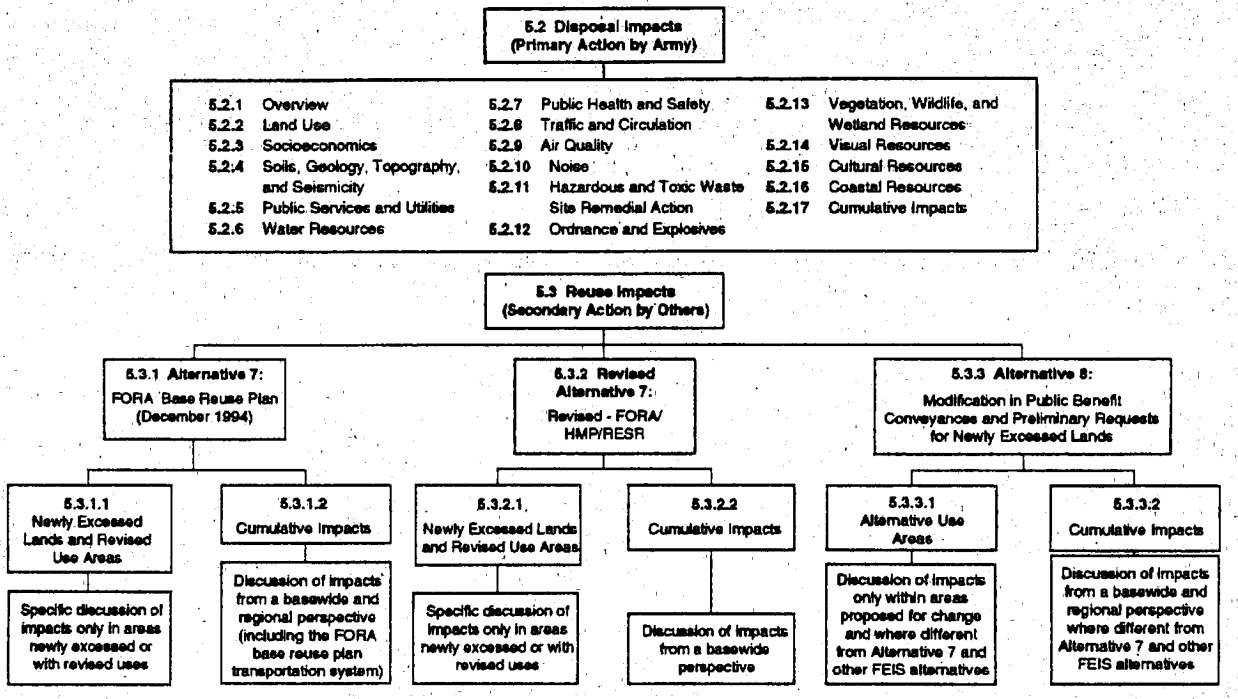
Section 5.0 Environmental and Socioeconomic Consequences

5.1 INTRODUCTION

5.1.1 Organization

This Supplemental EIS addresses environmental issues in the same manner as the FEIS. The direct and indirect impacts of the Army's disposal action are addressed first, followed by a discussion of the secondary action effects of reuse. The No-Action Alternative was addressed in the FEIS (Volume I, pages 2-2, 3-13, and 5-2 to 5-4). The environmental effects of no action are summarized from the FEIS and compared to those of the proposed action in Tables H-1 and H-2 in Appendix H. Reuse Alternative 7, Revised Alternative 7, and Alternative 8 are addressed in this section. The general organization of the remainder of this section is illustrated below. Foldout General Reference Maps are included at the end of this document for easy reference.



The Section 5.3, "Reuse Impacts (Secondary Action by Others)", discussion includes separate sections for Alternative 7, Revised Alternative 7, and Alternative 8. The Alternative 7 and Revised Alternative 7 sections are further divided into the following two sections: "Newly Excessed Lands and Revised Use Areas" and "Cumulative Impacts". Under Alternative 7, the first discussion analyzes changes in the Army's POM Annex boundary that make additional land available for excess (newly excessed lands) and those reuse areas that, as agreed to by the Army in the 1993 NEPA ROD, require additional analysis to cover disposal for new land uses or that were not covered fully in the FEIS and ROD (revised use areas). Under Revised Alternative 7, the discussion of newly excessed lands and revised use areas addresses the same newly excessed lands as under Alternative 7. However, uses proposed for these lands reflect recent federal, state, and local real estate screening requests. Revised use areas reflect portions of the Draft FORA Fort Ord Reuse Plan (March 1996), relocation of the resort hotel site originally proposed in the Hayes housing area to the adjacent existing Fort Ord golf courses parcel, and portions of the Draft Revised HMP. The "Cumulative Impacts" sections for Alternative 7 and Revised Alternative 7 address the impacts of reuse (including proposed transportation systems) on former Fort Ord as a whole, as well as regional impacts based on a list of reasonably foreseeable projects (Table 5-1).

In one instance, under Alternative 7, the FORA Final Base Reuse Plan (December 1994) identifies two potential uses for the same area. In the East Garrison area, the FORA land use map identifies agri-center as the proposed use. The plan also recognizes a proposal for public safety training in this area (refer to Figure 3-2). Information received through a public benefit conveyance request to the Army since release of the FORA Final Base Reuse Plan (December 1994) indicates this acreage may not be adequate for both uses. FORA confirmed that these uses would overlap geographically on 200 developed acres.

Sections are organized to include a discussion for each resource area that was analyzed in the FEIS. When appropriate, the FEIS is referenced for additional information or greater detail regarding impacts and mitigation measures that are similar to those contained in the FEIS. The intent, however, is to provide new or updated analyses associated with changes since the FEIS and not to repeat analyses already presented to the public and decision makers.

The Alternative 8 section is divided into the following two sections: "Alternative Use Areas" and "Cumulative Impacts". The first discussion addresses resources only in areas proposed for change and only where they differ from Alternative 7. The second discussion addresses cumulative impacts from a basewide and regional perspective only where they differ from Alternative 7.

5.1.2 Significance Criteria and Assumptions

The analysis for each resource area uses the same significance criteria and assumptions used in the FEIS (Volume I, Section 6.0, "Introduction", sections of each resource area), unless otherwise indicated.

The quantitative analyses are based on information provided by FORA and on acreages developed for each land use polygon, based on actual land surveys or on information provided by FORA (Tables 3-2 and 3-3). When generation rates or similar information was not provided by FORA, generation rates from the FEIS were used.

Table 5-1. Reasonably Foreseeable Future Projects in the Vicinity of Former Fort Ord (as of May 9, 1995)

Jurisdiction/Agency	Description of Projects
Association of Monterey Bay Area Governments	None
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 develop 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 dwelling units and 1,100 multifamily dwelling units on 500 acres 180-acre golf course 300-room hotel 200 acres of business/retail/commercial development
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
California State University, Monterey Bay	None
Fort Ord Reuse Authority	None
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.

5.2 DISPOSAL IMPACTS (PRIMARY ACTION BY ARMY)

5.2.1 Overview

This section evaluates only the impacts of disposing of the newly excessed lands from the downsizing of the POM Annex (Figures 2-2 and 4-1). The newly excessed lands have been divided into five parcels. Existing uses on these parcels are described in Section 4.2, "Land Use", with the facilities on each parcel listed in Appendix A. Disposal of the remaining former Fort Ord lands was evaluated in the FEIS (Volume I, Sections 5.0 and 6.0).

The direct impacts of disposing of additional properties at former Fort Ord are not substantial. The boundaries and acreages of these five parcels are the same for each reuse alternative discussed in this Supplemental EIS, and impacts of disposal would be similar. There are no new significant effects beyond those described in the FEIS and ROD issued by the Army in 1993 for its ongoing disposal activities. The following sections describe effects for those resource categories where impacts would be marginally greater or lesser than those described in the FEIS.

5.2.2 Land Use

Potential Temporary Land Use Conflicts. The FEIS for Fort Ord disposal identified a concern for potential land use conflicts between interim uses allowed by the Army and necessary hazardous and toxic waste remedial action activities (Volume I, page 6-2). A similar concern would be raised for interim uses proposed on the newly excessed lands. However, the Army adopted mitigation in the 1993 NEPA ROD that would limit properties that may be outgranted to those properties that are adequately buffered from areas needing remedial action. This measure effectively mitigates any concern for land use incompatibility on the areas recently excessed. No new mitigation is required.

5.2.3 Socioeconomics

Socioeconomic effects resulting from disposal of newly excessed lands would be associated with the potential construction of infrastructure, the placement of properties on local tax roles, and land market-related effects.

No adverse human health or environmental effects on minority or low-income populations residing near the installation are anticipated to result from disposal of newly excessed lands or disposal of other Fort Ord areas. Socioeconomic effects related to disposal actions, including potential remedial actions and infrastructure changes, would generate temporary increases in employment and income, as described below, that could benefit minority and low-income populations residing near former Fort Ord by creating direct and secondary employment opportunities and generating growth in personal income for those populations.

Temporary Population Growth and an Accompanying Demand for Housing. Short-term population and housing effects of remedial action and infrastructure modification on newly excessed lands would likely result in a small, incremental increase to the installation-wide disposal impacts addressed under Alternative 6R in the FEIS (Volume I, page 6-6). This incremental increase in population and housing demand is expected to be minor and would not require mitigation.

Temporary Generation of New Spending and Employment. Regional economic activity impacts generated by the disposal of newly excessed lands would be short-term and small, and add to those effects described for the disposal of installation-wide properties under Alternative 6R in the FEIS (Volume I, page 6-8). Remedial action activities potentially required for newly excessed lands could temporarily generate new spending and employment in the county while these activities are occurring. Additionally, potential changes to infrastructure required for disposal could generate short-term construction employment and spending in the

local area. Any temporarily increased economic activity generated by disposal of newly excessed lands would be considered beneficial.

Increase in the County Property Tax Base. Disposal of newly excessed lands to private interests would result in new land being placed on county tax rolls because land in federal ownership is not subject to property taxes. Privately held properties would generate new property tax revenue for local and county agencies. This impact is considered beneficial. No mitigation is required.

Decreased Demand for Community Services and Job Opportunity Programs. Disposal activities for newly excessed lands, including potential hazardous waste cleanup on excessed properties and infrastructure construction, would result in a small, temporary increase in local employment in certain sectors and, potentially, a slightly reduced demand for community services and job development programs. Homeless services and retiree benefits are not expected to be affected by the disposal process. No mitigation is required.

Potential Minor Negative Impact on Local Land Markets. The disposal of newly excessed lands could cause negative land market impacts in the local area by placing new properties on the market that would compete with existing properties that are for sale. The increased competition for buyers could temporarily saturate the local market for certain types of properties and drive land market prices down. This effect, however, is likely to be minor because of the relatively small amount of land (250 acres) that would be placed on the private market by the disposal of newly excessed properties; the disposal also would be extended over a number of years, reducing the impact. No mitigation is required.

5.2.4 Soils, Geology, Topography, and Seismicity

No soil, geologic, or topographic impacts would result from disposal. Seismicity impacts relative to public health and safety are addressed below in Section 5.2.7.

5.2.5 Public Services and Utilities

The condition of public services and utilities infrastructure serving the newly excessed lands is described in Section 4.5.1. The FEIS (Volume I, pages 5-15 and 6-32) described disposal impacts that also are applicable to the current proposed disposal action. These impacts included lack of adequate access to infrastructure facilities and degradation of services because of reduced facilities maintenance after disposal. Mitigation was adopted by the Army in the 1993 NEPA ROD to address these concerns. 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 some limited areas, the Army would provide easements to new purveyors for initial modifications to the system. (Refer to the discussion under "Public Services and Utilities", in Section 5.3.2.2.) These initial modifications are needed to support the POM Annex and to achieve compliance with CPUC regulatory requirements in areas to be excessed. In addition, the Army will conduct periodic maintenance for utilities and infrastructure until the system components are disposed of, transferred, or abandoned. No new disposal impacts are associated with the newly excessed lands.

5.2.6 Water Resources

Disposal of the newly excessed lands would have little or no impact on water supply and demand, which are determined by reuse rather than land ownership. Impacts of changes in use are described in Section 5.3, "Reuse Impacts (Secondary Action by Others)". No disposal impacts are associated with surface water hydrology and water quality.

5.2.7 Public Health and Safety

Section 4.7 describes the current status of issues involving public health and safety. The FEIS (Volume I, pages 5-16 and 6-60) disclosed health and safety impacts associated with the disposal of property and mitigation to lessen those impacts. The applicability of these impacts to the proposed disposal action are discussed below.

Demand for Law Enforcement Services. The Army has arranged for law enforcement services on former Fort Ord lands to be provided by the federal police until property is transferred to another entity. At that point, law enforcement must be provided by the receiving entity or the local communities. No significant impacts on law enforcement coverage are anticipated from disposal.

Demand for Fire Protection Services. The FEIS (Volume I, page 6-64) described a substantial impact on fire protection that would result from the disposal of excessed property because the Army's fire response would be limited to lands owned by the Army. Through an interservice support agreement with the 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 additional lands will 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. Because this increment of land is small (250 acres of newly excessed lands) and disposal or transfer is being phased over time, no substantial increase in impact on fire protection services is expected.

Demand for Medical Services. When newly excessed lands are disposed, the need for medical services would increase. Medical services, including emergency medical services, are not provided by the Army to those using interim leased property. The only remaining Army medical facility is a nonemergency clinic on the POM Annex that serves military personnel. Medical services and emergency medical services for those using leased properties would be provided through existing local civilian clinics and hospitals and emergency response service providers. No substantial medical or emergency medical service impacts are associated with disposal of the newly excessed lands.

Seismic Safety Risk. The FEIS (Volume I, page 6-69) described safety risks associated with interim leasing of buildings constructed before strict seismic-related construction standards were developed. Interim leasing of portions of the newly excessed lands would create the same impact. Lessees may not be required to upgrade buildings to the latest state and local seismic safety requirements. When buildings are disposed of, however, the new owners must upgrade to meet the latest requirements; this compliance may, in some cases, require modification to structures prior to use. This requirement offsets any long-term increased risk to public health and safety.

5.2.8 Traffic and Circulation

Interruption of Access between the Motor Pool Area and the POM Annex Area. Disposing of the newly excessed lands could jeopardize transportation access between the motor pool and main POM Annex areas. Existing roadways provide access between the motor pool area and the remainder of the POM Annex. With disposal of lands between these two areas (parcels 1 and 4, Figure 4-1), the motor pool would no longer be contiguous with the rest of the POM Annex. The Army is avoiding the potential for a loss of access by reserving existing roads it needs exclusive control of. The Army will transfer other roads under public benefit transfer requests to be used for road purposes or under economic development conveyances that will provide for development and reuse of the properties. Loss of access between the two segments of the POM Annex, therefore, can be avoided through these mechanisms.

5.2.9 Air Quality

The proposed action is subject to EPA's general air quality conformity regulation because it is a federal project (40 CFR, Parts 6, 51, and 93). The conformity regulation requires, for any new project using federal funds or requiring federal approval, that the project applicant show that the project does not cause or contribute to a worsening of air quality in areas that violate the federal ambient air quality standards. However, for projects meeting certain conditions (including disposal of lands at Fort Ord), the rule contains exceptions from the need to conduct a detailed conformity determination.

The EPA general conformity rule (40 CFR, Part 51, Subpart W, Section 51.853) specifically states, "Transfers of ownership, interests, and titles in land, facilities, and real and personal properties, regardless of the form or method of the transfer" is an exception from the requirement to perform a conformity determination. This provision applies to military bases undergoing closure or realignment through sale or transfer of title. Consequently, the disposal action for property at former Fort Ord that is sold or transferred to another entity is excepted from the requirement to perform a conformity determination.

Exposure of the Public to Asbestos during Building Demolition or after Transfer of Buildings to Third Parties. Asbestos surveys have been conducted for the newly excessed land (U.S. Army Corps of Engineers, Sacramento District 1992c). Several of former Fort Ord buildings have been identified as containing asbestos. The survey findings regarding asbestos-containing materials (ACM) for the facilities in the newly excessed lands are listed in Appendix A. No ACM was found in 11 buildings. Friable ACM in damaged condition was found in 24 buildings. According to Department of Army policy, remedial action would be required if these building are transferred for use in their present condition without demolition or renovation activities occurring. These buildings could be transferred with an agreement that they would be demolished or remodeled, including remedial asbestos action, by new owners prior to use. The remaining buildings in the newly excessed lands contain friable and nonfriable ACM in good condition, which requires only disclosure of the locations and quantities of ACM when transferred.

5.2.10 Noise

Excessive Noise from Remedial Action Activities. The FEIS described potential noise impacts associated with remedial action activities on disposed lands (Volume I, page 6-77). The newly excessed lands contain areas requiring remedial action (parcel 1) and, therefore, would add to this impact. The short-term noise impacts are not expected to be substantial, however, and no mitigation beyond that contained in the FEIS is needed.

5.2.11 Hazardous and Toxic Waste Site Remedial Action

This analysis assumes that contaminated parcels within the newly excessed areas will be remediated to a level commensurate with proposed land uses. Cleanup 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 Remedial Investigation/Feasibility Study for Fort Ord, California (Harding Lawson Associates 1994). These studies were completed in late 1994 and are awaiting approval of the FFA agencies. Impacts of remedial action activities on land use, vegetation and wildlife, soils, noise, air quality, and water quality are addressed in their respective sections of this volume.

Potential Risks to Public Health and Safety Associated with Hazardous Materials. Several of the newly excessed parcels include contaminated sites. The sites include two motor pool areas and a former equipment storage area within excess parcel 1 (sites 20, 22, and 24 in Table 4-3 and Figure 4-3). The motor pool areas will require soil excavation and removal, whereas the equipment storage area will involve more extensive trenching and subsurface investigation for buried drums and other potentially toxic materials.

Before parcels identified in the RI/FS as having sufficient contamination to warrant full remediation evaluation 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 cleanup 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 of Transfer is completed to document the environmental conditions of the property, and it is the Army's position that after this point property transfer does not require additional documentation. This ongoing process will ensure that no significant health risks are associated with transferring the newly excessed parcels.

5.2.12 Ordnance and Explosives

The Army initiated ordnance investigations and response actions in 1994. Field investigation and clearance of OE is ongoing. Final standards for OE clearance depth considering future land use will be approved by the Department of Defense Explosive Safety Board. The Army's OE investigators determined that there is the potential for OE in one of the newly excessed land areas (Parcel 1; refer to Section 4.12, "Ordnance and Explosives"). In the multi-use range area (Figure 4-4), some areas will have unlimited (no limitations on types of uses), limited to access where surface clearance will be completed or have restricted access (e.g., only trained government personnel) where UXO and other OE will not be cleared. Even after OE investigation and response actions are complete, the potential for UXO and other OE will remain because of the long history of military use.

The Army's future documents and plans include engineering evaluations and cost analysis, a community education and relations plan, and a site maintenance and emergency response plan. The engineering evaluations will determine the level of clearance considering future land use and whether interim studies and monitoring actions are needed as part of the ongoing efforts. The community education and relations plan is intended to inform the public of the potential for OE on former Fort Ord lands.

The Army also will inform recipients of land of the potential for OE. Information is being included in transfer documents to alert property recipients of the potential for OE. Reuse of these areas may be restricted due to the presence of ordnance and explosive materials.

5.2.13 Vegetation, Wildlife, and Wetland Resources

Among the newly excessed lands, one small area covering approximately 7 acres in excessed parcel 1 supports medium-density populations of Monterey spineflower. The Monterey spineflower is federally listed as threatened under the ESA. No other federally listed species are known to occur in newly excessed lands.

The change in ownership of newly excessed lands from the federal government to other entities could result in a loss of federal protection for the Monterey spineflower populations described. The ESA protects federally listed threatened and endangered plants only where they occur in areas under federal jurisdiction or where federal permits or monies are involved. If the Army transfers parcel 1 to a nonfederal entity, these populations of Monterey spineflower could lose their federal protection. This species is not protected by the state ESA.

However, these populations are not considered in the February 1994 HMP or the Draft Revised HMP as necessary for conservation of the species at former Fort Ord. Both HMPs examined the distribution of Monterey spineflower throughout former Fort Ord, giving greater priority to areas supporting large, contiguous populations of the species. The small populations in excessed parcel 1 are isolated from other populations of Monterey spineflower at former Fort Ord and provide little benefit to the overall success of the species on the installation. In both HMPs, it generally was considered a greater benefit to a species to enhance or restore populations and habitat in large, contiguous habitat areas rather than to attempt to preserve small, isolated

populations. Therefore, these small populations of Monterey spineflower in excessed parcel 1 (as well as other small, isolated populations throughout the installation) were not considered preserved in either the February 1994 HMP or the Draft Revised HMP, and the parcels where they occur contain no habitat preservation requirements (Figures 4-6 and 5-23). Losses of Monterey spineflower in this parcel are considered mitigated through preservation, enhancement, and restoration of populations in areas identified as habitat reserves in the HMP. The removal of Monterey spineflower populations in excessed parcel 1 would be consistent with the installation-wide planning for the species included in the HMP.

Very limited impacts on other special-status biological resources could occur from the disposal of newly excessed lands since these areas are already predominantly developed. No wetlands occur in newly excessed lands. Only small inclusions of maritime chaparral, coastal scrub, coastal coast live oak, and annual grassland habitats covering less than 100 acres combined are found in these parcels. These scattered small areas of habitat have little potential to support special-status species and have little value for wildlife. Central coast maritime chaparral (the variety found at Fort Ord) is considered a rare habitat and should be considered during State actions requiring CEQA compliance. California Senate Concurrent Resolution No. 17 requires state agencies to assess the impacts of their actions on oak woodlands and minimize or compensate for these impacts where possible.

5.2.14 Visual Resources

As described in the FEIS (Volume I, page 6-132), there would be no disposal impacts on visual resource impacts associated with disposal.

5.2.15 Cultural Resources

Disposal of the newly excessed lands would not create cultural resource impacts beyond those described in the FEIS (Volume I, page 6-134). Inventory surveys have located no known NRHP-eligible cultural resources on the newly excessed lands.

5.2.16 Coastal Resources

There are no newly excessed lands in the coastal zone. The disposal of newly excessed lands outside the coastal zone would not affect coastal resources because only a change of title is involved. Similarly, there would be no impacts on the Monterey Bay National Marine Sanctuary from disposal of newly excessed lands.

5.2.17 Cumulative Impacts

Many of the impacts described in Sections 5.2.2 through 5.2.16 above are incremental additions to effects of disposal described in the FEIS (Volume I, page 5-15 and throughout Section 6.0). None of the direct impacts associated with the newly excessed lands are substantial, but where they add to impacts of the earlier disposal decision, they are considered cumulative impacts. As a result, the overall cumulative effect of disposal is slightly greater than that described in the FEIS but still does not result in substantial effects requiring additional mitigation beyond that described above in Sections 5.2.2 through 5.2.16.

As indicated in Section 5.2.3, the newly excessed lands would add new properties to the market that would compete with existing properties that are for sale. The newly excessed lands total 250 acres. No other large federal property disposals are planned in the region; therefore, this incremental increase is not considered substantial.

Section 5.2.7 describes an incremental increase in the number of structures being made available for interim leasing that do not meet current state and local seismic safety construction standards. This

increase is not substantial but is cumulative when combined with all of former Fort Ord buildings that are currently available for interim uses.

A number of toxic and hazardous waste sites within the newly excessed lands will be remediated in the near-term to support disposal and reuse (three sites in parcel 1). These actions add to the short-term site remediation already underway at former Fort Ord.

Finally, the transfer of parcel 1 would cumulatively add to the acreage of the Monterey spineflower that would lose federal protection as it transfers from federal ownership to private ownership. As a result, 7 additional acres of Monterey spineflower habitat would cease to have federal protection. (Approximately 10,000 acres of habitat at former Fort Ord support varying densities of Monterey spineflower populations. Of this amount, approximately 3,215 acres were considered removed in the 1993 NEPA ROD and February 1994 HMP.) This cumulative increase is not considered substantial because of the land management controls contained in the Draft Revised HMP.

None of these cumulative effects are considered significant or require mitigation beyond that described in Sections 5.2.2 through 5.2.15 above.

5.3 REUSE IMPACTS (SECONDARY ACTION BY OTHERS)

Reuse is not the Army's action but rather a secondary action following the Army's disposal action. Mitigation for reuse impacts is the responsibility of local agencies and private entities responsible for reuse and development, not the Army. Mitigation measures have been recommended where appropriate. In some cases, greater detail for particular measures is available in the 1993 FEIS, with the location specified in parentheses following the general description of the measure.

Mitigation measures were developed in response to reuse impacts on biological resources identified for Alternatives 7 and 8. These measures have been included in a Draft Revised HMP (Figure 5-23). The Draft Revised HMP and its habitat preservation requirements have been built into the land use plan for Revised Alternative 7. The Army, USFWS, BLM, UC, FORA, and others worked cooperatively to develop the Draft Revised HMP, which is described in Appendix D.

The measures included as part of the Draft Revised HMP were agreed to during a meeting between the Army, USFWS, and FORA on March 15, 1996, and a telephone conference between these three agencies and UC on March 28, 1996. These mitigation measures are described in the final Supplemental EIS in the "Coordination with USFWS" subsection of the "Vegetation, Wildlife, and Wetland Resources" portion of Section 5.3.2.2, "Cumulative Impacts", and in Section 4.0 of Appendix F.

The reuse analysis of Alternative 7 considers only the project components contained in the December 1994 FORA Final Base Reuse Plan. The analysis does not consider plan changes or mitigation developed since the December 1994 plan was approved by FORA because it is the Army's purpose to analyze the FORA approved plan (December 1994) in fulfillment of the Army's commitment in the ROD for the 1993 EIS. The "Newly Excessed Lands and Revised Use Areas" portion of the analysis (Section 5.3.1.1) describes impacts for specific land parcels from the December 1994 plan that were not analyzed previously by the Army in the EIS. The cumulative impact analysis of Alternative 7 (Section 5.3.1.2) considers the December 1994 plan as a whole, including the newly excessed lands, the revised use areas, and all lands within former Fort Ord. The proposed transportation network is included in the impact discussions, as are the known development proposals outside the former Fort Ord. Mitigation measures agreed to by the Army, USFWS, UC, and FORA on March 15 and 28, 1996 (which are included in the Draft Revised HMP), do not apply to Alternative 7, and impacts described in this section do not take these measures into account. Revised Alternative 7 is analyzed as a whole in Section 5.3.2.2 ("Cumulative Impacts"), and impacts on biological resources are discussed with the mitigation measures (and Draft Revised HMP) implemented. The revised alternative was developed specifically to include minor plan changes and mitigation developed since the December 1994 plan was approved by FORA. Impacts on biological resources described for Alternative 8 (Section 5.3.3.1, "Alternative Use Areas" and Section 5.3.3.2, "Cumulative Impacts") do not include the mitigation measures included in the Draft Revised HMP because this alternative was developed prior to the development of these mitigation strategies.

5.3.1 Alternative 7: FORA Final Base Reuse Plan (December 1994)

The FORA Final Base Reuse Plan (December 1994) predicts full build-out of its planned uses in a 50-year period. Therefore, impacts of the reuse plan that must be described in annual or daily increments (e.g., air emissions from construction) have been developed using a straight line projection of the 50-year build-out. For cumulative analysis, however, the full build-out impacts have been combined with those of the projected development in areas surrounding former Fort Ord as described by local planning entities (see Table 5-1). The reasonably foreseeable projects of Table 5-1 and population projections and traffic data developed by AMBAG to 2005 were the only future conditions data available to address cumulative effects when this analysis was conducted. While it is recognized that full build-out of the Fort Ord Base Reuse Plan is not expected to occur in the same period used for local planning projections, this impact analysis approach has been taken to provide an assessment of the entire reuse plan. This impact approach is the same as undertaken for other reuse alternatives in the Fort Ord Disposal and Reuse Final EIS (see Volume IV, page 3-15 and Volume II, page 159).

5.3.1.1 Newly Excessed Lands and Revised Use Areas

Land Use

The discussion below identifies potential land use conflicts that may result from development of the newly excessed lands and the revised use areas. Most of the newly excessed lands and revised use areas are already developed or would be a continuation of similar uses, resulting in a minimal land use conversion impact (Table 5-2).

Compatibility of Proposed Development in the Coastal Zone with Natural Habitat Resources. The coastal zone area west of SR 1 provides habitat for several special-status wildlife and plant species. The development proposed for this area in Alternative 7 includes a multi-use area (multi-agency visitor center including Stilwell Hall) and Asilomar-type facility (conference center with up to 300 guest units, dining and support facilities, and several meeting rooms) in revised use area S; and an aquaculture facility, marine research center, and desalination plant in area R (Figure 4-1).

This area has significant environmental and natural resources, and development in the area as proposed by Alternative 7 could destroy or disturb these resources. Impacts on biological resources associated with development in the coastal zone could be mitigated by ensuring that development is consistent with the February 1994 HMP and Draft Revised HMP, the State Parks general plan, and the Coastal Zone Management Act, which provide protection for the affected species.

The first installation-wide multispecies HMP was completed in February 1994 and subsequently approved by USFWS. A Draft Revised HMP has been developed to supplement the February 1994 HMP. Both HMPs were developed as mitigation for impacts on vegetation, wildlife, and wetland resources that would result from the disposal and reuse of the installation. The Army is transferring this coastal zone area to State Parks, which is developing a general plan for the area (described further in Section 1.3.4, "Coordination with Regulatory Agencies"). Under the terms of the conveyance, State Parks will adopt appropriate measures to implement the Draft Revised HMP requirements and implement measures to protect and conserve these species. The February 1994 HMP is described in more detail in Section 4.12.2, "Fort Ord Habitat Management Plan", and the Draft Revised HMP is described in Appendix D.

Table 5-2. Continuation of Existing or Urban Use in the Newly Excessed Lands, Revised Use Areas, and Existing Golf Courses under Alternative 7

Parcel/ Area[a]	Designed Use (Former Use with 7th IDL Present)	FORA Proposed Use (Alternative 7)[b]
1	Clinic, administration, storage, maintenance, vehicle storage, recreational/ athletic facilities, power plant, classrooms, exchange branch, water reservoir, enlisted barracks and dining facilities, fuel storage, chapel, skill center, snack bar	California State University, Monterey Bay; office park; transit center (16), 20e, (41)
2	Golf courses and related lavatories and maintenance structures	Golf courses 22
3	Service station, administration, and storage	Medium density residential (20a)
4	Vacant land	Transit center (41)
5	Vacant land	Medium density residential (20c)
A[c]	Sewage treatment plant (inactive), training facilities, firing ranges, vehicle storage, hazardous waste storage	Agri-center development area (includes public safety training center) (11b)
B1	Vacant land and training areas	Bus transfer center 8c
B2	Vacant land and training areas	University science office 8b
B3	Vacant land and training areas	Light industrial (19a)
B4	Vacant land and training areas	Light industrial (21b)
B5	Vacant land and training areas	Medium density residential (18)
B6	Vacant land and training areas	Medium density residential 21a
C	Police stockade (jail)	High tech business 2c
D	Hospital personnel barracks	Office park, medium density residential (18)
E	Water tower and main electrical substation	Water tower and electrical substation (18)
F1	Weapons training area (small arms inland range area)	Light industrial 21b
F2	Weapons training area (small arms inland range area)	Low density residential and resort hotel 23

Table 5-2. Continued

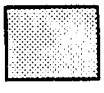
Parcel/ Area[a]	Designed Use (Former Use with 7th IDL Present)	FORA Proposed Use (Alternative 7)[b]
F3	Weapons training area (small arms inland range area)	Golf course/resort hotel 29a
G	Portion of Hayes Park housing area	Resort hotel (20a)
H	Vacant land and parade ground (part of 519 area)	Retail, central business district 15
I	World War II-era barracks and administration buildings	High density residential, parks, public schools, commercial, office, cultural center (2b)
L	Anti-air weapons training facility	Monterey Institute for Research in Astronomy 40
M	Portion of Patton Park housing area, vacant land	Retail 2a
N	Outdoor storage, transit barracks, Light Fighter Lodge, shopette store, child care facility	High tech business park (2c)
O	Administrative offices, equestrian center, veterinarian clinic, MARS (Military Amateur Radio Station)	Equestrian center 2g
P	Water reservoir, warehouses, craft shops	Retail, high density residential 2d
Q	Two heavy maintenance yards used by Directorate of Logistics	Corporation yards 2e
R	Firing range and support structures (26 acres), wastewater treatment plant until 1982, when the regional system began	Aquaculture/marine research, desalination plant 13
S	Recreation, administration (Stilwell Hall)	Multi-use/Asilomar-type facility 14a

[a] The parcel numbers and area letters in the column correspond with those in Figure 4-1.

[b] The FORA polygon number is indicated below the proposed use. Parentheses indicate that only a portion of the identified polygon is included in this area.

[c] Development in revised use area A (polygon 11b) would total approximately 200 acres and would be retained as much as possible in the currently developed areas, consistent with the February 1994 HMP and Draft Revised HMP.

Note: There are no areas J and K.



Continuation of existing use or change from one urban/developed use to another.

Compatibility of Development in the Coastal Zone with the Disturbed Habitat Zone. Development in the coastal zone proposed by Alternative 7 includes the 57-acre multi-use area and an Asilomar-type facility in revised use area S and the 4-acre desalination plant, 50-acre aquaculture facility, and marine research center in area R. The disturbed habitat zone (DHZ), which is planned by State Parks as a continuous band parallel to the coastline, would provide visitor-serving parks and recreation opportunities, as well as preservation of restored coastal dune and vernal pond habitat. Coastal development in Alternative 7 may block or divide the DHZ so public access would not be continuous. This would compromise the character and intention of the DHZ. This impact could be mitigated by creating an access corridor that extends through the multi-use area, desalination plant, and aquaculture/marine research center and connects the two portions of the DHZ so that access is continuous from one portion of the DHZ to the other. State Parks and others are working cooperatively to achieve a continuous corridor as part of the State Parks general plan process.

