Large Landscape Conservation	Yes	Advertise ET controller program	Review annually
DMM 6- High-Efficiency Washing Machine Financial Incentives	Yes		Review annually
DMM 7 – Public Information	Yes		Address under-represented communities
DMM 8 – School Education	Yes		
DMM 9 – Commercial Industrial and Institutional Water Conservation	Yes	Increased outreach	Setting up water use budgets for customers
DMM 10 – Wholesale Agency Assistance (<i>not applicable to District</i>)	N/A		
DMM 11 – Conservation Pricing	Yes		Review annually
DMM 12 – Conservation Staff	Yes		
DMM 13 – Water Waste Prohibition	Yes		Expand public information
DMM 14 – Residential Ultra Low Flow Toilet Replacement	Yes		Set up database to track HET/ULFT replacements

6.3.1 DMM 1 - Water Survey Programs for Single-Family and Multi-Family Residential Customers.

Program Description: These programs generally involve sending a qualified water auditor to customer locations to audit water use. The survey includes both indoor and outdoor components. The indoor component includes checks for leaks, including toilets, faucets and meters; checking showerhead, toilet, aerator flow rates and offering/suggesting replacement of high-flow devices. The outdoor survey includes checks of the irrigation system and control timers, and review or development of a customer's irrigation schedule. MCWD requires a survey to be conducted upon transfer of property ownership. MCWD also provides residential customer surveys on an "as-requested" basis, in addition to directly contacting the highest residential users and offering a survey. Any customer who is concerned about high water bills can request an on-site survey.

Economic and Non-economic Factors: Surveys of this type have become common among agencies with demand management programs. Research on cost-effectiveness has shown that the long-term savings from these programs is lower than originally anticipated. Savings achieved

through these measures decay over time due to equipment failure, failure of the customer to consistently follow recommendations, and customer turnover. Savings decay rates average about 15 percent per year. Single-family surveys can be expected to initially save 15 gallons per day (gpd) per survey and multi-family about 6.5 gpd. Surveys are estimated to cost \$125 for a single-family residence and \$330 per multi-family residences covering an average of 10 units per survey (\$33/unit).²⁴ Agencies generally target high use accounts for surveys and, while customers who feel their water use is unexplainably high often opt for surveys, many customers are reluctant to avail themselves of a survey.

Cost-Benefit Analysis Results: A cost-benefit analysis is not required for the DMMs MCWD is implementing.

Recommendation, Implementation and Schedule: This program is operating at steady-state, and will continue with current staffing levels. MCWD will continue contacting residences with above average water use, as identified. When redevelopment resumes and the number of customer accounts increases, MCWD should reevaluate its conservation staffing levels.

Measures of Performance: In 2010, MCWD conducted 404 surveys for single-family residential customers and 40 surveys for multi-family residential customers.

6.3.2 DMM 2 - Residential Plumbing Retrofit

Program Description: Single and multi-family residences constructed prior to 1992 are to be identified and retrofitted with high-efficiency water fixtures, such as showerheads, faucets and toilets, if needed. The DMM also recommends an ordinance requiring low-flow fixtures in new construction and retrofits, which MCWD has included in Article 3.36 of their Code of Ordinances.

MCWD currently provides low-flow showerheads and installation assistance. An ordinance that requires low-flow showerheads in both new and retrofit construction was enacted in 1993. MCWD requires all residences to be retrofitted upon resale, with MCWD providing inspection for this requirement.

Article 3.36 of MCWD Code of Ordinances requires the installation of hot-water recirculation systems or point-of-use water heaters for new construction and renovation, which is an additional water saving measure not required in the State Plumbing Code.

Economic and Non-economic Factors: Offering or installing retrofit kits to pre-1992 homes has been a common program among water agencies with active conservation programs. Issues that must be considered are relatively high natural replacement levels for fixtures such as showerheads, and recognition that replacements heads already meet the federal 2.5 gpm

²⁴ California Urban Water Agencies Annual Report, 2000.

standard. All other factors being equal, retrofit programs, which reduce demands, are environmentally preferable over development of additional supplies or delivery of more water.

Cost-Benefit Analysis Results: Not required as this program is being implemented.

Recommendation, Implementation and Schedule: MCWD will continue to implement this DMM by associating it with other DMMs, particularly DMMs 1, 3, 13 and 14. This would reduce costs and increase participation. Increased outreach to expand public awareness of the program is also recommended.

Measures of Performance: In 2010, MCWD distributed 116 low-flow shower heads and 100 faucet aerators to single-family residential customers, and distributed 30 low-flow shower heads and 50 faucet aerators to multi-family residential customers.

6.3.3 DMM 3 - System Water Audits, Leak Detection and Repair

Program Description: The DMM requires conducting annual audits of the water distribution system to detect and correct any abnormalities, including leaks, faulty meters and unauthorized water users. A prescreening audit that covers metered water sales, other verifiable uses and total supply to the distribution system is used to determine the need for a full-scale audit. A full-scale audit is indicated if the uses divided by the supply is less than 0.9 (indicating a greater than 10 percent loss rate). In addition to the audits, water suppliers should notify the customer when it is believed that the leak may exist on the customer's side of the meter, and help the customer find and fix the leak. MCWD performs an annual prescreening system audit and responds to leaks or known trouble spots to make repairs and replacements as needed. A feature of the recently installed Automatic Meter Reading (AMR) equipment is that each AMR meter will identify if water is used for continuous periods in excess of two hours. Once alerted, District staff contact the customer and inform them of the possible leak.

Economic and Non-economic Factors: Prescreening audits comparing gross system production vs. sales is an accepted industry practice generally done on an annual basis. If results from this prescreening note excessive unaccounted water then a more detailed audit focusing on loss possibilities (system leakage, under-metering, illegal connections, fire flow water, and system flushing, etc.) is conducted. No significant social, environmental or technological factors are relevant for this activity.

Cost-Benefit Analysis Results: Not required as this program is being implemented.

Recommendation, Implementation and Schedule: MCWD audits both service areas annually. AMR meters are being installed throughout MCWD in a phased program, and required for all new customers.

Measures of Performance: In 2010, MCWD identified and repaired ten leaks in the distribution system.

6.3.4 DMM 4 - Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections

Program Description: This DMM requires metering of all water services. Currently, the Marina service area is fully metered. The Ord Community is not yet fully metered. CSUMB completed its metering retrofits in 2009. The Ord Military Community is replacing housing units in phases, and installing meters in all new units. 1,201 units of Army housing are still on flat-rate billing. Water conservation is also promoted through a tiered pricing system. Based on a water use budget, customers know the amount of water use required by their property. MCWD has a three-tiered pricing system in the Central Marina and Ord Community service areas.

Economic and Non-economic Factors: Meters are now required as a matter of state law and urban water providers such as the MCWD have until January of 2025 to be fully metered. Based on the pace of redevelopment and MCWD's capital improvement plans, MCWD expects to have metering completed well prior to this date.

Cost Benefit Analysis Results: Not required as this program is being implemented.

Recommendation, Implementation and Schedule: MCWD is coordinating with the Ord Military Community to identify opportunities to install meters in the existing housing areas. The water rate tiers and prices are reviewed annually during the budget review and approval process.

Measures of Performance: Over the past five years, over 1400 non-metered units have been converted to metered accounts. All metered accounts are billed on a volume basis.

6.3.5 DMM 5 - Large Landscape Conservation Programs and Incentives

Program Description: The purpose of this DMM is to provide a customer with a determination of how much water should be used to irrigate the land appropriately while maintaining conservation practices. The DMM is oriented toward three groups of customers who irrigate landscapes: those with dedicated irrigation meters, those with meters who serve a mix of irrigation and non-landscape uses, and new accounts with irrigation use. MCWD has a landscape specialist on staff who conducts site reviews and assistance visits with property owners/property managers. MCWD has adopted the Model Water Efficient Landscape Ordinance, and requires formal review and approval of all landscapes of 2,500 square-feet or larger.

MCWD has several programs for landscapes, including rebates for evapo-transpiration controllers, turf removal, moisture sensors, rain shut-off switches and drip irrigation systems. MCWD has two demonstration gardens with native drought-tolerant species, one in each service area.

Economic and Non-economic Factors: The general public often views large landscapes as water conservation targets. Generally, however, and especially where dedicated irrigation meters exist, large landscapes are more efficiently managed than landscapes that are part of a mixed use setting. Large landscapes usually benefit from professional management and the owner's

recognition of a direct correlation between the water bill and irrigation practices, which creates a financial incentive for conservation. Opportunity exists to improve irrigation efficiency. The California Irrigation Management Information System (CIMIS) operated by the California Department of Water Resources provides real-time evapo-transpiration (ET) and other climatic data available on the Internet to help manage irrigation demands. CIMIS data can be combined with water budgets for each landscape to allow irrigation managers to apply only the amount of water needed. Newer irrigation controllers can either be programmed to modify irrigation schedules based on programmable ET factors, or query CIMIS stations for real-time data and be linked to soil moisture sensors and rain shut-off devices that can precisely provide only the amount of irrigation needed. These devices are now required per MCWD's design guidelines, and have been shown to produce from 25-45 percent in landscape water savings over traditional irrigation timers, which are often not reset to follow annual climate changes.²⁵ Savings also accrue from the system's ability to automatically shut off irrigation zones when lines or sprinkler heads break or when there is significant rain. Such systems can also provide commercial or institutional customers with tremendous labor savings as they do not require human intervention to reset irrigation schedules to follow climate patterns or adjust for variations in precipitation. Savings can also accrue from lower fertilizer cost as off site runoff can be eliminated.

Cost-Benefit Analysis Results: Not required as this program is being implemented.

Recommendation, Implementation and Schedule: MCWD incentive programs should be reviewed annually as part of the budget review and approval process. As the Ord Community is redeveloped, MCWD should evaluate the staffing levels for assistance site visit.

Measures of Performance: In 2010, MCWD conducted 14 large landscape surveys, and paid incentive rebates for the installation of 73 irrigation control devices.

6.3.6 DMM 6 - High-Efficiency Washing Machine Rebate Programs

Program Description: Customers are provided with incentives to replace old washing machines with newer, more efficient models. MCWD provides a \$125 rebate to customers. The program is very successful, averaging 120 conversions each year. MCWD requires all new residential construction to include high efficiency washing machines in each unit, when washers are provided.

Economic and Non-economic Factors: The incremental cost of high efficiency washers (front loading, horizontal axis) has been about \$600 per unit over that of traditional, top load models. Cost differentials are coming down over time. Typical customers can save from \$50 to \$100 per year in energy, water and waste water costs. Water savings range from 14 gallons per day in

²⁵ California Urban Water Conservation Council, July 2003.

small single-family households up to over 100 gallons per day per unit in multi-family housing applications.²⁶

Cost-Benefit Analysis Results: Not required as this DMM is under implementation.

Recommendation, Implementation and Schedule: MCWD should review this rebate program annually during the budget review and approval process.

Measures of Performance: In 2010, MCWD paid incentive rebates for 167 high efficiency clothes washer installations.

6.3.7 DMM 7 - Public Information Programs

Program Description: MCWD provides water conservation information to the public through a wide variety of public outreach tools: information booths at conferences, fairs and community events; flyers, newsletters and billing inserts; video; website; and printed material to the media. MCWD has also partnered with the Water Awareness Committee of Monterey, California American Water Company and the Monterey Peninsula Water Management District to develop and distribute outreach material.

Economic and Non-economic Factors: This DMM cannot be reduced to quantitative terms but is considered an essential complement to other DMM measures and developing a water conservation consciousness and ethic among urban water users such that it is considered an essential practice.

Cost-Benefit Analysis Results: Not applicable.

Recommendation, Implementation and Schedule: The public information program could be expanded through outreach to under-represented communities and by providing current program information in the major languages found within MCWD.

Measures of Performance: In 2010, MCWD published 5 newsletters, 3 bill inserts, 6 landscape media items and had 4 media contacts. Additionally, MCWD co-hosted the Water Awareness Committee Training Seminar for smart irrigation controllers and sponsored booths at 3 events.

6.3.8 DMM 8 - School Education Programs

Program Description: This DMM is intended to promote water conservation within the local schools. MCWD has a part-time education consultant that assists in the development of the educational programs. Presentations and information – which include program handouts, Internet links and classroom activities – are provided directly to teachers for their use in the classroom. The program has been fully implemented in Marina and the Ord Community Service area, with 100% coverage of grades K to 3. A water-art program provides instruction in the importance of water conservation to all fourth grade classes in the service areas.

²⁶ California Urban Water Conservation Council, 2003.

Economic and Non-economic Factors: Like public information programs, school education programs are viewed as a basic element of a comprehensive urban conservation program.

Cost-Benefit Analysis Results: Not applicable.

Recommendation, Implementation and Schedule: Additional activities could be incorporated into the program. An example would be the establishment of an organic garden/outdoor classroom to teach students effective water management strategies as well as environmentally sound horticultural practices. The MCWD is developing water conserving gardens which can provide a venue for such instruction.

Measures of Performance: In 2010, MCWD reached 1,408 students with classroom presentations, 2,100 students through large group assemblies, and 40 students through field trips.

6.3.9 DMM 9 - Conservation Programs for Commercial, Industrial, and Institutional (CII) Accounts

Program Description: Under this DMM, conservation programs are to be tailored to the needs of CII customers' indoor and outdoor water uses. CII accounts often use water in ways and amounts substantially different than residential users. A water use survey is conducted and the customer is provided with an evaluation of water using apparatus and processes and recommended efficiency measures, expected payback period and available agency incentives. These customers are contacted within a year of the survey to discuss water use and water saving improvements based on the recommendations of the survey. All of MCWD rebate programs (toilet, landscape, clothes washer) are available to commercial as well as residential customers.

Economic and Non-economic Factors: Commercial and industrial audits in other regions have found most of the savings opportunity in the replacement of high flow toilets, as these toilets receive relatively high usage rates. The literature reveals that surveys for this sector have resulted in about 1.27 AF of savings per year against an average cost of \$1,200 per survey.

Cost-Benefit Analysis Results: Based upon the averages above and avoided costs for new supply to MCWD, typical CII surveys would have a benefit cost ratio of just over 5 to 1, assuming savings decay over a five year span.