Compatibility of Proposed Natural Area Expansion with Proposed Office Park and Resort Hotel. An office park and resort hotel are proposed for development on 98 acres adjacent to a 29-acre natural area expansion (NAE) site (revised use area F3 in Figure 4-1). The office park and resort hotel development will consist of parking areas and multistory structures that will generate light and glare, noise, traffic, and water pollution that may adversely affect the natural area, which is an expansion of the Frog Pond Natural Area in Del Rey Oaks.

Mitigation to protect resource values in the NAE could include measures to prevent erosion, degradation, and siltation of an ephemeral drainage that passes through this parcel and other parcels in the vicinity.

Also to minimize the potential for damage to structures in the office park parcel from potential wildfires in the NAE parcel, parking lots, greenbelts, or another nonflammable or fire-resistant land use may be located at the boundary between the office park parcel and the NAE to act as a firebreak. If this firebreak were to consist of a greenbelt rather than a parking lot, it would mitigate potential impacts associated with light, glare, traffic, and noise. This mitigation is considered feasible because the Office Park/Resort Hotel parcel has sufficient acreage (98 acres) to accommodate this mitigation measure. Potential adverse impacts are considered minimal based on implementation of these measures.

Compatibility of Proposed Natural Area Expansion with Proposed Golf Course. An 18-hole golf course is proposed on 122 acres adjacent to the 29-acre NAE site (revised use area F3). Although golf courses offer a parklike setting that would be more compatible with the natural area than some urban uses are, golf course management also requires the heavy use of chemical fertilizers and pesticides, which can introduce water pollution into the adjacent natural area.

This impact could be mitigated by providing an open space buffer in the golf course parcel, landscaped with native species, along common boundaries between the NAE parcel and the golf course parcel. A 200-foot-wide minimum buffer zone is recommended. This mitigation is considered feasible because the proposed golf course parcel has sufficient acreage (122 acres) to accommodate this mitigation measure. Additional mitigation is discussed for the "Water Quality Degradation" impact under "Water Resources" in this section. Potential adverse impacts are considered minimal based on implementation of these measures.

Compatibility of Proposed Public Safety Training Center with Proposed RV Park/Campground, Agri-Center, and Natural Resource Management Area. Alternative 7 includes two different land uses within the same area near the East Garrison: the approximately 250-acre POST land use (revised use area A in Figure 4-1) superimposed on the agri-center area (225-acre overlap) and overlapping into the eastern portion of the RV Park/Campground (25-acre overlap) (polygons 11b and 17b, respectively, in Figure 3-1). The POST land use in Alternative 7 includes a request from Monterey Peninsula College for a public safety training center for public agencies with law enforcement and firefighting responsibilities. Activities conducted at the site would include firearms training on existing firing ranges 1, 2, and 3 and skeet ranges 1, 2, and 3; and driver and

police vehicle training, including high-speed pursuit training. Classroom, SWAT team, K-9 and chemical training (tear gas chamber) are also proposed at the site. POST land use (consisting of use of the existing military operations/urban terrain [MOUT] site and existing firing ranges within the inland range area) was considered as part of Alternative 6R in the FEIS, but did not include the public safety training uses or use of East Garrison firing ranges described above.

The use of this site for public safety training would generate excessive noise, public safety risk (i.e., bullets), and possibly light and glare impacts to users of the RV Park/Campground and NRMA and to residents and workers at the agri-center. The firing fan for the closed firing ranges extends into the NRMA and the RV park/campground, and BLM has indicated that the affected portion of the NRMA is expected to become a popular trail usage area and that the public safety training activities would be incompatible with BLM management objectives for the NRMA (Addington pers. comm.). Noise from the firing range and vehicle training could disturb and disrupt agri-center residents, campground and NRMA users, and POST classrooms. These activities would also compromise the setting of the East Garrison historic district, which is discussed further under "Cultural Resources" below.

The impact associated with practice firing could be mitigated by concentrating all live-firing proposals in a single location (i.e., near the existing MOUT facility or adjacent to the portion of the inland range area scheduled to be fenced); and by establishing an open space buffer around the proposed public safety training site and along common boundaries between the public safety training facilities and the RV park/campground, agri-center residences, and NRMA public use trails.

The buffer area should retain existing native plant species and be left undisturbed. A 300-foot-wide buffer area along common boundaries is recommended. This mitigation is considered feasible because the public safety training area is of considerable size (approximately 250 acres). No adverse impacts would be associated with this mitigation as long as existing native vegetation is not disturbed when the buffer zone is created.

Impacts associated with driver training could be minimized by isolating these activities away from the RV park and NRMA boundaries. The heavy-vehicle precision driving course along Inter-Garrison Road may provide this separation.

Potential Land Use Conflict from Trespassing into the Impact Area. Three of the multi-range area revised use areas (F1, F2, and F3) are located in or adjacent to the multi-range area (part of the NRMA). The multi-range area is known to contain UXO and other OE within its boundaries. Public access to the multi-range area currently is restricted. A Site Use Management Plan has been prepared for the multi-range area that addresses OE, the Army's planned response to it, and future use restrictions in this area (see discussion in Sections 4.12 and 5.2.12, both titled "Ordnance and Explosives").

Socioeconomics

The methodology used to evaluate the socioeconomic impacts of developing newly excessed and revised use areas is described in Appendix B. This appendix contains descriptions of specific changes in population, housing, employment, industrial output, and personal income associated with development of the revised use areas. In summary, population estimates were derived based on an average household size of 3.0 and the estimated number of housing units generated by the housing densities shown in Table 3-3.

Employment impacts were similarly estimated based on the development density and employment generation factors listed in Table 3-3. National labor productivity (i.e., output per job) data and income-per-job data then were used in conjunction with employment estimates to derive industrial output and personal income estimates. Because numerous assumptions were required to estimate employment effects, and national productivity and income data were used to derive industrial output and personal income effects, economic

changes estimated for newly excessed and revised use areas should be viewed as order-of-magnitude estimates. Limitations of the modeling results and methodology are described in Appendix I of the 1993 FEIS.

Executive Order 12898 (see Section 5.4, "Environmental Justice") requires federal agencies to examine proposed actions to determine whether they will have disproportionately high and adverse human health or environmental effects on minority or low-income populations. No adverse human health or environmental effects have been identified that would disproportionately affect minority or low-income populations. Reuse of newly excessed and revised use areas could result in beneficial effects for minority and low-income populations residing near the installation (i.e., in Marina and Seaside) and elsewhere in Monterey County. The increases in employment, industrial output, and personal income generated by reuse of newly excessed and revised use areas (described below) would directly and indirectly create new employment opportunities and growth in personal income for minority and low-income populations. The direct and indirect beneficial effects of economic growth would be spread throughout Monterey County, with beneficial effects expected to be distributed among income and ethnic groups approximately in proportion to their numbers within nearby communities and the county.

The following impacts were estimated assuming that full development of newly excessed and revised use areas would occur over a 50-year buildout period. The relatively large total changes estimated for the full development of newly excessed and revised use estimates would be greatly reduced, as a continuing annual increment to the local economy, when spread over the buildout period.

Increase of Approximately 14,100 Residents. Implementation of Alternative 7 would result in the construction or rehabilitation of housing in newly excessed lands and revised use areas at buildout that would accommodate a population increase of approximately 14,100, including an estimated population increase of 7,200 in the City of Marina and 2,200 in the City of Seaside. The estimated population growth in newly excessed lands and revised use areas would occur in revised use areas A (204 people), B (5,340 people), F (1,320 people), I (6,174 people), and P (1,029 people). When spread over the assumed 50-year buildout period, this level of growth would represent an average annual increase of 281 persons. This growth is not considered significant. No mitigation is required.

Development of Approximately 4,700 Housing Units. Implementation of Alternative 7 would result in the construction or rehabilitation of almost 4,700 housing units in newly excessed lands and revised use areas, including approximately 2,400 housing units in the City of Marina and 700 units in the City of Seaside. The estimated housing development in newly excessed lands and revised use areas would occur in revised use areas A (68 housing units), B (1,780 units), F (440 units), I (2,058 units), and P (343 units); and parcel 1 (79 units in the 84-acre portion of this parcel). When spread over the assumed 50-year buildout period, this level of housing development would represent an average annual increase of 94 housing units. This level of housing growth is not considered significant. No mitigation is required.

Generation of Approximately 21,300 Jobs. Implementation of Alternative 7 would result in the development of employment-generating land uses in newly excessed lands and revised use areas that would directly generate an estimated 21,300 jobs, including approximately 5,000 jobs in the City of Marina and 7,600 jobs in the City of Seaside. Areas that would support large-scale job development, and accompanying growth in personal income and industrial output, include revised use areas B (8,655 jobs), F (1,620 jobs), H (1,070 jobs), I (1,425 jobs), N (1,712 jobs); and parcel 1 (2,862 jobs in the 28-acre portion of this parcel). Employment growth would average 425 jobs per year when spread over the 50-year buildout period. These employment effects are considered beneficial economic impacts because they would provide new employment opportunities for unemployed and underemployed persons residing within the region. No mitigation is required.

Generation of Approximately $1.6 Billion in Industrial Output. Implementation of Alternative 7 would result in the direct generation of approximately $1.6 billion in industrial output in newly excessed lands and revised use

areas, including $360.3 million in the City of Marina and $500.1 million in the City of Seaside. Much of the increase in industrial output would occur in areas that would support large-scale job development, as described above. Growth in industrial output is considered a beneficial economic impact. No mitigation is required.

Generation of Approximately $647.9 Million in Personal Income. Implementation of Alternative 7 would result in the direct generation of approximately $647.9 million in personal income in newly excessed lands and revised use areas, including $145.9 million in the City of Marina and $241.9 million in the City of Seaside. Much of the increase in personal income would occur in areas that would support large-scale job development, as described above. Growth in personal income is considered a beneficial economic effect. No mitigation is required.

Decreased Demand for Community Services and Job Development Programs Because of Development. Implementation of Alternative 7 would result in decreased unemployment and increased economic activity because of the more intensive economic use of newly excessed lands and revised use areas. Increased economic development and employment growth would result in an incremental reduction in the demand for community services, such as welfare and crisis intervention programs. Additionally, employment growth related to development of Supplemental EIS areas would benefit programs designed to assist unemployed and undertrained persons seeking employment opportunities in Monterey County. No mitigation is required.

No Change in Availability or Cost of Healthcare Services for Military Retirees Because of Development. Development of newly excessed lands and revised use areas under Alternative 7 would have no effect on the availability or cost of medical services available to military retirees in Monterey County. No mitigation is required.

Soils, Geology, Topography, and Seismicity

Loss of Soil Component of Natural Ecosystem. Substantial areas of proposed new development would result in the disturbance or loss of the existing soil substrate as a component of the natural ecosystem supporting natural habitats and rare plant communities through excavation, grading, paving, landscaping, and so forth (refer to "Vegetation, Wildlife, and Wetland Resources" in Section 5.3.1.2, "Cumulative Impacts", for more information). Areas affected include 43 acres for an aquaculture/marine research center and desalination plant (revised use area R); 59 acres for a multi-use visitor center and an Asilomar-type facility (lodging and conference center) (area S); 110 acres for medium-density residences and an office park (area B5); 194 acres for light industrial development (areas B4 and F1); 131 acres for medium- and high-density residences (area B6); 96 acres for a resort hotel and housing (area F2); 237 acres for expansion of the university (central portion of area B3); and 187 acres for an office park, resort hotel, and proposed golf course (area F3). New development would overcover, disturb, or alter approximately 820 acres of existing natural and seminatural soil substrate. This impact could be mitigated by limiting development to existing urban areas and degraded open space, which would avoid disturbance and preserve soil (Final EIS, Volume I, page 6-28).

Loss of Coastal Facilities. The potential use of Stilwell Hall as a multi-agency visitor center (revised use area S) could be affected by the loss of the facility because of the rapid rate of coastal erosion. Additional coastal zone facilities, including an aquaculture/marine research center in (revised use area R), desalination plant (area R), and Asilomar-type facility (area S), will be set back to observe coastal erosion rates and prevent their loss during their expected life spans. Reuse in the coastal zone has been evaluated in the State Parks general plan, which is currently being developed and anticipated to receive approval from the State Parks and Recreation Commission sometime in 1996.

Accelerated Wind Erosion. Soil surface disturbance and removal of vegetation from relatively undisturbed areas would result in an increased hazard of wind erosion of the predominately sandy and poorly aggregated soils of Fort Ord, specifically the Baywood, Oceano, and Arnold series. The areas most likely to be affected

include all those designated for new development in the "Loss of Soil Component of Natural Ecosystem" impact discussion above. Wind erosion and blowing sand could damage existing vegetation and structures in all areas. This effect could be mitigated by restoring soil cover through revegetation (Final EIS, Volume I, page 6-29).

Accelerated Water Erosion. Proposed development would necessitate the removal of vegetation, disruption and excavation of the soil surface, and potentially the concentration and redirection of runoff. These changes, where they occur on moderate to highly erodible lands and on moderate to steep slopes greater than 15%, would result in accelerated water-induced soil erosion that would cause environmental damage and ultimately be a hazard to the stability of the proposed developments. This impact would be especially acute on areas of the Arnold soil series, a sandy soil over a cemented hardpan. The following areas of proposed new development could be subject to accelerated water-induced soil erosion: portions of the 110 acres for medium-density residences and an office park (revised use areas B5 and D); 194 acres for light industrial development (areas B4 and F1); 131 acres for medium- and high-density residences (area B6); 96 acres for a resort hotel and housing (area F2); and 187 acres for an office park, resort hotel, and proposed golf course (area F3). This impact could be mitigated by implementing erosion control measures, including headcut repair techniques (runoff diversion, shaping, rock riprap, and revegetation) and techniques to avoid gully downcutting (checkdams, drop inlets, and revegetation) (Final EIS, Volume I, page 6-29).

.Severe Engineering Limitations Because of Use of Sandy, Unaggregated Soils. Areas of proposed new development on sandy soils with weak or no aggregation (Baywood, Oceano, and Arnold soil series) have severe limitations to engineering use because of excavation caving and slope and embankment piping potential. This impact could be mitigated by implementing appropriate engineering techniques for sandy, unaggregated soils during design and construction of facilities (Final EIS, Volume I, page 6-31).

Susceptibility of Existing and New Structures to Damage from Ground Shaking. All new construction on former Fort Ord and all reused existing structures would be subject to a moderately high to very high ground shaking potential. This impact could be mitigated by constructing new or modifying existing structures to meet building codes (Final EIS, Volume I, page 6-31).

Public Services and Utilities

Increased Requirements for Services and Utilities. The types of land uses proposed for a development scenario generally dictate the requirements for public services and utilities. Most of the newly excessed lands and revised use areas would be developed with urban land uses requiring public services and utilities. Reuse of some of these areas would involve converting one urban-type land use to another urban use with minimal changes in requirements for public services. Table 5-3 summarizes the estimated public services and utilities that would be required to develop the newly excessed lands and revised use areas. For some service requirements (e.g., solid waste disposal, telephone and cable television services, and public schools) service levels are expected to be less than the total service level provided for the former Fort Ord installation. In other instances, (e.g., wastewater treatment and gas and electric service), the service requirements for the newly excessed lands and revised use areas likely will exceed the levels of service provided to the former Fort Ord installation. The overall effect on public services and utilities, considered in the context of Alternative 7 in its entirety, is discussed below in Section 5.3.1.2, "Cumulative Impacts". The FORA Final Base Reuse Plan (December 1994) includes concept plans for communication systems, a wastewater system, and energy supply systems to support land use. They are included at the end of this section as Figures 5-1, 5-2, and 5-3, respectively.

Table 5-3. Estimated Public Services and Utilities Requirements for Newly Excessed Lands and Revised Use Areas under Alternative 7

Public Service Issue of Concern	Original Condition (7th IDL Present)	Total Requirements for Alternative 7	Requirements for Newly Excessed Lands and Revised Use Areas
Wastewater generation (MGD)	2.4	10.2	2.8
Solid waste generation (tpd)	94	263	67
Landfill life (years)	100	14% reduction	5% reduction
Telephone service area (acres)	5,190	9,065	2,634
Gas service (MCFH)	146	2,637	1,089
Electric service (MW)	18	273	68
Cable television area (acres)	5,160	4,518	713
Storm drainage (developed acres)	4,960	5,800	2,714
Water distribution (acres)	1,700	5,000	1,102
Developed parks (acres)	470	198 (required) 1,649 (proposed)	20
Undeveloped open space (acres)	14,500	17,026 (proposed)	0
Schools (students generated)	8,800 (existing capacity)	8,300	3,133

Notes: MGD = million gallons per day.
tpd = tons per day.
MCFH = million cubic feet per hour.
MW = megawatts.
N/A = not applicable.

Water Resources

Water Supply and Demand. The estimated combined baseline water demand for the newly excessed lands and revised use areas is approximately 2,200 af/yr. The water demand under baseline conditions was itemized by map polygon based on the 7th IDL land use. Some of the revised use areas (A, B3, B6, F1, F2, F3, and R) are undeveloped and have no water demand. Water demand for these polygons would increase by approximately 2,900 af/yr under Alternative 7. Land use on the developed areas (revised use areas B5, C, D, G, H, I, M, N, O, P. Q, and S) includes barracks, medium-density residential, office buildings, the bowling alley, a bank, the sports stadium, and Stilwell Hall. The net increase in water demand for these facilities was estimated to equal 400 af/yr. Thus, total water demand for the newly excessed lands and revised use polygons would increase by approximately 3,300 af/yr, from 2,200 af/yr to 5,500 af/yr.

Alternative 7 includes a provision that development will be in phases subject to the availability of adequate water supplies (see the "Mitigation Agreement" portion of Section 3.2.2). The reuse of former Fort Ord lands will be planned and implemented in coordination with MCWRA and other appropriate agencies to ensure adequate water supplies for coastal zone lands, including coastal-dependent agricultural and visitor-serving areas. Initial priority will be given to supplying water demands in coastal areas. The initial phase will use existing supplies that are in excess of Army needs. Later phases will be contingent on development of new water sources. The FORA Final Base Reuse Plan (December 1994) includes a concept plan for a water distribution system to support land use. It is included at the end of this section as Figure 5-4.

Increased Demand for Water (Approximately 5,500 Af/Yr). Total water demand for the newly excessed lands and revised use areas is estimated to equal approximately 5,500 af/yr. The effect of this use on regional water supplies and local groundwater conditions cannot be meaningfully interpreted apart from the overall effect of Alternative 7 because total water demand is the factor of greatest importance to the hydrologic systems. Water demand for the newly excessed lands and revised use areas would increase the total demand under Alternative 7 from approximately twice to approximately three times the recent historical water use. The water demand for Alternative 7 (with or without the newly excessed lands and revised use areas) would be large enough to result in seawater intrusion if it is supplied by local wells. The Army has executed an MOU with MCWRA that expresses an agreement that the Army may pump up to 6,600 af/yr from its existing wells to meet Army water demands, provided the pumping does not result in seawater intrusion. The Army has also become a member of MCWRA. Future Army demand will be less than recent historical demand and is not expected to cause seawater intrusion. The great majority of the water demand for Alternative 7 derives from civilian reuse of former Fort Ord lands. These users will need to cooperate with MCWRA in developing new water supply projects or develop their own water supplies from other sources (e.g., desalination). MCWRA is pursuing a number of options to meet projected water demand in the Fort Ord area, including the Salinas Valley water transfer project and the Castroville seawater intrusion project. No further mitigation action for water demand increases is required by the Army.

Changes in Groundwater Recharge. In general, development of the newly excessed lands and revised use areas could increase local groundwater recharge through leaks from underground pipes and irrigation return flow from landscaped areas. The increase in recharge would be beneficial but would be less than the increase in water demand. No mitigation is required.

Hydrology and Water Quality. Reuse of the newly excessed lands and revised use areas would result in several impacts on surface water hydrology and water quality, as described below. The FORA Final Base Reuse Plan (December 1994) includes a concept plan for a stormwater system to support land use. It is included at the end of this section as Figure 5-5.

Increases in Site Runoff. Reuse in revised use areas A, B3, B6, F1, F2, F3, and R and in the western portion of parcel 1 would result in the conversion of land from open space to urban or other development, even though much of these areas is already considered urbanized. Additional urban development could reduce the amount

of rainfall that infiltrates to groundwater where new impervious surfaces are attached to storm drain systems. New and retrofitted storm drain systems also could be required. Although the existing storm drain system functions without major problems, its open water discharge to Monterey Bay is not expected to meet new stormwater treatment and disposal regulations due to be promulgated in 1996. The FORA Final Base Reuse Plan (December 1994) includes a modification of the drainage system that would allow stormwater runoff to pass through reconstructed wetlands in the coastal dune area before entering Monterey Bay. Any increases in runoff to these systems may cause flood problems. Impacts associated with increases in site runoff would be mitigated by constructing onsite drainage facilities as reuse is implemented (Final EIS, Volume I, page 6-53). Onsite drainage facilities could consist of one or a combination of the following: vegetated drainage swales, gravel-lined drainage channels, french drains, and retention or detention basins. Implementation of this measure would be the responsibility of the reuse entity.

Risk of Flood Damage from Development in 100-Year Floodplain. A review of Federal Emergency Management Agency maps indicates that a small portion of the western portion of parcel 1 may be in the 100-year floodplain. Some structural development may be proposed in the 100-year floodplain for this alternative. Any reuse development in these floodplains constitutes a risk to people and property from flood damage. This impact could be mitigated by increasing drainage capacities or excluding specific development from 100-year floodplains as reuse occurs (Final EIS, Volume I, page 6-53). Implementation of these measures would be the responsibility of the reuse entity.

Water Quality Degradation from Urban Runoff and Construction-Related Increased Erosion and Hazardous Material Spills. Runoff from urban areas can carry a variety of accumulative pollutants, such as oil, grease, heavy metals, sediment, pesticide residues, fertilizers, and coliform bacteria, from roadways, parking lots, rooftops, and other surfaces. Additionally, construction and grading activities could temporarily cause substantial increases in site erosion associated with storm runoff and risk of hazardous chemicals spill from construction equipment (i.e., gasoline, diesel fuel, oil, grease, and other substances) into adjacent waterways and groundwater. This impact can be mitigated by constructing onsite drainage facilities and obtaining necessary stormwater permits (Final EIS, Volume I, page 6-54), limiting water erosion by implementing erosion-control structures (Final EIS, Volume I, page 6-55), and preparing and implementing a hazardous substance control plan for all construction activities (Final EIS, Volume I, page 6-55). Implementation of these measures would be the responsibility of the reuse entity.

Public Health and Safety

Increased Requirements for Services. Requirements for public health and safety services generally are dictated by the type of land use proposed. Most of the newly excessed lands and revised use areas under Alternative 7 would be developed with urban land uses requiring law enforcement, medical, and fire protection services. Reuse of some of these areas would involve converting one urban-type land use to another urban use with minimal changes in requirements for services. Other parcels consist of vacant land that would be developed with urban-type uses. Table 5-4 summarizes the estimated public health and safety services that would be required to develop the newly excessed lands and revised use areas. The total service requirements for both the former Fort Ord installation and the Alternative 7 development scenario are provided for comparison.

Table 5-4. Estimated Public Health and Safety Requirements for Newly Excessed Lands and Revised Use Areas under Alternative 7

Service or Safety Issue of Concern	Original Requirement or Condition (7th IDL Present)	Total Requirements for Alternative 7	Requirements for Newly Excessed Lands and Revised Use Areas
Law enforcement (total officers)	144	127	32
Fire protection (firefighters)	40	62	16
Medical/emergency medical services (population requiring services)	Local capacity for 90,000 additional residents	41,500 [a]	15,663

[a] Medical services for up to 20,000 on-campus students would be a separate requirement.

As shown in Table 5-4, the newly excessed lands and revised use areas will generate requirements for law enforcement, fire protection, and medical services. Development of structures in the newly excessed lands and revised use areas will be required to meet current seismic codes, minimizing the exposure of residents and those employed on these parcels to risks associated with seismic events. For each of the required services, the service levels are less than the total service levels provided for the former Fort Ord installation. The overall effects on public health and safety services, considered in the context of Alternative 7 in its entirety, are discussed below in Section 5.3.1.2, "Cumulative Impacts".

Traffic and Circulation

Increased Trip Generation. Development of land uses in the newly excessed lands and revised use areas would result in the generation of 223,278 vehicle trips per day at buildout of Alternative 7. These trips would be added to the 211,861 trips per day generated by the remaining areas under Alternative 7 for a total of 435,139 trips per day generated under Alternative 7. This total is discussed in the "Traffic and Circulation" portion of Section 5.3.1.2, "Cumulative Impacts". Table 5-5 shows the polygons and land uses that would generate the 223,278 trips. Most of the trip generation rates and resulting trip generation estimates shown in Table 5-5 are from an industry-standard source: the Institute of Transportation Engineer's reference document, Trip Generation, 5th edition (1991). Table 5-5 also includes trip generation information from local sources, including staff from the City of Marina and City of Seaside. Some of the trips generated by implementing Alternative 7 would remain in former Fort Ord, whereas some of these trips would result in vehicle travel in surrounding communities. The single largest trip generator in the newly excessed lands and revised use areas would be the commercial land uses in revised use area I (28,897 trips). The second largest trip generator would be the central business district in revised use area H (24,075 trips) land (Figure 4-1). The next three largest trip generators would be commercial areas: retail land uses in revised use area M (22,711 trips), light industrial land uses in area B3 (20,225 trips), and retail land uses in area P (13,111 trips).

Table 5-5. Trips Generated in Newly Excessed Lands and Revised Use Areas under Alternative 7

Revised Use Area or Parcel	Polygon Number	Description of Land Use	Trips per Day
1	16	University	4,863
1	20e	Office Park	6,639
1	41	Transit Center	4,400
2	22	Golf Courses	1,556
3	20a	Medium Density Residential	228
4	20a	Transit Center	770
5	20c	Medium Density Residential	285
A	11b	Agri Center/Public Training Center	10,925
A	11b	Residential	1,294
B1	8c	Bus Transfer Center	2,090
B2	8b	University Science Office	3,096
B3	19a	Light Industrial	20,225
B4	21b	Light Industrial	1,558
B5	18	Medium Density Residential	1,140
B6	21a	Medium Density Residential	10,700
C	2c	High Tech Business	2,397
D	18	Office Park	7,050
D	18	Medium Density Residential	456
E	18	Water Tower and Substation	10
F1	21b	Light Industrial	1,558
F2	23	Low Density Residential	2,508
F2	23	Resort Hotel	3,197
F3	29a	Golf Course/Resort Hotel	1,027
G	20a	Resort Hotel	3,654
H	15	Retail	4,560
H	15	Central Business District	24,075
I	2b	High Density Residential	12,801
I	2b	Parks	44
I	2b	Elementary School	561
I	2b	Junior High School	673
I	2b	High School	569
I	2b	Commercial	28,897
I	2b	Office	4,875
I	2b	Cultural Center	3,161
L	40	Research Center	159
M	2a	Retail	22,711
N	2c	High Tech Business Park	5,592
O	2g	Equestrian Center	83
P	2d	Retail	13,111
P	2d	High Density Residential	2,133
Q	2e	Corporation Yards	3,272
R	13	Aquaculture/Marine Research	2,548
S	14a	Multi-Use/Asilomar-Type Facility	1,827
Total			223,278

Table 5-6. Fort Ord Reuse Construction Emissions under Alternative 7

Condition	Total Developable Acreage[a]	Acreage per Day[b]	Emissions (Pounds per Day)[c]			
			ROG	NO_x	CO	PM10[d]
Newly excessed lands and revised use areas[e]	2,497	0.2	1	15	5	14 (8)
Alternative 7[f]	10,140	0.8	5	63	23	56 (29)

[a] Total developable acreage was estimated by subtracting the acreages of natural areas, natural resource management areas, and habitat preserves from the total gross acreage of all land areas.

[b] The acreage per day was estimated by dividing the total developable acreage by 50 years (1995-2045) and assumes 250 days per year during which construction would occur.

[c] Emissions are a function of the acreage proposed for development. The total developable acreage excludes acreage devoted to open space and existing land uses that would not require additional earth moving. Emissions are based on EPA emission factors for heavy-duty construction equipment and for construction activities (U.S. Environmental Protection Agency 1985).

Although this table assumes straight line projection of construction, FORA's 1994 plan predicts a first phase development by 2015. In this plan, 45% of total Alternative 7 development (4,563 acres) would occur during the first 20 years (1995-2015), whereas the remaining 55% would occur during the remaining 30 years of the 50-year development period. This level of development is based on the assumption that 45% of the water allocation budget would be allocated by 2015. Assuming that 45% of construction also occurs between 1995 and 2015, then average worst-case daily construction emissions for Alternative 7 would equal 5 ppd ROG, 70 ppd NO_x, 26 ppd CO, and 63 ppd PM10 (33 ppd PM10 assuming 50% control). Individual construction projects are likely to exceed the average disturbed acreage estimates in this table and could result in PM10 daily emissions in excess of MBUAPCD construction thresholds.

[d] PM10 fraction is assumed to equal 64% of total suspended particulates based on the emissions inventories used to prepare the Monterey Bay Unified Air Pollution Control District's 1991 and 1994 Air Quality Management Plans (1991, 1994).

[e] These lands consist of parcels 1-5 and areas A through I and L through S shown in Figure 4-1.

[f] This includes all of Alternative 7 as shown in Figure 3-2.

Note: PM10 emissions in parentheses represent controlled emissions. A control efficiency of 50% is assumed for fugitive dust emissions and 0% for construction equipment PM10 exhaust emissions.

Because of the nature of travel, transportation impacts occur outside their point of origin. Most transportation impacts occur at a distance from where the trips are generated. Therefore, the significance of impacts and necessary mitigation measures for land uses in the newly excessed lands and revised use areas under Alternative 7 should not be judged in isolation. That is, these effects and mitigation measures should be considered in the context of travel in and around the entire former Fort Ord area. In Section 5.3.1.2, "Cumulative Impacts", the transportation effects of Alternative 7 are addressed in this larger context. The FORA Final Base Reuse Plan (December 1994) includes phased plans for transportation system improvements and proposed transportation corridor rights-of-way to support land use. They are included in Figure 3-3 and at the end of this section as Figures 5-6 and 5-7. In addition, Alternative 7 includes a provision that a traffic study will be undertaken by local jurisdictions in coordination with TAMC, and actions will be taken to balance supply and demand in consideration of local, Clean Air Act, and CZMA standards (see the "Mitigation Agreement" portion of Section 3.2.2).

Air Quality

Increased Emissions during Construction. Construction emissions are a function of the acreage that would be actively disturbed by construction equipment and the type of construction equipment that would be used. Estimates were made of ROGs, nitrogen oxide (NO_x), carbon monoxide (CO), and PM10 emissions generated by construction activities to determine whether they exceeded the significance thresholds established by the MBUAPCD. Those thresholds equal 150 pounds per day (ppd) for ROG and NO_x, 82 ppd for PM10, and 550 ppd for CO.

Construction equipment emission estimates assume that full buildout of the newly excessed lands (parcels 1-5 of Figure 4-1) and revised use areas (areas A through I and L through S of Figure 4-1) would be completed by 2045 and that a uniform rate of construction would occur between 1995 and 2045. Average daily construction emissions are based on the average acreage disturbed per day, which is estimated by dividing the total developable acreage (2,497 acres) by 12.500 days (250 construction days per year multiplied by 50 years). Construction emissions are summarized in Table 5-6. Emissions associated with construction on the newly excessed lands and revised use areas would not exceed the significance thresholds established by the MBUAPCD. Consequently, construction-related emissions are considered less than significant.

Increased Operational Emissions. In this section, estimates of operational emissions include only those emissions associated with use of the newly excessed lands (parcels 1-5 shown in Figure 4-1) and revised use areas (areas A through I and L through S of Figure 4-1). These include motor vehicle emissions associated with vehicle trips and area source emissions, such as fossil fuel combustion and evaporative emissions. The operational emission estimates assume that full buildout would occur by 2045. Motor vehicle trips are based on the trip generation rates used in the traffic analysis, whereas area source emissions are based on the number of residential land uses and the square footage of commercial and industrial buildings. Table 5-7 shows year 2045 operational emissions associated with buildout of the newly excessed lands and revised use areas. Interim year (2015) emissions for Alternative 7 are assumed to equal 45% of buildout and are described in the notes of Table 5-7. Emissions are itemized by motor vehicle and area source categories. For all pollutants, the net increase in emissions is less than under existing conditions. Existing conditions is defined as the baseline conditions when the 7th IDL was present and Fort Ord was fully operational.

Noise

Increased and Excessive Noise from Traffic on Existing Noise-Sensitive Land Uses. Traffic noise levels have been evaluated along existing roadway segments and other segments under Alternative 7 that would be located within the boundaries of former Fort Ord. Table 5-8 summarizes the L_{dn} (day-night average sound level) at a fixed distance of 100 feet from the centerline of each roadway segment analyzed. Table 5-8 also summarizes the predicted distance to the 55-, 60-, 70-, and 75-dB-L_{dn} contour lines that would occur under Alternative 7.

Table 5-7. Total Operational Emissions Associated with Reuse under Alternative 7

Condition	Emission Type	Emissions (Pounds Per Day) ROG	NO_x	CO	PM10
Existing conditions	Motor vehicles	7,418	5,846	65,631	2,207
	Area sources	815	161	464	1,159
		8,233	6,007	66,095	3,366
Newly excessed lands[a]	Motor vehicles	1,718	2,921	53,929	1,043
	Area sources	194	38	110	276
		1,912	2,959	54,039	1,318
ROD	Motor vehicles	3,599	6,040	111,350	2,213
	Area sources	669	131	375	965
		4,268	6,171	111,726	3,178
Alternative 7[b]	Motor vehicles	3,152	5,359	98,947	1,913
	Area sources	586	116	334	834
		3,739	5,475	99,280	2,747
Net change - Alternative 7 versus existing conditions		-4,494	-532	33,185	-619
Net change - Alternative 7 versus ROD		-529	-696	-12,446	-431

Notes: Motor vehicle emissions were estimated by multiplying daily vehicle miles traveled (VMT) times an average emission factor (grams per mile) per vehicle.

Vehicle emission factors were estimated using the California Air Resources Board's EMFAC7F1.1 model. Daily VMT was estimated by multiplying the trip generation rate for each land use by the average trip length (by trip type) for trips in the Monterey Bay area. Trip generation rates were based primarily on the Institute of Transportation Engineer's Trip Generation manual (Institute of Transportation Engineers 1991). The EMFAC7F1.1 model includes emission rates only up to 2010. Motor vehicle emissions for succeeding years were modeled using 2010 rates.

Alternative 7 emission estimates assume full buildout by 2045. Interim year (2015) emissions are assumed to equal 45% of full buildout, based on the assumption that 45% of the water allocation budget would be allocated by 2015. Year 2015 emissions for Alternative 7 would equal 1,683 pounds per day of ROG, 2,464 pounds per day of NOx, 44,676 pounds per day of CO, and 1,236 pounds per day of PM10.

[a] This includes the newly excessed lands (parcels 1-5) plus the revised use areas, which consist of areas A through I and L through S shown in Figure 4-1.

[b] This includes all of Alternative 7 as shown in Figure 3-2.

Table 5-8. Summary of Noise Modeling for Alternative 7

Roadway	Segment	L_{dn} at 100 Feet from Roadway Centerline: Existing Conditions	L_{dn} at 100 Feet from Roadway Centerline: Alternative 7 Minus Existing Conditions	Distance (in feet) from Centerline of Roadway to L_{dn} Contour Line under Alternative 7: 70 L_{dn}	65 L_{dn}	60 L_{dn}	55 L_{dn}
State Routes							
SR 1	SR 68 interchange to Del Monte Avenue interchange	74	0	193	416	896	1,930
	Del Monte interchange to SR 218 interchange	74	1	205	441	950	2,046
	SR 218 interchange to Fort Ord Village interchange	74	0	199	428	922	1,986
	Fort Ord Village interchange to 0.5 mile north	75	0	208	448	966	2,082
	0.5 mile north of Fort Ord Village to main gate	75	1	237	510	1098	2,365
	Main gate to 12th Street gate	75	0	216	465	1001	2,156
	12th Street gate to south Marina interchange	75	-1	193	415	894	1,927
	South Marina interchange to Reservation Road	73	0	168	361	778	1,677
SR 218	SR 1 to Fremont Boulevard	64	1	44	95	204	440
	Fremont Boulevard to SR 68	64	1	49	105	226	487
SR 68	SR 1 interchange to SR 218 interchange	64	4	72	155	333	718
	SR 218 interchange to Barloy Canyon Road	67	-1	58	125	270	581
	Barloy Canyon Road to Toro Park	71	-5	53	115	248	533
	Toro Park to north of Spreckles Boulevard	69	3	145	312	672	1,447
SR 68 bypass	SR 218 to Barloy Canyon Road	N/A	N/A	94	202	436	938
	Barloy Canyon Road to SR 68	N/A	N/A	94	202	435	937
County Roads							
Reservation Road	Multi-Modal Corridor to Inter-Garrison Road	66	-3	36	77	166	358
	Inter-Garrison Road to SR 68	59	5	42	91	197	424
Davis Road	Reservation Road to Blanco Road	63	3	53	115	248	534
	North of Blanco Road	63	2	47	101	218	469
Multi-Modal Corridor	U.S. Highway 101 to Blanco Road	N/A	N/A	89	192	413	889
	Blanco Road to Reservation Road	66	5	116	249	537	1,156
City of Marina Roads							
Del Monte Boulevard	SR 1 to Reservation Road	66	1	59	128	275	593
Reservation Road	SR 1 to Multi-Modal corridor	66	-3	33	71	153	330
City of Seaside Roads							
Fremont Boulevard	SR 1 to SR 218	65	-2	46	99	214	460
	SR 218 to Broadway Avenue	65	-1	41	89	191	411
	Broadway Avenue to SR 1	64	0	41	89	191	412

Table 5-8. Continued

Roadway	Segment	L_{dn} at 100 Feet from Roadway Centerline		Distance (in feet) from Centerline of Roadway to L_{dn} Contour Line under Alternative 7			
		Existing Conditions	Alternative 7 Minus Existing Conditions	70 L_{dn}	65 L_{dn}	60 L_{dn}	55 L_{dn}
Broadway Avenue	Del Monte Boulevard to Fremont Boulevard	61	1	30	65	139	300
	Fremont Boulevard to North-South Road	62	-3	19	40	86	186
Del Monte Boulevard	SR 218 to Broadway Avenue	64	1	44	94	203	438
	Broadway Avenue to Fremont Boulevard	62	2	39	84	180	389
Fort Ord Roads							
Multi-Modal Corridor	Reservation Road to Inter-Garrison Road	N/A	N/A	110	237	510	1,099
Imjin Road	Fourth Avenue to New Road B	N/A	N/A	71	152	328	706
12th Street	SR 1 to Fourth Avenue	N/A	N/A	70	150	323	696
Fourth Avenue	North of Eighth Street	N/A	N/A	26	56	122	262
New Road B	North of Inter-Garrison Road	N/A	N/A	36	78	167	361
	South of Inter-Garrison Road	N/A	N/A	43	93	200	431
Inter-Garrison Road	New Road D to Reservation Road	N/A	N/A	60	129	277	597
Light Fighter Drive	SR 1 to Second Avenue	N/A	N/A	47	102	220	475
Eighth Street	Second Avenue to New Road D	N/A	N/A	20	43	92	199
2nd Avenue (and extension)	Light Fighter Drive to Marina Interchange	N/A	N/A	24	52	111	240
New Road D	Gigling Road to Imjin Road	N/A	N/A	57	123	265	570
Gigling Road	North-South Road to New Road E	N/A	N/A	70	151	324	699
North-South Road	Light Fighter Drive to Broadway Avenue	N/A	N/A	61	132	283	611
	Broadway Avenue to SR 218	N/A	N/A	37	80	173	372
New Road E	Gigling Road to Eucalyptus Road	N/A	N/A	43	92	197	425
Eucalyptus Road	North-South Road to Barloy Canyon Road	N/A	N/A	38	81	175	377
New Road F	SR 218 to Eucalyptus Road	N/A	N/A	27	57	124	267
Barloy Canyon Road	SR 68 bypass to Reservation Road	N/A	N/A	22	48	104	224
New Road C	Imjin Road to Eighth Street	N/A	N/A	12	27	57	124

N/A = not applicable.

Noise-sensitive land uses (primarily residential) are adjacent to all the existing roadway segments evaluated. Although implementing Alternative 7 would substantially increase noise (5 dB or greater relative to existing conditions) along only two of the existing roadway segments evaluated, implementing this alternative would result in increased noise levels along roads where local noise standards are already exceeded (Final EIS, Volume I, page 6-91). This effect could be mitigated by providing sound barriers between roads and noise-sensitive land uses located within 60-dB-L_{dn} traffic noise contour lines; providing acoustical treatment to existing noise-sensitive buildings to reduce interior noise level from traffic to less than 45-dB L_{dn}; or, when noise reduction cannot be feasibly achieved, removing noise-sensitive land uses from locations where noise levels are high and impacts cannot be otherwise mitigated.

Excessive Noise from Traffic on New Noise-Sensitive Land Uses. Major arterials would pass through or adjacent to all the noise-sensitive land uses proposed under this alternative, including residential land uses (revised use areas B6 and F2) and educational land uses (area I) (Figure 4-1). Noise-sensitive land uses would be exposed to traffic noise levels in excess of local noise standards for these uses under this alternative. This effect could be mitigated by locating new residences and other noise-sensitive land uses outside the 60-dB-L_{dn} contour lines caused by traffic and constructing sound barriers between roadways and noise-sensitive land uses that must be located within 60-dB-L_{dn} contour lines (Final EIS, Volume I, page 6-92).

Exposure of the RV Park/Campground, Residential Land Uses, and the NRMA to Noise from the Public Safety Training Area and the Peace Officer Training Area. With implementation of this alternative, the RV Park/Campground, residential land uses in the agri-center, and the NMRA would be located near or adjacent to the public safety training center (revised use area A). Noise from operations at these facilities has the potential to be incompatible with these noise-sensitive uses. Noise from these facilities could adversely affect residents, campers, and classrooms where unwanted noise could be disturbing or disruptive. This impact could be mitigated by employing design and construction methods to reduce sound transmission to the adjacent educational, residential, and recreational uses; restricting hours of operation of the training facilities; and relocating portions of the training areas (firing ranges and driver training areas) away from sensitive uses as described under "Land Use."

Hazardous and Toxic Waste Site Remedial Action

Exposure to Hazardous Materials. Many of the buildings in the newly excessed lands and revised use areas, as well as in other portions of the facility at former Fort Ord, were constructed using materials that contained asbestos and lead-based paints. The Army has conducted installation-wide investigations to determine the possible presence of hazardous materials. It is removing or encapsulating damaged friable asbestos in those buildings not to be demolished or renovated under agreement with the new owners. Lead-based paint (LBP) hazards in buildings constructed prior to 1960 will be identified and the Army will assure that the LBP hazards are abated in buildings that are to be used for residential purposes. Buildings constructed after 1960 and before 1978 would be inspected and buildings will be identified that contain LBP. The Army will identify any LBP that was known to be used in buildings constructed after 1977.

Areas are affected by the identified hazardous and toxic waste sites and the underground plumes of volatile organic compounds which affect groundwater, as described in Section 4.11, "Hazardous and Toxic Waste Site Remedial Action", and shown in Figures 4-2 and 4-3. Mitigation measures primarily include administrative covenants to ensure compliance with state and local regulations. Cleanup of hazardous and toxic wastes is part of the project.

Because of the ongoing state- and federally mandated cleanup process, it is unlikely that people or the environment would be exposed to hazardous materials at levels that are harmful. The mitigation measures adopted in the FEIS and ROD have been or are being implemented to reduce and eliminate the risks to human health and safety.

Ordnance and Explosives

Exposure to Ordnance and Explosives. Newly excessed lands and revised land use areas under Alternative 7 may contain OE. As described in Sections 4.2.12 and 5.2.12, OE may be present in revised use areas A, B3, B6, F1, F2, F3, and M, and parcel 1. Field investigation and clearance of OE is ongoing and will be completed prior to disposal. The EE/CA or other technical evaluation report will propose the recommended depth of clearance, evaluate the residual risk, and propose any necessary use restrictions within each area. Even after OE clearance, the potential for OE will remain because of the long history of military use.

To mitigate the potential hazards of undiscovered OE, the Army has developed community education and relations material to inform the public of the potential for OE on former Fort Ord lands. The Army also will inform recipients of land of the potential for OE. Public education materials instruct persons to not disturb any ordnance material discovered on their property and to notify the local police department and the Provost Marshall at the POM. Army Explosive Ordnance personnel will be dispatched promptly to remove and dispose of the material properly.

The Site Use Management Plan for Land Transfer and Reuse of the Multi-Range Area in former Fort Ord, California (SUMP) (U.S. Army Corps of Engineers 1995a) identifies a conceptual area within the Multi-Range Area where UXO cleanup will be deferred until better technology is available. This area will not be cleared for public access and will be fenced and signed by the Army before BLM assumes management responsibility for the area. The fences and signs will be maintained by BLM after BLM receives management responsibility for the property. The SUMP identifies the area as approximately 1,750 acres; however, the precise location and size will be determined through ongoing OE identification and response actions. The measures identified in the SUMP concerning restricted use areas are being implemented to reduce or eliminate the risks to human health and safety.

Vegetation, Wildlife, and Wetland Resources

Summary for All Proposed Actions. There are a total of approximately 1,559 acres of native habitat available in the newly excessed and revised use areas. Within this habitat, one pond occurs in revised use area A. This water body consists of an artificial pond stocked with fish and associated with the Army Family Camp. The pond is filled from artificial sources and likely would not fall under Corps jurisdiction. No polygons in the newly excessed lands contain any water bodies. Implementation of Alternative 7 as described in the FORA Final Base Reuse Plan (December 1994) would result in the removal of approximately 1,430 acres of this habitat in the newly excessed and revised use areas. Installation wide, Alternative 7 would remove approximately 6,180 acres of habitat in order to accommodate proposed land uses and the proposed road network. Much of this 6,180 acres would also be removed under the ROD land use plan with the exception of portions of area F3 (Figure 4-1). However, approximately 240 acres of area designated habitat reserve or corridor in the February 1994 HMP would be removed.

Introduction. The following methods were used to determine impact acreages for newly excessed lands and revised use areas under Alternative 7 and for Alternative 7 as a whole. It was assumed that no direct impacts on biological resources would result at sites with the following land use designations: coastal dune zone, NRMA, DHZ, and most habitat areas. No direct impact was assumed if biological resources would be preserved in the land use area or if the land use proposed would be the same as the current land use under Army ownership. Some of these land uses would result in the loss of small amounts of biological resources for construction of a limited number of structures, utilities, trails, and roads to support management, research, recreation, or other anticipated uses in these parcels. These losses were not included in the impact analysis for this document because the location and size of these developments have not been determined. However, general guidelines concerning the amount and type of developments necessary to support approved uses in habitat preserve areas are included in the February 1994 HMP.

Specific information on the location of developments provided in the FEIS (Volume I, Section 3.0; and Volume III, Section 6.0 and Appendix H) for the agri-center also was used in this Supplemental EIS. For the purpose of this analysis, a complete loss of biological resources was assumed to occur in those sections where development is expected to occur, and no losses were assumed to occur in the remaining area.

In the February 1994 HMP, it is assumed that approximately 200 acres of the 751-acre agri-center land use area would be developed. Development would attempt to avoid sensitive biological resources and would not occur on slopes greater than 30%. As much of the development as possible would be contained in the existing developed former East Garrison and ammunition supply point. In the FORA Final Base Reuse Plan (December 1994), the same area of disturbance was assumed; however, safety training uses also would occur in the developed area. Although additional activities may occur in the developed area, impacts on biological resources are considered the same in the agri-center parcel, because the area of disturbance has not increased.

Assumptions concerning polygon 2a also have been modified to reflect information included in the February 1994 HMP. It is assumed that the Yadon's piperia population in polygon 2a will be preserved. The remainder of the polygon is considered fully developed. No polygons in the newly excessed lands contain wetland habitats. One wetland occurs in Revised Use Area A. This water body consists of an artificial pond stocked with fish for use as a fishing pond associated with the Army Family Camp. The pond is filled from artificial sources and likely would not fall under Corps jurisdiction.

In the reuse analysis, it was assumed that direct impacts from land uses not listed above would eliminate all biological resources in the land use footprint. Some of these proposed land uses could result in the retention of small patches of natural habitats and special-status species populations. The biological value of these remnant habitats would be low because of their small size, their isolation, and the presence of surrounding development.

The analysis of Alternative 7 takes into account implementation of only the February 1994 HMP. The Draft Revised HMP, included as part of Revised Alternative 7, is applied only to Revised Alternative 7.

Common and Special Native Biological Communities

Loss of Common Biological Communities (Approximately 825 Acres). Converting newly excessed lands and revised use areas would result in the removal of approximately 825 acres of common biological communities and associated common wildlife species (U.S. Army Corps of Engineers, Sacramento District 1992a). These communities include approximately 85 acres of beaches and blowouts, ice plant mats, and disturbed dune; approximately 20 acres of coastal scrub; approximately 535 acres of coast live oak woodland; and approximately 190 acres of annual grassland (Table 5-9). This amount of habitat removal represents approximately 8% of the total acreage of common biological communities at former Fort Ord. These habitat losses are accommodated in the February 1994 HMP.

Loss of Native Coastal Strand (Approximately 3 Acres). Converting newly excessed lands and revised use areas would result in the loss of approximately 3 acres of native dune scrub habitat or approximately 3% of the dune scrub at former Fort Ord (Table 5-9).

Loss of Maritime Chaparral (Approximately 600 Acres). Converting newly excessed lands and revised use areas would result in the removal of approximately 600 acres of maritime chaparral habitat (approximately 5% of the total at former Fort Ord) (Table 5-9). Maritime chaparral is specifically addressed in the February 1994 HMP. Approximately 510 acres of this habitat occurs in areas proposed for development in the February 1994 HMP and approximately 90 acres occurs in areas identified as habitat reserve in the February 1994 HMP. Revised use area F3 removes approximately 80 acres of maritime chaparral from the NRMA.

Table 5-9. Losses to Biological Communities on Newly Excessed Lands and Revised Use Areas under Alternative 7

Habitat	Approximate Amount of Total Habitat at Former Fort Ord[a]	Newly Excessed Lands and Revised Use Areas		
		Approximate Acres of Habitat Available	Approximate Acres of Habitat Removed	Percentage of Total Habitat Removed at Fort Ord
Beaches, bluffs, and blowouts	200	4	4	2
Disturbed dune	100	16	16	16
Ice plant mats	575	65	65	11
Native coastal strand	89	3	3	3
Dune scrub	8	0	0	0
Coastal scrub	550	19	19	3
Maritime chaparral	12,565	600	600	5
Coastal oak woodland	2,970	575	535	18
Inland oak woodland	1,410	31	0	0
Oak savanna	310	0	0	0
Annual grassland	4,240	245	190	5
Perennial grassland	475	0	0	0
Mixed riparian forest	195	0	0	0
Oak riparian forest	45	0	0	0
Vernal pool	34	0	0	0
Ponds and freshwater marsh	28	1	0	0
Total	23,791	1,559	1,432	

[a] Acreage totals are based on the most recent GIS acreage calculations using the revised installation boundaries. In some instances, these totals differ slightly from those given in the final EIS.

Table 5-10. Loss of Occupied Habitat of Special-Status Plant Species in Newly Excessed Lands and Revised Use Areas under Alternative 7

Special-Status Plant Species[a]	Legal Status[b] Federal/State/CNPS	Approximate Acres of Total Habitat at Fort Ord[c]	Newly Excessed Lands and Revised Use Areas: Approximate Acres of Habitat Available	Newly Excessed Lands and Revised Use Areas: Acres of Habitat Removed
Sand gilia	E/T/1B			
Low density		3,270	82	82
Medium density		305	45	45
High density		160	0	0
Total		3,735	127	127
Monterey spineflower	T/--/1B			
Low density		5,750	375	360
Medium density		3,545	270	270
High density		920	50	50
Total		10,215	695	680
Seaside bird's beak	C1/E/1B			
Low density		1,110	37	37
Medium density		15	0	0
High density		0	0	0
Total		1,125	37	37
Sandmat manzanita	C2/--/1B			
Low density		2,260	250	235
Medium density		2,960	235	235
High density		3,340	87	87
Total		8,560	572	557
Monterey ceanothus	C2/--/4			
Low density		2,360	325	325
Medium density		6,820	205	205
High density		2,480	78	78
Total		11,660	608	608
Coast wallflower	C2/--/1B			
Low density		480	86	86
Medium density		225	13	13
High density		51	0	0
Total		756	99	99
Yadon's piperia	FPE/--/B			
Low density		14	12	12
Medium density		0	0	0
High density		0	0	0
Total		14	12	12
Toro manzanita	C2/--/1B			
Low density		2,310	51	48
Medium density		2,155	11	11
High density		1,950	0	0
Total		6,415	62	59
Hickman's allium	C1/--/1B			
Low density		275	0	0
Medium density		120	0	0
High density		0	0	0
Total		395	0	0

Table 5.10. Continued

Special-Status Plant Species[a]	Legal Status[b] Federal/State/CNPS	Approximate Acres of Total Habitat at Fort Ord[c]	Newly Excessed Lands and Revised Use Areas: Approximate Acres of Habitat Available	Newly Excessed Lands and Revised Use Areas: Acres of Habitat Removed
Eastwood's ericameria	C2/–/1B			
Low density		3,555	285	285
Medium density		2,260	120	120
High density		23	0	0
Total		5,838	405	405
Wedge-leaved horkelia	C2/–/1B			
Low density		2,435	180	180
Medium density		1,195	30	30
High density		0	0	0
Total		3,630	210	210

[a] Species with only one individual (robust spineflower [PE/–/1B] and Pajaro manzanita [–/–/4]) were not included in the table.

[b] Status explanations given in Table 4.11-2 of the final EIS (Volume I, page 4-100).

[c] Average totals are based on the most recent GIS average calculations using the revised installation boundaries. In some instances these totals differ slightly from those given in the final EIS.

Note: – = no designation.

Loss of Federal Candidate Plant Species Populations and Habitat. Converting newly excessed lands and revised use areas would result in the loss of occupied habitat of the following plant species, which are candidates (Category 1 or 2) for federal listing as threatened or endangered or are species for which listing packages are in preparation: Toro manzanita, sandmat manzanita, Eastwood's ericameria, Monterey ceanothus, coast wallflower, and wedge-leaf horkelia. More than 50% of the total ranges of Toro manzanita, sandmat manzanita, Monterey ceanothus, and Eastwood's ericameria occur at former Fort Ord. Converting newly excessed lands and revised use areas would result in the loss of approximately 5% of the populations of these species at former Fort Ord.

Approximately 13% of the occupied habitat of coast wallflower and 6% of the occupied habitat of wedge-leafed horkelia at former Fort Ord also would be removed. Former Fort Ord does not represent as large a portion of the species' range for coast wallflower and wedge-leaf horkelia as for the other candidate species (refer to Table 4.11-2 in Section 4.11, Volume I of the FEIS).

Approximately 1,200 acres of natural habitat in the newly excessed lands and revised use areas occur in areas with no habitat preservation requirements in the February 1994 HMP; therefore, a majority of the habitat losses described for candidate plant species would be consistent with the February 1994 HMP. However, approximately 200-250 acres of additional habitat loss occurs in areas identified as habitat reserve in the February 1994 HMP and would result in removal of species beyond that planned in the document. Although the loss of federal candidate plant species in these areas could be considered a significant impact under CEQA, DFG (working through the CRMP process at former Fort Ord) has agreed that implementation of the February 1994 HMP will mitigate impacts on all species addressed in the HMP, including federal candidates, to a less-than-significant level.

Special-Status Wildlife Species - Species Federally Listed as Threatened or Endangered

Loss of Smith's Blue Butterfly Habitat (Approximately 22 Acres of Approximately 180 Total Acres at Former Fort Ord). No Smith's blue butterfly habitat occurs in newly excessed lands. Approximately 22 acres of habitat considered potential habitat for the Smith's blue butterfly (i.e., areas that support medium- or high-density buckwheat populations) occur in the revised use areas west of SR 1. All 22 acres are considered removed by development of these parcels (Table 5-11). Impacts could be greater if low-density stands of buckwheat were considered potential habitat (see Section 4.13.1, "New Biological Resource Data").

These impacts are attributable primarily to alterations in the locations and size of the Multi-Use Area/Asilomar Type Facility and Aquaculture/Marine Research/Desalination compared to the locations and size identified in the February 1994 HMP and ROD. However, all Army land transfers must be consistent with Army and other federal requirements, Endangered Species Act requirements for special-status plants and animals, implementation requirements of the Installation-Wide Multi-Species Habitat Management Plan, and conditions contained in the Army's Coastal Zone Management Act consistency determination approved in March 1994. The coastal area of former Fort Ord will be disposed of to State Parks in a manner consistent with these regulations, policies, and guidelines. Therefore, the impacts identified for the revised use areas will not occur. However, descriptions of the impacts are included to provide an assessment of the environmental effects of these land use requests.

Degradation of Smith's Blue Butterfly Habitat. Public access would be permitted on the beaches and dunes at former Fort Ord. Development of the revised use areas west of SR 1 could increase public use of the dune areas. Foot traffic and other human impacts associated with increased use could damage host plants and degrade Smith's blue butterfly habitat in the coastal dune zone.

Table 5-11. Losses to Special-Status Wildlife Species in Newly Excessed Lands and Revised Use Areas under Alternative 7

Species	Legal Status[a] Federal/State	Potential Habitat	Approximate Total Acres of Potential Habitat Available at Fort Ord[b]	Newly Excessed Lands and Revised Use Areas	
				Approximate Acres of Potential Habitat Available	Acres of Potential Habitat Removed
Smith's blue butterfly	FE/--	Buckwheat in dune habitats	180[c]	22[c]	22[c]
California red-legged frog	FPE/SSC	Ponds	28	1	0
California tiger salamander	C2/SSC	Vernal pools and ponds	62	1	0
Southwestern pond turtle	C2/SSC	Ponds	28	1	0
Black legless lizard	FPE/SSC	General habitat; native dune vegetation and where coastal scrub and maritime chaparral overlap with Baywood sands and Oceana soils	2,695[c]	545[c]	545[c]
Coast horned lizard	C2/SSC	General habitat; where coastal scrub and maritime chaparral overlap with baywood sands, Arnold Enez, and Oceana soils	9,900	620	620
Tricolored blackbird	C2/SSC	Grasslands in the southeastern portion of former Fort Ord	2,750	0	0
Burrowing owl	C2/SSC	Grasslands	4,625	245	190
Monterey dusky-footed woodrat	C2/--	Maritime chaparral and coastal coast live oak woodland	15,530	1,175	1,135
Monterey ornate shrew	C2/--	General habitat; mixed riparian and oak riparian forest, coastal and inland coast live oak woodland	4,615	605	535
Northern harrier	--/SSC	Grasslands	4,625	245	190
Cooper's hawk and yellow warbler	--/SSC	Mixed riparian forest, oak riparian forest, canyon bottom, inland coast live oak woodland	275	31	0
Sharp-shinned hawk	--/SSC	Mixed riparian forest, oak riparian forest, inland coast live oak woodland	1,650	31	0

Table 5-11. Continued

Species	Legal Status[a] Federal/State	Potential Habitat	Approximate Total Acres of Potential Habitat Available at Fort Ord[b]	Newly Excessed Lands and Revised Use Areas	
				Approximate Acres of Potential Habitat Available	Acres of Potential Habitat Removed
Golden eagle	--/SSC	Oak savanna, inland coast live oak woodland, coastal scrub, maritime chaparral, and grasslands	19,550	900	810
Prairie falcon	--/SSC	Grassland and oak savanna	5,025	245	190
American badger	--/SSC	Grassland, oak savanna, coastal coast live oak woodland	7,995	820	725
Salinas harvest mouse	--/SI	Coastal coast live oak woodland	2,970	570	535
Greater road runner	--/SI	Maritime chaparral, inland coast live oak woodland	13,975	635	600
Swainson's thrush and common yellowthroat	--/SI	Mixed riparian forest	195	0	0

[a] Status explanations given in Table 4.11-2 in the final EIS (Volume I, page 4-100).

[b] Acreage totals are based on the most recent GIS acreage calculations using the revised installation boundaries. In some instances, these totals differ slightly from those given in the final EIS.

[c] Acreage totals are based on habitat models included in the Flora and Fauna Baseline Study (U.S. Army Corps of Engineers 1992a) and final EIS. These habitat losses reflect only impacts on medium- and high-density buckwheat populations for Smith's blue butterfly and on native dune vegetation and coastal scrub and maritime chaparral habitats on Oceano and Baywood Sand soils for the black legless lizard.

Habitat losses do not reflect impacts on low-density buckwheat populations (in which Smith's blue butterfly recently were observed) and coastal live oak woodlands (in which black legless lizards recently were observed). These impacts were not included in the analysis because quantitative data on species' use of these habitat areas are not sufficient to support changes in the original habitat models.

Note: -- = no designation.

Special-Status Wildlife Species - Species Federally Listed as Threatened or Endangered

Loss of Smith's Blue Butterfly Habitat (Approximately 22 Acres of Approximately 180 Total Acres at Former Fort Ord). No Smith's blue butterfly habitat occurs in newly excessed lands. Approximately 22 acres of habitat considered potential habitat for the Smith's blue butterfly (i.e., areas that support medium- or high-density buckwheat populations) occur in the revised use areas west of SR 1. All 22 acres are considered removed by development of these parcels (Table 5-11). Impacts could be greater if low-density stands of buckwheat were considered potential habitat (see Section 4.13.1, "New Biological Resource Data").

These impacts are attributable primarily to alterations in the locations and size of the Multi-Use Area/Asilomar Type Facility and Aquaculture/Marine Research/Desalination compared to the locations and size identified in the February 1994 HMP and ROD. However, all Army land transfers must be consistent with Army and other federal requirements, Endangered Species Act requirements for special-status plants and animals, implementation requirements of the Installation-Wide Multi-Species Habitat Management Plan, and conditions contained in the Army's Coastal Zone Management Act consistency determination approved in March 1994. The coastal area of former Fort Ord will be disposed of to State Parks in a manner consistent with these regulations, policies, and guidelines. Therefore, the impacts identified for the revised use areas will not occur. However, descriptions of the impacts are included to provide an assessment of the environmental effects of these land use requests.

Degradation of Smith's Blue Butterfly Habitat. Public access would be permitted on the beaches and dunes at former Fort Ord. Development of the revised use areas west of SR 1 could increase public use of the dune areas. Foot traffic and other human impacts associated with increased use could damage host plants and degrade Smith's blue butterfly habitat in the coastal dune zone.

The potential degradation of Smith's blue butterfly habitat in the dune areas is specifically addressed in the February 1994 HMP. Management requirements included in the February 1994 HMP for lands to be transferred to State Parks require the use of boardwalks, trails, and other means to control public access to the dunes. Because pedestrian traffic will be channeled to selected areas, potential degradation of Smith's blue butterfly habitat from public use will be extremely limited. Continued implementation of the February 1994 HMP mitigates this impact.

Disturbance to Nesting Western Snowy Plovers. Public access would be permitted in the newly excessed lands and revised use areas on the beaches at former Fort Ord. Development of the revised use areas west of SR 1 could increase public use of the dune areas. Disturbances caused by increased public use of the beaches could cause nest failures in snowy plovers, resulting in direct mortality to eggs and chicks.

The potential disturbance to nesting western snowy plovers on beach areas at former Fort Ord is addressed in the February 1994 HMP. Management requirements included in this HMP for lands to be transferred to State Parks require that public access be restricted in areas used for nesting by snowy plovers during the breeding and nesting season. A reasonable buffer also must be maintained between snowy plover nesting areas and human activity.

Special-Status Wildlife Species - Wildlife Species Proposed for Federal Listing as Threatened or Endangered

Loss of Black Legless Lizard Habitat (Approximately 20%). A general description of the habitat requirements of the black legless lizard is provided in the FEIS (Volume I, page 6-120).

Because of narrow microhabitat requirements for black legless lizards, specific acreage for elimination of microhabitat for these species cannot be determined. However, on the newly excessed lands and in the revised use areas, approximately 545 acres (20%) of habitat likely to contain appropriate microhabitat

conditions for the black legless lizard (native dune vegetation or coastal scrub and maritime chaparral on appropriate soils) would be eliminated by development. Therefore, it was assumed that a corresponding amount of total available microhabitat also would be eliminated. Impacts on black legless lizard could be greater if other inland habitats such as oak woodlands are confirmed to be suitable habitat (see Section 4.13.1, "New Biological Resource Data").

Less than 5 acres of potential black legless lizard habitat occur in the newly excessed lands. Development of revised use areas R and S west of SR 1 will remove approximately 25 acres of coastal black legless lizard habitat. Approximately 440 acres of potential black legless lizard habitat affected by revised use areas east of SR 1 occur in areas where the February 1994 HMP permits development. However, development of revised use area F3 would remove approximately 80 acres of potential legless lizard habitat that was planned for inclusion in the NRMA in the February 1994 HMP.

Degradation of Black Legless Lizard Habitat. Public access would be permitted on the beaches and dunes at former Fort Ord. Development of the revised use areas west of SR 1 could increase public use of the dune areas. Foot traffic and other human impacts associated with increased use could reduce densities of native vegetation and degrade black legless lizard habitat in the coastal dune zone.

The potential degradation of black legless lizard habitat in the dune areas is specifically addressed in the February 1994 HMP. Management requirements in the February 1994 HMP for lands to be transferred to State Parks include the use of boardwalks, trails, and other means to control public access to the dunes. Because pedestrian traffic will be channeled to selected areas, potential degradation of native dune habitats from public use will be extremely limited. Continued implementation of the February 1994 HMP mitigates this impact.

Special-Status Wildlife Species - Federal Candidate Wildlife Species

Loss of Globose Dune Beetle Habitat (Approximately 3%). A general description of the habitat requirements of the globose dune beetle is provided in the FEIS (Volume I, page 6-121).

Because of narrow microhabitat requirements for globose dune beetles, specific acreage for elimination of microhabitat for these species cannot be determined. However, on the newly excessed lands and in the revised use areas, approximately 3 acres (3%) of habitat likely to contain appropriate microhabitat conditions for the globose dune beetle (native dune vegetation) would be eliminated by development. Therefore, it was assumed that a corresponding amount of total available microhabitat also would be eliminated.