Recommendation, Implementation and Schedule: MCWD is working to expand this program to its full potential. MCWD is performing site surveys of CII accounts and setting up water use budgets for the customers. CSUMB has used this service for assistance managing many of their large landscapes and facilities. CII accounts are eligible for District programs/rebates relating to plumbing retrofits and ultra-low flow toilet (ULFT) replacements. However, the low number of CII accounts limits estimates of District water savings.

Measures of Performance: In 2010, MCWD conducted one survey with a commercial customer and paid 7 incentive rebates to commercial customers.

6.3.10 DMM 10 – Wholesale Agency Assistance

Program Description: Assistance relationships between regional wholesale agencies and intermediate wholesale agencies as well as between wholesale agencies and retail agencies. This DMM does not currently apply to MCWD. When the Regional Desalination Project is constructed, MCWD may be considered a wholesale water supplier to the California American Water Company (CAW), although the project is being constructed jointly among three agencies. California American Water is currently a larger water supplier than MCWD with its own water conservation programs, and publishes an Urban Water Management Plan for its Monterey service area. It is not anticipated that MCWD will need to provide assistance to CAW, although the two agencies will continue to work together as part of the Water Awareness Committee of Monterey.

6.3.11 DMM 11 - Conservation Pricing

Program Description: Water conservation is encouraged through a pricing system that rewards customers who use less water with financial incentives, while high water users are charged a higher rate. MCWD is implementing this DMM through its two and three-tiered pricing system.

Economic and Non-economic Factors: Conservation pricing is often cited as a way to use market mechanisms to provide incentives for conservation. Water consumption, however, has a relatively inelastic demand relative to price, meaning as unit prices go up, unit demand does not correspond in a 1:1 linear fashion. This is due to a variety of factors. Only a portion of water use for a residence can be considered discretionary, generally a portion of landscape irrigation, excess showering periods and the like. At the point discretionary use has been wrung out of the system due to marginal costs of water, another rate tier is unlikely to reap much conservation savings. Additionally, California's Proposition 218 requires water rates to be developed on a cost of service basis. In other words, the top tier of the water rate must have a reasonable relationship to the avoided cost of service for marginal supply. Since MCWD is contemplating relatively expensive marginal supplies to meet new demands, meeting this test is not a concern at this point.

Cost-Benefit Analysis Results: Not required as this DMM is under implementation.

Recommendation, Implementation and Schedule: The pricing tiers and rates are reevaluated annually as part of MCWD budget review and approval process.

6.3.12 DMM 12 - Conservation Coordinator

Program Description: A water agency employee is assigned responsibility for oversight and implementation of water conservation practices. MCWD's water conservation coordinator works closely with local, regional and state boards to implement the DMMs that are effective for the community as well as the neighboring water districts to foster an effective working relationship

and provide continuity among the programs. MCWD also has a water conservation specialist, who conducts site surveys and assistance visits.

Economic and Non-economic Factors: Not applicable.

Cost-Benefit Analysis Results: Not required as this DMM is under implementation.

Recommendation, Implementation and Schedule: MCWD should review the staffing levels as the Ord community is redeveloped and the number of customers increases.

Measures of Performance: In 2010, MCWD employed a full-time water conservation coordinator and a full-time water conservation specialist.

6.3.13 DMM 13 - Water Waste Prohibition

Program Description: In 1993 MCWD enacted an ordinance addressing water waste and establishing limitations on how and when watering/irrigation can occur, and how water can be used outside. This section of MCWD Code was updated in 2004 and 2005 to add additional restrictions and incorporate the Model Water Efficient Landscape Ordinance.

Economic and Non-economic Factors: Not applicable.

Cost-Benefit Analysis Results: Not required as this DMM is under implementation.

Recommendation, Implementation and Schedule: MCWD should review and update this section of the District Code as new information becomes available from the State and the California Urban Water Conservation Council.

6.3.14 DMM 14 - Residential Ultra-Low Flow Toilet Replacement Programs

Program Description: MCWD's toilet replacement program offers a \$125 rebate for each toilet replaced with a high efficiency toilet. Over 3,000 toilets have been replaced under the program. Under the MCWD water waste ordinance, a residence must be completely retrofitted with ultra low flow toilets (ULFTs) at the time of sale, and all new construction must install high efficiency toilets (HET) (1.28 gpf or dual flush). This program includes CII customers.

Economic and Non-economic Factors: Toilet replacement programs have generally been the most successful of demand management measures statewide. A number of issues exist, however. Program cost-effectiveness varies by program design. Retrofits on resale ordinances are very inexpensive from MCWD's perspective as costs are shifted to the home buyers/sellers. This ordinance tends to be very unpopular with the real estate community and home sellers, however, as it can impede a sale due to timing and often requires replacing floor coverings around the toilet. Direct distribution programs have the highest cost-effectiveness but don't necessarily reach all potential customers. Rebate programs are generally effective but have a higher incidence of "free ridership" where some customers would be replacing a toilet anyway and receive the rebate. Regardless, savings for these programs have been shown to be 35-45 gallon

per replacement per day. Higher savings are found in higher density housing and commercial/industrial settings. Savings also persist as toilet life is generally about 25 years.

Given that the revised plumbing code allows for only 1.6 gal/flush toilet models to be purchased, it should be recognized that natural turnover in the range of 3-4 percent per year will eventually replace all of the older, high water use models. HET incentive programs accelerate these savings and can help defer or eliminate other capital investment needs.

Cost-Benefit Analysis Results: Not required as this DMM is under implementation.

Recommendation, Implementation and Schedule: MCWD currently tracks this rebate program in a spreadsheet. If the customer service billing database is upgraded, consider tracking this and other rebate programs by address in that database.

Measures of Performance: In 2010, MCWD paid incentive rebates for 84 high-efficiency toilets to single-family residential customers and for 38 high-efficiency toilets to multi-family residential customers.

6.4 Funding and Legal Authority

MCWD is committed to funding all cost-effective conservation programs. Additionally, MCWD will assess non-economic issues in addressing its conservation program, such as direct and indirect environmental and economic effects of conservation on entities other than MCWD and its customers. As a county water district, MCWD has the legal authority to implement conservation programs of its choosing.

6.5 Existing Conservation Savings, Savings Measurement, and Effects on Ability to Further Reduce Demand

MCWD has been active in promoting conservation and taking action to assure its implementation. Review of per capita demands for water indicates these efforts and resulting behavior of MCWD customers is having an effect. Per capita demand rates have been on a nearly consistent decline from an average of 144 gpcd in 1999 to 123 gpcd in 2010. Based upon an estimated population of 30,100, annual water savings are about 708 ac-ft.

The MCWD will continue to track per capita demand rates to assess overall savings, in addition to comparing water consumption of new residential development against households which have been retrofitted with conservation devices and unretrofitted households. The District will continually reassess rebate programs to address saturation rates and emerging technologies.

Conservation reductions have come primarily from improvements in water use technologies (low flow devices, irrigation controllers, etc.) and some from behavioral changes driven by increasing water rates and public education programs. These long-term savings reduce the ability of the MCWD to call upon water use reductions if necessary due to curtailment of supply from groundwater. This is known as demand hardening. Since long term improvements in efficiency have been effected, additional short-term savings would be harder to produce and would

necessarily come from cutbacks in use that could have more pronounced economic and aesthetic effects, especially if shortages were pronounced.

MCWD recognizes this vulnerability and is committed to acquiring additional supplies to insulate the community from such effect. In addition to ensuring that potable supplies remain reliable, MCWD is pursuing the use of recycled water for urban landscape irrigation. This is a recognized BMP for reducing potable water demand.

Section 7 - Completed UWMP Checklist

As a verification of plan completeness, the DWR Urban Water Management Plan checklist (Table I-2) has been completed and included at Appendix G.

Ord Community Land Use Jurisdiction	SVGB Allocation (AFY)	Suballocations To	Suballocation Amount (AFY)	Resolution No.	Date	Notes:
County of Monterey	710					
		East Garrison 1	470	05-268	10/4/2005	
		MPC	52.5	02-XX	12/10/2002	
		Whispering Oaks	0			Allocated 93 AFY, later revoked with the specific plan.
County/Marina Sphere	10					Reuse Plan polygon 8a (landfill parcel, shoppette)
		Ord Market	5	08-XX	3/27/2008	
City of Seaside	1,012					
		Sunbay Apts (Thorson)	120.0	USA	10/23/2001	Amendment 1 to Agreement dated 6/20/2000 between USA and FORA
		Bay View Park (Brostram)	84.8	USA	10/23/2001	Amendment 1 to Agreement dated 6/20/2000 between USA and FORA
		Seaside Highlands	168.5	02-07	2002	43.1 AFY to be replaced with RW when available
		Seaside Resort	161.4	05-44	2005	
		Monterey College of Law	2.8	04-20	3/18/2004	
		Monterey Peninsula College	9.7	09-36	7/16/2009	
		MPUSD	81.0	USA		existing at time of base closure
		Charterwell School	6.4	05-26	5/19/2005	
		Other	3.0			
		Main Gate	149	08-XX		existing at time of base closure
		Bayonet/Blackhorse Golf (temp)	430	temp	5/15/2008	WSA totalled 207 AFY. City allocated retail portion only.

SVGB = Salinas Valley Groundwater Basin
 AFY = acre-feet/year
 XX = Resolution # not included in meeting minutes
 RW = Recycled Water

= 1216.6 AFY

**MARINA COAST WATER DISTRICT
2011 WELL PRODUCTION SUMMARY**

WELLS	JAN	FEB	MAR	APR	MAY	JUN	TOTAL m/gal	ac / ft
10	13.7	17.4	13.0	16.1	24.1	19.7	104.0	319.16
11	16.7	23.4	18.8	21.7	18.9	23.7	123.2	378.09
12	4.4	3.4	4.3	4.8	5.9	4.1	26.9	82.55
29	10.5	5.5	10.8	18.9	25.0	18.4	89.1	273.44
30	18.7	13.9	17.8	20.8	39.8	33.4	144.4	443.15
31	17.3	15.1	15.8	30.6	22.5	33.9	135.2	414.91

TOTAL m/gal	81.3	78.7	80.5	112.9	136.2	133.2	622.8
ac / ft	249.50	241.52	247.05	346.48	417.98	408.78	1,911.30

WELLS	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL m/gal	ac / ft
10	24.7	21.0	22.1	22.0	16.0	17.9	123.7	379.62
11	25.8	27.6	29.7	23.9	24.0	27.3	158.3	485.80
12	2.2	4.5	2.3	3.9	3.8	0.6	17.3	53.09
29	25.1	22.8	19.8	12.1	6.1	5.6	91.5	280.80
30	31.1	29.3	37.6	20.7	19.3	10.3	148.3	455.12
31	39.4	33.6	20.8	26.1	11.7	25.1	156.7	480.89

TOTAL m/gal	148.3	138.8	132.3	108.7	80.9	86.8	695.8
ac / ft	455.12	425.96	406.01	333.59	248.27	266.38	2,135.33

WELL	m/gal	ac / ft	%
10	227.7	698.79	17%
11	281.5	863.89	21%
12	44.2	135.64	3%
29	180.6	554.24	14%
30	292.7	898.26	22%
31	291.9	895.81	22%

2011	TOTAL	m/gal	1,318.6
		ac / ft	4,046.63

#VALUE!

25882296
25.9



MARINA COAST WATER DISTRICT

11 RESERVATION ROAD • MARINA, CA 93933-2099

Home Page: www.mcwd.org

TEL: (831) 384-6131 • FAX: (831) 883-5995

DIRECTORS

DAN BURNS

President

HOWARD GUSTAFSON

Vice President

KENNETH K. NISHI

JAN SHRINER

WILLIAM Y. LEE

November 28, 2012

Ms. Molly Erickson
Law Offices of Michael W. Stamp
479 Pacific Street, Suite One
Monterey, CA 93940

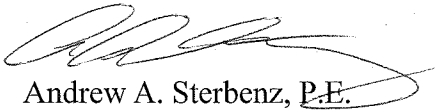
Re: Records Request of November 16, 2012

This letter is in response to your records request of November 16, 2012, pertaining to the data behind Table 5-2 of the Water Supply Assessment for the Monterey Downs Specific Plan. That table had been compiled from previous summary reports, including the Water Supply Assessment for the Seaside Main Gate Project, the Water Supply Assessment for the Whispering Oaks Project, the Agreement for Construction and Transfer of Water, Sewer and Recycled Water Infrastructure for the Monterey Peninsula College Seaside Campus, the Agreement for Construction and Transfer of Water, Sewer and Recycled Water Infrastructure for the Monterey College of Law Seaside Campus, and the Agreement for Construction and Transfer of Water, Sewer and Recycled Water Infrastructure for the Chartwell School Seaside Campus. However, in response to your request and to public comments received on November 13 at the MCWD Board of Directors meeting, we have updated our listing to include the date and/or resolution number of the allocation actions (attached).

Several of the entries were corrected as a result of this update. The allocation for the Ord Market was moved to the Monterey County-Marina Sphere of Influence area. The allocation for Seaside Highlands was corrected to the allocated amount of 168.5 acre-feet per year. The previous report had used the actual water use during the landscape establishment period. Usage in that area has since declined to the allocated amount. The allocation entry for Monterey College of Law was corrected to 2.8 acre-feet per year (the original table contained a typo). Finally, we have added the temporary use of Salinas Valley Groundwater for irrigation of the Bayonet/Blackhorse Golf Course. This use is under a term agreement between the City of Seaside and the District and does not reflect a permanent allocation of water supply.

If you have additional questions on this topic, I can be reached at (831) 883-5925.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Andrew A. Sterbenz', with a stylized flourish extending from the end.