No potential globose dune beetle habitat occurs in the newly excessed lands. Development of revised use areas R and S west of SR 1 will remove approximately 3 acres of potential globose dune beetle habitat. *Degradation of Globose Dune Beetle Habitat in Coastal Dune Zone.* Public access would be permitted on the beaches and dunes at former Fort Ord. Development of the revised use areas west of SR 1 could increase public use of the dune areas. Foot traffic and other human impacts associated with increased use could reduce densities of native vegetation and degrade globose dune beetle habitat in the coastal dune zone.

The potential degradation of globose dune beetle habitat in the dune areas is specifically addressed in the February 1994 HMP. Management requirements in the February 1994 HMP for lands to be transferred to State Parks include the use of boardwalks, trails, and other means to control public access to the dunes. Because pedestrian traffic will be channeled to selected areas, potential degradation of native dune habitats from public use will be extremely limited. Continued implementation of the February 1994 HMP mitigates this impact.

Loss of Monterey Ornate Shrew Habitat (Approximately 12%) and Monterey Dusky-Footed Woodrat Habitat (Approximately 7%). Approximately 12% (approximately 535 acres) of potential Monterey ornate shrew habitat and approximately 7% (approximately 1,135 acres) of the Monterey dusky-footed woodrat habitat at former Fort Ord would be eliminated by development of the newly excessed lands and revised use areas (Table 5-11). Of these losses, approximately 35 acres of the potential habitat removed for both species occur in newly excessed areas. These approximately 35 acres in the newly excessed lands and revised use areas occur in parcels identified for development in the February 1994 HMP

All Monterey shrew habitat and approximately 940 acres of Monterey dusky-footed woodrat habitat in revised use areas also occur in areas proposed for development in the February 1994 HMP. In revised use area F3, approximately 160 acres of potential Monterey dusky-footed woodrat habitat that was planned for inclusion in the NRMA in the February 1994 HMP would be removed. However, losses for either species are not considered substantial. Because more than 14,000 acres of woodrat habitat would remain, the loss of 7% of the available habitat should not result in a state or federal listing as threatened or endangered for the Monterey dusky-footed woodrat. More than 4,000 acres of habitat that could support microhabitat conditions suitable for the Monterey ornate shrew also are located outside newly excessed lands and revised use areas.

Loss of Coast Horned Lizard Habitat (Approximately 6%). Because of the narrow microhabitat requirements of the coast horned lizard, specific acreage of microhabitat removed in newly excessed lands and revised use areas cannot be determined. However, approximately 6% of the available habitat likely to contain appropriate microhabitat conditions could be eliminated by development of these parcels. Therefore, it was assumed that approximately 6% of the total available microhabitat also could be eliminated.

The elimination of 6% of the available coast horned lizard habitat at former Fort Ord would not reduce the range of the species or exclude the species from former Fort Ord. Impacts would be reduced through implementation of the February 1994 HMP Preservation, enhancement, and restoration of coastal scrub and maritime chaparral habitats specifically addressed in the February 1994 HMP would compensate for some losses of coast horned lizard habitat. No mitigation is required.

Loss of Potential Burrowing Owl Habitat (Approximately 190 Acres). Development of the newly excessed lands and revised use areas would result in the removal of approximately 5% (approximately 190 acres) of the grassland areas considered potential habitat for burrowing owl at former Fort Ord. The loss of grassland habitat could eliminate burrowing owl nesting sites. However, because the newly excessed lands and revised use areas contain only small inclusions of grassland habitat, these areas are not considered important for the species. No mitigation is required.

Loss of Potential Roosting, Hibernating, and Breeding Sites for Special-Status Bats. Three special-status bat species have potential to occur at former Fort Ord: Townsend's western big-eared bat, pallid bat, and California mastiff bat. Some buildings in the newly excessed lands and revised use areas may potentially be used as roosting, hibernating, or breeding sites by any of these three bat species. Nursery and hibernation roosts are rare for all these species. The loss of a nursery or hibernation site (if one is located at former Fort Ord) could substantially reduce the local population of these bat species. Special-status bats were not addressed in the February 1994 HMP.

Preserving or replacing nursery and hibernation sites will minimize this impact. Mitigation associated with preservation of nursery or hibernation sites is described in the FEIS (Volume I, page 6-125). If a nursery or hibernation site is found in a building and it cannot be preserved, replacement through construction of "bat houses" at other sites may be possible. DFG should be consulted before design and construction of the bat houses.

Special-Status Wildlife Species - California Wildlife Species of Special Concern

Loss of Potential Northern Harrier and Short-Eared Owl Habitat (Approximately 190 Acres). Development of the newly excessed lands and revised use areas include approximately 5% (approximately 190 acres) of the grassland areas considered potential habitat for northern harrier and short-eared owl at former Fort Ord. Elimination of northern harrier wintering habitat at former Fort Ord would not affect a substantial portion of the nesting population. The loss of grassland habitat could eliminate potential short-eared owl nesting habitat. However, because the newly excessed lands and revised use areas contain only small inclusions of grassland habitat, these areas are not considered important for these species. No mitigation is required.

Loss of Golden Eagle Habitat (Approximately 810 Acres). It is unknown whether golden eagles nest at former Fort Ord, but suitable golden eagle nesting habitat is available in the revised use areas. The newly excessed lands and revised use areas include approximately 4% (approximately 810 acres) of the potential golden eagle habitat at former Fort Ord and could be eliminated by development. The loss of 4% of the revised use habitat at former Fort Ord would not reduce the range of the golden eagle or exclude golden eagles from the installation.

Impacts on golden eagles also would be reduced through implementation of the February 1994 HMP. Preservation, enhancement, and restoration of coastal scrub and maritime chaparral habitats specifically addressed in the February 1994 HMP would compensate for losses of foraging habitat for golden eagles. In addition, preservation of other habitats in reserve parcels would retain large areas of golden eagle habitat. No mitigation is required.

Loss of Prairie Falcon Foraging Habitat (Approximately 190 Acres). The newly excessed lands and revised use areas include approximately 4% (approximately 190 acres) of the available prairie falcon foraging habitat at former Fort Ord. The habitat in these areas could be eliminated by development. However, substantial portions of foraging habitat would be retained in the NRMA as described in the February 1994 HMP. The loss of 4% of the foraging habitat at former Fort Ord would not adversely affect the breeding success of prairie falcons nesting near the installation. In addition, because the newly excessed lands and revised use areas contain only small inclusions of grassland habitat, these areas are not considered important raptor foraging areas. No mitigation is required.

Loss of American Badger Habitat (Approximately 725 Acres). American badgers are found in grassland, oak savanna, and coastal coast live oak woodland habitats at former Fort Ord. Development of the newly excessed lands and revised use areas would remove approximately 9% (approximately 725 acres) of the available badger habitat on former Fort Ord. However, large amounts of suitable habitat would remain in the NRMA and other reserve areas described in the February 1994 HMP. The loss of habitat would not substantially reduce the range of the species and would not affect the higher density population in the southern portion of Monterey County. No mitigation is required.

Special-Status Wildlife Species - Rare and Special-Interest Wildlife Species

Loss of Salinas Harvest Mouse Habitat (Approximately 535 Acres). One Salinas harvest mouse was captured in the coastal coast live oak woodland habitat at former Fort Ord. It is unknown whether the harvest mouse is found in other habitats. The Salinas harvest mouse is not included as a species of concern in the February 1994 HMP. Development of the newly excessed lands and revised use areas as described would remove approximately 18% (approximately 535 acres) of the available Salinas harvest mouse habitat at former Fort Ord. This loss would not substantially affect the Salinas harvest mouse throughout its range and would not exclude the species from former Fort Ord. No mitigation is required.

Loss of Greater Roadrunner Habitat (Approximately 600 Acres). The greater roadrunner population at former Fort Ord is the only known population of the species in the Monterey Bay area (Fort Ord Parklands Group

1992). At former Fort Ord, roadrunners are found in maritime chaparral and inland coast live oak woodlands. Development of the newly excessed lands and revised use areas as described would remove approximately 4% (approximately 600 acres) of the available greater roadrunner habitat at former Fort Ord. Sufficient habitat would be retained to continue to support greater roadrunners in the area. Impacts also would be reduced through implementation of the February 1994 HMP. Preservation and enhancement of maritime chaparral habitats specifically addressed in the February 1994 HMP would compensate for some losses of greater roadrunner habitat. No mitigation is required.

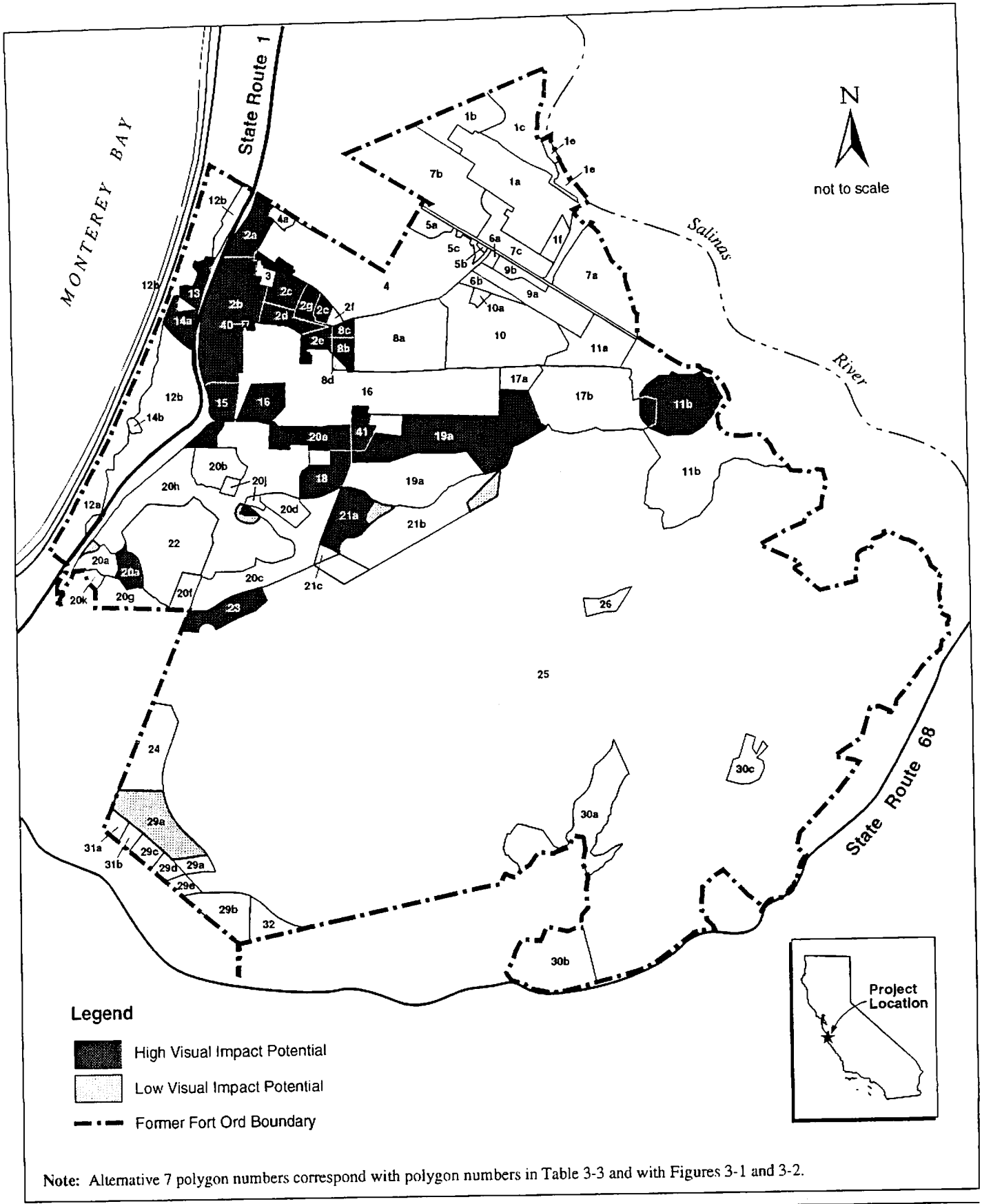
Visual Resources

Reduced Visual Unity and Intactness for Some Visually Sensitive Areas Resulting from Short- and Long-Term Construction Impacts. Implementation of the land uses proposed for the newly excessed lands and the revised use areas 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. Short-term visual impacts would occur from construction activities, including location of equipment storage areas, removal of vegetation, and infrastructure modifications. Long-term visual impacts could occur from the removal of vegetation; construction of new buildings; alteration of the appearances of buildings and other structures; and construction of improvements, such as recreation facilities, parking areas, lighting standards, and fences. The magnitude of long-term visual impacts that could occur as a result of implementing the proposed land uses is related to the nature and character of existing and proposed land uses. In undeveloped portions of the cantonment area, implementation of the proposed land uses would result in long-term visual impacts of a greater magnitude as compared to the conversion of intensively developed portions of the cantonment area to the proposed land uses. However, the relative extent of visual change would also depend on the form, line, color, texture, and scale of the proposed developed features, and the extent of vegetation removal and landscape alteration.

The activities described above could result in a reduction in visual unity and intactness for some visually sensitive areas for views from SR 1 (especially coastal dune views and scattered ocean views from this roadway near the aquaculture/marine research facility, desalination plant [revised use area R], Asilomar-type facility [area S], and other important visitor use areas in and around Monterey Bay). Inland development proposed adjacent to SR 1, including high-density residential (area I), retail (area M), and central business district (area H), would further contribute to the reduction in visual unity and intactness of views from SR 1. The resulting visual impacts would be inconsistent with Policy 30251 of the California Coastal Act of 1976 concerning the protection of scenic and visual qualities of the coastal areas.

Use of the existing Stilwell Hall as a multi-use/Asilomar-type facility (revised use area S) and the conversion of the East Garrison area to a public safety training center/agri-center (area A), may alter the visual settings of these important cultural resources. The magnitude of the long-term visual impact would depend on several factors, including the extent of landscape alteration, vegetation removal, and development of new structures and facilities. Adaptive reuse of Stilwell Hall as a multi-use center could help to preserve its historic value. (Refer to the "Cultural Resources" section for a discussion of this impact).

Assuming that the new 600-room resort hotel (revised use area G) would be limited to a height that does not become a prominent element relevant to the horizon as viewed from SR 1, it is likely that this facility would not significantly reduce the intactness of views from the roadway. Additionally, the extensive nature of mature landscaping in the vicinity of the existing golf courses and the Hayes Park housing development would effectively screen much of this facility. To protect the visual buffer between the former Fort Ord coastal zone and the inland areas of former Fort Ord, Alternative 7 includes a provision to maintain and enhance where necessary the landscaping and natural landform screening immediately east of SR 1 (see the "Mitigation Agreement" portion of Section 3.2.2).



Note: Alternative 7 polygon numbers correspond with polygon numbers in Table 3-3 and with Figures 3-1 and 3-2.

Figure 5-8
Visual Impact Potential of Newly Excessed Lands and Revised Use Areas Associated with Alternative 7

Reduced Visual Quality of Areas Seen from SR 1. Implementing the land uses for the newly excessed lands and the revised use areas would substantially alter the visual character and reduce the visual quality of some areas seen from SR 1 (Figure 5-8). Viewed from SR 1, which is a proposed scenic route (in that it has been identified as an eligible highway, but not officially designated) that is heavily traveled by tourists and recreationists, high-intensity land uses would encroach on the foreground and middleground distance zones of some views (California Department of Transportation 1992). Built elements associated with the Central Business District (revised use area H), High-Density Residential development (area I), Aquaculture/Marine Research facility, desalination plant (area R), and Asilomar-Type Facility (area S) would contrast in form, line, and color with the fairly natural character of the surrounding coastal landscape.

This effect could be mitigated by developing a mechanism to ensure consistent application of visual resource management standards at former Fort Ord (Final EIS, Volume I, page 6-133). This mechanism could involve the development of a visual resource protection plan with the objective of identifying precise performance standards and guidelines for design and planning activities for former Fort Ord. This mechanism also may include the establishment of an aesthetics review board that would be responsible for developing and administering the visual resources protection plan.

Cultural Resources

Loss of or Damage to Historic Properties. As indicated in Section 4.15, cultural resource surveys have identified Stilwell Hall and the East Garrison area as historic resources eligible for inclusion in the NRHP. Both of these properties are contained within revised use areas being analyzed under this alternative (revised use areas A and S, respectively, in Figure 4-1). The uses proposed for these areas under Alternative 7 have the potential to significantly affect the historic resources.

The multi-use center proposed for the Stilwell Hall site and the associated Asilomar-type facility would change the visual setting of Stilwell Hall. The building has stood alone at the coastal front of Fort Ord since its construction in 1940. The multi-use center could have a neutral effect if an adaptive reuse is selected that preserves the historic value. However, the adjacent Asilomar-type facility has the potential to create a negative change on the historical setting of Stilwell Hall, which has always stood alone on the coast. The negative effect of these uses could be short-term, however, because Stilwell Hall may be lost to coastal bluff erosion some time in the future.

Alternative 7 includes proposals for a county agri-center and public safety training in the East Garrison area. Both of these proposed uses have the potential to affect the structures and visual setting of the East Garrison historic district. Classroom activities, weapons training, and driver and police vehicle training (including high-speed pursuit training) are some of the uses for the peace officer training academy. Agri-center uses could include food processing, office park, residential, and trucking activities. These uses would introduce noise, air quality, and visual changes potentially inconsistent with the historic values of the East Garrison.

Before the Army can transfer the East Garrison area, deed restrictions or conditions of transfer will be developed in compliance with the programmatic agreement. Draft preservation covenants have been developed by the Army and forwarded to the California SHPO for review. Monterey County and/or Monterey Peninsula College, the proponents of these new uses, would need to work with the California SHPO cooperatively to develop a management strategy that recognizes the historic value of the East Garrison historic district in accordance with covenants developed under the programmatic agreement.

Coastal Resources

The newly excessed lands and revised use areas can be divided into two categories for the purposes of assessing the impacts on the coastal zone: those uses located in the coastal zone (west of SR 1) (revised use areas R and S) and those uses located inland (east of SR 1) (all others).

Impacts in the coastal zone are attributable primarily to the inclusion of revised use areas R (Aquaculture/Marine Research/Desalination) and S (Multi-Use Area/Asilomar Type Facility) as part of the FORA Final Base Reuse Plan (December 1994). However, all Army land transfers must be consistent with Army and other federal requirements, Endangered Species Act requirements for special-status plants and animals, implementation requirements of the Installation-Wide Multi-Species Habitat Management Plan, and conditions contained in the Army's Coastal Zone Management Act consistency determination approved in March 1994. Therefore, the coastal area of former Fort Ord will be disposed of to State Parks in a manner consistent with these regulations, policies, and guidelines. Therefore, the identified impacts associated with revised use areas R and S will not occur. However, descriptions of the impacts are included to provide an assessment of the environmental effects of these land use requests.

Potential Inconsistency with California Coastal Act. Development of the revised use areas in the coastal zone (revised use areas R and S) may be inconsistent with policies of the California Coastal Act. When the CZMA consistency determination for former Fort Ord was accepted by the California Coastal Commission in March 1994, uses in the coastal zone were assumed to be those being proposed by State Parks (primarily recreational and habitat uses). The revised use areas described in Alternative 7 contain additional uses in the coastal zone, including the Asilomar-type facility, the desalination plant, the aquaculture/marine research area, the beach road, and stormwater retention basins. Most of these uses were described in the Army's consistency determination to provide information on possible future uses in the coastal zone. The revised uses have the potential to increase automobile traffic congestion in the coastal zone; to increase impacts on biological, visual, soil, and water resources; and to increase air quality and noise impacts.

State Parks and FORA are continuing to coordinate regarding future use of the coastal zone through the State Parks master planning process. State Parks will coordinate its ultimate decision on uses in the coastal zone with the California Coastal Commission by developing a CZMA public works plan for its park master plan. Mitigation measures for impacts on specific resources in the coastal zone are addressed in the various sections of 5.3.1.1 on preceding pages.

Development of inland revised use area F3 would result in the conversion of habitat that would have been preserved in an NRMA. The development of inland revised use area G as a resort hotel would not create a visual impact from the coastal zone as long as the hotel is not constructed as a high rise (that is, it is not a prominent element of the skyline as viewed from SR 1). The proposed hotel site under Alternative 7 is in a low area that is heavily landscaped.

Potential Inconsistency with State Parks General Plan. Development of the revised use areas in the coastal zone may be inconsistent with the California State Parks and Recreation general plan for the area. The State Parks general plan is in draft form and does not include the desalination plant or the aquaculture/marine research area identified in the FORA Final Base Reuse Plan (December 1994). The FORA Final Base Reuse Plan (December 1994) also includes an Asilomar-type facility, which includes lodging for up to 300 guests, a conference center, and dining and support facilities. The draft State Parks general plan includes a smaller lodge area without a conference center. To mitigate this potential conflict, FORA and State Parks are coordinating future land uses through the State Parks general plan process.

Potential Increase in Urban Pollutant Loading of Sanctuary Resources. Reuse of additional area for urban land uses may incrementally increase urban runoff and pollutant loadings to the Monterey Bay National Marine Sanctuary. However, all landowners are required to comply with the requirements of the NPDES permits for

stormwater discharges to waters of the United States and the Non-Point-Pollution Control Plan for the Monterey Bay Region, and cannot exceed acceptable amounts. NOAA and the California State Water Resources Control Board (SWRCB) have entered into an agreement to protect sanctuary resources. Although only SWRCB has the authority to issue NPDES permits, NOAA reviews NPDES permits and applications and can suggest revisions to protect sanctuary resources.

To control non-point pollution that is not regulated by the NPDES program, the California Coastal Commission and SWRCB have developed a non-point-pollution control plan for the communities in the Monterey Bay region. Consideration of sanctuary resources and the Sanctuary Management Plan were key elements in the development of this plan. Future changes in the Sanctuary Management Plan will be incorporated into the plan to ensure protection of sanctuary resources.

These plans and policies have been implemented to protect sanctuary resources from urban pollutant loadings, and all landowners and municipalities must comply with them. Reuse will be constrained by these acceptable amounts. No additional mitigation would be required.

5.3.1.2 Cumulative Impacts

Land Use

Buildout of the Alternative 7 land use scenario would result in the development of approximately 16% of the currently undeveloped portion of former Fort Ord with predominantly urban uses. Land use issues associated with development of the former installation lands consist of potential incompatibility of some of the contiguous proposed uses and inconsistency with relevant plans and policies. These issues are discussed in Section 5.3.1.1 under "Land Use".

Extensive development is expected in this area, based on projected growth of the Monterey Peninsula area (Table 5-1) and development of the installation. This development will require local planning entities to reassess their general land use plans and policies regarding the location, rate, and type of development. Development of the installation would redirect growth envisioned in current general plans. Major deviations from current local plans and policies on development and growth are likely to affect the character of the Monterey Peninsula. The FORA Final Base Reuse Plan (December 1994) addresses this development, and many local agencies are in the process of revising their local plans and policies.

The concept plan for a transportation system contained in Alternative 7 also would have a major effect on the public service and utility plans of local government and utility districts. Significant adjustments to local plan transportation elements would be needed to achieve consistency with the proposed system.

FORA already has agreed to investigate strategies to minimize traffic and transportation system impacts (see the "Mitigation Agreement" portion of Section 3.2.2). A traffic study will be conducted in coordination with TAMC to fully assess planning consistency and, if necessary, develop strategies to balance transportation system supply and demand and reduce vehicle trips. Congestion management planning also will be undertaken.

Several segments of the proposed transportation system conflict with existing Army uses of land within the POM Annex. Construction of the North-South Road expansion and the light rail line along Gigling Road would require removal of buildings along these rights-of-way.

The major road corridor planned through the East Garrison area would conflict with plans for a public safety training center in the area. The corridor would bisect the training site and pass through a firing range fan and vehicle driving course. Other conflicts between roadways and land use may develop as detailed planning for reuse proceeds, but these conflicts could be avoided by location and design changes during the design process.

Socioeconomics

The methodology used to evaluate the socioeconomic effects of Alternative 7 is described in Appendix B. This appendix contains descriptions of polygon-specific changes in population, housing, employment, industrial output, and personal income associated with development of installation-wide properties under Alternative 7. Table B-1 in Appendix B should be reviewed to ascertain effects within specific areas of the installation.

In summary, the direct population, housing, employment, industrial output, and personal income changes generated by development under Alternative 7 were estimated using the same methodology described previously for the analysis of newly excessed and revised use areas. Secondary (i.e., indirect and induced) economic effects within Monterey County were estimated using multipliers derived from the Micro-IMPLAN regional economic input-output model developed by the U.S. Forest Service (refer to Appendix I of the FEIS for a description of the Micro IMPLAN model). The net change in economic activity under Alternative 7 was then estimated by subtracting the effects of Fort Ord closure from total (i.e., direct and secondary) reuse effects.

Executive Order 12898 (see Section 5.4, "Environmental Justice"), requires federal agencies to examine proposed actions to determine whether they will have disproportionately high and adverse human health or environmental effects on minority or low-income populations. No adverse human health or environmental effects have been identified that would disproportionately affect minority or low-income populations under Alternative 7. Reuse of installation properties under Alternative 7 could result in beneficial effects for minority and low-income populations residing near the installation (i.e., in Marina and Seaside) and elsewhere in Monterey County. The net change in direct and secondary economic activity under Alternative 7 (i.e., reuse effects net of Fort Ord closure effects), including an estimated 44.8% increase in employment, 54.1% increase in industrial output, and 47% increase in personal income within Monterey County, would result in new employment opportunities and growth in personal income for minority and low-income populations. The direct and indirect beneficial effects of economic growth would be spread throughout Monterey County, with beneficial effects expected to be distributed among income and ethnic groups approximately in proportion to their numbers within nearby communities and the county.

The following discussions of socioeconomic effects assumes that full development of installation properties would occur over a 50-year buildout period. The relatively large total change in socioeconomic characteristics estimated for full development of installation properties would be less on a percent-annual basis compared to the regional economy when spread over the buildout period.

Population and Housing. The net, countywide socioeconomic effects of reuse under Alternative 7 are presented in Table 5-12. The totals shown for Alternative 7 in this table reflect the net effects of installation closure and reuse under Alternative 7.

Implementing Alternative 7 would generate a direct population increase of approximately 41,500 at buildout, more than offsetting the decrease of an estimated 30,000 in population that would result from installation closure. This 11,500 net increase in population would represent a 3.2% increase over Monterey County's 1991 population. Under Alternative 7, the direct population increase is estimated to total 12,600 in the City of Marina and 20,000 in the City of Seaside. In addition, up to 20,000 students may be housed in the university area.

Implementing Alternative 7 would result in the construction or rehabilitation of approximately 13,800 housing units at buildout, offsetting the approximately 13,800 housing units estimated to be lost because of installation closure. Approximately 4,200 housing units would be constructed or rehabilitated in the City of Marina and 6,680 housing units would be developed in Seaside under Alternative 7.

Table 5-12. Projected Countywide Socioeconomic Impacts under Alternative 7

Characteristic	1991 Conditions within Monterey County[a]	Fort Ord Closure Impacts[b]	Direct Reuse Impacts under Alternative 7[c]	Secondary Reuse Impacts under Alternative 7[d]	Buildout Conditions under Alternative 7[e]	Total and Percent Change from 1991 Conditions
Population	361,560	(29,970)	41,493	NA[f]	373,083	11,520 [3.2%]
Housing	121,224[g]	(13,868)	13,831[h]	NA[f]	121,187	(37) [-0.03%]
Ratio of jobs to housing[i]	1.36	NA	NA	NA	1.62	0.26
Employment	164,900	(26,985)	58,541	42,352	238,808	73,900 [44.8%]
Output (in millions of 1991 dollars)	12,250	(402)	4,253	2,771	18,872	6,622 [54.1%]
Personal Income (in millions of 1991 dollars)[j]	4,809	(543)	1,788	1,016	7,070	2,261 [47.0%]

[a] Existing conditions represent pre-closure conditions in Monterey County in 1991. Sources: Huppertz and Bloomquist 1991, California Department of Finance 1992, California Employment Development Department 1992, Minnesota IMPLAN Group 1985, U.S. Bureau of Economic Analysis 1989.

[b] Represents the direct population and housing impacts and direct and secondary employment, output, and personal income impacts of Fort Ord closure. Source: Fort Ord Disposal and Reuse Environmental Impact Statement (Volume II), Jones & Stokes Associates 1993.

[c] Represents conditions on installation properties with reuse under Alternative 7. Source: Table B-1 in Appendix B.

[d] Represents secondary economic activity within Monterey County generated by reuse under Alternative 7. Source: Table B-1 in Appendix B.

[e] Represents conditions in Monterey County following buildout under Alternative 7. Calculated by subtracting Fort Ord closure impacts from 1991 countywide conditions, and adding the direct and secondary impacts of reuse.

[f] Secondary population and housing impacts associated with onsite employment-generating land uses were not estimated because of the difficulty of separating these impacts from direct impacts and to avoid double counting.

[g] Includes 23,716 housing units located at Fort Ord, including 9,745 barrack spaces.

[h] Represents new and existing housing located on installation properties under Alternative 7. Totals do not include hotel rooms.

[i] Ratios calculated excluding secondary jobs generated by reuse of Fort Ord properties.

[j] Personal income is defined as employee compensation plus proprietary income.

Note: NA = not applicable.

Implementing Alternative 7 would result in an imbalance in the relative amounts of employment and housing generated by reuse. Applying the county average of 1.45 workers per household to the number of employment positions directly generated by this alternative (58,500), a demand for an additional 40,400 housing units is generated; however, only approximately 13,800 housing units would be directly developed under Alternative 7. Similarly, implementing Alternative 7 would result in an increase from 1.36 to 1.62 in the county's ratio of jobs to housing. This effect is considered adverse because it increases the countywide ratio that already exceeds the ratio of jobs to housing generally considered optimal for maintaining a jobs/housing balance. These effects are considered unavoidable unless adequate housing development is approved elsewhere in the county to coincide with the development of onsite employment-generating uses or the number of jobs associated with reuse are decreased.

Full development under Alternative 7 is assumed to occur over a 50-year period. Economic growth, including residential, commercial, and industrial development, presumably would occur simultaneously throughout Monterey County over this period. The population and housing growth related to reuse, and the related growth in employment, personal income, and industrial output, would cumulatively add to growth elsewhere in the region. The list of reasonably foreseeable projects (Table 5-1) indicates that more than 5,000 dwelling units could be developed in the Cities of Marina and Sand City and elsewhere in Monterey County in the near term. This residential development could support up to 15,000 residents in addition to the 41,500 residents supported by housing development under reuse under Alternative 7.

Reuse could affect cumulative development by affecting the overall levels of population and housing growth that could occur over the buildout period, or it could shift development patterns in the county.

Regional Economy. Implementing Alternative 7 would result in the development of employment-generating land uses that would directly increase the existing number of jobs in Monterey County by more than 58,500, offsetting the 27,000 jobs estimated to be lost because of installation closure. More than 15,800 of the new jobs would be located in the City of Marina and more than 13,300 in the City of Seaside. Indirect and induced employment generated by onsite development would generate an estimated 42,400 additional jobs in the county.

Similarly, implementing Alternative 7 would result in a total (direct and secondary) increase of $7.0 billion in industrial output and $2.8 billion in personal income in Monterey County, offsetting the estimated loss of $402 million in output and $543 million in personal income caused by installation closure. The City of Marina would have the direct growth of $1.2 billion in output and $474 million in personal income under Alternative 7. Similarly, the City of Seaside would have direct output and personal income growth of $830 million and $395 million, respectively.

Because of the long period anticipated for disposal and reuse under Alternative 7, the amount of economic growth that could occur countywide over the buildout period is highly speculative. Market forces will dictate the amount of economic growth that will occur. In addition to employment-generating uses that would be developed under Alternative 7, the list of reasonably foreseeable projects indicates substantial retail and office development proposed near Fort Ord that would compete with Fort Ord properties. Physical and environmental considerations, such as water availability, air quality, and protection of natural resources, also will indirectly affect the amount and location of economic growth.

Reuse could affect cumulative development by affecting the overall levels of economic growth that could occur over the buildout period, or it could shift development patterns in the county.

Social Services. Implementing Alternative 7 would result in decreased unemployment and increased economic activity throughout the region. Increased economic development would result in decreased growth in the demand for community services, such as welfare payments and crisis intervention programs, and would

benefit programs designed to assist unemployed and undertrained persons seeking employment opportunities in Monterey County.

Soils, Geology, Topography, and Seismicity

Substantial areas of new development proposed in Alternative 7 would result in the disturbance or loss of existing soil resources through excavation, grading, paving, landscaping, and so forth. New development would disturb or cover approximately 6,000 acres of existing natural soils on former Fort Ord lands. This loss would be combined with soil disturbance from other potential development in the region described in Table 5-1. Disturbance or overcovering of natural soil would affect a portion or all of polygons 1c, 7a, 11b, 19a, 20c, 21a, 21b, 23, 24, 29a, 29b, 29c, 29d, and 31b. Accelerated water erosion resulting from development would affect a portion or all of polygons 11b, 19a, 21b, 20c, 24, 25, 26, 29b, 29c, 29d, 31b, and 30.

Soil surface disturbance and removal of vegetation from relatively undisturbed areas would result in an increased hazard of wind erosion of the predominately sandy and poorly aggregated soils of former Fort Ord, specifically the Baywood, Oceano, and Arnold series. Nearly all the approximately 6,000 acres of soils described above are included in this category. Wind erosion and blowing sand may affect aviation use of the airport and could damage existing vegetation and existing structures in all areas.

Proposed development on moderately to highly erodible lands and on moderate to steep slopes (greater than 15% to approaching vertical) would necessitate the removal of vegetation, disruption and excavation of the soil surface, and concentration and redirection of runoff. Approximately 1,700 acres would be included. This development would result in greatly accelerated water-induced soil erosion, which would destroy soil resources and ultimately be a hazard to the stability of the proposed developments. This impact would be especially acute on areas of the Arnold soil series, a sandy soil over a cemented hardpan. This impact is most significant to the proposed Caltrans corridor across the southern portion of the base.

Proposed development in areas of recent and active landslides, areas susceptible to water erosion, and areas along the coast are susceptible to damage and loss from existing and potential landslides, induced both from rainfall and seismic activity. Increased water erosion and landslide susceptibility as a result of proposed developments would result in increased creek channel sedimentation downslope and downstream of new development. The primary source would be from development in the NRMA (25), agri-center (11b), POST academy (26), recreation area expansion (30), office park (29a), resort hotel in the southwest portion of the base (29a), southern portions of the new transportation system, and community park (29e).

Cumulative development planned in and around former Fort Ord's open lands could result in the suppression of low-temperature natural wildfires, resulting in a buildup of fuel and eventual high-temperature wildfire. High-temperature fires could deplete the soil surface horizon reserve of organic matter, and thus the soil fertility and water holding capacity. Additional soil impacts of high-temperature fires include volatization of nitrogen and sulfur and formation of water-repellent layers. However, some habitats at former Fort Ord, such as maritime chaparral, are well adapted to the conditions presented by high-temperature fires. Maritime chaparral may recover more rapidly after a high-intensity fire than after a low-intensity fire because seeds from chaparral plants may germinate in higher numbers after being exposed to high temperatures while seeds from invasive weeds may be destroyed (Odion et. al. 1992).

The mitigation measures for all these impacts are the same as those described in the FEIS (Volume I, pages 6-28 to 6-31). The major control efforts include minimizing ground disturbance in areas with highly erosive soils, maintaining a fire management program with periodic controlled burns, revegetating disturbed areas, and using runoff control structures at appropriate locations.

Public Services and Utilities

Public services and utilities requirements necessary to serve the proposed Alternative 7 land use scenario are listed in Table 5-3. The discussion below describes cumulative impacts associated with the development of the former installation as a whole and cumulative effects associated with land development outside the former Fort Ord boundaries.

The Fort Ord Reuse Infrastructure Study was prepared for FORA to define the specific water, wastewater, roadway, drainage, energy supply, and communication systems requirements for reuse of the former Fort Ord installation (Reimer Associates 1995). The study identifies capital improvements that must be constructed to support development under Alternative 7 (Figures 5-1 through 5-7, located at the end of this section).

The following sections provide a discussion of cumulative impacts associated with each public service and utility.

Wastewater. Wastewater treatment capacity at the Monterey Regional Water Pollution Control Agency facility has been purchased by all jurisdictions in its service area, including 3.3 million gallons per day (mgd) by former Fort Ord. Existing wastewater treatment capacity has been allocated to absorb future growth as projected by the AMBAG. The existing treatment plant has a permitted capacity of 27 mgd and average flow of 20 mgd, including 2.4 mgd that was generated from former Fort Ord. Alternative 7 would create a demand for wastewater treatment capacity above the 3.3 mgd purchased by the Army. When combined with future increases in other parts of the service area, these alternatives would exceed current plans for providing adequate wastewater service. This demand for capacity beyond current plans would have an adverse cumulative effect if other entities plan for and allow growth to exceed current AMBAG projections.

A wastewater treatment master plan could be developed and implemented to serve projected growth in MRWPCA's service area. The plan would identify how additional plant capacity would be financed and phased to meet the demands of future development and how measures such as use of gray water systems and low-flow fixtures would be required in new development to reduce wastewater treatment demands. It also would identify methods to dispose of wastewater in compliance with state and local guidelines. Reclaiming wastewater for irrigation would be considered in this plan. Approval of new development projects would be conditioned on the availability of wastewater treatment capacity consistent with the master plan.

Solid Waste. Because the Marina Landfill has a life of 100 years, assuming successful waste reduction and recycling measures, the cumulative effects of reuse would be similar to the direct impacts of reuse. Alternative 7 would generate more than the existing 94 tons per day of refuse that was generated at former Fort Ord and would contribute to cumulative effects by shortening the life span of the Marina Landfill by 14 years.

As indicated in Table 5-1, there are a considerable number of local development projects outside the installation boundaries that are expected to be constructed in the future. These projects will also make a cumulative contribution to the solid waste stream and will further shorten the life span of the Marina Landfill, particularly when considered in combination with buildout under Alternative 7.

Telephone. Development of former Fort Ord lands under Alternative 7 would create a new demand for telephone service for approximately 4,900 acres. A service provider would be needed. This is not considered to be a significant cumulative impact for this alternative because availability of telephone service is not anticipated to be a limiting factor.

The projected growth rate of the Monterey Peninsula area and the development of the former Fort Ord installation when considered together may result in additional adverse cumulative effects on telephone

resources because a service provider may be needed. However, the availability of telephone services is not anticipated to be a limiting factor.

Gas and Electric. Buildout under Alternative 7 would create a new demand for approximately 2,500 million cubic feet per hour (MCFH) of gas and 255 megawatts (MW) of electricity (peak demand). This demand would require new infrastructure in addition to upgrading or replacing existing infrastructure. Gas and electric systems could be expanded as necessary to accommodate increased use. Availability of gas and electric infrastructure is not anticipated to be a limiting factor.

The projected growth rate of the Monterey Peninsula area and the development of the former Fort Ord installation when considered together would not result in any additional adverse cumulative effects on gas and electric infrastructure because there is no limitation anticipated to the provision of this element of infrastructure.

Cable Television. Cable television requirements will be somewhat less for Alternative 7 when compared to original conditions on the installation. The service would be reduced by approximately 640 acres. This is not considered a significant cumulative impact. This reduction in service area may be attributed to the conversion of military buildings and barracks to other non-residential uses not requiring cable service.

The projected growth rate for the Monterey Peninsula will create additional demand for cable television service. However, development of the former Fort Ord lands will not contribute to cumulative cable television demand.

Storm Drainage System. Implementation of Alternative 7 would result in the development of undeveloped open space, causing additional surface runoff that may contribute to future cumulative watershed flooding problems, particularly to existing areas in the Federal Emergency Management Agency 100-year floodplains. Approximately 520 acres of new storm drainage facilities will be required.

Future land development on the Monterey Peninsula, when considered along with development of former Fort Ord, will also contribute to increased surface runoff associated with urban development, which may contribute to cumulative flooding problems.

Water Distribution. Buildout under Alternative 7 would require construction of water distribution infrastructure to serve approximately 6,050 acres. This total includes open space that is planned for development and existing urbanized area that would require system replacement. The projected growth rate of the Monterey Peninsula area and the development of former Fort Ord would not result in any additional cumulative impacts on water distribution infrastructure beyond those described in the FEIS.

Recreation. Based on the projected growth rate of the Monterey Peninsula and the development of former Fort Ord, there would not be a cumulative need for additional recreational opportunities. The closure of Fort Ord has resulted in the availability of approximately 14,000 acres of new recreation lands managed by BLM and California State Parks that previously were not available for public use. However, the continued growth of the Monterey Peninsula area may reduce the amount of land available for undeveloped recreational opportunities. This loss of land for undeveloped recreational opportunities would be unavoidable.

Schools. Development of former Fort Ord lands under Alternative 7 would not create a demand for public schools that would exceed the existing public school capacity for the former Fort Ord area. Approximately 8,300 students would be generated under Alternative 7, and existing capacity is 8,800 students. However, based on the projected growth rate of the Monterey Peninsula region and the development of former Fort Ord, there would be a need for additional school capacity for approximately 130,000 students. The school districts in the Monterey Peninsula area are operating at near-capacity levels. Additional facilities would need to be constructed to accommodate 130,000 additional students based on future population

projections by AMBAG. The Monterey area school districts would need to construct more schools to ensure adequate capacity for the number of students generated by future development.

The FORA Final Base Reuse Plan (December 1994) provides early planning concepts of how to meet the demand for wastewater, communications, energy supply, storm drainage, and water distribution infrastructure. All these services would be developed through phasing as buildout of former Fort Ord lands occurs. The technical and economic feasibility of these infrastructure improvements has not been determined because only a conceptual level of planning has been undertaken to date. Detailed planning is beyond the scope of this Supplemental EIS and is the responsibility of implementing agencies.

Water Resources

Water Supply and Demand. Total water demand for the former Fort Ord area under Alternative 7 is estimated to equal approximately 16,900 af/yr. There would be an additional increase of approximately 3,400 af/yr in water demand outside former Fort Ord, in the Salinas-Monterey area, for university students, employees, and their families living off campus. The total water demand for the Fort Ord area would be 83% of the total increase in regional water demand of 20,300 af/yr.

The total water demand under Alternative 7 was estimated by itemizing the water demand for each map polygon in the FORA Final Base Reuse Plan (December 1994). Water demand factors for individual land uses were the same as those used for the FEIS (Volume I, page 6-56). For polygons with multiple land uses, an estimate of water demand was developed by summing the demands of the individual uses.

The estimated water demand for the POM Annex also was revised because the water demand for some of the polygons and uses identified separately under Alternative 7 were included in the lump sum water demand estimate for the POM Annex in the FEIS. To avoid double-counting these demands, they were subtracted from the POM Annex demand. The water demand for the Army's proposed POM Annex was estimated in the FEIS to equal about 3,200 af/yr, which included the estimate of potable supply uses developed by the Directorate of Engineering and Housing plus measured nonpotable irrigation use at the existing golf courses. The Hayes housing area nonpotable water system, including the well and reservoir, is considered part of the existing golf course. The water demand estimate was revised for the analysis of Alternative 7 as described in Table 5-13. This new estimate for the POM Annex does not include line losses and flushing flows required for the annex area.

Table 5-13. Estimated Water Demand for the Presidio of Monterey Annex

	Total (af per year)
Consumptive use	1,325
Irrigation use	342
DFAS use	62
Total	1,729

The estimated water demands for the adjustments to the POM Annex were based on metered use or on water demand factors reported in the Fort Ord water demand study prepared by Planning and Management Consultants, Ltd. (1993).

The total water demand for former Fort Ord under Alternative 7 is approximately three times greater than baseline water use. If the increase were supplied by wells in the Salinas basin, seawater intrusion would be accelerated. Groundwater recharge from irrigation return flow, leaky water and sewer pipes, and infiltration

of runoff from impervious surfaces would increase somewhat under this alternative. However, this increase would only partially offset the increase in pumpage.

Alternative 7 includes a provision that development will be in phases subject to the availability of adequate water supplies as coordinated with the MCWRA (see the "Mitigation Agreement" portion of Section 3.2.2). The initial phase will use existing supplies that are in excess of Army needs. However, these resources will not be available after the MCWRA project is completed. Under the terms of agreement between the Army and MCWRA, pumping from the Fort Ord wells in the Salinas aquifer will cease unless environmental and national defense requirements like the project are met. Later phases will be contingent on development of new water sources. Some combination of new water supplies, wastewater reclamation, and aggressive water conservation would be needed to implement Alternative 7 without substantially increasing the rate of seawater intrusion. The FORA Final Base Reuse Plan (December 1994) suggests that all these water supply alternatives will be considered in the early phases of reuse but that desalination will be the likely water source for long-term development of former Fort Ord (Fort Ord Reuse Authority 1994).

Hydrology and Water Quality. The additional land development and construction of new roadways proposed in Alternative 7 would cause additional surface runoff that may contribute to future cumulative watershed problems, particularly to existing areas in the Federal Emergency Management Agency 100-year floodplains. Implementing Alternative 7 would contribute to future water quality degradation in the watershed and result in increases in urban runoff and associated urban pollutants. Implementation of mitigation measures described in the FEIS (Volume I, pages 6-52 to 6-55) would decrease these impacts by requiring development of stormwater and hazardous materials management plans and construction of drainage and erosion control facilities. Additionally, the storm drainage concept contained in the FORA Final Base Reuse Plan (December 1994) provides for stormwater detention in the coastal zone to improve the quality of runoff before discharge to Monterey Bay.

Public Health and Safety

Public health and safety issues relevant to development of former Fort Ord under the Alternative 7 land use scenario are summarized in Table 5-4. The discussion below describes cumulative impacts associated with the development of the former installation as a whole and cumulative effects associated with land development outside the former Fort Ord boundaries. The following individual sections provide a discussion of cumulative impacts associated with each public health and safety issue.

Law Enforcement. Buildout of the Alternative 7 land use scenario will not require an increase in the number of law enforcement officers when compared to original conditions at former Fort Ord. However, as law enforcement responsibilities are transferred to local jurisdictions, approximately 127 officers may eventually be required for law enforcement.

Local cities have been able to maintain adequate law enforcement service, but the Monterey County Sheriff's Department has exhibited a steady decline in funding levels. Because state assistance to cities and counties for general fund expenditures is declining, it is likely that any increase in demand for law enforcement service in the former Fort Ord area would be difficult to satisfy.

Monterey County or other local jurisdictions could prepare and implement a law enforcement master plan to ensure adequate staff and equipment levels and response times. The plan would identify goals for staff levels and response times in urban, rural, and undeveloped areas. The plan would identify mechanisms that can be used to meet these goals, such as beat restructuring; mutual and automatic aid agreements; and alternative financing mechanisms, including community facilities districts and other special districts.

Approval of new development in unincorporated areas would be conditioned on availability of law enforcement service consistent with standards specified in the law enforcement master plan. Project

proponents would be required to prepare a statement indicating how law enforcement needs that would be created by their project would be met when the buildings are occupied.

Fire Protection. Under Alternative 7, 12 additional firefighters will be required compared to previous fire protection staffing for former Fort Ord. As noted under "Law Enforcement", responsibilities will eventually transfer to local jurisdictions, which must provide 62 firefighters.

Local cities have been able to maintain adequate fire protection response, but financing for Monterey County fire districts and the California Department of Forestry and Fire Protection has steadily decreased. Fire districts receive most of their funding from property tax revenues, which have declined since Proposition 13 passed. State fire protection funds have also decreased. Although cities would likely be able to continue to maintain adequate fire protection response on former Fort Ord, Monterey County fire districts and the California Department of Forestry and Fire Protection will likely continue to have difficulty maintaining adequate fire protection service.

Monterey County, the State of California, or other local jurisdictions could prepare and implement a fire protection master plan to ensure adequate staff and equipment levels and response times. The plan would identify goals for staff levels and response times in urban, rural, and undeveloped areas and mechanisms that can be used to meet these goals, such as mutual and automatic aid agreements and alternative financing mechanisms, including community facilities districts and other special districts.

Approval of new development in unincorporated areas would be conditioned on availability of fire protection response consistent with standards specified in the fire protection master plan. Project proponents would be required to prepare a statement indicating how fire protection response that would be created by their project would be met when the buildings are occupied.

Medical and Emergency Medical Services. Alternative 7 would generate a population of approximately 41,500 that would require medical and emergency medical services. This population would not exceed the local service capacity. In addition, student population housed on the university area would require similar services.

Projected population growth in the Monterey County area, not including former Fort Ord, is expected to range from 60,000 to 100,000 by 2035. Alternative 7 would have a cumulative effect on medical and emergency medical services when considered with expected regional growth. The cumulative growth in countywide population will increase the demand for medical services. The future availability of healthcare services will depend on the ability of the medical community and healthcare providers to expand services and facilities in the county.

Seismic Safety. There would be no cumulative seismic safety impacts.

Traffic and Circulation

Traffic and circulation effects are summarized in Table 5-14. The five currently active gates to former Fort Ord have a daily capacity of approximately 70,000 trips. The land uses in Alternative 7 are estimated to create approximately 435,139 vehicle trips per day. Approximately 195,000 trips are projected between former Fort Ord and the surrounding communities each day, including vehicles traveling through former Fort Ord enroute to other destinations.

Table 5-14. Transportation Impacts under Alternative 7

Measure of Transportation Activity	Existing Daily Trips	Under Alternative 7	
		Daily Trips	Number of Lanes Required
Vehicle trips generated in the Fort Ord area	--	435,139	--
Traffic volume crossing the encircling screenline	58,000	195,000	13-33
Traffic volume crossing east/west screenline	--	37,000	3-7
Traffic volume crossing north/south screenline	--	81,000	6-14

Notes: Dashes indicate that data are not applicable or not available.

"Number of Lanes Required" is defined as the value needed to achieve LOS C.

"Encircling screenline" measures travel to, from, and through Fort Ord.

For traffic analysis purposes, the trips generated by Alternative 7 were assigned to a roadway network. This was necessary to assess the effects of these trips as they were distributed to, and traveled on, the areawide roadway network. A summary of roadway segment levels of service for this network is shown in Table 5-15. As noted earlier in Section 5.3.1.1, "Newly Excessed Lands and Revised Use Areas", the FORA Final Base Reuse Plan (December 1994) includes concept plans for transportation system improvements and transportation corridor rights-of-way to support land use. The roadway network included in the FORA Final Base Reuse Plan (December 1994) was assumed for traffic analysis purposes within the former Fort Ord area. This network is shown in Figure 3-3.

To provide capacity to handle 195,000 daily trips at level of service (LOS) C, between 13 and 33 lanes of roadway would need to be provided between former Fort Ord and the surrounding communities. To meet this demand, 13 lanes of freeway, each lane capable of carrying approximately 16,000 vehicles per day at LOS C, could be needed. If the capacity were provided using access-controlled arterial roadways that can carry approximately 12,000 vehicles per day at LOS C, 17 lanes would be required. An arterial roadway with signalized intersections can carry approximately 6,000 vehicles per day at LOS C, so 33 lanes would be needed to serve this level of demand. The needed roadway capacity could be provided with a mixture of facilities, including freeways; two-, four-, and six-lane arterials; and local two-lane collector streets. With the provision of transit service and aggressive measures to reduce single-occupant driving, the need for roadways could be reduced by approximately 10%. Transit service could include elements such as shuttle buses, fixed-route public transit, and rail service.

Including the five active gates, 12 lanes of arterial roadway provide access to former Fort Ord. If the Inter-Garrison Road/Reservation Road and North-South Road/SR 218 gates are opened, four additional lanes would be provided. The proposed multimodal corridor, if built, would add up to six more lanes of capacity, which probably would be sufficient to serve the demand created by Alternative 7.

The secondary impacts of implementing mitigation for transit systems, and other mitigation measures described above, have been assessed in this Supplemental EIS. For example, the secondary impacts of these mitigation measures on biological resources, cultural resources and hazardous/toxic waste sites have been specifically addressed in this Supplemental EIS.

The land uses under Alternative 7 would create a demand for north-south travel on former Fort Ord of approximately 37,000 vehicles per day. This volume would include travel between sections of former Fort Ord, travel between former Fort Ord and the surrounding communities, and travel through former Fort Ord. To provide capacity to handle 37,000 daily trips at LOS C, between three and seven lanes of north-south roadways would be needed on former Fort Ord. To meet this demand, three lanes of freeway, each lane capable of carrying approximately 16,000 vehicles per day at LOS C, could be needed. If the capacity were provided using access-controlled arterial roadways that can carry approximately 12,000 vehicles per day at LOS C, four lanes would be required. An arterial roadway with signalized intersections can carry approximately 6,000 vehicles per day at LOS C, so seven lanes would be needed to serve this level of demand. The needed roadway capacity could be provided with a mixture of facilities, including freeways; two-, four-, and six-lane arterials; and local two-lane collector streets. With the provision of transit service and aggressive measures to reduce single-occupant driving, the need for roadways could be reduced by approximately 10%. Transit service could include elements such as shuttle buses, fixed-route public transit, and rail service.

Table 5-15. Summary of Roadway Segment Levels of Service under Alternative 7

Segment	Existing			2010 with Alternative 7					
	Lanes	Facility	LOS	Lanes	Facility	Daily Volume	Capacity	V/C Ratio	LOS
State Routes									
SR 1 - SR 68 interchange to Del Monte Avenue interchange	4	Freeway	C	4	Freeway	58,211	70,000	0.83	D
SR 1 - Del Monte interchange to SR 218 interchange	4	Freeway	C	4	Freeway	63,459	70,000	0.91	E
SR 1 - SR 218 interchange to Fort Ord Village interchange	4	Freeway	D	4	Freeway	64,650	70,000	0.92	E
SR 1 - Fort Ord Village interchange to 0.5 mile north	4	Freeway	E	4	Freeway	74,645	70,000	1.07	F
SR 1 - 0.5 mile north of Fort Ord Village to Main Gate	6	Freeway	C	6	Freeway	74,645	100,000	0.75	C
SR 1 - Main Gate to 12 Street Gate	6	Freeway	C	6	Freeway	64,342	100,000	0.64	B
SR 1 - 12th Street Gate to south Marina interchange	6	Freeway	C	6	Freeway	54,431	100,000	0.54	A
SR 1 - south Marina interchange to Reservation Road	4	Freeway	B	4	Freeway	46,076	70,000	0.66	B
SR 218 - SR 1 to Fremont Boulevard	4	U.A.	B	4	U.A.	15,295	30,000	0.51	A
SR 218 - Fremont Boulevard to SR 68	2	U.A.	E	4	U.A.	20,587	30,000	0.69	B
SR 68 - SR 1 interchange to SR 218 interchange	2	M.L.H.	E	2	M.L.H.	29,308	15,000	1.95	F
SR 68 - SR 218 to Barloy Canyon Road	2	M.L.H.	E	2	M.L.H.	12,895	15,000	0.86	D
SR 68 - Barloy Canyon Road to Toro Park	2	M.L.H.	B	2	M.L.H.	11,190	15,000	0.75	C
SR 68 - Toro Park to north of Spreckles Boulevard	4	Freeway	B	4	Freeway	34,002	70,000	0.49	A
SR 68 Bypass - SR 218 to Barloy Canyon Road	N/A	N/A	N/A	4	Freeway	24,977	70,000	0.36	A
SR 68 Bypass - Barloy Canyon Road to SR 68	N/A	N/A	N/A	4	Freeway	24,909	70,000	0.36	A
County Roads									
Reservation Road - Multi-Modal Corridor to Inter-Garrison Road	4	U.A.	C	4	U.A.	9,233	30,000	0.31	A
Reservation Road - Inter-Garrison Road to SR 68	2	Rural	C	2	Rural	21,568	15,000	1.49	F
Davis Road - Reservation Road to Blanco Road	2	Rural	F	4	U.A.	16,833	30,000	0.56	A
Davis Road - North of Blanco Road	N/A	N/A	N/A	2	Rural	15,806	15,000	1.05	F
Multi-Modal Corridor - U.S. 101 to Blanco Road	N/A	N/A	N/A	6	M.L.H.	22,735	96,000	0.24	A
Multi-Modal Corridor - Blanco Road to Reservation Road	2	Rural	E	6	M.L.H.	32,640	96,000	0.34	A
City of Marina Roads									
Del Monte - SR1 to Reservation Road	4	U.A.	C	4	U.A.	15,399	30,000	0.51	A
Reservation Road - SR 1 to Multi-Modal Corridor	4	U.A.	C	4	U.A.	14,158	30,000	0.47	A

Table 5-15. Continued

Segment	Existing			2010 with Alternative 7					
	Lanes	Facility	LOS	Lanes	Facility	Daily Volume	Capacity	V/C Ratio	LOS
City of Seaside Roads									
Fremont Boulevard - SR 1 to SR 218	4	U.A.	E	4	U.A.	24,841	30,000	0.83	D
Fremont Boulevard - SR 218 to Broadway Avenue	4	U.A.	D	4	U.A.	19,733	30,000	0.66	B
Fremont Boulevard - Broadway Avenue to SR 1	4	U.A.	B	4	U.A.	19,807	30,000	0.66	B
Broadway Avenue - Del Monte Boulevard to Fremont Boulevard	4	U.A.	A	4	U.A.	12,094	30,000	0.40	A
Broadway Avenue - Fremont Boulevard to North-South Road	4	U.A.	A	4	U.A.	11,493	30,000	0.38	A
Del Monte Boulevard - SR 218 to Broadway Avenue	4	U.A.	B	4	U.A.	37,012	30,000	1.23	F
Del Monte Boulevard - Broadway Avenue to Fremont Boulevard	4	U.A.	A	4	U.A.	18,088	30,000	0.60	B
Military Avenue - Fremont Boulevard to North-South Road	N/A	N/A	N/A	4	U.A.	25,804	30,000	0.86	D
Fort Ord Roads									
Multi-Modal Corridor - Reservation Road to Inter-Garrison Road	N/A	N/A	N/A	6	M.L.H.	30,264	96,000	0.32	A
Imjin Road - 4th Avenue to New Road B	N/A	N/A	N/A	4	U.A.	29,475	30,000	0.98	E
12th Street - SR 1 to 4th Avenue	N/A	N/A	N/A	4	U.A.	28,822	30,000	0.96	E
4th Avenue - North of 8th Street	N/A	N/A	N/A	2	U.A.	5,907	15,000	0.39	A
New Road B - North of Inter-Garrison Road	N/A	N/A	N/A	2	U.A.	9,544	15,000	0.64	B
New Road B - South of Inter-Garrison Road	N/A	N/A	N/A	4	U.A.	12,182	30,000	0.41	A
Inter-Garrison Road - New Road D to Reservation Road	N/A	N/A	N/A	4	U.A.	19,897	30,000	0.66	B
Light Fighter Drive - SR 1 to 2nd Avenue	N/A	N/A	N/A	2	U.A.	19,663	15,000	1.31	F
8th Street - 2nd Avenue to New Road D	N/A	N/A	N/A	2	U.A.	3,910	15,000	0.26	A
2nd Avenue (and extension) - Light Fighter Drive to Marina Interchange	N/A	N/A	N/A	2	U.A.	5,181	15,000	0.35	A
New Road C - Imjin Road to 8th Street	N/A	N./A	N.A	2	U.A.	6,399	15,000	0.43	A
New Road D - Gigling Road to Imjin Road	N/A	N/A	N/A	4	U.A.	20,852	30,000	0.70	B
Gigling Road - North-South Road to New Road E	N/A	N/A	N/A	4	U.A.	26,615	30,000	0.89	D
North-South Road - Light Fighter Drive to Broadway Avenue	N/A	N/A	N/A	4	U.A.	22,670	30,000	0.76	C
North-South Road - Broadway Avenue to SR 218	N/A	N/A	N/A	4	U.A.	9,766	30,000	0.33	A
New Road E - Gigling Road to Eucalyptus Road	N/A	N/A	N/A	2	U.A.	12,503	15,000	0.83	D
Eucalyptus Road - North-South Road to Barloy Canyon Road	N/A	N/A	N/A	2	U.A.	10,215	15,000	0.68	A

Table 5-15. Continued

Segment	Existing			2010 with Alternative 7					
	Lanes	Facility	LOS	Lanes	Facility	Daily Volume	Capacity	V/C Ratio	LOS
New Road F - SR 218 to Eucalyptus Road	N/A	N/A	N/A	2	U.A.	6,073	15,000	0.40	A
Barloy Canyon Road - SR 68 Bypass to Reservation Road	N/A	N/A	N/A	2	Rural	4,686	15,000	0.31	A

Notes:

Freeway = controlled access, grade-separated interchange.
M.L.H. = divided multilane highway, controllad access at grade.
U.A. = urban arterial roadway with signalized intersections.
Rural = rural two-lane highway.
N/A = not applicable.

The only roadways serving significant north-south travel on former Fort Ord are North-South Road, Imjin Road, and Barloy Canyon Road. North-South Road could be expanded, but the expansion would involve encroachment on the development on both sides of the road and result in more traffic through the POM Annex. Widening of Barloy Canyon Road would be difficult because of the mountainous terrain through which this road travels. Widening would be further hampered by the existence of native plant preserves adjacent to this roadway. If the widening of Barloy Canyon Road were substantial it could also adversely affect the ability of wildlife and plant seeds and pollen to move between natural areas on both sides of the road. However, this level of widening is not likely due to topographical constraints in the area. New roadways could be constructed but would have to avoid the inland range area and minimize intrusion through areas containing special-status species or habitats of special concern, and this would entail considerable cost.

The land uses in Alternative 7 would create a demand for east-west travel on former Fort Ord of approximately 81,000 vehicles. This would include travel between sections of former Fort Ord, travel between former Fort Ord and the surrounding communities, and travel through former Fort Ord. To provide capacity to handle 81,000 daily trips at LOS C, between six and 14 lanes of east-west roadways would be needed on former Fort Ord. To meet this demand, six lanes of freeway, each lane capable of carrying approximately 16,000 vehicles per day at LOS C, could be needed. If the capacity were provided using access-controlled arterial roadways that can carry approximately 12,000 vehicles per day at LOS C, seven lanes would be required. An arterial roadway with signalized intersections can carry approximately 6,000 vehicles per day at LOS C, so 14 lanes would be needed to serve this level of demand. The needed roadway capacity could be provided with a mixture of facilities, including freeways; two-, four-, and six-lane arterials; and local two-lane collector streets. With the provision of transit service and aggressive measures to reduce single-occupant driving, the need for roadways could be reduced by approximately 10%. Transit service could include elements such as shuttle buses, fixed-route public transit, and rail service.

The only roadways serving significant east-west travel on former Fort Ord are Light Fighter Drive, Inter-Garrison Road, and Reservation Road. Widening of some of these roads would be hampered by the existence of habitats of special concern on large portions of the installation. New roadways could be constructed but would have to avoid the inland range area and would need to minimize intrusion in areas containing special-status species or habitats of special concern and landfill caps. This would entail considerable cost.

Constructing the FORA transportation system described for Alternative 7 as mitigation for traffic increases could result in secondary impacts on biological resources, water quality, land use, public health and safety, and cultural resources if the system is not properly designed. Roadways could disturb habitats of special concern or contribute to water pollution problems when rainfall carries off contaminants left by automobiles on roadway surfaces. These potential impacts are discussed in respective sections of the cumulative impacts analysis.

Existing general plan circulation elements for the Cities of Seaside and Marina and for Monterey County were prepared before it was known that former Fort Ord would be closed; these elements do not include the travel demand created by reuse and therefore understate the improvements that would be needed to satisfy future demand.

AMBAG was scheduled to complete its congestion management plan at the end of 1995. AMBAG reviewed and approved the local transportation network proposals that were submitted as part of property screening requests to Caltrans and FHWA, and incorporated in the local future highway plan. Some level of planning has been completed. Local cities also are obtaining NPDES areawide permits to cover development in their plans.

The circulation elements of local general plans will be updated to include the roadway and transit improvements determined to be needed to serve the proposed land uses. Transportation demand

management plans also will be developed to minimize the amount of additional roadway capacity required. Transportation demand management strategies are policies and actions aimed at reducing the number of vehicles using roadways during the peak hour, including methods for encouraging car pooling, van pooling, and transit use. As indicated in the "Mitigation Agreement" portion of Section 3.2.2, FORA already has agreed to review the overall traffic impacts of its plan and intends to implement transportation demand management strategies as needed to minimize local congestion. This mitigation is considered feasible for this impact and would not result in foreseeable secondary impacts. It is recommended that the FORA reuse plan and EIR include mitigation requiring that roadway infrastructure and improvements be provided concurrently with reuse development.

An assessment of reuse-related travel demand on roadways outside former Fort Ord was conducted during preparation of this Supplemental EIS as part of the analysis of impacts and mitigation measures presented immediately above. The assessment was conducted at a schematic level; however, it could be useful in updating local general plan circulation elements and could be made available by the Army to local agencies upon request.

Air Quality

Table 5-6 shows that Alternative 7's uncontrolled PM10 construction emissions of 56 ppd would not exceed the MBUAPCD's significance thresholds of 82 ppd. Also, construction-related ROG and NO_x emissions are not significant because they have been included in the air quality planning emission inventories prepared by MBUAPCD (Monterey Bay Unified Air Pollution Control District 1995). Dust-reducing mitigation measures are described in detail in the FEIS (Volume I, pages 6-75 and 6-76). Dust-reducing measures could include using dust suppressants at construction sites, minimizing the area of ground disturbance, halting construction in high winds, and seeding and watering barren soil areas.

Estimates of Alternative 7 operational emissions include motor vehicle emissions associated with vehicle trips and area source emissions, such as combustion and evaporative emissions. The operational emission estimates assume that full buildout would occur by 2045. Motor vehicle trips are based on the trip generation rates used in the traffic analysis, whereas area source emissions are based on the number of residential land uses and the square footage of commercial and industrial buildings.

Table 5-7 shows emissions associated with buildout of Alternative 7. The table also shows the net change in emissions compared to the baseline condition when the 7th IDL was located at Fort Ord. Compared to the existing baseline conditions, Alternative 7 results in a net decrease in all pollutants except for CO. The notes in Table 5-7 also provide interim year emission estimates for 2015. In 2015, emissions are assumed to equal 45% of full buildout, based on the assumption that 45% of the water allocation budget would be allocated by 2015 in the phasing of the FORA Final Base Reuse Plan (December 1994).

CO concentrations were modeled to determine whether Alternative 7 would cause or contribute to exceedances of the state and federal CO ambient standards. The California Department of Transportation's CALINE4 model was used to estimate CO concentrations, and the modeling assumptions were consistent with MBUAPCD's CEQA Air Quality Guidelines (Monterey Bay Unified Air Pollution Control District 1995). The California Air Resources Board's EMFAC7f1.1 model was used to generate CO emission rates used as input to the CALINE4 model.

Cumulative CO concentrations were estimated based on areawide motor vehicle trips. The analysis estimated CO concentrations at sensitive receptors located near congested intersections to determine whether those concentrations would exceed the allowable state and federal ambient standards. Table 5-16 shows the results of that analysis. No violations were found at any sensitive receptors on or near former Fort Ord. Consequently, buildout of Alternative 7 would not result in violations of either the state or federal CO standards.