Andrew A. Sterbenz, P.E.
Interim District Engineer

Ord Community Land Use Jurisdiction	SVGB Allocation (AFY)	Suballocations To	Suballocation Amount (AFY)	Resolution No.	Date	Notes:
County of Monterey	710					
		East Garrison 1	470	05-268	10/4/2005	
		MPC	52.5	02-XX	12/10/2002	
		Whispering Oaks	0			Allocated 93 AFY, later revoked with the specific plan.
County/Marina Sphere	10					Reuse Plan polygon 8a (landfill parcel, shoppette)
		Ord Market	5	08-XX	3/27/2008	
City of Seaside	1,012					
		Sunbay Apts (Thorson)	120.0	USA	10/23/2001	Amendment 1 to Agreement dated 6/20/2000 between USA and FORA
		Bay View Park (Brostram)	84.8	USA	10/23/2001	Amendment 1 to Agreement dated 6/20/2000 between USA and FORA
		Seaside Highlands	168.5	02-07	2002	43.1 AFY to be replaced with RW when available
		Seaside Resort	161.4	05-44	2005	
		Monterey College of Law	2.8	04-20	3/18/2004	
		Monterey Peninsula College	9.7	09-36	7/16/2009	
		MPUSD	81.0	USA		existing at time of base closure
		Chartwell School	6.4	05-26	5/19/2005	
		Other	3.0			existing at time of base closure
		Main Gate	149	08-XX	5/15/2008	WSA totalled 207 AFY. City allocated retail portion only.
		Bayonet/Blackhorse Golf (temp)	430	temp		Agreed on 4/1/10: 2500 AF in exchange for 17 ac parcel, max 500 AF/Yr

SVGB = Salinas Valley Groundwater Basin

AFY = acre-feet/year

XX = Resolution # not included in meeting minutes

RW = Recycled Water

BW-1787

Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord, California



U.S. Army Corps
of Engineers
Sacramento District

April 1997

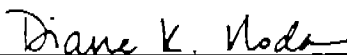
Habitat Management Plan
for Former Fort Ord, California

The Habitat Management Plan for former Fort Ord, California, will be completed and in effect once signed by the Army and the U.S. Fish and Wildlife Service. Other agencies will be asked to sign Memoranda of Agreement for implementation of portions of the Habitat Management Plan designated for each agency.



Daniel D. Devlin
Colonel, U.S. Army
Commanding, Presidio of Monterey

The U.S. Fish and Wildlife Service finds that the Habitat Management Plan for the former Fort Ord fulfills reasonable and prudent measure 1 in its October 19, 1993 Biological Opinion for the disposal and reuse of Fort Ord. Additionally, the U.S. Fish and Wildlife Service issued an amended Biological/Conference Opinion in April 1997 that analyzed the effects of the Habitat Management Plan on the federally listed Smith's blue butterfly, western snowy plover, California red-legged frog, sand gilia, Monterey spineflower, and robust spineflower and the proposed black legless lizard and Yadon's piperia. The Habitat Management Plan does not authorize incidental take by entities acquiring land at the former Fort Ord of any species listed as threatened or endangered under the federal Endangered Species Act of 1973, as amended. Entities would submit the Habitat Management Plan in combination with additional documentation, including an implementation agreement signed by all parties receiving lands that are to be managed for wildlife values, to the U.S. Fish and Wildlife Service to receive authorization for incidental take through Section 10(a)(1)(B) permits.



Diane K. Noda
Field Supervisor
U.S. Fish and Wildlife Service

Concurring Agencies

The following agency signs to indicate its concurrence with the Habitat Management Plan.

The Fort Ord Reuse Authority concurs with the Habitat Management Plan and agrees to comply with the conditions in the Habitat Management Plan in implementation of the Base Reuse Plan for former Fort Ord.

Fort Ord Reuse Authority

**Concurrence with Management Requirements for Habitat Reserve, Habitat Corridor,
Borderland Development Areas Along NRMA Interface, and Development with
Reserve Areas or Development with Restrictions**

The following agencies will receive lands designated in the Habitat Management Plan as Habitat Reserve, Habitat Corridor, Borderland Development Areas Along NRMA Interface, and/or Development with Reserve Areas or Development with Restrictions and concur with the management requirements stated in the Habitat Management Plan for their respective parcels.

U.S. Bureau of Land Management

California Department of Parks and Recreation

California Department of Transportation

Regents of the University of California
(Santa Cruz Campus)

Monterey County

Regents of the University of California
(Division of Agriculture and Natural Resources)

Monterey Peninsula Regional Parks District

City of Marina

**Concurrence with Provisions for Land Transfers of
Parcels with Habitat Management Plan Requirements**

These agencies are agencies who, in addition to those above, may receive land having Habitat Management Plan requirements. However, the agency plans to execute the Habitat Management Plan requirements via one of the above agencies or another Habitat Management Plan managing agency acceptable to the U.S. Fish and Wildlife Service.

Fort Ord Reuse Authority

Monterey Peninsula College

Habitat Management Plan for Former Fort Ord, California

Prepared by:

U.S. Army Corps of Engineers
Sacramento District
1325 J Street, 12th Floor
Sacramento, CA 95814-2922
Contact: Bob Verkade
916/557-7423

With Technical Assistance from:

Jones & Stokes Associates, Inc.
2600 V Street, Suite 100
Sacramento, CA 95818-1914
Contact: Michael D. Rushton
916/737-3000

April 1997

This document should be cited as:

U.S. Army Corps of Engineers, Sacramento District. 1997. Installation-wide multi-species habitat management plan for former Fort Ord, California. April. Sacramento, CA.

Table of Contents

	Page
Executive Summary	S-1
Chapter 1. Purpose of and Need for the Habitat Management Plan	1-1
INTRODUCTION AND BACKGROUND	1-1
Army Disposal Process	1-3
Mitigation Agreement for the HMP	1-4
Grazing	1-6
Species Addressed in the HMP	1-6
ORGANIZATION OF THE HMP	1-13
GOALS AND OBJECTIVES	1-13
FLEXIBILITY OF THE HMP	1-14
Pre-Transfer Modifications to This HMP	1-14
Post-Transfer Modifications to the HMP	1-14
HMP STEPWISE ANALYSIS	1-15
Step 1: Identify Species and Habitats to Be Considered in the HMP	1-15
Step 2: Develop a Conservation Area and Corridor System	1-16
Step 3: Compare Land Requests with Conservation Area and Corridor System	1-16
Step 4: Create Final Conservation Area and Corridor System	1-17
Step 5: Develop HMP Guidelines	1-17
Step 6: Implement the HMP	1-17
Chapter 2. Minimum Conservation Area and Corridor System	2-1
INTRODUCTION	2-1
SPECIES AND COMMUNITY BIOLOGICAL DATA	2-1
HABITAT MANAGEMENT PLAN HABITATS	2-1
Maritime Chaparral	2-1
Coastal Dunes	2-5
ECOLOGICAL CONCEPTS FOR CONSERVATION AREA AND CORRIDOR SYSTEM DESIGN	2-6
Conservation Area Size	2-6
Conservation Area Shape	2-6
Conservation Area Location	2-7
Conservation Area Connectivity	2-7
Management Considerations for Conservation Areas and Corridors	2-8
METHODS USED TO DEVELOP A MINIMUM CONSERVATION AREA AND CORRIDOR SYSTEM	2-8
Habitat Management Plan Species Richness Study	2-9
Mapping the Minimum Conservation Area	2-9
DESCRIPTIONS OF MINIMUM CONSERVATION AREAS AND CORRIDORS	2-9
Inter-Garrison - Former Fritzsche Field Conservation Area	2-9
Coastal Dunes Conservation Area	2-13
Eucalyptus Road Conservation Area	2-13
North-South Road Conservation Area	2-13
Corridors	2-13

RELATIONSHIP OF FORMER FORT ORD TO OTHER MARITIME	
CHAPARRAL AND DUNE HABITATS	2-13
Coastal Dune Habitat	2-15
Chapter 3. Habitat Management for Predisposal Actions	3-1
CONTAMINATED SOILS TREATMENT	3-1
Impacts	3-1
Mitigation	3-2
LANDFILL REMEDIATION	3-2
Impacts	3-2
Mitigation	3-4
REMOVAL OF LEAD AND OTHER HEAVY METALS	3-4
Impacts	3-4
Mitigation	3-5
Success Criteria	3-12
Monitoring	3-13
Corrective Measures	3-15
ORDNANCE AND EXPLOSIVES REMOVAL	3-16
Background	3-16
Impacts	3-19
Mitigation	3-20
Success Criteria	3-22
Monitoring	3-24
Corrective Measures	3-25
INTERIM USES	3-25
Public Access to Dunes and Beaches	3-25
Chapter 4. Habitat Management for Disposal and Reuse	4-1
INTRODUCTION AND BACKGROUND	4-1
FUTURE REGULATORY COMPLIANCE	4-9
IMPACTS ON LISTED AND PROPOSED HMP SPECIES	4-10
ANALYSIS OF REUSE ALTERNATIVES FROM THE FEIS AND FSEIS	4-13
ANALYSIS OF IMPACTS TO HMP TARGET SPECIES FROM THIS HMP	4-14
MANAGEMENT GUIDELINES FOR RECIPIENTS	
AND/OR HABITAT MANAGERS OF DISPOSED LAND	4-20
Implementation Strategies	4-20
ANALYSIS OF ROAD CORRIDORS	4-21
Description of Parcels	4-23
PARCELS F1.1-F1.11 (EXCLUDING PARCEL F1.7.2)	
<u>U.S. BUREAU OF LAND MANAGEMENT</u>	
<u>NATURAL RESOURCE MANAGEMENT AREA</u>	4-23
Parcel Description	4-23
Resources Present	4-23
Resource Conservation Requirements	4-24
Management Requirements	4-24
Responsible Parties	4-26
PARCEL S3.1.2	
<u>COASTAL DUNE ZONE</u>	4-26
Parcel Description	4-26
Resources Present	4-26
Resource Conservation Requirements	4-26
Management Requirements	4-27
Responsible Parties	4-27

PARCELS S2.1.2, S2.1.3, and S2.1.5	
<u>UC/NRS FORT ORD NATURAL RESERVE</u>	4-27
Parcel Description	4-27
Resources Present	4-27
Resource Conservation Requirements	4-28
Management Requirements	4-28
Responsible Parties	4-29
PARCEL S2.3.2	
<u>RESERVATION ROAD HABITAT RESERVE</u>	4-29
Parcel Description	4-29
Resources Present	4-29
Resource Conservation Requirements	4-29
Management Requirements	4-30
Responsible Parties	4-30
PARCEL S2.4	
<u>HABITAT RESERVE/CORRIDOR</u>	4-30
Parcel Description	4-30
Resources Present	4-30
Resource Conservation Requirements	4-30
Management Requirements	4-31
Responsible Parties	4-31
PARCEL L5.1.12	
<u>SALINAS RIVER HABITAT AREA</u>	4-31
Parcel Description	4-31
Resources Present	4-31
Resource Conservation Requirements	4-31
Management Requirements	4-32
Responsible Parties	4-32
PARCEL L6	
<u>NATURAL AREA EXPANSION</u>	4-32
Parcel Description	4-32
Resource Conservation Requirements	4-33
Management Requirements	4-33
Responsible Parties	4-33
PARCEL E11a	
<u>EAST GARRISON</u>	4-33
Parcel Description	4-33
Resources Present	4-33
Resource Conservation Requirements	4-34
Management Requirements	4-34
Responsible Parties	4-34
PARCELS L20.2.1 and L20.2.2	
<u>HABITAT CORRIDOR/RECREATIONAL</u>	
<u>VEHICLE PARK/YOUTH CAMP</u>	4-34
Parcel Description	4-34
Resources Present	4-35
Resource Conservation Requirements	4-35
Management Requirements	4-35
Responsible Parties	4-37
PARCELS S3.1.1 and S3.1.3	
<u>DISTURBED HABITAT ZONE</u>	4-37
Parcel Description	4-37
Resources Present	4-38
Resource Conservation Requirements	4-38

Management Requirements	4-39
Responsible Parties	4-40
PARCELS S4.1.1, S4.1.2, AND S4.1.3	
<u>HIGHWAY 1 CORRIDOR</u>	4-40
Parcel Description	4-40
Resources Present	4-40
Resource Conservation Requirements	4-41
Management Requirements	4-41
Responsible Parties	4-41
PARCEL L5.1.11	
<u>NORTH FRITZSCHE HABITAT RESERVE</u>	4-41
Parcel Description	4-41
Resources Present	4-42
Resource Conservation Requirements	4-42
Management Requirements	4-42
Responsible Parties	4-42
PARCELS L20.3 and L20.5	
<u>RECREATION AREA EXPANSION #1</u>	4-42
Parcel Description	4-42
Resources Present	4-43
Resource Conservation Requirements	4-43
Management Requirements	4-44
Responsible Parties	4-44
PARCEL L20.4	
<u>RECREATION AREA EXPANSION #2</u>	4-44
Parcel Description	4-44
Resources Present	4-44
Resource Conservation Requirements	4-45
Management Requirements	4-45
Responsible Parties	4-45
PARCELS E8a.1 and E8a.2	
<u>LANDFILL PARCEL</u>	4-46
Parcel Description	4-46
Resources Present	4-46
Resource Conservation Requirements	4-46
Management Requirements	4-47
PARCEL E31	
<u>OFFICE PARK</u>	4-47
Parcel Description	4-47
Resources Present	4-47
Resource Conservation Requirements	4-47
Management Requirements	4-48
Responsible Parties	4-48
PARCEL E2a	
Parcel Description	4-48
Resources Present	4-48
Resource Conservation Requirements	4-49
Management Requirements	4-49
Responsible Parties	4-49
PARCELS E11b.1-E11b.8 and E11b.11	
<u>EAST GARRISON</u>	4-49
Parcel Description	4-49
Resources Present	4-49
Resource Conservation Requirements	4-50

Management Requirements	4-50
Responsible Parties	4-50
PARCELS F1.4.1, F1.7.2, F1.12, , F2.1, F2.2, F2.3, F2.4, F2.5, F2.6, F2.7.1, F2.7.2, F2.7.3, F2.8, F2.9, F3, F4, F5.1, F5.2, AND F6	
<u>FEDERAL AGENCY PARCELS WITH NO HMP REQUIREMENTS</u>	4-51
Resource Conservation Requirements	4-51
Management Requirements	4-51
PARCELS S1.1, S1.2.1, S1.2.2, S1.2.3, S1.3.1, S1.3.2, S1.3.3, S1.3.4, S1.4, S1.5.1, S1.5.2, S1.6, S1.7, S2.1.1, S2.1.4, S2.2.1, S2.2.2, S2.2.3, S2.3.1, S2.5.1, S2.5.2, S3.1.4, S3.2, S4.2.1, S4.2.2, S4.2.3, S4.3	
<u>STATE AGENCY PARCELS WITH NO HMP REQUIREMENTS</u>	4-51
Resource Conservation Requirements	4-51
Management Requirements	4-51
PARCELS L1.1, L1.2, L2.1, L2.2, L2.3, L3.1, L4.1, L4.2, L5.1, L5.1.1, L5.1.2, L5.1.3, L5.1.4, L5.1.5, L5.1.6, L5.1.7, L5.1.8, L5.1.9, L5.1.10, L5.2, L5.4.1, L5.4.2, L5.5, L5.6, L5.7, L5.8.1, L5.8.2, L5.9.1, L5.9.2, L5.10, L7.1, L7.2, L7.3, L7.4, L7.5, L7.6, L7.7, L8.1, L8.2, L8.3, L9.1.1, L9.1.2, L9.2, L9.3, L10.1, L10.2, L10.3, L10.4, L11, L12.1, L12.3, L13.1, L13.2, L14, L15.1, L15.2, L15.3, L16, L17.1, L17.2, L18, L19, L20, L20.6, L20.7, L20.9, L20.10.1, L20.10.2, L20.10.3, L20.11.1, L20.11.2 L20.12, L20.13, L20.14.2, L20.15, L20.16, L20.17.1, L20.17.2, L20.18, L21, L22, L23.1.1, L23.1.2, L23.1.3, L23.1.4, L23.1.5, L23.2, L23.4, L23.5, L24, L25, L27, L28, L29, L30, L31, L32, L33, L34, LE5.9, LE12.2, LE20.16	
<u>LOCAL AGENCY PARCELS WITH NO HMP REQUIREMENTS</u>	4-52
Resource Conservation Requirements	4-52
Management Requirements	4-52
PARCELS L20.8, L20.14.1, L20.19, L20.20, L20.21, L20.22, LE20.18, LE20.19	
<u>EXISTING ROADS IN HMP MANAGEMENT AREAS</u>	4-52
PARCELS E2b.1, E2b.2, E2b.3, E2c.1, E2c.2, E2c.3, E2c.4, E2d, E2e, E4.1, E4.2, E4.3, E4.4, E4.5, E4.6, E4.7, E5a, E5b, E11b.9, E11b.10, E11b.12, E15.1, E15.2, E17b.1, E17b.2, E18.1, E18.2, E18.3, E18.4, E19a.3, E20b, E20c.1.1, E20c.1.2, E20c.1.3, E20c.2.1, E20c.2.2, E21a, E29, E29b.3, E29e, E35, E36	
<u>ECONOMIC DEVELOPMENT CONVEYANCE PARCELS WITH NO HMP REQUIREMENTS</u>	4-53
Resource Conservation Requirements	4-53
Management Requirements	4-53
<u>TRANSPORTATION EASEMENT STATE ROUTE 68 CORRIDOR</u>	4-53
Parcel Description	4-53
Resources Present	4-53
Resource Conservation Requirements	4-54
Management Requirements	4-54
Responsible Parties	4-55
PARCELS L3.2, E19a.1, E19a.2, E21b.1, E21b.2, E21b.3, E23.1, E23.2, E24, E29a, E29b.1, E29b.2, AND E34	
<u>BORDERLAND DEVELOPMENT AREAS ALONG NRMA INTERFACE</u>	4-56
Parcel Description	4-56
Resource Conservation Requirements	4-56
Management Requirements	4-57
Responsible Parties	4-57
Coordinated Resource Management and Planning	4-58
Chapter 5. Citations	5-1
PRINTED REFERENCES	5-1
PERSONAL COMMUNICATIONS	5-3

Chapter 6. List of Preparers and Acknowledgments	6-1
LIST OF PREPARERS	6-1
U.S. Army Corps of Engineers	6-1
Jones & Stokes Associates	6-1
ACKNOWLEDGMENTS	6-1
Appendix A. Agreement for the Revised Habitat Management Plan	A-1
Appendix B. HMP Species Occurrence Data	B-1
Table B-1. Occurrence of HMP Species in Parcels	
Table B-1. Habitat Acreages Supporting HMP Target Species within HMP Reserve Areas, Corridors, and Development Areas	
Figures B-1 – B-18. Target Species Distribution	
Figure B-19. Approximate Location of Lead Removal Areas and Buckwheat Habitat within the Beach Range Area	
Appendix C. Posttransfer Modifications to the HMP	C-1
Appendix D. Sample Deed and Memorandum of Agreement	D-1

List of Tables

Table	Page
S-1 Plant Species Considered in This Habitat Management Plan (HMP Plants)	S-18
S-2 Wildlife Species Considered in This Habitat Management Plan (HMP Species)	S-21
S-3 HMP Target Species Supported by Habitat Within HMP Reserve Areas, Corridors, and Development Areas	Follows S-22
1-1 Vegetation and Wildlife Summary: Alternative 7, Revised Alternative 7, and Alternative 8 and the Reuse Scenario Contained in the 1993 NEPA ROD	1-5
1-2 Plant Species Considered in This Habitat Management Plan (HMP Plants)	1-7
1-3 Wildlife Species Considered in This Habitat Management Plan (HMP Species)	1-10
2-1 Ecological Characteristics of HMP Wildlife	2-2
2-2 Ecological Characteristics of HMP Plants	2-3
3-1 Example of Seed Mixes for Restoring Coastal Strand and Dune Scrub Communities	3-9
3-2 Approximate Acres of Habitat Supporting Sand Gilia, Monterey Spineflower, and Seaside Bird's-Beak in Areas in the Inland Range Expected to Contain Unexploded Ordnance	3-23
4-1 Fort Ord HMP Parcel Designations	4-5

List of Figures

Figure	Page
S-1 Habitat Management Plan Map for Former Fort Ord (April 1997)	S-3
2-1 High- and Medium-Density Occurrences of Federally Listed Species	2-10
2-2 HMP Species High Richness Sites	2-11
2-3 Conceptual Conservation Areas and Corridors	2-12
2-4 Maritime Chaparral and Coastal Dune Habitats in the Vicinity of Former Fort Ord	2-14
3-1 Locations of Sand Gilia and Monterey Spineflower Populations in and Adjacent to Parcels E8.1 and E8.2	3-3
3-2 Conceptual Multi-Range Area Land Reuse Plan	3-17
4-1 Habitat Management Plan Map for Former Fort Ord (December 1996)	4-2
4-2 Proposed Road Corridors Passing through Areas with HMP Conservation Requirements . . .	4-22
4-3 Development and Conservation Areas in the Habitat Corridor/Recreational Vehicle Park/Youth Camp Parcel	4-36
B-1a Known Distribution of Sand Gilia (<i>Gilia tenuiflora</i> ssp. <i>arenaria</i>) at Former Fort Ord	
B-1b Sand Gilia Populations Identified in 1993 Spring Surveys	
B-2 Known Distribution of Monterey Spineflower (<i>Chorizanthe pungens</i> var. <i>pungens</i>) at Former Fort Ord	
B-3 Known Distribution of Robust Spineflower (<i>Chorizanthe robusta</i> var. <i>robusta</i>) at Former Fort Ord	
B-4 Known Distribution of Seaside Bird's-beak (<i>Cordylanthus rigidus</i> var. <i>littoralis</i>) at Former Fort Ord	
B-5 Known Distribution of Toro Manzanita (<i>Arctostaphylos montereyensis</i>) at Former Fort Ord	
B-6 Known Distribution of Sandmat Manzanita (<i>Arctostaphylos pumila</i>) at Former Fort Ord	
B-7 Known Distribution of Monterey Ceanothus (<i>Ceanothus rigidus</i>) at Former Fort Ord	
B-8 Known Distribution of Eastwood's Ericameria (<i>Ericameria fasciculata</i>) at Former Fort Ord	
B-9 Known Distribution of Coast Wallflower (<i>Erysimum ammophilum</i>) at Former Fort Ord	

B-10	Known Distribution of Yadon's Piperia (<i>Piperia yadoni</i>) at Former Fort Ord	
B-11	Known Distribution of Hooker's Manzanita (<i>Arctostaphylos hookeri</i> ssp. <i>hookeri</i>) at Former Fort Ord	
B-12a	Potential and Occupied Habitat for Smith's Blue Butterfly Based on 1992 Survey Data	
B-12b	Occupied Smith's Blue Butterfly Habitat Based on 1996 Inventories	
B-13	Potential and Occupied Habitat for California Linderiella	
B-14	Potential Habitat for California Red-Legged Frog	
B-15	Potential and Occupied Habitat for Western Snowy Plover	
B-16	Potential and Occupied Habitat for California Black Legless Lizard	
B-17	Potential and Occupied Habitat for California Tiger Salamander	
B-18	Potential Habitat for Monterey Ornate Shrew	
B-19	Approximate Location of Lead Removal Areas and Buckwheat Habitat within the Beach Range Area	
Attachment A		Map Pocket

Executive Summary

INTRODUCTION

The Installation-Wide Multispecies Habitat Management Plan (HMP) for former Fort Ord complies with the U.S. Fish and Wildlife Service (USFWS) final Biological/Conference Opinion for disposal and reuse of former Fort Ord lands and establishes the guidelines for the conservation and management of wildlife and plant species and habitats that largely depend on former Fort Ord land for survival. The HMP was developed with input from federal, state, local, and private agencies and organizations concerned with the natural resources and reuse of former Fort Ord. Implementation of this HMP will assist in the orderly disposal and reuse of former Fort Ord.

PURPOSE AND NEED FOR THE MULTISPECIES HABITAT MANAGEMENT PLAN

The Department of the Army in 1991 was directed to close and dispose of Fort Ord, California. The Army's action is considered a major federal action that could affect eight species proposed for listing or listed as threatened or endangered under the federal Endangered Species Act (ESA). A Biological Assessment (BA) was prepared that identifies the potential loss of populations and habitat of federally listed species, species proposed for listing, and species that are candidates for listing, resulting from caretaker actions, disposal actions, and six reuse alternatives (U.S. Army Corps of Engineers 1993a). A supplement to the draft BA was prepared that describes the loss of populations and habitat of these same species resulting from an additional reuse alternative (Alternative 6R) (U.S. Army Corps of Engineers 1993b). The USFWS's October 19, 1993, Final Biological Opinion on the disposal and reuse of former Fort Ord required that an HMP be developed and implemented to reduce the incidental take of listed species and loss of habitat that supports these species.

The 1993 Final Environmental Impact Statement (FEIS) for the disposal and reuse of former Fort Ord identified the need to develop and implement a multispecies Habitat Management Plan (HMP) as a mitigation measure for impacts on vegetation and wildlife resources. An HMP was published, initially, in February 1994 in response to both the biological opinion and mitigation measures identified in the FEIS and the December 1993 National Environmental Policy Act Record of Decision (1993 NEPA ROD). The February 1994 HMP (1994 HMP) addressed impacts resulting from predisposal, disposal, and reuse actions. Reuse actions addressed were those proposed under Alternative 6R Modified as included in the 1993 NEPA ROD.

Since publication of the FEIS and 1994 HMP, the U.S. Army (Army) has prepared a Final Supplemental Environmental Impact Statement (FSEIS) (U.S. Army Corps of Engineers 1996) to include additional data and an analysis of the following:

- disposal of additional land excess to the Army needs resulting from changes in the Army's Presidio of Monterey (POM) Annex boundary;
- those reuse areas that, as agreed to by the Army in the 1993 NEPA ROD associated with the FEIS, require additional analysis to cover disposal for new land uses;
- uses contained in the Fort Ord Reuse Authority (FORA) Final Base Reuse Plan (December 1994) that were not covered fully in the FEIS and ROD; and

- three additional reuse alternatives:
 - Alternative 7, which represents the December 12, 1994 FORA Final Base Reuse Plan;
 - Revised Alternative 7 is not significantly different from Alternative 7 and includes land uses established through property transfers or memoranda of agreement (MOA) for property transfers already completed by the Army; land uses proposed through federal, state, local, and McKinney Act screening completed in April 1996 for recently excessed lands; land uses required in the draft Revised HMP; land uses for remaining areas as proposed in the Draft FORA Fort Ord Reuse Plan (March 1996) that do not conflict with laws and other federal regulations, policies, and requirements or the draft Revised HMP (April 1996 Concept Agreement); relocation of a resort hotel; and utility easements needed for transfer of utility systems; and
 - Alternative 8, a land use scenario very similar to Alternative 7, contains most of the land use proposals of the FORA Final Base Reuse Plan (December 1994), but it also includes uses for specific parcels that were received through the scoping process for the Supplemental EIS.

During development of the FSEIS and through an agreement between the Army, USFWS, U.S. Bureau of Land Management (BLM), University of California (UC), and Fort Ord Reuse Authority (FORA) related to minimizing impacts on biological resources, it was determined that a revised HMP would be developed to replace the 1994 HMP. This document (this HMP) serves as a revised HMP. It follows a format similar to that presented in the 1994 HMP and has the same goals and objectives as the original document. The primary differences are modification of the HMP reuse scenario to reflect the planned methods for remediation of the beach trainfire ranges to the health-based level of concern, revisions in development and reserve areas, replacing parcel-specific land use descriptors from a specific reuse alternative with a generic development designation that would include a potential range of reuses considered in the FEIS and the June 1996 FSEIS, and inclusion of the mitigation measures agreed to by the Army, USFWS, and other agencies included in the agreement mentioned above.

A general goal of this HMP is to promote preservation, enhancement, and restoration of habitat and populations of HMP species while allowing development on selected properties that promotes economic recovery after closure of Fort Ord. (Specific HMP goals are described in Chapter 1.) As an installation-wide plan, all parcels to be disposed of by the Army are addressed in this HMP and are considered in achieving HMP goals. However, management guidelines and specifications for reuse may vary from parcel to parcel based on future plans for the parcel associated with this HMP and overall reuse planning.

Some parcels to be disposed of by the Army are intended to promote economic recovery after disposal and will be designated for development with no restrictions or guidelines described in this HMP. Other parcels will have development designated as the primary use, but recipients of disposed land will be obligated to implement certain guidelines and/or preserve specific areas through this HMP and deed covenants. Other parcels are designated as habitat reserves or corridors and have specific management guidelines and restrictions on development and uses. This HMP also includes consideration of specific transportation corridors planned by the local community. (Refer to the "HMP Analysis of Road Corridors" section in Chapter 4.)