Table 5-16. Predicted Worst-Case Carbon Monoxide Levels for Alternative 7

Receptor Location[a]	Receptor Number	Peak-Hour Average	8-Hour Average
1st Avenue/SR 1	1	4.1	2.7
12th Street/2nd Avenue	2	3.8	2.5
12th Street/2nd Avenue	3	3.8	2.5
2nd Avenue/Gigling Road	4	3.6	2.3
2nd Avenue/Gigling Road	5	3.7	2.4
2nd Avenue/Gigling Road	6	3.6	2.3
North-South Road/Gigling Road	7	3.8	2.5
North-South Road/Gigling Road	8	3.7	2.4
North-South Road/Gigling Road	9	3.9	2.5
North-South Road/Gigling Road	10	3.8	2.5
Imjin Road/New Road D	11	3.8	2.5
Imjin Road/New Road D	12	3.7	2.4
Imjin Road/New Road D	13	3.9	2.5
Imjin Road/New Road B	14	3.7	2.4
Imjin Road/New Road B	15	3.8	2.5
Imjin Road/New Road B	16	3.8	2.5
Imjin Road/Abrams Street	17	3.7	2.4
Imjin Road/Abrams Street	18	3.7	2.4
Reservation Road/Multi-Modal Corridor	19	5.8	3.8
Reservation Road/Multi-Modal Corridor	20	4.6	3.0
Reservation Road/Multi-Modal Corridor	21	4.7	3.1
New Road D/Intergarrison Road	22	3.6	2.3
New Road D/Intergarrison Road	23	3.7	2.4
New Road D/Intergarrison Road	24	3.6	2.3
New Road D/Intergarrison Road	25	3.6	2.3
New Road B/Intergarrison Road	26	3.7	2.4
New Road B/Intergarrison Road	27	3.6	2.3
New Road B/Intergarrison Road	28	3.6	2.3
New Road B/Intergarrison Road	29	3.6	2.3
Intergarrison Road/Gigland Road	30	3.6	2.3
Intergarrison Road/Gigland Road	31	3.6	2.3
Intergarrison Road/Gigland Road	32	3.6	2.3
Intergarrison Road/Reservation Road	33	3.6	2.3
Intergarrison Road/Reservation Road	34	3.8	2.5
Intergarrison Road/Reservation Road	35	3.6	2.3
Gigling Road/New Road D	36	3.8	2.5
Gigling Road/New Road D	37	3.6	2.3
Gigling Road/New Road E	38	3.6	2.3
Gigling Road/New Road E	39	3.6	2.3
Gigling Road/New Road E	40	3.7	2.4
Blanco Road/Multi-Modal Corridor	41	5.0	3.3
Blanco Road/Multi-Modal Corridor	42	4.7	3.1
Blanco Road/Multi-Modal Corridor	43	4.5	2.9

Table 5-16. Continued

Receptor Location[a]	Receptor Number	Peak-Hour Average	8-Hour Average
Blanco Road/Davis Road	44	3.9	2.5
Blanco Road/Davis Road	45	3.8	2.5
Blanco Road/Davis Road	46	3.7	2.4
Davis Road/Reservation Road	47	4.1	2.7
Davis Road/Reservation Road	48	4.0	2.6
Davis Road/Reservation Road	49	3.7	2.4
SR 218/North-South Road	50	3.8	2.5
SR 218/Fremont Boulevard	51	3.6	2.3
SR 218/Fremon Boulevard	52	4.0	2.6
SR 218/Fremont Boulevard	53	4.0	2.6
SR 218/Fremont Boulevard	54	3.8	2.5
SR 218/North-South Road	55	3.9	2.5
SR 68/Fremont Boulevard	56	3.9	2.5
SR 218/Del Monte Boulevard	57	4.7	3.1
SR 218/Del Monte Boulevard	58	4.8	3.1
SR 218/Del Monte Boulevard	59	4.6	3.0
SR 218/Del Monte Boulevard	60	4.4	2.9
Fremont Boulevard/Del Monte Boulevard	61	3.8	2.5
Fremont Boulevard/Del Monte Boulevard	62	3.8	2.5
Seaside High School	63	3.8	2.5
Fremont Boulevard/Del Monte Boulevard	64	3.7	2.4
Coe Avenue/North-South Road	65	3.7	2.4
Coe Avenue/North-South Road	66	3.6	2.3
Coe Avenue/North-South Road	67	3.7	2.4
Coe Avenue/North-South Road	68	3.6	2.3
Coe Avenue/North-South Road	69	3.6	2.3
1st Street/Light Fighter Drive	70	3.7	2.4
1st Street/Light Fighter Drive	71	3.6	2.3
	Maximum	5.8	3.8

[a] Sensitive receptors are located within 300 feet of the intersection.

Notes: All receptors were placed 250-300 feet from intersection centerpoints. A general description of the receptor location is provided.

Federal and state 8-hour standards = 9 parts per million (ppm).
Federal standard for CO = 35 ppm.

California 1-hour standard for CO = 20 ppm.

Eight-hour average values equal 65% of peak-hour average values.

Buildout of Alternative 7 land uses within the local general planning timeframe would result in emission levels below baseline conditions or below levels that would violate state or federal standards. With buildout of the plan extending as far into the future as 2045, the incremental effects of these land use changes would be lower than modeled through the shorter local general planning timeframe.

As mentioned in Section 5.2.9, "Air Quality", several of the former Fort Ord buildings have been identified as containing asbestos, including buildings in the newly excessed areas (Appendix A). The potential health impacts from asbestos exposure will be minimized by implementing the Army's policy of fully disclosing ACM, combined with its policy of remediating damaged friable asbestos before transfer or requiring new owners to remediate before use of the building after it has been transferred.

The population and employment increases associated with Alternative 7 have been compared to the population forecasts used to prepare the 1994 AQMP for the Monterey Bay region (Monterey Bay Unified Air Pollution Control District 1994). Those population estimates are based on forecasts of population growth within individual census tracts. Alternative 7 is consistent with the 1994 AQMP because its associated population and employment growth within specific census tracts is less than the population and employment estimates for those same census tracts that were used to prepare the 1994 AQMP (Williams pers. comm.).

Even though the project is subject to the EPA general conformity rule, the rule provides several exemptions from performing a detailed conformity determination. Those exemptions pertaining to land transfers were identified in Section 4.9 and include:

1) Section 93.153(c)(2)(xiv): "Transfers of ownership, interests, and titles in land, facilities, and real and personal properties, regardless of the form or method of the transfer."

2) Section 93.153(c)(2)(xix): "Actions (or portions thereof) associated with transfers of land, facilities, title, and real properties through an enforceable contract or lease agreement where the delivery of the deed is required to occur promptly after a specific, reasonable condition is met, such as promptly after the land is certified as meeting the requirements of CERCLA, and where the Federal agency does not retain continuing authority to control emissions associated with the lands, facilities, title, or real properties.

3) Section 93.153(c)(2)(xx): "Transfers of real property, including land, facilities, and related personal property from a Federal entity to another Federal entity and assignments of real property, including land, facilities, and related personal property from a Federal entity to another Federal entity for subsequent deeding to eligible applicants."

As these provisions indicate, outright disposal is considered to be exempt from the detailed conformity determination requirements if that disposal meets certain criteria. Land transfers are exempt from the detailed conformity determination requirements if those transfers are made to other federal agencies. Land transfers are also exempt from the detailed conformity determination requirements if those transfers are made to non-federal entities through enforceable contracts or leases that will occur promptly after specific conditions are met (such as lands being certified as meeting the Comprehensive Environmental Response, Compensation, and Liability Act) and where the Army will not retain continuing authority to control emissions associated with the lands being transferred. A de minimis analysis may be accomplished for properties leased that do not fall under the exemptions listed above.

Under the MBUAPCD's ozone SIP, the North Central Coast Air Basin will attain the federal ozone standard well before 2015. In fact, the MBUAPCD has requested that the U.S. EPA formally redesignate the air basin as an ozone attainment area based on the three most recent years of ozone monitoring data. EPA is expected to rule on the MBUAPCD's redesignation request in the spring of 1996.

Noise

The traffic noise analysis conducted for Alternative 7 is inherently cumulative because traffic volumes resulting from background growth and development outside former Fort Ord are included. Accordingly, basewide cumulative effects and cumulative effects outside Fort Ord are included in this analysis. Cumulative traffic noise effects generally can be identified at those roadway segments where implementation of an alternative contributes to an excess noise condition or where the overall increase in noise relative to existing conditions is substantial (i.e., greater than about 5 dB).

Under Alternative 7, traffic noise on two of the roadway segments analyzed would increase by more than 5 dB relative to existing conditions. On 12 segments analyzed, traffic noise would increase by less than 5 dB. Implementing Alternative 7 would contribute to excess cumulative noise conditions along all these roadways (see Table 5-8).

Cumulative effects could occur when noise from stationary sources combines with noise from other stationary or mobile sources. For example, noise from an industrial facility when combined with traffic noise or aircraft noise could result in an excess noise condition and a cumulative noise effect. These types of effects are not anticipated to occur for Alternative 7 because mitigation would be required for the direct effects from new sources of noise.

The noise implications of operating the transportation system for Alternative 7 were described in the earlier impact discussion for newly excessed lands and revised use areas. Some conflicts between the proposed transportation system and noise-sensitive areas proposed in Alternative 7 were identified and mitigation was discussed.

Hazardous and Toxic Waste Site Remedial Action

The Army investigation and response to the cumulative effects of disposal and reuse of former Fort Ord will result in accurate characterization of hazardous materials and wastes. Disposal and reuse, including construction of new infrastructure, will require extensive cleanup and removal of hazardous materials and OE, which will be beneficial to the former installation and surrounding area. Groundwater contamination and risks to public health and safety will be lessened. Although new land uses may introduce new hazardous materials, current regulations are far more stringent than those in place when most of former Fort Ord was originally developed.

Three portions of the road network associated with Alternative 7, Road Segments C, D, and E, cross identified HTRW cleanup sites (Figures 3-6 and 4-3). Segment C would cross the Fort Ord landfills (OU-2), where solvent-contaminated groundwater is the primary concern. Segment D would cross the former driver training area (Site 30), where a small amount of soil has been contaminated with diesel fuel near a grease rack. Segment E would traverse the inland ranges (Site 39), where the primary concerns are OE and hazardous materials (e.g., metals, hydrocarbons, and residue associated with explosive materials). OE cleanup is discussed separately below.

Transportation Segment C, as originally proposed, would have crossed cells of the Fort Ord landfills. A heavy-duty road would have been incompatible with landfill closure. It is unlikely that the capped landfill would have had the load-bearing capacity to support the proposed roadway. FORA has proposed realignment of this corridor to avoid portions of the landfill site that would be unsuitable for road construction and to avoid conflicts with the approved landfill closure plan.

Developments of roads in corridors C, D, and E would not conflict with approved HTRW cleanup activities.

Ordnance and Explosives

The Army investigation will result in accurate characterization of potential OE. The Army's response action would be implemented before disposal and reuse. Reuse risks would be greatly reduced by these removal and disposal activities. Not all OE would necessarily be removed due to available technology, reuse plans, and cost. Some areas will have restrictions on future uses due to possible OE remaining after the planned Army responses. Development of the inland range area fringes (polygons 24 and 29a and the transportation corridor planned to serve this area) may incur risks during construction because of undiscovered OE. The Army will mitigate OE upon notification.

As described in Section 4.12, "Ordnance and Explosives", the Army has prepared a Site Use Management Plan (SUMP) to identify OE clearance levels and degrees of access to lands in and around the multi-range complex.

Vegetation, Wildlife, and Wetland Resources

Introduction. Impacts on biological resources under Alternative 7, based on the FORA Final Base Reuse Plan (December 1994) were initially analyzed using the geographic information system (GIS) to calculate acres of biological communities and potential and occupied habitat for special-status species removed or preserved in each reuse parcel identified in the alternative. Impact calculations from the GIS did not include impacts associated with FORA's proposed road network (Figure 5-7) because digital mapping data for the road network are not compatible with the GIS biological resource data or the method of analysis used. Impacts from the road network were quantified by overlaying by hand road network maps with biological resource maps and planimetering the acres of effect. These acreages were then added to the GIS- generated impact data. Basewide analysis included consideration of utility easements and other developments as part of development of polygons, as well as other utility modifications that were known as proposals in the FORA Final Base Reuse Plan (December 1994) or proposals from potential utility providers.

Analysis of Alternative 7. To determine impact acreages under Alternative 7 using the GIS, the same methods were used as described in the FEIS (Volume I, Section 6.11, "Vegetation, Wildlife, and Wetland Resources", pages 6-100 through 6-104). However, assumptions in this analysis concerning some polygons are different than described in FEIS. Instances where impact assumptions have been modified are described below.

In the FEIS, it was assumed that approximately 200 acres of the 751-acre agri-center land use area would be developed. Development would attempt to avoid sensitive biological resources and would not occur on slopes greater than 30%. As much of the development as possible would be contained in the existing developed former East Garrison and ammunition supply point.

Under Alternative 7, the same area of disturbance was assumed in the agri-center parcel. This assumption was confirmed by representatives from FORA and Monterey County during a meeting held on September 14, 1995, at former Fort Ord. Although safety training uses as well as agri-center associated uses could both occur in the developed area, impacts on biological resources are considered the same for the agri-center area because the area of disturbance would not increase. This same information was also used for the analysis of the Revised Alternative 7.

Assumptions concerning polygons 1b (Marina habitat preserve), 2a (retail), 8a (LFRA), and 17b (RV park) have been modified to reflect information included in the February 1994 HMP concerning these polygons. It is assumed that the Yadon's piperia population in polygon 2a will be preserved. The remainder of the polygon is considered fully developed. Landing lights and other devices required to support the airport will be installed in polygon 1b. It is assumed that approximately 6.5 acres of habitat will be removed to accommodate this equipment.

Table 5-17. Comparison of Losses to Biological Communities between Alternative 7 and the ROD

Habitat	Approximate Amount of Total Habitat at Former Ford Ord[a]	Alternative 7		ROD	
		Approximate Acres Lost[b]	Percent Lost	Approximate Acres Lost	Percent Lost
Beaches, bluffs, and blowouts	200	5	2	4	2
Disturbed dune	100	16	16	20	20
Ice plant mats	575	71	12	110	19
Native coastal strand	89	4	4	3	4
Dune scrub	8	2	25	1	12
Coastal scrub	550	260	47	280	51
Maritime chaparral	12,565	2,600	21	2,145	17
Coastal oak woodland	2,970	1,850	62	1,825	61
Inland oak woodland	1,410	105	7	105	7
Oak savanna	310	33	11	26	8
Annual grassland	4,240	1,230	29	1,415	33
Perennial grassland	475	2	0.5	4	1
Mixed riparian forest	195	0	0	1	0.5
Oak riparian forest	42	0	0	0	0
Vernal pool	34	0	0	0	0
Ponds and freshwater marsh	28	2	8	2	8
Total	23,791	6,180	26	5,941	25

[a] Acreage totals are based on the most recent GIS acreage calculations using the revised installation boundaries. In some instances, these totals differ slightly from those given in the final EIS.

[b] Acreage calculations for Alternative 7 include effects from the proposed road network.

Table 5-18. Comparison of Loss of Occupied Habitat of Special-Status Plant Species between Alternative 7 and the ROD

Special-Status Plant Species[a]	Legal Status[b] Federal/State/CNPS	Approximate Acres of Total Habitat at Fort Ord[c]	Approximate Acres Removed by Population Density	
			Alternative 7[c]	ROD
Sand gilia	E/T/1B			
Low density		3,270	595	555
Medium density		305	120	125
High density		160	6	13
Total		3,735	721	693
Monterey spineflower	T/--/1B			
Low density		5,750	1,965	1,970
Medium density		3,545	1,065	985
High density		920	250	260
Total		10,215	3,280	3,215
Seaside bird's-beak	C1/E/1B			
Low density		1,110	53	0.4
Medium density		15	0	0.0
High density		0	0	0.0
Total		1,125	53	0.4
Sandmat manzanita	C2/--/1B			
Low density		2,260	540	730
Medium density		2,960	620	680
High density		3,340	450	515
Total		8,560	1,610	1,925
Monterey ceanothus	C2/--/4			
Low density		2,360	850	735
Medium density		6,820	1,010	885
High density		2,480	405	410
Total		11,660	2,265	2,030
Coast wallflower	C2/--/1B			
Low density		480	290	255
Medium density		225	95	92
High density		51	7	6
Total		756	392	353
Yadon's piperia	FPE/--/B			
Low density		14	0	0
Medium density		0	0	0
High density		0	0	0
Total		14	0	0

Table 5-18. Continued

Special-Status Plant Species[a]	Legal Status[b] Federal/State/CNPS	Approximate Acres of Total Habitat at Fort Ord[c]	Approximate Acres Removed by Population Density	
			Alternative 7[d]	ROD
Toro manzanita	C2/--/1B			
Low density		2,310	470	380
Medium density		2,155	135	215
High density		1,950	52	47
Total		6,415	657	642
Hickman's allium	C1/--/1B			
Low density		275	0	0
Medium density		120	0	0
High density		0	0	0
Total		395	0	0
Eastwood's ericameria	C2/--/1B			
Low density		3,555	750	705
Medium density		2,260	530	410
High density		23	23	23
Total		5,838	1,303	1,138
Wedge-leaved horkelia	C2/--/1B			
Low density		2,435	505	435
Medium density		1,195	145	120
High density		0	0	0
Total		3,630	650	555

[a] Species with only one individual (robust spineflower [PE/--/1B] and Pajaro manzanita [--/--/4]) were not included in the table.

[b] Status explanations given in Table 4.11-2 of the final EIS (Volume I, page 4-100).

[c] Acreage totals are based on the most recent GIS acreage calculations using the revised installation boundaries. In some instances, these totals differ slightly from those given in the final EIS.

[d] Acreage calculations for Alternative 7 include effects from the proposed road network.

-- = no designation.

Table 5-19. Comparison of Losses to Special-Status Wildlife Species between Alternative 7 and the 1993 NEPA ROD

Species	Legal Status[a] Federal/State	Potential Habitat	Approximate Acres of Potential Habitat Available at Fort Ord[b]	Approximate Acres of Potential Habitat Lost	
				Alternative 7[c]	ROD
Smith's blue butterfly	FE/--	Buckwheat in dune habitats	180	22	1
California red-legged frog	FPE/SSC	Ponds	28	2	2
California tiger salamander	C2/SSC	Vernal pools and ponds	62	2	2
Southwestern pond turtle	C2/SSC	Ponds	28	1,110	1,480
Black legless lizard	FPE/SSC	General habitat; native dune vegetation and where coastal scrub and maritime chaparral overlap with Baywood sands and Oceana soils	2,695	1,600	1,480
Coast horned lizard	C2/SSC	General habitat; where coastal scrub and maritime chaparral overlap with baywood sands, Arnold Enez, and Oceana soils	9,900	2,200	2,165
Tricolored blackbird	C2/SSC	Grasslands in the southeastern portion of former Fort Ord	2,750	0	0
Monterey dusky-footed woodrat	C2/--	Maritime chaparral and coastal coast live oak woodland	15,530	4,515	3,970
Monterey ornate shrew	C2/--	General habitat; mixed riparian and oak riparian forest, coastal and inland coast live oak woodland	4,615	1,950	1,930
Burrowing owl	--/SSC	Grasslands	4,625	1,275	1,420
Northern harrier	--/SSC	Grasslands	4,625	1,275	1,420
Cooper's hawk and yellow warbler	--/SSC	Mixed riparian forest, oak riparian forest, canyon bottom, inland coast live oak woodland	275	0	105
Sharp-shinned hawk	--/SSC	Mixed riparian forest, oak riparian forest, inland coast live oak woodland	1,650	105	105
Golden eagle	--/SSC	Oak savanna, inland coast live oak woodland, coastal scrub, maritime chaparral, and grasslands	19,550	4,300	3,975
Prairie falcon	--/SSC	Grassland and oak savanna	5,025	1,265	1,445

Table 5-19. Continued

Species	Legal Status[a] Federal/State	Potential Habitat	Approximate Acres of Potential Habitat Available at Fort Ord[b]	Approximate Acres of Potential Habitat Lost	
				Alternative 7[c]	ROD
American badger	--/SSC	Grassland, oak savanna, coastal coast live oak woodland	7,995	3,120	3,270
Salinas harvest mouse	--/SI	Coastal coast live oak woodland	2,970	1,850	1,825
Greater road runner	--/SI	Maritime chaparral, inland coast live oak woodland	13,975	2,755	2,250
Swainson's thrush and common yellowthroat	--/SI	Mixed riparian forest	195	0	1

[a] Status explanations given in Table 4.11-2 of the final EIS (Volume I, page 4-100).

[b] Acreage totals are based on the most recent GIS acreage calculations using the revised installation boundaries. In some instances, these totals differ slightly from those given in the final EIS.

[c] Acreage calculations for Alternative 7 include effects from the proposed road network.

-- = no designation.

In the landfill research area, the existing landfill will be capped. The February 1994 HMP does not require revegetation over the cap, and biological resources on and immediately adjacent to the landfill are assumed to be removed. According to the February 1994 HMP, all other biological resources in the parcel will be retained (except for development necessary to support research and teaching associated with the capped landfill and natural areas), and restoration and enhancement efforts will be undertaken in these areas. The analysis of Alternative 7 uses this land use scenario but also includes a road corridor through the polygon as shown in Figure 5-7, "FORA Proposed Transportation Corridor Rights-of-Way". (Revised Alternative 7 uses the landfill reuse scenario included in the Draft Revised HMP, described in Appendix D.)

In the RV park parcel, development will consist of improvements to the existing RV park and campground and a possible expansion of facilities, which may remove biological resources. Except for minor facility construction in the western portion of the polygon to support outdoor nature education and other activities, all development will be contained in the eastern one-quarter to one-third of the area.

Impact calculations using the GIS do not include impacts associated with the proposed road network. Impacts associated with the road network were not analyzed using the GIS because the digital mapping data for the road network are not compatible with the GIS biological resource data or the method of analysis used. Impacts from the road network were quantified by overlaying by hand road network maps with resource maps and planimetering the acres of effect. These acreage calculations were then added to the impacts identified using the GIS to determine the total effect for Alternative 7.

Results of the combined GIS analysis and road network effects are shown in Tables 5-17 (biological communities), 5-18 (special-status plant species), and 5-19 (special-status wildlife species). These tables compare acres of impact under Alternative 7 and the reuse scenario described in the 1993 NEPA ROD (and also used for the February 1994 HMP).

For many resources, impacts under Alternative 7 are similar to or somewhat greater than those described in the 1993 NEPA ROD. Wetland impacts under Alternative 7 are the same as those described in the 1993 NEPA ROD and the February 1994 HMP. Mitigation for these impacts is addressed in the February 1994 HMP. In almost all cases where Alternative 7 has a greater effect, the increase is not considered significant, except for impacts on Smith's blue butterfly.

Under Alternative 7, approximately 22 acres of potential habitat for the Smith's blue butterfly (i.e., areas that support medium- or high-density buckwheat populations) occur in areas proposed for development west of SR 1. If 100% development is assumed for these parcels, (i.e., polygon 13 - aquaculture/marine research/desalination and polygon 14a - multi-use area/Asilomar-type facility), all 22 acres of habitat would be removed. Impacts also could be greater if low-density stands of buckwheat were considered potential habitat (see Section 4.13.1, "New Biological Resource Data").

These impacts are attributable primarily to alterations in the locations and size of the Multi-Use Area/Asilomar Type Facility and Aquaculture/Marine Research/Desalination compared to the locations and size identified in the February 1994 HMP and 1993 NEPA ROD. However, all Army land transfers must be consistent with Army and other federal requirements, Endangered Species Act requirements for special-status plants and animals, implementation requirements of the Installation-Wide Multi-Species Habitat Management Plan, and conditions contained in the Army's Coastal Zone Management Act consistency determination approved in March 1994. The coastal area of former Fort Ord will be disposed of to State Parks in a manner consistent with these regulations, policies, and guidelines. Therefore, the impacts identified for the revised use areas will not occur.

Two acres of pond and freshwater marsh habitat are also considered removed under Alternative 7. This acreage consists of an abandoned borrow area that collects water, located in the southwestern portion of the installation in parcel 29A (Figures 3-1 and 4-5), and that is considered marginal habitat. No occurrences

of special-status wildlife species have been recorded at this site. This same 2 acres of habitat are considered removed under the 1993 NEPA ROD (Table 5-17) and the February 1994 HMP. However, as part of the management requirements for parcel 29A (parcel LM7 in the February 1994 HMP) where these wetlands occur, the February 1994 HMP states, "Any conservation, management, or mitigation required for impacts to the potential wetland site will be determined during reviews for compliance with Section 404 of the Clean Water Act" (page 4-66, paragraph 5). USFWS and other agencies involved with the February 1994 HMP preparation and review have agreed to this mitigation approach for the 2 acres of pond and freshwater habitat affected.

Overall, Alternative 7 would remove approximately 240 acres of additional area considered habitat reserve compared to the February 1994 HMP. A graphical representation of losses and gains in habitat reserve area under Alternatives 7 and 8 compared to the February 1994 HMP is shown in Figure 5-9. Losses and gains to habitat reserve area are attributable to shifts in parcel boundaries, road alignments, and other factors.

Visual Resources

On a basewide level, implementing Alternative 7 would substantially alter the visual character and reduce the visual quality of some areas seen from SR 68 and SR 1. Views of former Fort Ord from SR 68, a state-designated scenic route that is traveled heavily by tourists and recreationists, would be reduced in visual quality by encroaching land uses of high impact potential. Land uses of high and moderate impact potential, including office park, a multistory resort hotel, and recreation area expansion, would be located in the foreground and middleground distance zones in the southeastern portion of the installation. Some views from SR 68 may be lost because built elements would be located in the foreground and would screen views. Specifically, the SR 68 bypass and proposed new arterials in the southwestern portion of former Fort Ord (proposed as part of the FORA Final Base Reuse Plan (December 1994) transportation system), would likely be visible from portions of SR 68 because of the cut and fill necessary to accommodate the proposed roadway in moderate to steep terrain.

Implementing Alternative 7 also would alter the visual character and reduce the visual quality of some areas seen from the Salinas Valley. Land uses of medium and high visual impact potential, including the business park and university science office and arterial roadways, proposed for the area north of Reservation Road and the East Garrison, would be located in the middleground viewed from Salinas Valley. The overall character of the study area landscape, as viewed from the Salinas Valley, would be modified substantially.

On a regional level, implementing Alternative 7 would contribute to the regional urbanization of the greater Monterey Bay region. High-intensity land uses proposed under this alternative would require large-scale facility construction and landscape modification that would alter the visual character of the area. High-intensity development proposed for the coastal corridor would degrade the visual quality of the Monterey Bay shoreline.

Alternative 7 includes provisions to maintain and enhance, where necessary, the landscaping and natural landform screening immediately east of SR 1, to protect the visual buffer between the former Fort Ord coastal zone and the inland areas of former Fort Ord (see the "Mitigation Agreement" portion of Section 3.2.2).

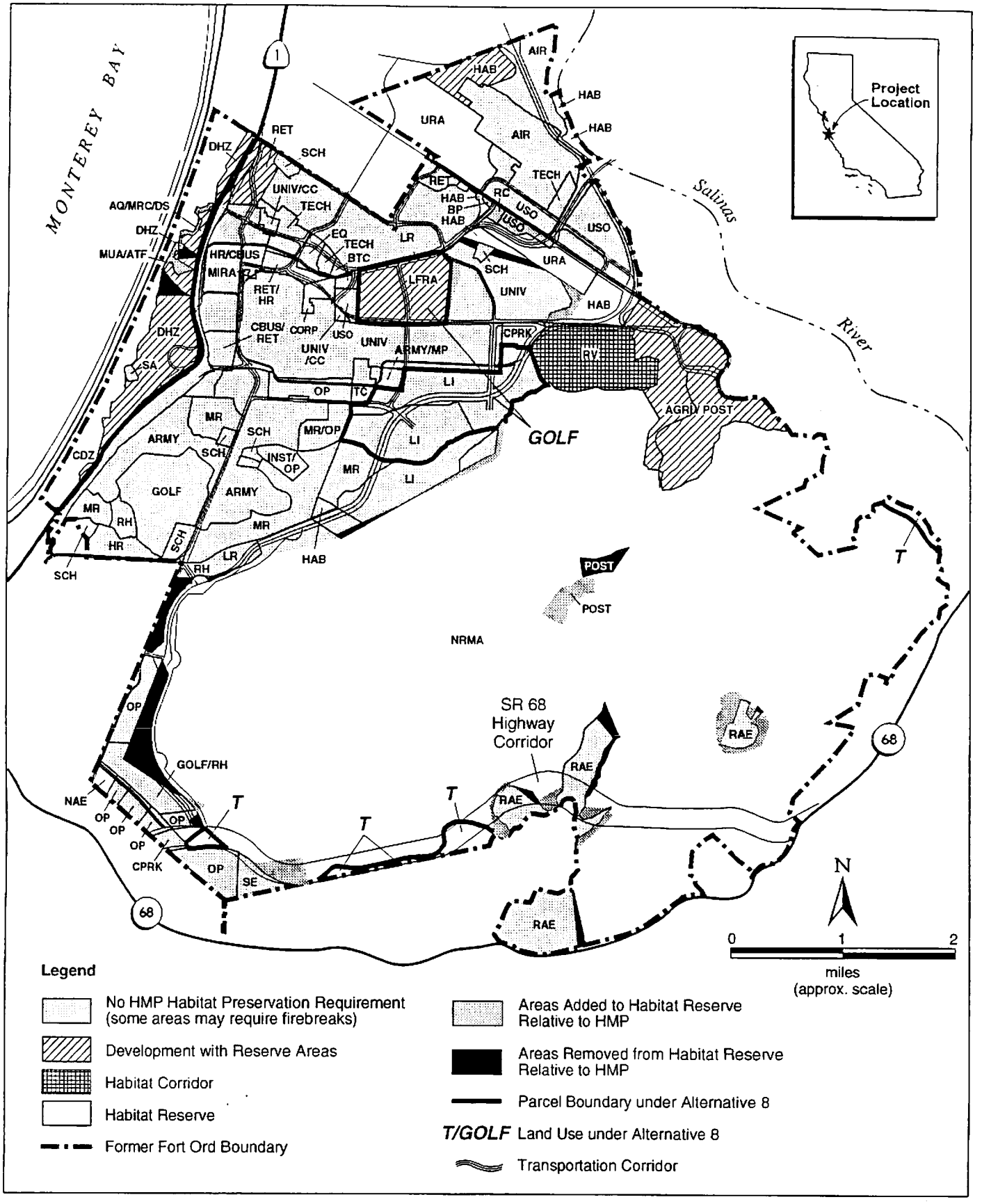


Figure 5-9
Key Locations Where Habitat Reserve and Development Areas Differ Between Alternatives 7 and 8 and the February 1994 HMP

Cultural Resources

Land uses and the supporting transportation system proposed under Alternative 7 have the potential to adversely affect the two properties determined to be eligible for inclusion in the NRHP within former Fort Ord. Stilwell Hall, located at the Monterey Bay margin, is proposed for use as a multiple-use visitor center. Adaptive reuse as a multi-use center could eliminate any impact by providing the opportunity for historic preservation and management. The East Garrison area and its historic district are proposed to be included in the county agri-center and a public safety training center. The potential effect of these land use changes is described in Section 5.3.1.1 under "Cultural Resources". The transportation system that supports the Alternative 7 land uses also would affect the East Garrison historic district.

Minor modifications of utilities may occur near the East Garrison Historic District or Stilwell Hall (Figure 5-11). These modifications would be completed following the SHPO programmatic agreement in accordance with stipulation IV.B. as shown in Appendix C, page C-5.

The conceptual transportation corridor connecting the former Fort Ord cantonment area with the East Garrison area along Inter-Garrison Road would encroach on the southern edge of the historic district as currently proposed. Structures that contribute to the district would be removed, and portions of the district would be separated from the main area by the corridor. A significant amount of traffic would be introduced into the district.

Mitigation for this cumulative impact could be developed simultaneously with the efforts to minimize effects of the proposed land use changes in the East Garrison. The Army would make every attempt to develop protective covenants or conditions of deed transfer prior to release of the East Garrison historic properties. Local reuse entities also could redefine their transportation system proposals for this area to retain the historic district and its structures intact. Local reuse entities would be responsible for initiating any further consultation with the SHPO needed to modify the covenants or conditions.

Coastal Resources

Direct effects on coastal zone resources would result from cumulative development in the Monterey region. The main direct effect of Alternative 7 would result from construction of stormwater retention ponds (revised use areas R and S) and other areas proposed for utility modifications as part of infrastructure development. These retention ponds have the potential to alter landforms and remove habitat areas. Additionally, the beach road proposed in the coastal zone, but not shown on the transportation system, could increase vehicle traffic, air pollution, and noise in the coastal zone.

Army land transfers of coastal areas will be consistent with the Army's Coastal Zone Management Act consistency determination approved in March 1994. Impacts identified for actions which do not agree with the consistency determination will not occur.

Indirect effects on coastal zone resources would also result from cumulative development in the Monterey region. Buildout of Alternative 7, including the transportation system, could lead to effects in the areas of traffic, air quality, noise, aesthetic, water quality, and biological resources. However, because the intensity of development proposed for Alternative 7 is less than that proposed in the 1993 NEPA ROD map, the mitigation included in the coastal consistency determination and adopted by local reuse communities would be sufficient to avoid these impacts.

Mitigation measures included in the consistency determination address the impacts of reuse on coastal zone resources. These mitigation measures include limitations on development on former Fort Ord and preparation of a traffic study to determine the proper balance of transportation supply and demand. These measures, included in a letter to the California Coastal Commission from the local reuse communities, also commits them to adoption of land use measures to reduce the number of vehicle trips if supply and demand are not in balance (refer to Section 3.2.2, "Alternative 7 - Mitigation Agreement").