Attachment A shows each parcel proposed for reuse and indicates the HMP management categories planned for the parcel: Habitat Reserve, Habitat Corridor, Development with Reserve Areas or Development with Restrictions, Borderland Development Areas Along NRMA Interface, Development, and Future Road Corridors. Figure S-1 shows the areas where these categories apply.

Each parcel is also numbered in Attachment A. The letter before each parcel number identifies the type of agency expected to receive the parcel and/or the anticipated method of transfer. The letter F before a parcel number indicates a Federal Transfer Parcel; an S indicates a State Transfer Parcel; an L indicates a Local Transfer Parcel under a public benefit conveyance (PBC); and an E indicates a parcel available for

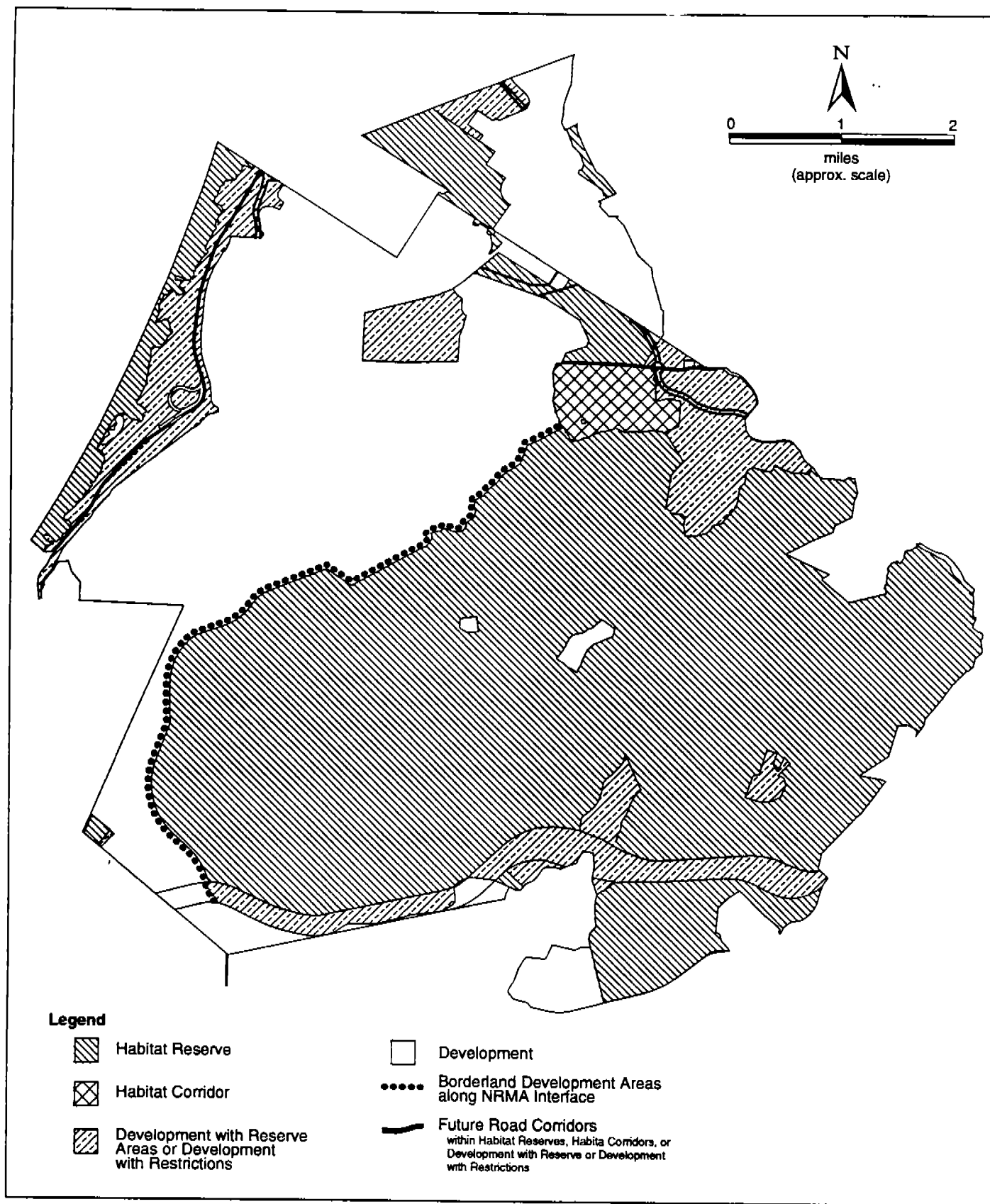


Figure S-1
Habitat Management Plan Map for
Former Fort Ord (April 1997)

an Economic Development Conveyance (EDC) or other method of transfer. Parcel numbers beginning with an E correspond to polygon numbers included in the Draft FORA Fort Ord Reuse Plan (March 1996).

ARMY DISPOSAL PROCESS

Upon completion of this HMP and the FSEIS ROD, the Army intends to continue with property disposal at the former Fort Ord. The Army does not intend to adopt a specific reuse plan or alternative. The Army intends for the disposal process to be consistent with FORA's Final Base Reuse Plan where it is not in conflict with laws and other federal regulations, policies, and requirements. As stated in the 1993 NEPA ROD, "The disposal process will consider federal requests received in the screening process for transfer of federal land that is required under the Federal Property and Administrative Services Act of 1949, as well as all McKinney Act requests. The Army will honor, where possible and appropriate, all state and local requests for conveyance from separately authorized federal programs for transportation, education, recreation and open space, public health and safety, and airports." In addition, the Army will proceed with transfers for which memoranda of agreement (MOA) have been completed, e.g., California State University Monterey Bay and University of California Santa Cruz. Lands that are not transferred through these processes will be available for FORA to include in its economic development conveyance (EDC) application. Any remaining property will be available for negotiated sale to public bodies and for private sale.

Key disposal actions have been initiated or committed to by the Army based on the 1993 FEIS and ROD, the 1994 HMP, and the then-existing reuse plan, to federally sponsored PBC recipients, to Health and Human Services sponsored McKinney Act providers, and to the University of California and California State University Monterey Bay via EDC.

The 1993 Biological Opinion describes the concepts for disposal and habitat preservation within portions of Fort Ord (based on Alternative 6R) with habitat reserve lands to be transferred with binding habitat management and conservation requirements. The 1993 Biological Opinion provides for other parcels to be transferred that contain habitat for special-status species as development parcels. The management requirements of the 1993 Biological Opinion have been consolidated into six principal management categories for parcels in this HMP. These include the following:

- **Habitat Reserve** - no development allowed; management goal is conservation and enhancement of threatened and endangered species;
- **Habitat Corridor** - lands between major reserve areas; to be managed to promote connections between conservation areas;
- **Development with Reserve Areas or Development with Restrictions** - lands slated for development that contain inholdings of reserve or require specific restrictions to protect biological resource values; management of reserve inholdings must match that for habitat reserves, while management in developable areas must proceed with certain specific restrictions identified in this HMP;
- **Borderland Development Areas Along NRMA Interface** - areas abutting the Natural Resources Management Area that are slated for development; management of these lands includes no restrictions except along the development/reserve interface;
- **Development** - no management restrictions are contained in this HMP; some plans for salvage of biological resources from these lands may be specified; and
- **Future Road Corridors** - lands within habitat reserve set aside for future road development; to be managed as habitat reserve until road development occurs.

The Development areas, Development with Reserve Areas or Development with Restrictions areas, and Borderland Development Areas Along NRMA Interface (described in this HMP) will be available for disposal and development for reuse. For the 1993 Biological Opinion, it is assumed that a complete loss of biological resources would occur in the development parcels. The development parcels could be transferred with no covenants, deed restrictions, or conservation easements required. Lands designated as Development have no management restrictions placed on them as a result of this HMP.

Several reuse alternatives have been analyzed in the Army FEIS and FSEIS and these include the 1993 NEPA ROD land use map (Alternative 6RM), the December 1994 FORA Final Base Reuse Plan (Alternative 7) and elements of the March 1996 Draft FORA Fort Ord Reuse Plan (Revised Alternative 7). The 1994 HMP supports reuse within development areas based on Alternative 6RM. The FSEIS concluded that Alternative 7 would result in the removal of approximately 6,180 acres of habitat, approximately 240 acres more habitat removed from reserve areas than provided for in the February 1994 HMP. Alternative 7 would have adverse effects on biological resources and while the land uses proposed in the December 1994 FORA Plan could be accommodated within the development areas of the 1994 HMP, avoidance and mitigation measures are needed to avoid significant impacts to HMP target species. These measures have been included in this HMP and in Revised Alternative 7 and Alternative 8 of the FSEIS. The land uses described in these alternatives can be accommodated within the Development, Development with Reserve Areas or Development with Restrictions Areas, Borderland Development Areas Along NRMA Interface, and Habitat Corridor lands in this HMP. Other development land uses may also be accommodated within this HMP's development areas.

ORGANIZATION OF THE HMP

This HMP is organized in the same manner as the 1994 HMP. It is presented in six chapters. Chapter 1, "Purpose of and Need for the Habitat Management Plan", describes the purpose and need, goals and objectives, and procedure followed in developing this HMP. Chapter 2, "Minimum Conservation Area and Corridor System", describes methods used to develop a minimum conservation area and corridor system for former Fort Ord. Chapter 3, "Habitat Management for Predisposal Actions", presents habitat management procedures to accompany Army actions taken before disposal of former Fort Ord land. Chapter 4, "Habitat Management for Disposal and Reuse", describes the habitat management procedures to be taken by recipients of disposed land. Chapter 5, "Citations", lists the sources cited in this HMP. Chapter 6, "List of Preparers and Acknowledgments", describes the contributions of key staff and agency representatives.

GOALS AND OBJECTIVES

The goals and objectives of this HMP are the same as those for the 1994 HMP.

- Preserve, protect, and enhance populations and habitat of federally listed threatened and endangered wildlife and plant species.
- Avoid reducing populations or habitat of federal proposed and candidate wildlife and plant species to levels that may result in one or more of these species becoming listed as threatened or endangered.
- Preserve and protect populations and habitat of state-listed threatened and endangered wildlife and plant species.

- Avoid reducing populations or habitat of species listed as rare, threatened, and endangered by the California Native Plant Society (CNPS) (List 1B), or with large portions of their range at former Fort Ord, to levels that may result in one or more of these species becoming listed as threatened or endangered.
- Conduct the disposal of land to public and private entities in a manner that is compatible with the preservation of federally listed threatened and endangered wildlife and plants within the HMP conservation area.
- Inform potential recipients of former Fort Ord land and the general public of methods that provide a suitable mechanism for protecting natural resources while allowing implementation of a community-based reuse plan that promotes economic recovery after closure of former Fort Ord.
- Provide the basis for recipients of former Fort Ord lands to seek Section 10(a) permits pursuant to the federal ESA and achieve compliance for conservation of state-listed threatened and endangered species and other special-status species recognized by California Department of Fish and Game (DFG) under the California ESA and the California Environmental Quality Act (CEQA).
- Provide a foundation for a prelisting agreement between USFWS and recipient landowners.

The overall goal of this HMP is to provide for, at a minimum, no net loss of populations or important habitat for any of the subject species of this HMP. This goal can be met through the careful selection of areas designated as reserves and corridors. The beneficial enhancement of habitat by the selected management agencies is essential to the achievement of this goal.

FLEXIBILITY OF THE HMP

Pre-Transfer Modifications to the HMP

This HMP has adjusted the development and reserve areas to reflect changes proposed in the community reuse plan and information relating to the Army environmental remediation actions. The specific land use designations for individual development parcels have been replaced with a generic development designation, allowing for broad flexibility in reuse of specific development parcels. Changes in specific use of development parcels within the range of uses described in the FEIS and the FSEIS would not require revision to this HMP. During disposal by the Army, it may be necessary to alter management agencies for reserve areas or portions of reserve areas because of changes in anticipated land recipients. Any such change would be coordinated with USFWS and agreed to by both parties. Any further revision to habitat reserves or corridors before transfer would necessitate revisions in this HMP.

The Army will remain responsible for any changes to this HMP in areas that have not been transferred (pre-transfer). The Army will also remain responsible for revisions to this HMP relating to hazardous, toxic, and radiological waste and ordnance and explosives response actions. Changes undertaken in parcels after they are transferred are the responsibility of the land recipient.

Polygon boundaries in development areas may be modified, and development polygons may be subdivided or aggregated before transfer. These types of changes in development polygons will not require modifications to this HMP.

Post-Transfer Modifications to the HMP

All recipients of former Fort Ord lands will be required to abide by management guidelines and procedures addressed in this HMP. However, situations may arise during the life of this HMP that make changes in the plan's guidelines after lands have been transferred (post-transfer) appropriate. Several types of changes may occur. Land recipients may wish to change the boundaries of their parcels or land uses within their parcels. Actions such as additional infrastructure development in reserve areas may be necessary. Changes in management guidelines within a land use may be required to better preserve or enhance a resource. These kinds of changes may be made if the affected landowners and USFWS can agree that the overall goals and objectives of this HMP will not be compromised.

Such post-transfer revisions do not involve the Army and would be the responsibility of future landowners, subject to the terms of the reservation placed on the lands in the MOAs and/or deeds at the time the lands are transferred from the Army. Such revisions will be funded by the responsible agency/land recipient. The agency or land recipient will also be responsible for any necessary documentation and any coordination with USFWS, BLM, or other agencies.

Polygon boundaries in development areas may be modified, and development polygons may be subdivided or aggregated after transfer. These types of changes in development polygons will not require modifications to this HMP.

HABITAT MANAGEMENT PLAN SPECIES AND HABITATS

Species Addressed in the HMP

Wildlife and plant species and habitats addressed in this HMP are the same as those included in the 1994 HMP (Tables S-1 and S-2). These species are a subset of the species analyzed in the FEIS. Species addressed in the 1994 HMP were included based on their legal protection, listing status at the time of publication, and the relative importance of populations and habitats at former Fort Ord to the continued survival of the species.

Since publication of the 1994 HMP, the legal status of several species has changed. On February 28, 1996, the Department of the Interior published in the Federal Register (FR) the Department of the Interior Endangered and Threatened Species, Plant and Animal Taxa; Proposed Rule (61 FR 7596 February 28, 1996). Under the rule, the Category 1 and 2 classifications for federal candidate species are removed. Species either are identified as Candidate species with a listing priority classification or are no longer given any federal status. Many species previously considered Category 1 or 2 candidates are retained under the new Candidate status. Other species that were previously considered candidate species are identified as no longer having status under the federal ESA.