5.3.2 Revised Alternative 7: Revised - FORA Reuse Plan/Habitat Management Plan/ Real Estate Screening Requests

As indicated in Section 3.2.3, Revised Alternative 7 was initially developed to include land use changes necessary to mitigate biological resource impacts predicted for Alternative 7. This revised alternative has been further modified to keep pace with the changing concepts of reuse associated with the Draft FORA Fort Ord Reuse Plan (March 1996), the Draft Revised HMP, and the latest real estate screening requests received by the Army. The reuse alternative has been constructed from the following :

- land uses established through property transfers or memoranda of agreement for property transfers already completed by the Army,
- land uses from real estate screening for the newly 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 the Draft Revised HMP or other Army policies,
- relocation of the resort hotel site originally proposed in the Hayes housing area to the adjacent existing Fort Ord golf courses parcel, and
- utility easement needed for the transfer of utility systems.

The Revised Alternative 7 land use scenario is mapped in Figure 3-4, and a description of land uses in the revised use areas is contained in Table 3-4.

The general impact analysis approach for Revised Alternative 7 is the same as that for Alternative 7. An analysis has been prepared for the newly excessed lands and revised use areas to address any specific impacts associated with the new uses proposed for these lands. However, the revised use areas are different from those of Alternative 7 (Figure 3-4), and the uses proposed for the newly excessed lands are different from those of Alternative 7. The uses proposed for the newly excessed lands are described in Section 3.2.3 and are listed in detail in Appendix I. A cumulative impact analysis has been prepared that assumes full buildout of former Fort Ord, in combination with other reasonably foreseeable projects as listed in Table 5-1. The assumptions for the buildout time frame are the same as those described for Alternative 7 (Section 5.3.1). This cumulative impacts approach is the same as that used in the Fort Ord Final EIS.

Because Revised Alternative 7 includes land use considerations consistent with the Draft Revised HMP, some of the biological resource implications have been improved. The FORA transportation system has been modified (Figure 3-5) and other land use concessions have been made to reflect agreements made in March and April 1996 between the Army, FORA, BLM, USFWS, and UC. These changes, in some cases, will have an effect beyond just biological resources. The primary mechanism for this effect is the conversion of areas previously considered open space to some developed land use. One area totaling approximately 50 acres would be detached from the main resource management area by the proposed Fort Ord Expressway (the southern portion of revised use area GG in Figure 3-4). Therefore, this area would no longer be suitable as habitat reserve. Under Revised Alternative 7, this 50-acre site is proposed for development with medium-density residential uses.

5.3.2.1 Newly Excessed Lands and Revised Use Areas

Land Use

Although many of the newly excessed parcels and revised use areas under Revised Alternative 7 are in the developed portion of former Fort Ord and their development would result in a minimal land use conversion impact, Revised Alternative 7 has currently undeveloped land that would be converted to developed areas, including areas DD, FF, GG, and HH (Table 5-20 and Figures 3-4 and 4-1).

In addition, under Revised Alternative 7, there would be a greater mix of uses in the revised use areas compared to Alternative 7, such as changing single land uses to mixed uses (Table 3-4). Mixed use development, proposed in areas 1, 3, 5, AA, BB, CC, DD, and GG, could be beneficial from a land use planning perspective because it provides the opportunity for people to live, work, shop, and recreate locally, which could result in a more pedestrian-friendly environment, improve the jobs/housing balance, and reduce traffic and air pollution.

Unlike Alternative 7, Revised Alternative 7 has no revised use areas in the coastal zone and, therefore, no impacts related to the compatibility of development in the coastal zone with natural habitat resources.

As under Alternative 7, there would still be the issue of compatibility between the proposed public safety training center (revised use area CC) and surrounding land uses, and the issue of potential conflict from trespassing into the impact area (revised use areas FF and GG), as described below.

Compatibility of Proposed Public Safety Training Center with Proposed Recreation and Planned Development Mixed Use. This impact under Revised Alternative 7 would be similar to the "Compatibility of Proposed Public Safety Training Center with Proposed RV Park/Campground, Agri-Center, and Natural Resource Management Area" impact described under "Land Use" in Section 5.3.1.1. The use of this area for public safety training would generate noise, public safety risk, and potential light and glare impacts. In general, this impact could be mitigated through careful land use planning during plan development. The impact associated with practice firing could be mitigated by concentrating all live-firing proposals in a single location (i.e., near the existing MOUT facility) and by establishing an open space buffer around the proposed public safety training site and along common boundaries between the training facilities and residences, recreation area, and other noise-sensitive land uses (i.e., equestrian center). Impacts associated with driver training could be minimized by isolating these activities away from recreation areas, historic structures and districts, residences, and other noise-sensitive uses (i.e., equestrian center). The heavy-vehicle precision driving course along Inter-Garrison Road may provide this separation.

Potential Land Use Conflict from Trespassing into the Impact Area. This impact under Revised Alternative 7 would be similar to the "Potential Land Use Conflict from Trespassing into the Impact Area" impact described under "Land Use" in Section 5.3.1.1. Revised use areas FF and GG are located in or adjacent to the multi-range area (part of the NRMA). The multi-range area is known to contain UXO and other OE within its boundaries. Public access to the multi-range area is restricted. A SUMP has been prepared for the multi-range area that addresses OE, the Army's planned response to it, and future use restrictions in this area (see discussion in Section 5.2.12, "Ordnance and Explosives").

Socioeconomics

The methodology used to evaluate the socioeconomic impact of developing newly excessed lands and revised use areas for Revised Alternative 7 is described in Appendix B and is similar to the methodology used to evaluate the effects of Alternative 7. Socioeconomic effects for specific jurisdictions are shown in Table B-2 in Appendix B.

Table 5-20. Continuation of Existing or Urban Use in the Newly Excessed Lands, Revised Use Areas, and Existing Golf Courses under Revised Alternative 7

Parcel/ Area[a]	Designed Use (Former Use with 7th IDL Present)	Proposed Use (Revised Alternative 7)[b]
1	Clinic, administration, storage, maintenance, vehicle storage, recreational/ athletic facilities, power plant, classrooms, exchange branch, water reservoir, enlisted barracks and dining facilities, fuel storage, chapel, skill center, snack bar	Mixed use (16), 20e, (41)
2	Golf courses and related lavatories and maintenance structures	Golf/resort hotel 22
3	Service station, administration, and storage	Mixed use (20a)
4	Vacant land	Mixed use (41)
5	Vacant land	Mixed use (20c)
AA	Preston (385 du), Abrams (942 du), and Patton (780 du) housing areas interspersed with ballfields, greenbelts, and small pockets of vacant open space	Medium-density residential/school/golf 4
BB	Landfill, use of site ceased more than 5 years ago, last use was only as a solid waste transfer station for an approximately 5-year period	Planned development mixed use (25% developed, 75% habitat) 8a
CC[c]	Lands surrounding the East Garrison developed area (which is described as area A above) are predominantly vacant land used for training activities, including small-bore rifle and pistol ranges, some miscellaneous range buildings and latrines; the area north of the shaded area is the paved East Garrison entrance area, which has been closed for years	Planned development mixed use/POST facility 11b
DD	Vacant land and training areas (northern portion similar to area B3)	Office park/golf/low-density residential 19a
EE	Vacant land and training areas (similar to area B6)	Resort hotel/golf/low-density residential 21a

Table 5-20. Continued

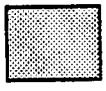
Parcel/ Area[a]	Designed Use (Former Use with 7th IDL Present)	Proposed Use (Revised Alternative 7)[b]
FF	Weapons training area (small-arms inland range areas)	Resort hotel/golf/low-density residential 21b
GG	Weapons training area (small-arms inland range areas) with range facilities, including tower, firing points, and other minor wood structures (similar to area F2)	Medium-density residential/retail 23
HH	Vacant, undeveloped land separated from the impact area by South Boundary Road and Reservation Road	Natural resource management area/transit (25)

[a] The parcel numbers and area letters in the column correspond with those in Figure 4-1.

[b] The FORA polygon number is indicated below the proposed use. Parentheses indicate that only a portion of the identified polygon is included in this area.

[c] Development in Revised Use Area CC (polygon 11b) would total approximately 200 acres and would be retained as much as possible in currently developed areas, consistent with the February 1994 HMP and Draft Revised HMP.

Notes: du = dwelling unit.



Continuation of existing use or change from one urban/developed use to another.

Executive Order 12898 requires federal agencies to examine proposed actions to determine whether they will have disproportionately high and adverse human health or environmental effects on minority or low-income populations. As discussed for Alternative 7, the reuse of newly excessed lands and revised use areas under Revised Alternative 7 is not expected to result in adverse human health or environmental effects that would disproportionately affect minority or low-income populations. (Refer to Section 5.4 for a more detailed discussion of environmental justice impacts.)

The following direct impacts were estimated assuming that full development of newly excessed lands and revised use areas would occur over a 50-year buildout period. The following effects of newly excessed lands and revised use areas under Revised Alternative 7 are expressed as totals over the 50-year period and as annual averages over the 50-year period:

- population increase: total, 26,600; average annual, 532;
- housing unit increase: total, 8,870; average annual, 177;
- direct employment increase: total, 13,000; average annual, 260;
- direct industrial output increase: total, $667.0 million; average annual, $13.3 million; and
- direct personal income increase: total, $297.2 million; average annual, $5.9 million.

No mitigation is required for these effects.

Similar to Alternative 7, Revised Alternative 7 would likely result in a decreased demand for community services and job development programs because of the increased economic activity that would result from the more intensive economic use of newly excessed lands and revised use areas. No mitigation is required. Similarly, the development of newly excessed lands and revised use areas under Revised Alternative 7 would have no effect on the availability or cost of medical services available to military retirees in Monterey County. No mitigation is required.

Soils, Geology, Topography, and Seismicity

Overall, the effects of developing the newly excessed lands and revised use areas under Revised Alternative 7 would be similar to, but slightly greater than, those under Alternative 7. This is attributable primarily to a larger percentage of the reuse scenario being considered revised use area under Revised Alternative 7 than under Alternative 7. There would be an overall increase in ground disturbance and grading associated with the increased development in the following areas: 2, 4, DD, EE, FF, GG, and HH (Figure 4-1). These disturbances would increase the loss of soil resources and add to site runoff and potential water quality degradation when compared to Alternative 7. Unlike Alternative 7, there would be no loss of coastal facilities.

Loss of Soil Component of Natural Ecosystem. Like Alternative 7, Revised Alternative 7 would result in the disturbance or loss of the existing soil substrate as a component of the natural ecosystem supporting natural habitats and rare plant communities through excavation, grading, paving, landscaping, and other activities associated with development (refer to "Vegetation, Wildlife, and Wetland Resources" in Section 5.3.2.2, "Cumulative Impacts" , for more information). The areas of natural soils in newly excessed lands and revised use areas affected by Revised Alternative 7 include 1 (16 acres), 2 (140 acres), 3 (3 acres), 5 (8 acres), AA (260 acres), BB (90 acres), CC (180 acres), DD (710 acres), EE (130 acres), FF (390 acres), GG (180 acres), and HH (155 acres). As under Alternative 7, this impact could be mitigated by limiting development to existing urban areas and degraded open space, which would avoid disturbance and preserve soil (Final EIS, Volume I, page 6-28).

Accelerated Wind Erosion. As described for Alternative 7 under "Soils, Geology, Topography, and Seismicity" in Section 5.3.1.1, Revised Alternative 7 would result in accelerated wind erosion from soil surface disturbance and removal of vegetation from relatively undisturbed areas. The areas most likely to be affected include those designated for new development in the "Loss of Soil Component of Natural Ecosystem" impact

discussion above. As under Alternative 7, this effect could be mitigated by restoring soil cover through revegetation (Final EIS, Volume I, page 6-29).

Accelerated Water Erosion. As described for Alternative 7 under "Soils, Geology, Topography, and Seismicity" in Section 5.3.1.1, Revised Alternative 7 would result in accelerated water-induced soil erosion that would cause environmental damage and ultimately be a hazard to the stability of the proposed developments, particularly on steep slopes and in areas of the Arnold soil series (sandy soil over a cemented hardpan). The revised use areas affected under Revised Alternative 7 include DD (central and southern portions), CC (central and southern portions), and all of EE, FF, GG, and HH. Newly excessed parcels 2, 3, and 5 include steep slopes that could contribute to water erosion. Like Alternative 7, this impact could be mitigated by implementing erosion control measures, including head cut repair techniques (runoff diversion, shaping, rock riprap, and revegetation) and techniques to avoid gully downcutting (checkdams, drop inlets, and revegetation) (Final EIS, Volume I, page 6-29).

Severe Engineering Limitations Because of Use of Sandy, Unaggregated Soils. As described for Alternative 7 under "Soils, Geology, Topography, and Seismicity" in Section 5.3.1.1, most proposed new development under Revised Alternative 7 would be on sandy soils with weak or no aggregation, which has severe engineering limitations because of excavation caving and slope piping potential. Like Alternative 7, this impact could be mitigated by constructing new or modifying existing structures to meet building codes (Final EIS, Volume I, page 6-31).

Susceptibility of Existing and New Structures to Damage from Ground Shaking. As described for Alternative 7 under "Soils, Geology, Topography, and Seismicity" in Section 5.3.1.1, all new construction on former Fort Ord and all reused existing structures would be subject to moderately high to very high ground shaking potential. This impact could be mitigated by constructing new or modifying existing structures to meet building codes (Final EIS, Volume I, page 6-31).

Public Services and Utilities

Increased Requirements for Services and Utilities. As stated for Alternative 7, the requirements for public services and utilities are generally dictated by the type of land uses proposed. The newly excessed lands and revised use areas for Revised Alternative 7 would generate requirements for these services. Table 5-21 provides a summary of service requirements for the newly excessed lands and revised use areas, along with requirements for former Fort Ord. As indicated, some of the service requirements, such as for wastewater treatment, would not exceed service requirements for original conditions at former Fort Ord. In other cases, such as for gas and electric service, requirements for the newly excessed lands and revised use areas would exceed original service levels. The overall effects of Revised Alternative 7 on public services and utilities, considered in its entirety, are discussed in Section 5.3.2.2, "Cumulative Impacts". The FORA Final Base Reuse Plan (December 1994) includes concept plans for communications systems, a wastewater system, and energy supply systems to support land use. They are included at the end of this section as Figures 5-1, 5-2, and 5-3.

Water Resources

Water Supply and Demand. The estimated combined baseline water demand for the newly excessed lands and revised use areas under Revised Alternative 7 is approximately 2,100 af/yr. The water demand under baseline conditions was itemized by map polygon based on 7th IDL land uses. As with Alternative 7, some of the revised land use areas are undeveloped and have no existing water demand. Water demand on these polygons would increase by 2,920 af/yr under Revised Alternative 7. The water demand on developed areas would increase by approximately 290 af/yr. Thus, the total water demand for the newly excess lands and revised use areas would increase by approximately 3,210 af/yr to 5,310 af/yr.

Table 5-21. Estimated Public Services and Utilities Requirements under Revised Alternative 7

Public Service Issue of Concern	Requirements for Newly Excessed Lands and Revised Use Areas
Wastewater generation (MGD)	1.6
Solid waste generation (tpd)	81
Landfill life (years)	7% reduction
Telephone service area (acres)	2,617
Gas service (MCFH)	559
Electric service (MW)	47
Cable television area (acres)	1,467
Storm drainage (developed acres)	1,876
Water distribution (acres)	2,597
Developed parks (acres)	55
Undeveloped open space (acres)	0
Schools (students generated)	3,635

Notes: MGD = million gallons per day.
tpd = tons per day.
MCFH = million cubic feet per hour.
MW = megawatts.
N/A = not applicable.

As with Alternative 7, Revised Alternative 7 includes a provision that development will be in phases subject to the availability of adequate water supplies (see the "Mitigation Agreement" portion of Section 3.2.2). The proposed phasing is illustrated in Figure 5-4.

Increased Demand for Water (Approximately 5,310 af/yr). Total water demand for the newly excessed lands and revised use areas under Revised Alternative 7 is estimated to be 5,310 af/yr. The effect of this use on regional water supplies and local groundwater conditions cannot be meaningfully interpreted apart from the overall effect of Revised Alternative 7. The total water demand under Revised Alternative 7 (17,000 af/yr) is approximately three times the water use with the 7th IDL present (5,100 af/yr). As described for Alternative 7, the great majority of water demand under this alternative is derived from proposed civilian uses. The future users will need to cooperate with MCWRA in developing new water supply projects or develop their own water supplies from other sources. No mitigation action for water demand increases is required by the Army.

Changes in Groundwater Recharge. In general, as described for Alternative 7, development of newly excessed lands and revised use areas could increase local groundwater recharge through leaks from underground utilities and irrigation return from landscaped areas. Because the land uses proposed under Revised Alternative 7 are somewhat more water intensive than those described for Alternative 7, recharge will be somewhat greater. The increased recharge would be beneficial but would be much less than the increase in demand. No mitigation is required.

Hydrology and Water Quality. Reuse of the newly excessed lands and revised use areas under Revised Alternative 7 would have essentially the same effects on hydrology and water quality as described for Alternative 7. The impacts of increased site runoff, risk of flood damage, and degradation of water quality are described in the Alternative 7 discussion (Section 5.3.1). No additional mitigation measures beyond those described for Alternative 7 are necessary.

Public Health and Safety

Increased Requirements for Services. As stated for Alternative 7, requirements for public health and safety services are dictated by the types of land uses proposed. Changes to buildout populations resulting from newly excessed lands and revised use areas affect requirements for law enforcement, fire protection, and medical/emergency medical services. Table 5-22 summarizes the requirements for these services under Revised Alternative 7.

As indicated, the revised use areas would generate requirements for law enforcement, fire protection, and medical services. Development of structures in the revised use areas would be required to meet current seismic codes, minimizing the exposure of residents and those employed on these parcels to risks associated with seismic events. The overall effects on public health and safety services, considered in the context of Revised Alternative 7 in its entirety, are discussed in Section 5.3.2.2, "Cumulative Impacts".

Table 5-22. Estimated Public Health and Safety Requirements under Revised Alternative 7

Service or Safety Issue of Concern	Original Requirement or Condition (7th IDL Present)	Total Requirements for Revised Alternative 7	Requirements for Newly Excessed Lands and Revised Use Areas
Law enforcement (number of officers)	144	135	44
Fire protection (number of firefighters)	40	66	22
Medical/emergency medical services (population requiring services)	Local capacity for 90,000 additional residents	45,000[a]	21,324

[a] Medical services for up to 20,000 on-campus students would be a separate requirement.

Traffic and Circulation

Increased Trip Generation. Under Revised Alternative 7, an estimated 116,730 trips per day would be generated by the newly excessed lands and revised use areas (Table 5-23). These trips contribute to a trip generation total of between 395,139 and 405,139 trips for Revised Alternative 7. This is somewhat lower (7-8%) than the estimated total trips generated for Alternative 7 (435,139). Revised Alternative 7 would result in an additional 1,200 dwelling units compared to Alternative 7 because of changes to proposed residential densities. However, total buildout employment would be reduced by approximately 20,000 jobs under Revised Alternative 7 compared to Alternative 7 primarily because proposed industrial development would be reduced.

Mitigation measures proposed for implementation with Alternative 7 are applicable to Revised Alternative 7 and are discussed in Section 5.3.1.1, "Newly Excessed Lands and Revised Use Areas", and in Section 5.3.1.2, "Cumulative Impacts".

Table 5-23. Estimated Trips Generated in Newly Excessed Lands and Revised Use Areas under Revised Alternative 7

Revised Use Area or Parcel	Polygon Number	Description of Land Use	Approximate Trips per day
1, 3, 4, and 5	16, 20a, 20c, 20e, and 41	Mixed use	6,900
2	22	Golf course	1,557
2	22	Resort hotel	2,340
AA	4	Medium-density residential	15,447
AA	4	School	570
AA	4	Golf Course	1,025
BB	8a	Mixed use (25% developed, 75% habitat)	3,883
CC	11b	Mixed use/POST facility	4,678
DD	19a	Office park	27,864
DD	19a	Golf course	1,025
DD	19a	Low-density residential	28,656
EE, FF	21a, 21b	Resort hotel	2,100
EE, FF	21a, 21b	Golf course	1,025
EE, FF	21a, 21b	Low-density residential	(Included in parcel DD)
GG	23	Medium-density residential	6,920
GG	23	Retail	12,740
H	25	Natural resource management area/transit	0
Total			116,730

Air Quality

Increased Emissions during Construction. Construction emissions for Revised Alternative 7 newly excessed lands and revised use areas were estimated in a manner similar to that used for Alternative 7. ROG, NOx, CO, and PM10 emissions were estimated for construction activities and compared to the MBUAPCD's significance thresholds of 150 ppd for ROG and NOx, 82 ppd for PM10, and 550 ppd for CO.

Construction emission estimates assume that full buildout of the revised use areas would be completed by 2045. The notes in Table 5-24 also provide interim year estimates for 2015. Table 5-24 shows that emissions associated with construction would not exceed the significance thresholds established by MBUAPCD. Consequently, construction-related emissions are considered less than significant.

Increased Operational Emissions. The estimate of increased operational emissions is limited to the revised use areas shown in Figure 4-1. Operational emissions are itemized by motor vehicle emissions and area source emissions. Area sources include space and water heating and landscape maintenance equipment.

Table 5-25 shows year 2045 operational emissions associated with buildout of the revised use areas. Interim year (2015) emissions for Revised Alternative 7 are assumed to be 45% of buildout and are described in the notes of Table 5-25. For all pollutants except CO, the net increase in emissions is less than under existing conditions. "Existing conditions" is defined as the baseline conditions when the 7th IDL was present and Fort Ord was fully operational. For all pollutants, the net increase in emissions is less than under the ROD.

Noise

Increased and Excessive Noise from Traffic on Existing Noise-Sensitive Land Uses. Impacts in the Revised Alternative 7 newly excessed lands and revised use areas are expected to be very similar to those described for the newly excessed lands and revised use areas under Alternative 7.

Under Revised Alternative 7, there would be approximately 1,200 more dwelling units and roughly 20,000 fewer jobs as compared to Alternative 7. The increase in dwelling units is primarily the result of more dense residential development, whereas the decrease in jobs is attributed primarily to mixed uses and resort uses in areas previously proposed for light industrial uses. Overall, approximately 30,000-40,000 fewer trips would be generated under Revised Alternative 7 compared with Alternative 7, for a reduction of 7-9%. Traffic noise is relatively insensitive to changes in traffic volume. A reduction in traffic volume of 7-9% corresponds to less than a 0.5-dB reduction in noise. Accordingly, predicted traffic noise levels listed in Table 5-8 are considered to be reasonably representative of those that would occur under Revised Alternative 7, and traffic noise impacts under Revised Alternative 7 are considered to be the same as those described for Alternative 7.

Excessive Noise from Traffic on New Noise-Sensitive Land Uses. Major arterials would pass through or adjacent to many of the noise-sensitive land uses proposed under this alternative, including residential land uses (revised use areas AA, DD, EE, FF, and GG) (Figure 4-1). Noise-sensitive land uses would be exposed to traffic noise levels in excess of local noise standards for these uses under this alternative. This effect could be mitigated by locating new residences and other noise-sensitive land uses outside the 60-dB-L_{dn} contour lines caused by traffic and constructing sound barriers between roadways and noise-sensitive land uses that must be located within 60-dB-L_{dn} contour lines (Final EIS, Volume I, page 6-92).

Exposure of the RV Park/Campground, Residential Land Uses, and the NRMA to Noise from the Public Safety Training Area and the Peace Officer Training Area. This impact and associated mitigation would be the same as that described for Alternative 7.

Table 5-24. Fort Ord Reuse Construction Emissions under Alternative 7 and Revised Alternative 7

Condition	Total Developable Acreage[a]	Acreage per Day[b]	Emissions (Pounds per Day)[c]			
			ROG	NO_x	CO	PM10[d]
Alternative 7's newly excessed lands and revised use areas[e]	2,497	0.2	1	15	5	14 (8)
Alternative 7[f]	10,140	0.8	5	63	23	56 (29)
Revised Alternative 7's newly excessed lands and revised use areas[g]	2,510	0.2	1	15	5	30 (16)
Revised Alternative 7[h]	10,748	0.9	5	66	24	59 (30)

[a] Total developable acreage was estimated by summing the total acreage available for development of all newly excessed lands and revised use areas.

[b] The acreage per day was estimated by dividing the total developable acreage by 50 years (1995-2045) and assumes 250 days per year during which construction would occur.

[c] Emissions are a function of the acreage proposed for development. The total developable acreage excludes acreage devoted to open space and existing land uses that would not require additional earth moving. Emissions are based on EPA emission factors for heavy-duty construction equipment and for construction activities (U.S. Environmental Protection Agency 1985).

Although this table assumes straight line projection of construction, FORA predicts a first phase development by 2015. As mentioned in the footnote to Table 5-6, 45% of total Alternative 7 development would occur during the first 20 years (1995-2015) of the 50-year development period, whereas the remaining 55% would occur during the remaining 30 years. This level of development assumes that 45% of the water allocation budget would be allocated by 2015. Assuming that 45% of construction also occurs between 1995 and 2015, then average worst-case daily construction emissions for Alternative 7 would equal 5 ppd ROG, 70 ppd NO_x, 26 ppd CO, and 63 ppd PM10 (33 ppd PM10 assuming 50% control). Using the same development phasing assumption, then average worst-case daily construction emissions for Revised Alternative 7 would equal 6 ppd ROG, 75 ppd NO_x, 27 ppd CO, and 66 ppd PM10 (34 ppd PM10 assuming 50% control). Individual construction projects are likely to exceed the average disturbed acreage estimates in this table and could result in PM10 daily emissions in excess of MBUAPCD construction thresholds.

[d] PM10 fraction is assumed to equal 64% of total suspended particulates based on the emissions inventories used to prepare MBUAPCD's 1991 and 1994 Air Quality Management Plans (1991, 1994).

[e] These lands consist of parcels 1-5 and areas A through I and L through S shown in Figure 4-1.

[f] This includes all the FORA Final Base Reuse Plan (December 1994) shown in Figure 3-1.

[g] These lands consist of parcels 1-5 and areas AA through HH shown in Figure 4-1.

[h] This includes all the Revised Alternative 7 reuse plan shown in Figure 3-4.

Note: PM10 emissions in parentheses represent controlled emissions. A control efficiency of 50% is assumed for fugitive dust emissions and 0% for construction equipment PM10 exhaust emissions.

Table 5-25. Total Operational Emissions Associated with Reuse under Alternative 7 and Revised Alternative 7

Condition	Emission Type	Emissions (Pounds Per Day) ROG	NO_x	CO	PM10
Existing conditions	Motor vehicles	7,418	5,846	65,631	2,207
	Area sources	815	161	464	1,159
		8,233	6,007	66,095	3,366
Alternative 7's newly excessed lands and revised use areas[a]	Motor vehicles	1,718	2,921	53,929	1,043
	Area sources	194	38	110	276
		1,912	2,959	54,039	1,318
Alternative 7[b]	Motor vehicles	3,152	5,359	98,947	1,913
	Area sources	586	116	334	834
		3,739	5,475	99,280	2,747
ROD	Motor vehicles	3,599	6,040	111,350	2,213
	Area sources	669	131	375	965
		4,268	6,171	111,726	3,178
Revised Alternative 7's newly excessed lands and revised use areas[c]	Motor vehicles	1,823	3,099	57,220	1,106
	Area sources	361	71	205	513
		2,184	3,170	57,426	1,619
Revised Alternative 7[d]	Motor vehicles	2,902	4,933	91,072	1,761
	Area sources	574	113	327	817
		3,476	5,046	91,399	2,577
Net change - Alternative 7 versus existing conditions		-4,494	-532	33,185	-619
Net change - Alternative 7 versus ROD		-529	-696	-12,446	-431
Net change - Revised Alternative 7 versus existing conditions		-4,757	-961	25,304	-789
Net change - Revised Alternative 7 versus ROD		-791	-1,125	-20,327	-601

Notes: Motor vehicle emissions were estimated by multiplying daily vehicle miles traveled (VMT) times an average emission factor (grams per mile) per vehicle.

Vehicle emission factors were estimated using the California Air Resources Board's EMFAC7F1.1 model. Daily VMT was estimated by multiplying the trip generation rate for each land use by the average trip length (by trip type) for trips in the Monterey Bay area. Trip generation rates were based

Table 5-25. Continued

primarily on the Institute of Transportation Engineer's Trip Generation manual (Institute of Transportation Engineers 1991). The EMFAC7F1.1 model includes emission rates only up to 2010.

Motor vehicle emissions for succeeding years were modeled using 2010 rates.

Alternative 7 emission estimates assume full buildout by 2045. Interim year (2015) emissions are assumed to equal 45% of full buildout, based on the assumption that 45% of the water allocation budget would be allocated by 2015. Year 2015 emissions for Alternative 7 would be 1,683 pounds per day of ROG, 2,464 pounds per day of NOx, 44,676 pounds per day of CO, and 1,236 pounds per day of PM10.

Revised Alternative 7 emission estimates assume full buildout by 2045. Interim year (2015) emissions are assumed to equal 45% of full buildout, based on the assumption that 45% of the water allocation budget would be allocated by 2015. Year 2015 emissions for Revised Alternative 7 would be 1,564 pounds per day of ROG, 2,271 pounds per day of NOx, 41,130 pounds per day of CO, and 1,160 pounds per day of PM10.

[a] This includes the newly excessed lands (parcels 1-5) plus the revised use areas, which consist of areas A through I and L through S shown in Figure 4-1.

[b] This includes all the FORA Final Base Reuse Plan (December 1994) shown in Figure 3-1.

[c] These lands consist of parcels 1-5 and areas AA through HH, shown in Figure 4-1.

[d] This includes all the Revised Alternative 7 reuse plan shown in Figure 3-4.

Hazardous and Toxic Waste Site Remedial Action

As described for Alternative 7, the land uses proposed in the newly excessed lands and revised use areas under Revised Alternative 7 have the potential to expose people to hazardous materials. The Army has conducted installation-wide evaluations to determine the possible presence of hazardous materials. Areas affected by identified hazardous and toxic waste sites (Section 4.11 and Figure 4-3) will be remediated under CERCLA.

Cleanup of hazardous materials and toxic waste is part of the project. The mitigation measures adopted in the Final EIS and the 1993 NEPA ROD have been or are being implemented to reduce and eliminate the risk to human health and safety prior to property transfer. No further mitigation measures are required.

Development proposed on use area BB has some potential to interfere with remediation action on the landfill site. Approximately 25% of the parcel would be developed under Revised Alternative 7. Development would likely occur adjacent to the landfill cap and along the perimeter of the area; however, the precise location of development and resource management areas are not available at this time. Any development in use area BB must be consistent with the Operable Unit 2 landfill ROD and design of the landfill cap.

If locally proposed development adversely affects the function of the completed landfill cap and the groundwater remedial action program, the development propronent would need to provide funding as necessary to modify the landfill caps and other parts of the remedial action system to protect public and environmental health.

Ordnance and Explosives

Exposure to Ordnance and Explosives. Some newly excessed lands and revised use areas included in Revised Alternative 7 may contain OE. As described in Section 4.12, OE may be present in revised use areas CC, DD, EE, FF, GG, and HH and parcel 1. Field investigation and clearance of OE is ongoing and will be completed prior to disposal. The Engineering Evaluation/Cost Assessment (EE/CA) or other technical evaluation report will propose the recommended depth of clearance, evaluate the residual risk, and propose any necessary use restrictions within each area. Even after OE clearance, the potential for OE will remain because of the long history of military use.

Mitigation for the potential hazards of undiscovered OE would be the same as described for Alternative 7 (i.e., distributing community education and relations material, informing recipients of land of the potential for OE, and implementing the SUMP).

Vegetation, Wildlife, and Wetland Resources

Summary. A total of approximately 2,940 acres of native habitat are available in the newly excessed lands and revised use areas associated with Revised Alternative 7. No wetlands occur in these habitat areas. Implementation of Revised Alternative 7 would result in the removal of approximately 2,258 acres of this habitat in the newly excessed lands and revised use areas.

Because Revised Alternative 7 incorporates the Draft Revised HMP, the alternative is inherently consistent with this plan. Development in newly excessed lands and revised use areas associated with Revised Alternative 7 is consistent with the February 1994 HMP except in areas BB and FF, a portion of GG, and the southern and eastern T areas in area HH. Development as described for these parcels would remove approximately 200 acres of area identified as habitat reserve in the February 1994 HMP.

Introduction. The following methods were used to determine impact acreages for newly excessed lands and revised use areas under Revised Alternative 7. Occurrence and effects on biological resources in the newly excessed lands would be the same under Revised Alternative 7 as under Alternative 7. Although there are some differences between the alternatives regarding proposed uses in these areas, all proposed uses would involve development of open areas. See Section 5.2.13, "Vegetation, Wildlife, and Wetland Resources", and the "Vegetation, Wildlife, and Wetland Resources" portion of Section 5.3.1.1, "Newly Excessed Lands and Revised Use Areas".

For the revised use areas under Revised Alternative 7, it is assumed that each area, with the exceptions of area BB (landfill) and area CC (planned development mixed use/POST facility), will be fully developed with no biological resources retained. Some of these proposed land uses could result in the retention of small patches of natural habitats and special-status species populations. The biological value of these remnant habitats would be low because of their small size, their isolation, and the presence of surrounding development.