Although several species included in the 1994 HMP are no longer considered federal candidates, they are still retained in this HMP because they may be listed under the California ESA, they have a significant portion of their range at former Fort Ord, or they are associated with a habitat that is important to a suite of many other sensitive species.

Maritime Chaparral

Maritime chaparral is a coastal form of chaparral associated with specific soil conditions. Two forms are recognized at former Fort Ord based on the substrate that supports them: sand hill maritime chaparral occurs on relict dunes of the late Pleistocene epoch, and Aromas formation maritime chaparral occurs on weakly consolidated red sandstone that is a relict of mid-Pleistocene epoch dunes.

Periodic disturbance or removal of vegetation caused by unstable substrate and fire are important factors in maintaining and rejuvenating the maritime chaparral community. Early successional sites appear to support the highest diversity of shrubs, including the largest number of HMP shrub species.

HMP species occurring in maritime chaparral are black legless lizard, Toro manzanita, sandmat manzanita, Hooker's manzanita, Monterey ceanothus, Eastwood's ericameria, Seaside bird's-beak, sand gilia, Monterey spineflower, coast wallflower, and Yadon's piperia.

Healthy maritime chaparral occurs as a patchwork of stands that have burned at different times and that support vegetation of various ages and structures. This habitat mosaic allows for high species and habitat diversity and provides sources of propagules for dispersal between patches.

Successful conservation of maritime chaparral is dependent on proper management of the habitat by using fire as a management tool and allowing or encouraging some forms of substrate disturbance. The goal of management is to achieve high species and habitat diversity through a program of controlled burning that creates and maintains a mosaic pattern of maritime chaparral of various aged stands. However, sand gilia, Monterey spineflower, and coast wallflower may be dependent on open habitat created by blowing sand rather than by fire. Promoting a dynamic system of moving sand by selective vegetation removal may encourage the formation of habitat for these HMP species.

Coastal Dunes

Coastal strand and dune scrub habitats of the coastal dunes are dynamic plant communities that respond to a moving sand substrate and changing dune configuration. Blowing sand undermines and buries plants, but most dune plants are adapted to shallow burial and blasting by sand. Large areas of destabilized sand, called "blowouts", result in large-scale removal of vegetation and change in dune structure. As plants reinvade the bare sand they stabilize the dune.

The highest diversity of dune habitat and species is best maintained in dunes with conditions ranging from active to stabilized and a variety of topography with foredunes and rear dunes, dune crests, interdune valleys, and north- and south-facing slopes.

HMP species occurring in coastal strand and dune scrub are Smith's blue butterfly, sand gilia, Monterey spineflower, robust spineflower, black legless lizard, and coast wallflower. Yadon's piperia may occur in these habitats.

HABITAT CONSERVATION AND MANAGEMENT FOR PREDISPOSAL ACTIONS

Predisposal actions include placing former Fort Ord into a caretaker status, remediating contaminated sites, and supporting interim uses. As the 7th Infantry Division (Light) (IDL) realigned from Fort Ord, the Army placed structures, utilities, and operation and maintenance systems into a caretaker status until property disposal decisions are implemented. Caretaker status is defined by Army regulation as "the minimum required staffing to maintain an installation in a state of repair that maintains safety, security, and health standards".

Cleanup of contaminated sites is required in preparing lands for disposal and proposed future uses. The entire former Fort Ord installation is listed on the National Priorities List as a Superfund site. A Federal Facilities Agreement, negotiated under Section 120 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), requires the Army to perform the Superfund cleanup process described in the Other Physical Attributes Baseline Study of Fort Ord, California (U.S. Army Corps of Engineers, Sacramento District 1992c). Cleanup activities that have potential to affect biological resources include excavation of contaminated soils, landfill remediation, removal of lead and other heavy metals, and ordnance and explosives removal. Impacts resulting from each of these actions are discussed separately in this chapter.

HMP guidelines for the cleanup of contaminated sites have been developed based on the best available information. Mitigation for cleanup activities may be modified in the future based on findings and conclusions in the Fort Ord Basewide Record of Decision for the Remedial Investigation/Feasibility Study, which is currently in preparation. Other mitigation measures may be considered based on site-specific information, results of human health and ecological risk assessments, and the development and screening of remedial alternatives. Any modifications to this HMP based on new information must be reviewed and approved by USFWS.

FUTURE REGULATORY COMPLIANCE

This HMP does not exempt future landowners from complying with environmental regulations enforced by federal, state, or local agencies. These regulations could include obtaining Section 7 or Section 10(a) permits from USFWS pursuant to the federal ESA, complying with federal ESA Section 9 prohibitions against take of listed species, complying with measures for conservation of state-listed threatened and endangered species and other special-status species recognized by DFG under the California ESA, CEQA compliance, and complying with local land use regulations and restrictions. This HMP is intended to form a basis for binding agreements between receiving jurisdictions, the Army and USFWS to establish detailed plans for natural resource conservation, and specific management goals for each land parcel with habitat management requirements.

The HMP does not authorize incidental take by entities acquiring land at former Fort Ord of any species listed as threatened or endangered under the ESA, as amended. Entities would submit the HMP in combination with additional documentation, including an Implementation Agreement signed by all parties receiving lands that are to be managed for wildlife values, to the USFWS to receive authorization for incidental take.

In addition, the HMP is intended to be the basis for a habitat conservation plan (HCP) that will support the issuance of incidental take permits under Section 10(a)(1)(B) of the ESA to the land recipients identified above. The provisions of the HCP(s) are expected to closely mirror the provisions of this HMP, and the implementing agreement developed to implement the HCP(s) is expected to establish detailed provisions for monitoring of the habitat conservation areas by the affected land recipients and reporting of habitat conditions to BLM, USFWS, and DFG consistent with the procedure outlined below.

Section 9 of the ESA prohibits any taking of a threatened or endangered animal species. The definition of "take" includes to harass, harm, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct. Exemptions to Section 9 can be obtained through Sections 7 and 10 of the ESA. The USFWS has recommended that all nonfederal entities acquiring land at former Fort Ord apply for Section 10(a)(1)(B) incidental take permits for the species covered in the HMP. Although the USFWS will not require further mitigation from entities that are in conformance with the HMP, those entities without incidental take authorization would be in violation of the ESA if any of their actions resulted in the take of a listed animal species.

To apply for a Section 10(a)(1)(B) incidental take permit, an entity must submit an application form (Form 3-200), a complete description of the activity sought to be authorized, the common and scientific names of the species sought to be covered by the permit, and a conservation plan (50 CFR 17.22[b]). Pursuant to 50 CFR 17.22(b)(1)(iii), the Habitat Conservation Plan (HCP) must specify (a) the impacts that will likely result from such takings; (b) what steps the applicant will take to monitor, minimize, and mitigate such impacts, the funding that will be available to implement such steps, and the procedures to be used to deal with unforeseen circumstances; (c) what alternative actions to such taking the applicant considered and the reasons why such alternative are not proposed to be utilized; and (d) such other measures that the director of the USFWS may require as being necessary or appropriate for purposes of the plan. For the USFWS to issue incidental take permits to any entities acquiring land at former Fort Ord, that entity will have to provide the above information.

Because this HMP addresses several unlisted species, the HMP provides a foundation for prelisting agreements between USFWS and recipient landowners.

To coordinate this HMP with CEQA compliance, DFG may take into account the conservation measures set forth in this HMP when considering CEQA requirements for sensitive species and habitat types. DFG would consider the conservation program for HMP species and their habitats included in this HMP as adequate mitigation for CEQA compliance for those natural resources during the implementation of land reuse and development planning at former Fort Ord. There may be issues, such as oak woodland mitigation, outside the scope of this HMP that would need to be considered under CEQA.

IMPACTS ON LISTED AND PROPOSED HMP SPECIES

The following sections summarize the impacts on federally and state-listed HMP target species and HMP species proposed for federal listing, if all development areas identified in this HMP were developed. Plant and animal species considered in this HMP are listed in Tables S-1 and S-2, respectively, at the end of this Executive Summary.

Appendix B identifies which species occur in each parcel at former Fort Ord. Table B-1 indicates the presence or absence of each target species based on the latest available information. Table B-2 describes acreage of low-, medium-, and high-density habitat suitable for each target species within each of the HMP reserves, HMP corridors, and the development areas based on 1992 survey information. Maps indicating the distribution of each HMP plant species at former Fort Ord and potential and occupied habitats for each HMP wildlife species are also included in Appendix B. Maps are based on data collected during preparation of the 1992 Flora and Fauna Baseline Study (U.S. Army Corps of Engineers, Sacramento District 1992a). Information in Appendix B has been updated where available; however, analysis of impacts in this HMP is based on the 1992 data. The tables, combined with the distribution maps, provide further understanding of impacts to HMP species associated with development in development areas. The losses of habitat within development areas, as well as acres of habitat to be protected and enhanced within the HMP reserves and corridors, are described in Chapter 4 in the "Analysis of Impacts to HMP Target Species from the HMP" section.

Robust Spineflower (Federal Endangered)

Robust spineflower occurs on sandy soils in coastal dune and coastal scrub habitat. Several plants were observed at one site on the dunes west of Highway 1 during the 1992 field surveys. No other occurrences of robust spineflower were observed. Under this HMP, the group of plants would be preserved.

Sand Gilia (Federal Endangered)

Sand gilia inhabits openings in maritime chaparral and coastal scrub communities. It also prefers disturbed sites, such as the borders of old roads and firebreaks. Based on 1992 survey results for all of former Fort Ord, approximately 5 acres of maritime chaparral and coastal scrub supporting sand gilia at high densities, 120 acres at medium density, and approximately 680 acres at low density will be removed under this HMP. Annually from 1993 to 1996, portions of former Fort Ord have been resurveyed to provide more site-specific data on sand gilia distribution and abundance. Results of the 1993 surveys for the northern portion of former Fort Ord are shown in Figure B-1b in Appendix B. These surveys have typically shown a greater abundance of sand gilia than indicated by the 1992 survey results. However, none of these surveys has covered the entire installation as was done in 1992.

Smith's Blue Butterfly (Federal Endangered)

Smith's blue butterfly is completely dependent on seacliff and coast buckwheat for oviposition and as food sources for larvae and adults. Distribution and density of seacliff and coast buckwheat were recorded during the 1992 botanical surveys. Analysis of impacts to Smith's blue butterfly habitat is based on this data. Areas supporting medium or high densities of either buckwheat species are considered potential habitat for Smith's blue butterfly based on models included in the Flora and Fauna Baseline study. The 1994 HMP states that under that plan approximately 15 acres of potential Smith's blue butterfly habitat (areas supporting medium- and high-density populations of buckwheat) would be removed in the dunes west of SR1. In addition, an area of approximately 35 acres of dune habitat supporting buckwheat at low density would be removed and could potentially affect populations of Smith's blue butterfly. Habitat conservation and management requirements and land uses on the dunes west of Highway 1 under this HMP are consistent with those described for the 1994 HMP. Therefore, impacts to Smith's blue butterfly under this HMP are expected to be no greater than those described for the 1994 HMP.

Western Snowy Plover (Federal Threatened)

Western snowy plovers are known to nest on the beaches at former Fort Ord from the northern installation boundary to Stilwell Hall. They may also nest south of Stilwell Hall. The USFWS has proposed critical habitat for the Western snowy plover (60 FR 11768, March 2, 1995). The beaches at former Fort Ord are among the areas proposed as critical habitat. The HMP will not directly remove any western snowy plover nesting habitat. However, increased human presence on the beaches associated with the alternative could negatively affect snowy plover breeding success.

Monterey Spineflower (Federal Threatened)

Implementation of this HMP would result in the loss of approximately 3,910 acres of maritime chaparral, coastal dunes, coastal scrub, and grassland habitats occupied by Monterey spineflower. These habitat areas support Monterey spineflower at high densities on approximately 310 acres, medium densities on about 1,200 acres, and low densities on approximately 2,400 acres. Sand hill maritime chaparral, all coastal dune habitats, and grassland and coastal scrub habitats on sandy soils are potentially suitable habitat for Monterey spineflower. Monterey spineflower occurs in natural and artificial disturbance patches in these habitats.

Seaside Bird's-Beak (Species of Concern)

Seaside bird's-beak occurs in openings on sandy soils in maritime chaparral and oak woodland habitats. Implementation of this HMP would result in the removal of roughly 45 acres of maritime chaparral and oak woodlands supporting Seaside bird's-beak at low densities.

California Red-Legged Frog (Federal Threatened)

The California red-legged frog typically occupies cold water ponds with both emergent and submergent vegetation. No red-legged frogs have been observed on former Fort Ord; although potential habitat is available. Approximately 2 acres of potential California red-legged frog habitat would be removed under this HMP. However, part of this two acres consists of an artificial pond in parcel L20.2.2 (Attachment A) associated with the former Army Family Camp. The pond is filled from artificial sources and has been stocked with fish to provide recreational fishing for campers. Due to the presence of predatory game fish, it is unlikely that red-legged frogs would occur in this water body.

Almost all other potential red-legged frog habitat at former Fort Ord would be preserved within the Natural Resource Management Area (NRMA). The Salinas River is also considered potential red-legged frog habitat. One portion of former Fort Ord is within the river channel. This area is identified as a habitat reserve.

Yadon's Piperia (Federal Proposed Endangered)

The species occurs near established shrubs in maritime chaparral habitat. One population is known to occur on former Fort Ord in parcel E2a. This population would be preserved under this HMP. USFWS has proposed Yadon's piperia for federal listing as endangered.

Black Legless Lizard (Federal Proposed Endangered)

The California black legless lizard is found on dune habitats supporting native vegetation and where maritime chaparral and coastal scrub occur on loose sandy soils. Figure B-16 in Appendix B shows the occurrence of potential black legless lizard habitat at former Fort Ord based on habitat models developed during preparation of the 1992 Flora and Fauna Baseline study. Areas where potential habitat will be most affected include the western boundary of the multirange area (MRA) and where the former Fort Ord boundary abuts the City of Marina. USFWS has proposed the black legless lizard for federal listing as endangered.

ANALYSIS OF REUSE ALTERNATIVES FROM THE FEIS AND FSEIS

This HMP assumes, as described in the previous "Impacts on Listed and Proposed HMP Species" section, that development can occur through all development areas with the resultant loss of habitat. The following description provides a similar analysis of the full buildout of areas identified for development within Alternative 6R of the FEIS; Alternative 6RM of the 1993 NEPA ROD; and Alternative 7, Revised Alternative 7, and Alternative 8 of the FSEIS. These alternatives give an indication of the range of specific land uses that may occur within various development areas within this HMP.

This section summarizes impacts to biological resources associated with Alternative 6R from the 1993 FEIS; 6RM of the 1993 NEPA ROD; and Alternative 7, Revised Alternative 7, and Alternative 8 as described in the 1996 FSEIS. The 1993 FEIS, 1993 Biological Assessment, and the USFWS final Biological Opinion (October 19, 1993) describe Alternative 6R. Alternative 6RM is a modification of Alternative 6R that was contained in the 1993 NEPA ROD; it incorporated likely land uses in NPU areas based on an early version of the community reuse plan. Alternative 7 represents the December 12, 1994 FORA Final Base Reuse Plan. Revised Alternative 7 incorporates the Draft FORA Fort Ord Reuse Plan (March 1996) where it does not conflict with Army policies or agreements. Alternative 8, a land use scenario similar to Alternative 7, includes uses for specific parcels received during scoping processes. The full discussion of impacts to biological resources associated with Alternative 6R appears on pages 6-100 through 6-130 of Volume I of the FEIS. The full discussion of impacts to biological resources associated with Alternative 7 appears on pages 5-67

through 5-74 of the FSEIS. The full discussion of impacts to biological resources associated with Revised Alternative 7 appears on pages 5-112 through 5-121 of the FSEIS. The full discussion of impacts to biological resources associated with Alternative 8 appears on pages 5-125 through 5-127 of the FSEIS.

Alternative 6R was analyzed using a Geographic Information System (GIS) database of the 1992 biological survey data overlaid with a map of the alternative. For impact calculations, development-related land uses were assumed to remove all biological resources within the land use footprint and habitat conservation related land uses were assumed to preserve all biological resources in the land use footprint. Alternative 6R also included several areas with no proposed use (identified as NPU areas). NPU areas were assumed to have no effect on biological resources. However, it was acknowledged in the FEIS that lands designated as NPU could be subject to reuse in the future and would require future, separate environmental documentation.

The total effect of Alternative 6R would be the removal of approximately 2,507 acres of common and special native biological communities. Within this area of removed habitat, approximately 130 acres supporting low-density populations of sand gilia, 5 acres supporting medium-density populations, and 15 acres supporting high-density populations of sand gilia would be removed. The only other listed plant species that would be affected would be Monterey spineflower. This species would lose approximately 355 acres, 515 acres, and 70 acres respectively of areas supporting low-, medium-, and high-density populations. Alternative 6RM was analyzed using the same methodology described above for Alternative 6R, except that land uses were inserted into NPU areas based on the local reuse planning assumptions available at the time the 1993 NEPA ROD was completed.

The total effect of Alternative 6RM would be the removal of 5,941 acres of common and special native biological communities. Within this area of removed habitat, approximately 555 acres supporting low-density populations of sand gilia, 125 acres supporting medium-density populations of sand gilia, and 13 acres supporting high-density populations of sand gilia would be removed. The only other federally listed plant species that would be affected would be Monterey spineflower. This species would lose approximately 1,970 acres, 985 acres, and 260 acres, respectively, of areas supporting low-, medium-, and high-density populations.

Alternative 7 was analyzed using both a GIS database and manual overlaying of a proposed road network map with resource maps. The GIS analysis for Alternative 7 used the same methods as used for the Alternative 6R analysis. However, impact assumptions for some parcels were modified based on more recent information. Impact calculations using the GIS did not include impacts associated with a proposed road network because the digital mapping data for the road network was not compatible with the GIS biological resource data. Impacts from the road network were quantified by overlaying by hand road network maps with resource maps and planimetry the acres of effect.

The total effect of Alternative 7 would be the removal of approximately 6,180 acres of common and special native biological communities. Within this area of removed habitat, approximately 595 acres supporting low-density populations of sand gilia, 120 acres supporting medium-density populations of sand gilia, and 6 acres supporting high-density populations of sand gilia would be removed. The only other federally listed plant species that would be affected would be Monterey spineflower. This species would lose approximately 1,965 acres, 1,065 acres, and 250 acres, respectively, of areas supporting low-, medium-, and high-density populations.

Revised Alternative 7 was analyzed through a comparison against the reuse scenario described in the 1994 HMP. Areas where the alternative differed from the 1994 HMP relative to locations of development and habitat reserved were identified. Locations where portions of the proposed transportation network conflicted with habitat reserve areas in the February 1994 HMP were included in this analysis. Acreages of loss or gain of areas identified as habitat reserve were calculated for each location where Revised Alternative 7 and the 1994 HMP differed. Losses and gains were also calculated for key HMP resources. For the analysis, key HMP resources include areas supporting sand gilia, Monterey spineflower, and Seaside bird's beak.

The total effect of Revised Alternative 7 on habitat reserve areas is the conversion of approximately 370 acres of area considered habitat reserve in the 1994 HMP to developed area or another use. The total effect on key HMP resources under Revised Alternative 7 would be a loss of approximately 114 acres of habitat supporting low-density sand gilia populations; a loss of approximately 3 acres of area supporting medium-density sand gilia populations; a gain of approximately 8 acres of area supporting high-density sand gilia populations; a loss of approximately 183 acres and 62 acres, respectively, of area supporting low- and medium-density Monterey spineflower populations; a gain of approximately 7 acres of area supporting high-density Monterey spineflower populations; and a loss of approximately 25 acres of habitat supporting low-density populations of Seaside bird's beak.

Alternative 8 is very similar to Alternative 7, with differences primarily associated with proposed changes in land uses in specific areas. Alternative 8 was analyzed by examining these specific areas. Differences between Alternatives 7 and 8 that could affect impacts to biological resources included expansion of a community park, removal of small areas from the NRMA (at the request of BLM due to the separation of these areas from the main body of the NRMA by existing roads), and construction of a golf course on the landfill parcel. The total effect of Alternative 8 would be the removal of approximately 6,230 acres of common and special native biological communities and removal of approximately 793 acres of area supporting sand gilia and 3,423 acres of area supporting Monterey spineflower at various densities.

ANALYSIS OF IMPACTS TO HMP TARGET SPECIES FROM THIS HMP

This section summarizes the habitat areas within each HMP reserve or corridor area that are going to be preserved for each HMP target species. In some cases, the HMP reserve area is actually a combination of Habitat Reserve parcels and parcels that are classified Development with Reserve or Development with Restrictions but contain primarily lands to be managed as reserve. The section also indicates the habitat acreage contained within the total development area allowed by this HMP. This Development Areas category includes parcels that are classified as Development and others that are classified as Development with Reserve or Development with Restrictions but have no reserve component, only restrictions.

Acreage totals for HMP target species were calculated by overlaying the current reserve, corridor and development area boundaries with the 1992 habitat data contained in the planning-level Geographic Information System (GIS) developed by the Army to support the disposal and reuse of Fort Ord. The totals have been summarized for low-, medium-, and high-density habitats for each species. For the detailed breakdown of low-, medium-, and high-density habitat for each species in each reserve, refer to Table B-2 in Appendix B.

State Parks Reserve

The State Parks reserve is located along the coast, west of SR 1. It includes both Reserve and Development with Reserve Areas or Development with Restrictions parcels, as mapped in Figure 4-1. This reserve occupies approximately 970 acres. Table S-3 indicates which target species are supported by habitat on this reserve area.

Landfill Development with Reserve

The Landfill reserve is located northeast of the Main Garrison, just south of Imjin Road. It is composed of two Development with Reserve or Development with Restrictions parcels. This reserve occupies approximately 308 acres. Refer to Table S-3 for target species supported within the Landfill reserve.

UC/NRS Fort Ord Natural Reserve

The UC/NRS Fort Ord Natural Reserve is located in the southwestern corner of the former Fritzsche Army Airfield and south of Reservation Road; it has already been transferred to UC. It is being managed as part of the UC Natural Reserve System. This reserve includes approximately 590 acres. Table S-3 lists target species supported by this natural reserve.

Marina Reserve

The Marina reserve is located in the Fritzsche Army Airfield area, north and west of the developed portion of the airfield. It includes both Reserve and Development with Reserve or Development with Restrictions parcels. The reserve has approximately 175 acres. This reserve area has already been transferred to the City of Marina. Refer to Table S-3 for a list of species supported in this reserve area.

East Garrison Reserve

The East Garrison reserve is located in the easternmost portion of former Fort Ord, south of Reservation Road. The reserve includes both Reserve and Development with Reserve or Development with Restrictions parcels. The reserve totals approximately 855 acres. Refer to Table S-3 for a list of species supported in this reserve area.

Habitat Corridor

The Habitat Corridor, located immediately west of the East Garrison portion of former Fort Ord, includes both Reserve and Development with Reserve or Development with Restrictions parcels. The reserve totals approximately 400 acres. Table S-3 lists the target species supported within the Habitat Corridor.

BLM Natural Resource Management Area

The BLM NRMA is located in the southern and eastern portions of former Fort Ord. This reserve is largest natural area being retained in the HMP area. It totals approximately 15,000 acres. Some portions of the area have already been transferred to BLM and are being managed as reserve. This transfer includes most of the land east of Barloy Canyon Road. Refer to Table S-3 for a list of target species supported within the BLM NRMA.

Caltrans State Route 68 Easement

The Caltrans State Route (SR) 68 easement overlays the NRMA in the southern portion of former Fort Ord (Figure 4-1). A total of approximately 660 acres are contained within the corridor. Of this total, approximately 180 acres could be lost to development of a highway, assuming a 300-foot-wide construction corridor. Refer to Table S-3 for a list of species supported by habitat in this corridor.

MPRPD Reserve

The MPRPD Reserve is located in the extreme southwestern portion of former Fort Ord. It is a Reserve parcel containing approximately 20 acres. Refer to Table S-3 for a list of species supported by habitat in this reserve.

Caltrans State Route 1 Area

The SR 1 corridor passes through the western portion of former Fort Ord, separating the beach areas from the Main Garrison area. It is considered a Development with Reserve or Development with Restrictions area. The corridor totals approximately 225 acres. Refer to Table S-3 for a list of target species supported within the SR 1 corridor.

Development Areas

The Development Areas of former Fort Ord include the remaining parcels outside of reserve areas and corridors. Some of these parcels are developable with no restrictions, while several others are classified as Development with Restrictions. The Development Areas total approximately 10,500 acres. The developable areas are located primarily between the SR 1 corridor and the NRMA (Figure 4-1). Habitat supporting nearly all of the HMP target species is found within the Development Areas (Table S-3).

There are no resource conservation requirements in the HMP for most of the Development Areas. The habitat resources contained in the parcels are not considered critical to the long-term survival of the species. However, habitat may be preserved within and around the development areas within these parcels.

MANAGEMENT GUIDELINES FOR RECIPIENTS AND/OR HABITAT MANAGERS OF DISPOSED LAND

This section describes key resources, expected impacts on resources, and land management responsibilities for each recipient of disposed land in the HMP area. Land management responsibilities are divided into the following categories: Habitat Reserve, Habitat Corridor, Development with Reserve Areas or Development with Restrictions, Borderland Development Areas Along NRMA Interface, Development, and Future Road Corridors. The Army will include deed covenants in transfer of lands and may, as appropriate, enter into separate MOAs with recipients or habitat managers of disposed land to ensure implementation of HMP requirements. Land recipients may also agree to take part in a Coordinated Resource and Management Planning (CRMP) process. The CRMP is described in detail at the end of Chapter 4. Methods for updating or modifying this HMP after agencies or private parties have received Fort Ord lands are described in the "Flexibility of HMP" section in Chapter 1.

Habitat conservation and management responsibilities by recipients or habitat managers of disposed lands at former Fort Ord are discussed individually with each land use parcel in Chapter 4.

Implementation Strategies

Memoranda of Agreement and Deed Covenants

Before disposal of land, the Army will place appropriate deed covenants (restrictions and/or management requirements) on lands to be transferred and/or enter into MOAs with recipients and/or habitat managers of disposed lands identified in this HMP as Habitat Reserve, Habitat Corridor, Borderland Development Area Along NRMA Interface, or Development with Reserve Areas or Development with Restrictions. Appropriate HMP guidelines will be included in each document. A sample deed is included in Appendix D. USFWS will enforce the requirements of the federal ESA.

Monitoring Procedures and Responsibilities

Monitoring of habitat reserves and habitat corridors would be the responsibility of BLM, California Department of Parks and Recreation, UC, Monterey County, City of Marina, Monterey Peninsula Regional Park District, California Department of Transportation (Caltrans), FORA, and any other organization with management responsibilities for areas designated as Habitat Reserve, Habitat Corridor, or Development with Reserve Areas or Development with Restrictions in this HMP. These agencies would be responsible for ensuring that the HMP guidelines are implemented on parcels under their jurisdictions.

FORA or other organizations receiving Borderland Development Areas Along NRMA Interface will provide status reports for parcels adjacent to the NRMA on interim habitat management and/or firebreak construction and maintenance (according to Item c. in the agreement) and compliance with other management requirements associated with these parcels (see the "Borderland Development Areas Along NRMA Interface" section in Chapter 4).

Monitoring results for CRMP participants will be coordinated by BLM, and BLM will consolidate the results into a single monitoring report. Annual monitoring reports will be filed with USFWS and DFG, as well as with each of the participating agencies.

Program Costs and Funding

Funding to develop this HMP has been provided by the Army. Funding to implement the HMP prescribed habitat restoration, management, and monitoring for reuse will be provided by entities receiving properties or having management responsibilities for areas designated as Habitat Reserve, Habitat Corridor, Borderland Development Area Along NRMA Interface, or Development with Reserve Areas or Development with Restrictions in this HMP. These agencies will fund implementation of this HMP and implement conservation and/or management guidelines specific to parcels they receive. This HMP does not preclude other sources of funding for HMP implementation or preclude these agencies from securing funding from other sources to support their implementation of HMP guidelines. Requirements for each agency's minimal participation and accomplishments toward implementation of this HMP will be specified in covenants in the deed that will be completed at the time of land transfer or in a MOA with the Army.

ANALYSIS OF ROAD CORRIDORS

The analysis of impacts to biological resources in the FSEIS considered the effects of a proposed transportation network. The transportation network considered was based on the FORA December 12, 1994 Final Fort Ord Base Reuse Plan with mitigations and modifications agreed on with USFWS, UC, and FORA on March 15 and 28, 1996. Several road segments included in the proposed network pass through areas identified as Habitat Reserve, Habitat Corridor, or Development with Reserve Areas or Development with Restrictions in this HMP (Figure 4-2). These road corridors are accommodated within this HMP. Descriptions of individual parcels affected by these road segments each contain a reference to the road segment and how it may affect HMP habitat conservation or management requirements. The SR68 transportation easement is treated separately and is considered in the category of "Development with Reserve Areas or Development with Restrictions".

Table S-1. Plant Species Considered in This Habitat Management Plan (HMP Plants)

Plant Species	Listing Status ^a Federal/State/CNPS	CNPS RED Code ^b	Approximate Percent of Range at Former Fort Ord	Habitat	Distribution	Importance of Populations at Former Fort Ord
Robust spineflower <i>Chorizanthe robusta</i> var. <i>robusta</i>	E/--/4	1-1-3	<1	Found on sandy soils in coastal dune and coastal scrub habitats	Historically from Alameda and San Mateo Counties south to Santa Cruz County and near the coast from southern Santa Cruz County to northern Monterey County, much of which is now developed (4, 5, 8) ^c	Several plants of robust spineflower were found at one site on former Fort Ord; former Fort Ord does not provide important habitat for this species (7)
Sand gilia <i>Gilia tenuiflora</i> ssp. <i>arenaria</i>	E/T/1B	3-3-3	50-70	Sandy openings in coastal dunes and scrub and maritime chaparral	Occurs around Monterey Bay, Salinas River Beach, Asilomar State Beach, from Point Pinos to Point Joe, and Fort Ord (1, 2, 9)	Former Fort Ord provides extensive suitable habitat for sand gilia and constitutes a substantial portion of its range (at least half)
Yadon's piperia <i>Piperia yadoni</i>	PE/--/1B	N/A	<1	Occurs on sandy soils in maritime chaparral, coastal scrub, and closed-cone coniferous forest	Occurs in Monterey County from the Pajaro Hills to the Monterey Peninsula	Less than 1% of the individuals of Yadon's piperia are found on former Fort Ord; it is noteworthy that its habitat on former Fort Ord is intermediate between that of its occurrence in chaparral and pine forest habitats (7)
Monterey spineflower <i>Chorizanthe pungens</i> var. <i>pungens</i>	T/--/1B	3-3-3	75-95	Colonizes recently disturbed sandy sites in coastal dune, coastal scrub, grassland, and maritime chaparral habitats	Along the coast of southern Santa Cruz and northern Monterey Counties and inland to the coastal plain of the Salinas Valley (1, 4, 8)	Former Fort Ord supports the largest populations of Monterey spineflower known (7, 8)
Coast wallflower <i>Erysimum ammodendrum</i>	SCI/--/1B	2-2-3	10-30	Occurs scattered on stabilized coastal dunes	Coastal dunes of Monterey Bay and Santa Rosa Island, and coastal scrub on former Fort Ord (10, 11)	Former Fort Ord provides a moderate amount of suitable habitat for coast wallflower and may constitute an important portion of its range because of the limited extent and high degree of disturbance to its habitat in California
Eastwood's ericameria <i>Ericameria fasciculata</i>	SCI/--/1B	3-3-3	70-90	Inhabits coastal dune and scrub, maritime chaparral, and closed-cone coniferous forest communities	Found in Monterey County, including Del Monte Forest, Monterey Airport, Toro Regional Park, near Prunedale, and former Fort Ord (1)	Former Fort Ord supports most of the remaining individuals of Eastwood's ericameria (3)
Monterey ceanothus <i>Ceanothus cuneatus</i> var. <i>rigidus</i>	SCI/--/4	1-2-3	50-70	Sandy hills and flats of maritime chaparral, closed-cone coniferous forests, and coastal scrub	Monterey County along the coast and former Fort Ord, Toro Regional Park, Monterey Airport, and near Prunedale (1, 6)	The most abundant and probably most vigorous population of Monterey ceanothus is found on former Fort Ord (3)

Table S-1. Continued

Plant Species	Listing Status* Federal/State/CNPS	CNPS RED Code ^b	Approximate Percent of Range at Former Fort Ord	Habitat	Distribution	Importance of Populations at Former Fort Ord
Sandmat manzanita <i>Arctostaphylos pumila</i>	SC/--/1B	3-2-3	70-90	Sand hills of maritime chaparral and coast live oak woodland	Scattered locations around Monterey Peninsula and an extensive area on former Fort Ord (1, 3)	A large and important part of the range of sandmat manzanita is found on former Fort Ord
Seaside bird's-beak <i>Cordylanthus rigidus var. littoralis</i>	SC/E/1B	2-3-3	30-50 ^d	Inhabits sandy soils of stabilized dunes, maritime chaparral, coastal scrub, and closed-cone coniferous forests	Monterey and Santa Barbara Counties, including former Fort Ord, Monterey Airport, and between Carmel and Elkhorn Slough in Monterey County, and on Burton Mesa in Santa Barbara County (1, 2)	A substantial portion of the range of Seaside bird's-beak is found at former Fort Ord
Toro manzanita <i>Arctostaphylos montereyensis</i>	SC/--/1B	3-2-3	70-90	Occurs on stabilized sandy soils and badlands in maritime chaparral	Restricted to several sites in Monterey County, including former Fort Ord, Toro Regional Park, and Monterey Airport (1, 3)	Former Fort Ord supports the largest expanse of Toro manzanita in existence
Hooker's manzanita <i>Arctostaphylos hookeri</i>	--/--/1B	2-2-3	15-35	Sand hill and Aromas formation maritime chaparral and closed-cone coniferous forest	Del Monte Forest, Monterey Peninsula, Prunedale Hills, former Fort Ord, and sand hills in the Larkin Valley	Former Fort Ord supports large populations of Hooker's manzanita; although it is more common on the Monterey Peninsula and near Prunedale than at former Fort Ord, former Fort Ord provides important and extensive habitat (3,6)

* Status explanations (see the "Definitions of Special-Status Species" section above for citations):

Federal

- E = listed as endangered under the federal Endangered Species Act.
 T = listed as threatened under the federal Endangered Species Act.
 PE = proposed for federal listing as endangered under the federal Endangered Species Act.
 SC = Species of Concern are all former Category 1 and 2 candidate species that without additional conservation action are likely to become candidates for listing by the U.S.
 Fish and Wildlife Service under the federal Endangered Species Act.
 -- = no designation.

State

- E = listed as endangered under the California Endangered Species Act.
 T = listed as threatened under the California Endangered Species Act.
 -- = no designation.

California Native Plant Society

- 1B = List 1B species: rare, threatened, or endangered in California and elsewhere.
- 4 = List 4 species: plants of limited distribution.
- = no designation.

^b CNPS RED Code:**Rarity (R)**

- 1 = Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time.
- 2 = Occurrence confined to several populations or to one extended population.
- 3 = Occurrence limited to one or a few highly restricted populations, or present in such small numbers that it is seldom reported.

Endangerment (E)

- 1 = Not endangered.
- 2 = Endangered in a portion of its range.
- 3 = Endangered throughout its range.

Distribution (D)

- 1 = More or less widespread outside California.
- 2 = Rare outside California.
- 3 = Endemic to California.

^c Data sources:

- 1 = Natural Diversity Data Base 1992.
- 2 = Hillyard 1992.
- 3 = Griffin 1976.
- 4 = Reveal and Hardham 1989.
- 5 = Thomas 1961.
- 6 = Griffin 1978.
- 7 = Morgan 1992.
- 8 = U.S. Fish and Wildlife Service 1991.
- 9 = U.S. Fish and Wildlife Service 1992.
- 10 = Munz and Keck 1968.
- 11 = Abrams 1940.

^d This estimate incorporates locations of Seaside bird's-beak in Santa Barbara County, which may have formed as a result of hybridization. The estimate based only on Monterey County occurrences would increase the percent of range at former Fort Ord to 60-80%.

Table S-2. Wildlife Species Considered in This Habitat Management Plan (HMP Species)

Wildlife Species	Listing Status* Federal/State	Approximate Percent of Range at Former Fort Ord	Habitat	Distribution	Occurrence at Former Fort Ord	Importance of Former Fort Ord Population
Smith's blue butterfly <i>Euphilotes enoptes smithi</i>	E/-	5-10	Uses coastal dunes and hillsides that support seacliff buckwheat (<i>Eriogo- num parvifolium</i>) or coast buckwheat (<i>Eriogonum latifolium</i>); these plants are used as a nectar source for adults and host plant for larvae	Restricted to localized populations along the coast of Monterey County; single populations reported in Santa Cruz and San Mateo Counties	Known to occur near the northern boundary of former Fort Ord and from Giggling Siding to the southern base boundary (5) ^b	Former Fort Ord has been identified as important to the recovery of Smith's blue butterfly
California black legless lizard <i>Anniella pulchra nigra</i>	PE/SSC	10-20	Requires moist, warm habitats with loose soil for burrowing and prostrate plant cover; may be found on beaches, in chaparral, pine oak woodland, or riparian areas	Restricted to small popula- tions along the coast in Monterey and northern San Luis Obispo Counties; one population in Contra Costa County	Found in stabilized dunes, oak woodland, and oak savanna, and maritime chaparral with sandy soils at former Fort Ord (2, 4, 7)	Former Fort Ord supports one of the larger expanses of black legless lizard habitat within the species' range
California red- legged frog <i>Rana aurora draytoni</i>	T/SSC	<1	Requires coldwater ponds with emergent and submergent vegetation and riparian vegetation at the edges	Found along the coast and coastal mountain ranges from Humboldt to San Diego Counties, and in the Sierra Nevada from Butte to Fresno Counties	May occur at Ford Ord (1)	Former Fort Ord composes little of the species' total range; however, former Fort Ord provides potential habitat for California red-legged frog, which is relatively rare within the Monterey Bay region
Western snowy plover <i>Charadrius alexandrinus nivosus</i>	T/SSC	5-10	Found along beach above the high tide limit; also uses shores of salt ponds and alkali or brackish inland lakes	Intermittent nesting sites along the Pacific Coast from Washington to Baja California	Nests along the beaches at former Fort Ord north of Stillwell Hall (3)	Former Fort Ord supports one of 20 coastal breeding populations of western snowy plovers in California; Monterey Bay as a whole is considered one of eight primary coastal nesting areas; former Fort Ord beaches are one of the areas proposed by USFWS as critical habitat for this species (60FR 11768 March 2, 1995)

Wildlife Species	Listing Status* Federal/State	Approximate Percent of Range at Former Fort Ord	Habitat	Distribution	Occurrence at Former Fort Ord	Importance of Former Fort Ord Population
California tiger salamander <i>Ambystoma tigrinum californiense</i>	C/SSC	<1	Favors open woodlands and grasslands; requires water for breeding and burrows or cracks in the soil for summer dormancy	Occurs only in California from the coastline to the Sierra Nevada crest and from Sonoma to Santa Barbara Counties	Occurs in ponds and vernal pools throughout former Fort Ord (2, 6)	Former Fort Ord comprises little of the total range of California tiger salamander; however, vernal pool habitat is relatively rare in the Monterey Bay region
Monterey ornate shrew <i>Sorex ornatus salaricus</i>	SC/--	15-25	Found in a variety of riparian, woodland, and upland communities where there is thick duff or downed logs	Restricted to the Monterey Bay region; historical occurrences at the mouth of the Salinas River and Moss Landing in Monterey County	May occur at former Fort Ord (1)	Former Fort Ord provides abundant potential habitat for Monterey ornate shrew within the species' limited range
California linderiella <i>Linderiella occidentalis</i>	--/--	<1	Ephemeral freshwater habitats such as vernal pools, rock outcrop pools, swales, and ponds	Found in the Central Valley from Tehama to Madera Counties, and the central and south Coast Ranges from Lake to Riverside County	Known from eight water bodies at former Fort Ord (2)	Former Fort Ord composes little of the total range of California linderiella; however, vernal pool habitat is relatively rare in the Monterey Bay region

* Status definitions:

Federal

- E = listed as endangered under the federal Endangered Species Act.
T = listed as threatened under the federal Endangered Species Act.
PE = federally proposed for listing as endangered.
C = species for which USFWS has on file sufficient information on biological vulnerability and threat(s) to support proposals to list them as endangered or threatened.
SC = Species of Concern are former Category 1 and 2 species that without additional conservation action are likely to become candidates for listing by the U.S. Fish and Wildlife Service under the federal Endangered Species Act.
-- = no status.

State

- SSC = considered a State Species of Special Concern by California Department of Fish and Game.
-- = no status.

b Data sources.

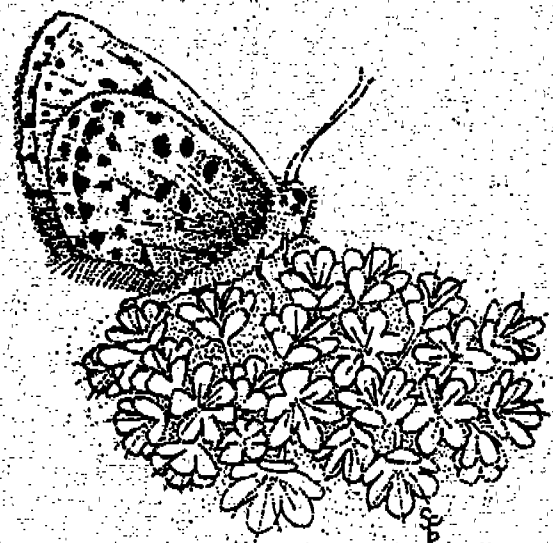
- (1) Not found during field surveys.
(2) Encountered during field surveys.
(3) Source: George pers. comm.
(4) Source: Bury 1985.
(5) Source: Arnold 1983.
(6) Source: Stanley pers. comm.
(7) Source: Installation UXO surveys.

Page # 38 (1 PG.)

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Document # BW-1787

Purpose and Need



Smith's Blue Butterfly