For parcel BB, 75% of the parcel would be managed as habitat and 25% of the parcel would be developed. Development would likely occur adjacent to the landfill cap and along the perimeter of the parcel. The precise locations of development and management areas within parcel BB are not available at this time, but development must be consistent with the Operable Unit 2 landfill ROD and design of the cap. For this analysis, it was assumed that 75% of each resource type in the parcel would be preserved and that 25% of each resource type would be removed.

Assumptions used for development in revised use area CC (planned development mixed use/POST facility) are the same used for development in polygon 11b (Agri-center/POST) under Alternative 7 (see the "Vegetation, Wildlife, and Wetland Resources" portion of Section 5.3.1.1, "Newly Excessed Lands and Revised Use Areas"). Approximately 200 acres within the polygon would be developed, with development retained as much as possible in currently developed areas. These assumptions are consistent with the February 1994 HMP and the Draft Revised HMP. Information on the proposed location of developments in the parcel was provided in the Final EIS (Volume I, Section 3.0; and Volume III, Section 6.0 and Appendix H). This information was also used to determine impacts for this analysis.

Several plant and wildlife species addressed in the "Newly Excessed Lands and Revised Use Areas" section for Alternative 7 do not occur in the newly excessed lands and revised use areas associated with Revised Alternative 7. These species are not discussed in the following section.

Common and Special Native Biological Communities

Loss of Common Biological Communities (Approximately 1,185 Acres). Converting newly excessed lands and revised use areas would result in the removal of approximately 1,185 acres of common biological communities and associated common wildlife species (U.S. Army Corps of Engineers, Sacramento District 1992a). These communities include approximately 15 acres of coastal scrub, approximately 835 acres of coast live oak woodland, and approximately 335 acres of annual grassland (Table 5-26). This amount of habitat removal represents approximately 11% of the total acreage of common biological communities at former Fort Ord. These habitat losses could be accommodated in the February 1994 HMP.

Loss of Maritime Chaparral (Approximately 1,065 Acres). Converting newly excessed lands and revised use areas under Revised Alternative 7 would result in the removal of approximately 1,065 acres of maritime chaparral habitat (approximately 8% of the total at former Fort Ord) (Table 5-26). Maritime chaparral is specifically addressed in the February 1994 HMP and Draft Revised HMP. Approximately 955 acres of this habitat occur in areas proposed for development in the February 1994 HMP and approximately 110 acres occur in areas identified as habitat reserve in the February 1994 HMP.

Table 5-26. Losses to Biological Communities on Newly Excessed Lands and Revised Use Areas under Revised Alternative 7

Habitat	Approximate Amount of Total Habitat at Former Fort Ord[a]	Revised Alternative 7 Newly Excessed Lands and Revised Use Areas		
		Approximate Acres of Habitat Available	Approximate Acres of Habitat Removed	Percentage of Total Habitat Removed at Former Fort Ord
Beaches, bluffs, and blowouts	200	0	0	0
Disturbed dune	100	0	0	0
Ice plant mats	575	0	0	0
Native coastal strand	89	0	0	0
Dune scrub	8	0	0	0
Coastal scrub	550	15	15	3
Maritime chaparral	12,565	1,313	1,063	8
Coastal oak woodland	2970	980	823	28
Inland oak woodland	1410	176	12	1
Oak savanna	310	10	10	3
Annual grassland	4,240	446	335	8
Perennial grassland	475	0	0	0
Mixed riparian forest	195	0	0	0
Oak riparian forest	45	0	0	0
Vernal pool	34	0	0	0
Ponds and freshwater marsh	28	0	0	0
Total	23,791	2,940	2,258	

[a] Acreage totals are based on the most recent GIS acreage calculations using the revised installation boundaries. In some instances, these totals differ slightly from those given in the final EIS.

Special-Status Plant Species

Loss of Sand Gilia Populations and Habitat (Approximately 215 Acres of Approximately 3,735 Total Acres at Former Fort Ord). No sand gilia populations are known to occur in newly excessed lands. Converting revised use areas associated with Revised Alternative 7 would result in the loss of approximately 215 acres of area supporting sand gilia populations (Table 5-27). Approximately 135 acres of the occupied sand gilia habitat considered removed in the revised use areas occur in parcels identified in the February 1994 HMP as having no resource conservation requirements.

Loss of Monterey Spineflower Populations and Habitat (Approximately 1,140 Acres of Approximately 10,215 Total Acres at Former Fort Ord). Converting newly excessed lands and revised use areas would result in the loss of approximately 1,140 acres of habitat occupied by Monterey spineflower (Table 5-27). Approximately 7 acres of area in parcel 1 support Monterey spineflower populations. There are no resource conservation requirements in the February 1994 HMP or the Draft Revised HMP for this parcel.

Approximately 1,030 acres of the occupied Monterey spineflower habitat considered removed in revised use areas also occurs in parcels identified in the February 1994 HMP as having no resource conservation requirements.

Loss of Federal Candidate Plant Species Populations and Habitat. Converting newly excessed lands and revised use areas would result in the loss of occupied habitat of the following plant species, considered Category 1 or 2 candidates for federal listing as threatened or endangered: Toro manzanita, sandmat manzanita, Eastwood's ericameria, Monterey ceanothus, coast wallflower, and wedge-leaved horkelia. More than 50% of the total ranges of Toro manzanita, sandmat manzanita, Monterey ceanothus, and Eastwood's ericameria occur at former Fort Ord. Converting newly excessed lands and revised use areas would result in the loss of approximately 9% of the populations of these species at former Fort Ord.

Approximately 6% of the occupied habitat of coast wallflower and 9% of the occupied habitat of wedge-leaved horkelia at former Fort Ord also would be removed. Former Fort Ord does not have as large a portion of the species' range for coast wallflower and wedge-leaved horkelia as for other candidate species (refer to Table 4.11-2 in Section 4.11, Volume I of the Final EIS).

Approximately 1,900 acres of natural habitat in the newly excessed lands and revised use areas occur in areas with no habitat preservation requirements in the February 1994 HMP; therefore, most of the habitat losses described for plant species would be consistent with the February 1994 HMP. However, approximately 370 acres of additional habitat loss occurs in areas identified as habitat reserve in the February 1994 HMP and would result in removal of species beyond that anticipated in the February 1994 plan.

Special-Status Wildlife Species - Species Federally Listed as Threatened or Endangered

No wildlife species listed as threatened or endangered are known to occur in the newly excessed lands and revised use areas associated with Revised Alternative 7.

Special-Status Wildlife Species - Wildlife Species Proposed for Federal Listing as Threatened or Endangered

Loss of Black Legless Lizard Habitat (Approximately 20%). A general description of the habitat requirements of the black legless lizard is provided in the Final EIS (Volume I, page 6-120).

Table 5-27. Loss of Occupied Habitat of Special-Status Plant Species in Newly Excessed Lands and Revised Use Areas under Revised Alternative 7

Special-Status Plant Species[a]	Legal Status[b] Federal/State/CNPS	Approximate Acres of Total Habitat at Fort Ord[c]	Revised Alternative 7 Newly Excessed Lands and Revised Use Areas	
			Approximate Acres of Habitat Available	Acres of Habitat Removed
Sand gilia	E/T/1B			
Low density		3,270	300	205
Medium density		305	25	10
High density		160	0	2
Total		3,735	325	215
Monterey spineflower	T/–/1B			
Low density		5,750	1,040	830
Medium density		3,545	280	240
High density		920	70	70
Total		10,215	1,390	1,140
Seaside bird's beak	C1/E/1B			
Low density		1,110	60	60
Medium density		15	0	0
High density		0	0	0
Total		1,125	60	60
Sandmat manzanita	C2/–/1B			
Low density		2,260	720	555
Medium density		2,960	390	335
High density		3,340	210	210
Total		8,560	1,320	1,100
Monterey ceanothus	C2/–/4			
Low density		2,360	510	380
Medium density		6,820	580	400
High density		2,480	315	280
Total		11,660	1,405	1,060
Coast wallflower	C2/–/1B			
Low density		480	35	35
Medium density		225	20	6
High density		51	1	1
Total		756	56	42
Yadon's piperia	FPE/–/B			
Low density		14	0	0
Medium density		0	0	0
High density		0	0	0
Total		14	0	0
Toro manzanita	C2/–/1B			
Low density		2,310	450	335
Medium density		2,155	135	50
High density		1,950	140	0
Total		6,415	725	385
Hickman's allium	C1/–/1B			
Low density		275	2	0
Medium density		120	0	0
High density		0	0	0
Total		395	2	0

Table 5-27. Continued

Special-Status Plant Species[a]	Legal Status[b] Federal/State/CNPS	Approximate Acres of Total Habitat at Fort Ord[c]	Revised Alternative 7 Newly Excessed Lands and Revised Use Areas: Approximate Acres of Habitat Available	Revised Alternative 7 Newly Excessed Lands and Revised Use Areas: Acres of Habitat Removed
Eastwood's ericameria	C2/--/1B			
Low density		3,555	315	315
Medium density		2,260	375	190
High density		23	20	20
Total		5,838	710	525
Wedge-leaved horkelia	C2/11/1B			
Low density		2,435	360	220
Medium density		1,195	120	120
High density		0	0	0
Total		3,630	480	340

[a] Species with only one individual (robust spineflower [PE/--/1B] and Pajaro manzanita [--/--/4]) were not included in the table.

[b] Status explanations given in Table 4.11-2 of the final EIS (Volume I, page 4-100).

[c] Average totals are based on the most recent GIS average calculations using the revised installation boundaries. In some instances these totals differ slightly from those given in the final EIS.

Note: -- = no designation.

Because of narrow microhabitat requirements for black legless lizards, specific acreage for elimination of microhabitat for these species cannot be determined. However, on the newly excessed lands and in the revised use areas under Revised Alternative 7, approximately 540 acres (20%) of habitat likely to contain appropriate microhabitat conditions for the black legless lizard (native dune vegetation or coastal scrub and maritime chaparral on appropriate soils) would be eliminated by development (Table 5-28). Therefore, it was assumed that a corresponding amount of total available microhabitat also would be eliminated. Impacts on the black legless lizard could be greater if other inland habitats, such as oak woodlands, are confirmed to be suitable habitat (see Section 4.13.1, "New Biological Resource Data").

Less than 5 acres of potential black legless lizard habitat occurs in the newly excessed lands. Approximately 440 acres of potential black legless lizard habitat affected by revised use areas occur in areas where the February 1994 HMP permits development.

Special-Status Wildlife Species - Federal Candidate Wildlife Species

Loss of Monterey Ornate Shrew Habitat (Approximately 18%) and Monterey Dusky-Footed Woodrat Habitat (Approximately 12%). Approximately 18% (approximately 835 acres) of potential Monterey ornate shrew habitat and approximately 12% (approximately 1,885 acres) of Monterey dusky-footed woodrat habitat at former Fort Ord would be eliminated by development of the newly excessed lands and revised use areas associated with Revised Alternative 7 (Table 5-28). Of these losses, approximately 35 acres of the potential habitat removed for both species occur in newly excessed areas. These approximately 35 acres occur in parcels identified for development in the February 1994 HMP.

Approximately 790 acres of Monterey shrew habitat and approximately 1,630 acres of Monterey dusky-footed woodrat habitat in revised use areas also occur in areas proposed for development in the February 1994 HMP. However, losses for either species are not considered substantial. Because more than 13,500 acres of woodrat habitat would remain, the loss of 12% of the available habitat should not result in a state or federal listing as threatened or endangered for the Monterey dusky-footed woodrat. More than 3,750 acres of habitat that could support microhabitat conditions suitable for the Monterey ornate shrew also are located outside newly excessed lands and revised use areas.

Loss of Coast Horned Lizard Habitat (Approximately 9%). Because of the narrow microhabitat requirements of the coast horned lizard, specific acreage of microhabitat removed in newly excessed lands and revised use areas cannot be determined. However, approximately 9% of the available habitat likely to contain appropriate microhabitat conditions could be eliminated by development of these parcels. Therefore, it was assumed that approximately 9% of the total available microhabitat also could be eliminated.

The elimination of 9% of the available coast horned lizard habitat at former Fort Ord would not reduce the range of the species or exclude the species from former Fort Ord. Impacts would be reduced through implementation of the Draft Revised HMP. Preservation, enhancement, and restoration of coastal scrub and maritime chaparral habitats specifically addressed in the Draft Revised HMP would compensate for some losses of coast horned lizard habitat. No mitigation is required.

Loss of Potential Burrowing Owl Habitat (Approximately 335 Acres). Development of the newly excessed lands and revised use areas under Revised Alternative 7 would result in the removal of approximately 7% (approximately 335 acres) of the grassland areas considered potential habitat for burrowing owl at former Fort Ord (Table 5-28). The loss of grassland habitat could eliminate burrowing owl nesting sites. However, because the newly excessed lands and revised use areas contain only small inclusions of grassland habitat, these areas are not considered important for the species. No mitigation is required.

Table 5-28. Losses to Special-Status Wildlife Species in Newly Excessed Lands and Revised Use Areas under Revised Alternative 7

Species	Legal Status[a] Federal/State	Potential Habitat	Approximate Total Acres of Potential Habitat Available at Fort Ord[b]	Revised Alternative 7 Newly Excessed Lands and Revised Use Areas	
				Approximate Acres of Potential Habitat Available	Acres of Potential Habitat Removed
Smith's blue butterfly	FE/--	Buckwheat in dune habitats	180[c]	0	0
California red-legged frog	FPE/SSC	Ponds	28	0	0
California tiger salamander	C2/SSC	Vernal pools and ponds	62	0	0
Southwestern pond turtle	C2/SSC	Ponds	28	0	0
Black legless lizard	FPE/SSC	General habitat; native dune vegetation and where coastal scrub and maritime chaparral overlap with Baywood sands and Oceana soils	2,695[c]	587[c]	542[c]
Coast horned lizard	C2/SSC	General habitat; where coastal scrub and maritime chaparral overlap with baywood sands, Arnold Enez, and Oceana soils	9,900	927	882
Tricolored blackbird	C2/SSC	Grasslands in the southeastern portion of former Fort Ord	2,750	0	0
Burrowing owl	C2/SSC	Grasslands	4,625	446	335
Monterey dusky-footed woodrat	C2/--	Maritime chaparral and coastal coast live oak woodland	15,530	2,293	1,185
Monterey ornate shrew	C2/--	General habitat; mixed riparian and oak riparian forest, coastal and inland coast live oak woodland	4,615	1,156	835
Northern harrier	--/SSC	Grasslands	4,625	446	335
Cooper's hawk and yellow warbler	--/SSC	Mixed riparian forest, oak riparian forest, canyon bottom, inland coast live oak woodland	275	176	0

Table 5-28. Continued

Species	Legal Status[a] Federal/State	Potential Habitat	Approximate Total Acres of Potential Habitat Available at Fort Ord[b]	Revised Alternative 7 Newly Excessed Lands and Revised Use Areas	
				Approximate Acres of Potential Habitat Available	Acres of Potential Habitat Removed
Sharp-shinned hawk	--/SSC	Mixed riparian forest, oak riparian forest, inland coast live oak woodland	1,650	176	0
Golden eagle	--/SSC	Oak savanna, inland coast live oak woodland, coastal scrub, maritime chaparral, and grasslands	19,550	1,960	1,435
Prairie falcon	--/SSC	Grassland and oak savanna	5,025	456	345
American badger	--/SSC	Grassland, oak savanna, coastal coast live oak woodland	7,995	1,436	1,170
Salinas harvest mouse	--/SI	Coastal coast live oak woodland	2,970	980	825
Greater road runner	--/SI	Maritime chaparral, inland coast live oak woodland	13,975	1,489	1,075
Swainson's thrush and common yellowthroat	--/SI	Mixed riparian forest	195	0	0

[a] Status explanations given in Table 4.11-2 in the final EIS (Volume I, page 4-100).

[b] Acreage totals are based on the most recent GIS acreage calculations using the revised installation boundaries. In some instances, these totals differ slightly from those given in the final EIS.

[c] Acreage totals are based on habitat models included in the Flora and Fauna Baseline Study (U.S. Army Corps of Engineers 1992a) and final EIS. These habitat losses reflect only impacts on medium- and high-density buckwheat populations for Smith's blue butterfly and on native dune vegetation and coastal scrub and maritime chaparral habitats on Oceano and Baywood Sand soils for the black legless lizard.

Habitat losses do not reflect impacts on low-density buckwheat populations (in which Smith's blue butterfly recently were observed) and coastal live oak woodlands (in which black legless lizards recently were observed). These impacts were not included in the analysis because quantitative data on species' use of these habitat areas are not sufficient to support changes in the original habitat models.

Note: -- = no designation.

Loss of Potential Roosting, Hibernating, and Breeding Sites for Special-Status Bats. Three special-status bat species have potential to occur at former Fort Ord: Townsend's western big-eared bat, pallid bat, and California mastiff bat. Impacts and mitigation for impacts on these bat species in newly excessed lands and revised use areas under Revised Alternative 7 would be the same as those described for newly excessed lands and revised use areas under Alternative 7 (see the "Vegetation, Wildlife, and Wetland Resources" portion of Section 5.3.1.1, "Newly Excessed Lands and Revised Use Areas").

Special-Status Wildlife Species - California Wildlife Species of Special Concern

Loss of Potential Northern Harrier and Short-Eared Owl Habitat (Approximately 335 Acres). Development of the newly excessed lands and revised use areas under Revised Alternative 7 include approximately 7% (approximately 335 acres) of the grassland areas considered potential habitat for northern harrier and short-eared owl at former Fort Ord (Table 5-28). Elimination of northern harrier wintering habitat at former Fort Ord would not affect a substantial portion of the nesting population. The loss of grassland habitat could eliminate potential short-eared owl nesting habitat. However, because the newly excessed lands and revised use areas contain only small inclusions of grassland habitat, these areas are not considered important for these species. No mitigation is required.

Loss of Golden Eagle Habitat (Approximately 1,435 Acres). It is unknown whether golden eagles nest at former Fort Ord, but suitable golden eagle nesting habitat is available in the revised use areas. The newly excessed lands and revised use areas include approximately 7% (approximately 1,435 acres) of the potential golden eagle habitat at former Fort Ord and could be eliminated by development. The loss of 7% of the total habitat at former Fort Ord would not reduce the range of the golden eagle or exclude golden eagles from the installation.

Impacts on golden eagles also would be reduced through implementation of the Draft Revised HMP. Preservation, enhancement, and restoration of coastal scrub and maritime chaparral habitats specifically addressed in the Draft Revised HMP would compensate for losses of foraging habitat for golden eagles. In addition, preservation of other habitats in reserve parcels would retain large areas of golden eagle habitat. No mitigation is required.

Loss of Prairie Falcon Foraging Habitat (Approximately 345 Acres). The newly excessed lands and revised use areas include approximately 7% (approximately 345 acres) of the available prairie falcon foraging habitat at former Fort Ord. The habitat in these areas could be eliminated by development. However, substantial portions of foraging habitat would be retained in the NRMA as described in the Draft Revised HMP. The loss of 7% of the foraging habitat at former Fort Ord would not adversely affect the breeding success of prairie falcons nesting near the installation. In addition, because the newly excessed lands and revised use areas contain only small inclusions of grassland habitat, these areas are not considered important raptor foraging areas. No mitigation is required.

Loss of American Badger Habitat (Approximately 1,170 Acres). American badgers are found in grassland, oak savanna, and coastal coast live oak woodland habitats at former Fort Ord. Development of the newly excessed lands and revised use areas would remove approximately 15% (approximately 1,170 acres) of the available badger habitat on former Fort Ord. However, large amounts of suitable habitat would remain in the NRMA and other reserve areas described in the Draft Revised HMP. The loss of habitat would not substantially reduce the range of the species and would not affect the higher density population in the southern portion of Monterey County. No mitigation is required.

Special-Status Wildlife Species - Rare and Special-Interest Wildlife Species

Loss of Salinas Harvest Mouse Habitat (Approximately 825 Acres). One Salinas harvest mouse was captured in the coastal coast live oak woodland habitat at former Fort Ord. It is unknown whether the harvest mouse is found in other habitats. The Salinas harvest mouse is not included as a species of concern in the February 1994 HMP or the Draft Revised HMP. Development of the newly excessed lands and revised use areas as described would remove approximately 28% (approximately 825 acres) of the available Salinas harvest mouse habitat at former Fort Ord (Table 5-28). This loss would not substantially affect the Salinas harvest mouse throughout its range and would not exclude the species from former Fort Ord. No mitigation is required.

Loss of Greater Roadrunner Habitat (Approximately 1,075 Acres). The greater roadrunner population at former Fort Ord is the only known population of the species in the Monterey Bay area (Fort Ord Parklands Group 1992). At former Fort Ord, roadrunners are found in maritime chaparral and inland coast live oak woodlands. Development of the newly excessed lands and revised use areas as described would remove approximately 8% (approximately 1,075 acres) of the available greater roadrunner habitat at former Fort Ord. Sufficient habitat would be retained to continue to support greater roadrunners in the area. Impacts also would be reduced through implementation of the Draft Revised HMP. Preservation and enhancement of maritime chaparral habitats specifically addressed in the Draft Revised HMP would compensate for some losses of greater roadrunner habitat. No mitigation is required.

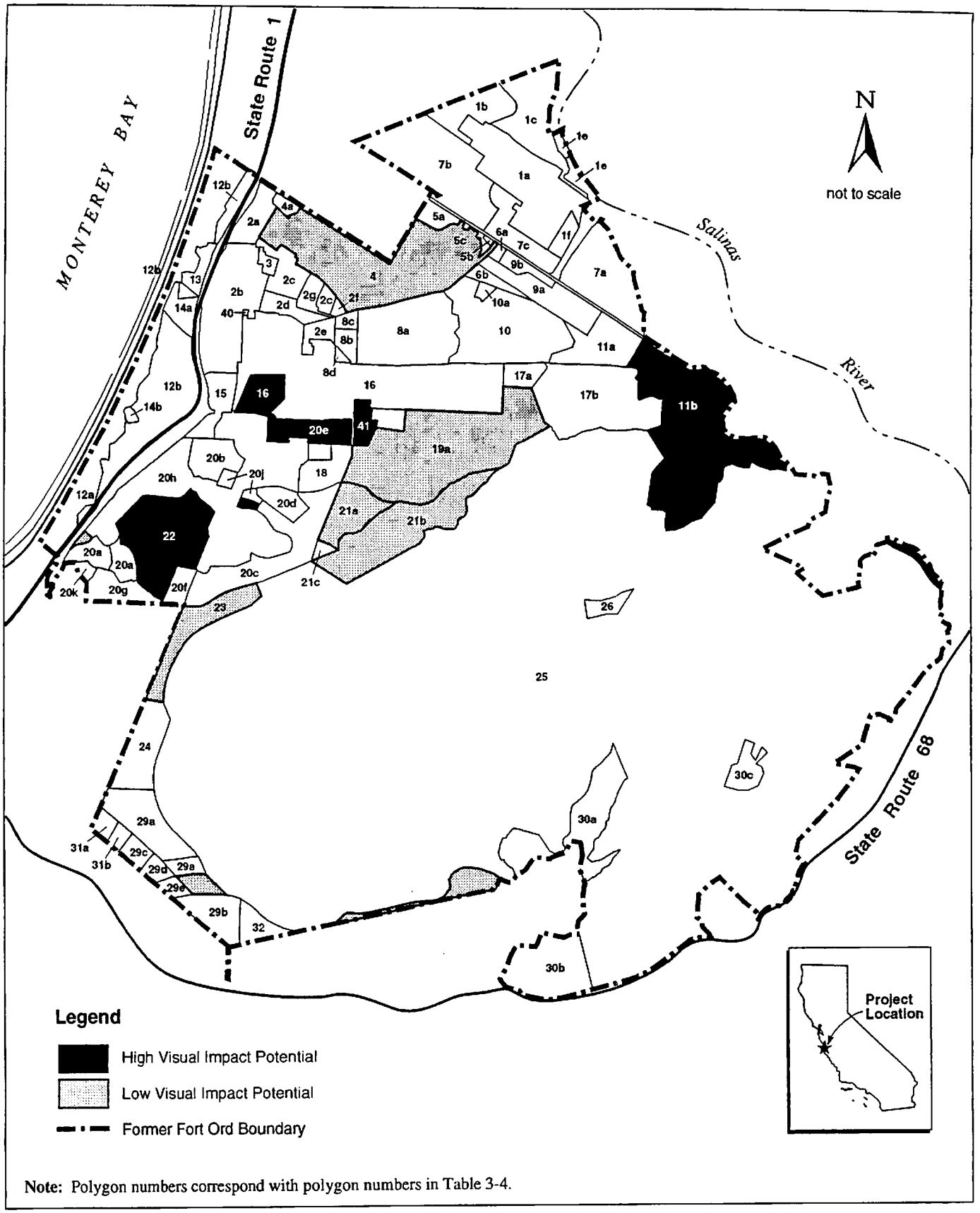
Visual Resources

Reduced Visual Unity and Intactness for Some Visually Sensitive Areas Resulting from Short- and Long-Term Construction Impacts. Like Alternative 7, implementation of the land uses proposed for the newly excessed lands and revised use areas under Revised Alternative 7 would require construction of a substantial number of buildings, renovation of existing buildings, and modification of infrastructure. Short-term visual impacts would result from construction activities, and long-term visual impacts could occur from the removal of vegetation, construction of new buildings, and other activities. These activities could result in a reduction in visual unity and intactness from some visually sensitive areas, including views from SR 1, SR 68, and from the Salinas Valley. The visual impact potential of the newly excessed lands and revised use areas associated with Revised Alternative 7 are shown in Figure 5-10.

SR 1 is a proposed scenic route. Unlike Alternative 7, westward views from SR 1 would not be impacted because there are no revised use areas in the coastal zone under Revised Alternative 7. There is potential for visual impacts from development in inland areas east of SR 1, particularly the proposed resort hotel (area 2). Policy 30251 of the California Coastal Act of 1976 concerns the protection of scenic and visual qualities. As a mitigation, height restrictions for the proposed hotel in area 2 (polygon 22) are incorporated into Revised Alternative 7. The proposed resort hotel in area 2 would be required to not break the skyline when viewed from SR1.

Conversion of the East Garrison area to a planned development mixed use/POST facility (area CC) may alter the visual settings of this cultural resource area and the view of this area from the Salinas Valley. The magnitude of the long-term visual impact would depend on several factors, including the extent of landscape alteration, vegetation removal, and development of new structures and facilities. (Refer to the "Cultural Resources" section for a discussion of this impact.)

Existing mature landscaping, vegetation, and topography could effectively screen much of the new development along SR 1. There is already a local mitigation agreement in place to protect the visual buffer between the former Fort Ord coastal zone and the inland areas of former Fort Ord by maintaining and enhancing where necessary the landscaping and natural landform screening immediately east of SR 1 (see the "Mitigation Agreement" portion of Section 3.2.2).



Note: Polygon numbers correspond with polygon numbers in Table 3-4.

Figure 5-10
Visual Impact Potential of Newly Excessed Lands and Revised Use Areas Associated with Revised Alternative 7

Cultural Resources

Loss or Damage to Historic Properties. As described in Section 4.15, cultural resource surveys have identified Stilwell Hall and the East Garrison area as historic resources eligible for inclusion in the NHRP. The proposed East Garrison historic district (Figure 4-7) is included within revised use area CC. The uses proposed for these areas, planned development mixed use/POST facility have the potential to significantly affect the historic district. Planned development uses may include residential, retail, recreational, and office uses. POST would include classroom training, driver and police vehicle training, and weapons training. These uses would introduce noise, air quality, and visual changes that are potentially inconsistent with the historic setting associated with the East Garrison.

Before the Army transfers the East Garrison area, deed restrictions or conditions of transfer will be developed in compliance with the programmatic agreement. Draft preservation covenants have been developed by the Army and forwarded to the SHPO for review. The proponents would need to work with the California SHPO cooperatively to develop a management strategy that recognizes the historic value of the East Garrison historic district in accordance with covenants developed under the programmatic agreement.

Coastal Resources

Unlike Alternative 7, Revised Alternative 7 contains no revised use areas in the coastal zone; therefore, potential impacts on coastal resources are reduced substantially. The Asilomar-type facility and the coastal road contained in Alternative 7 are not present in Revised Alternative 7. The indirect effects on coastal resources from inland development under Revised Alternative 7 would be similar to but less than those described for Alternative 7.

Development of portions of inland revised use areas GG and HH would result in the conversion of habitat that would have been preserved in an NRMA under the February 1994 HMP. The inclusion of a resort hotel site in inland revised use area 2 (golf) would not create a visual impact from the coastal zone as long as the proposed hotel is not constructed as a high rise and stays below the skyline (see the preceding visual resources section).

Potential Increase in Urban Pollutant Loading of Sanctuary Resources. This impact and associated mitigation would be similar to that described for Alternative 7. Reuse of additional area for urban land uses may incrementally increase urban runoff and pollutant loadings to the Monterey Bay National Marine Sanctuary. However, all landowners are required to comply with the requirements of the NPDES permits and the Non-Point-Pollution Control Plan for the Monterey Bay Region. To control non-point pollution that is not regulated by the NPDES program, the California Coastal Commission and SWRCB have developed a non-point-pollution control plan for the communities in the Monterey Bay region.

These plans and policies have been implemented to protect sanctuary resources from urban pollutant loadings, and all landowners and municipalities must comply with them.

5.3.2.2 Cumulative Impacts

Land Use

Buildout of the Revised Alternative 7 land use scenario would result in the development of approximately 6,300 acres of the currently undeveloped portion of the former Fort Ord installation with predominantly urban uses. Specific land use issues associated with development of the former installation lands include the potential incompatibility of some of the contiguous proposed uses, as described in Section 5.3.2.1 under "Land Use". The cumulative land use issues under Revised Alternative 7 would be similar to

those described for Alternative 7, although the percentage of former Fort Ord dedicated to particular land use types would be slightly different (see Table 3-2). Revised Alternative 7 has less urban development in the form of institutional, commercial/business park, and industrial uses than does Alternative 7. These uses have been replaced by more parks and recreation acreage (including neighborhood parks and golf courses) and a new land use category, mixed use. The mixed use category allows for a range of less densely developed residential, open space, business park, institutional, and education/training uses than proposed in Alternative 7. This cumulative land use difference has a positive influence on the jobs-housing balance when compared to Alternative 7 (see "Socioeconomics" below).

Socioeconomics

The methodology used to evaluate the socioeconomic effects of Revised Alternative 7 is described in Appendix B. This methodology is similar to the one used to evaluate effects for Alternative 7. Table B-2 of Appendix B provides estimates of socioeconomic impacts for specific polygons and government jurisdictions associated with the installation-wide development of properties under Revised Alternative 7. The net change in economic activity within Monterey County under Revised Alternative 7 was estimated by subtracting the effects of Fort Ord closure from total (i.e., direct and secondary) reuse effects. The direct and secondary socioeconomic effects of Revised Alternative 7 are presented in Table 5-29. Buildout conditions that would result in Monterey County (i.e., total population, housing, employment, industrial output, and personal income levels within Monterey County following closure and reuse of Fort Ord) are also presented in Table 5-29.

Executive Order 12898 (see Section 5.4, "Environmental Justice"), requires federal agencies to examine proposed actions to determine whether they will have disproportionately high and adverse human health or environmental effects on minority or low-income populations. Similar to the discussion for Alternative 7, the development of installation-wide properties under Revised Alternative 7 is not expected to result in adverse human health or environmental effects that would disproportionately affect minority or low-income populations. Reuse of installation properties under Revised Alternative 7 could result in beneficial effects for minority and low-income populations residing near the installation because of increased employment opportunities.

The following discussion of socioeconomic impacts assumes that full development of installation properties would occur over a 50-year buildout period. The relatively large total change in socioeconomic characteristics estimated for full development of installation properties is much less severe when considered as a continuing portion of the local economy, distributed in annual increments over the entire buildout period.

Implementing Revised Alternative 7 would generate a direct population increase of approximately 45,000 (not including 20,000 students estimated to reside on the CSUMB campus), substantially offsetting the estimated 30,000 decrease in population resulting from the closure of Fort Ord. Under buildout conditions, the net increase in population would represent a 4.2% increase in countywide population (Table 5-29).

Revised Alternative 7 would result in the construction or rehabilitation of approximately 15,000 housing units (excluding dormitory rooms built on the CSUMB campus), offsetting the approximately 13,800 housing units estimated to be lost because of installation closure (Table 5-29). Implementing Revised Alternative 7 would result in an imbalance in the relative amounts of employment and housing generated by reuse. Applying the county average of 1.45 workers per household to the number of employment positions directly generated by this alternative (38,800), a demand for an additional 26,700 housing units would be generated; however, only 15,000 housing units would be directly developed under Revised Alternative 7. Similarly, implementing Revised Alternative 7 would result in an increase from 1.36 to 1.44 in the county's overall ratio of jobs to housing. This effect is considered adverse because it increases the countywide ratio that already exceeds the ratio of jobs to housing generally considered optimal for maintaining a jobs-housing balance. These effects are considered unavoidable unless adequate housing development is approved elsewhere in the county to coincide with the development of onsite employment-generating uses or the number of jobs associated with reuse is decreased.

Table 5-29. Projected Countywide Socioeconomic Impacts under Revised Alternative 7

Characteristic	1991 Conditions within Monterey County [a]	Fort Ord Closure Impacts [b]	Direct Reuse Impacts under Revised Alternative 7 [c]	Secondary Reuse Impacts under Revised Alternative 7 [d]	Buildout Conditions under Revised Alternative 7 [e]	Total and Percent Change from 1991 Conditions
Population	361,560	(29,970)	45,000 [f]	NA [g]	376,590	15,030 4.2%
Housing	121,224 [h]	(13,868)	15,000 [i]	NA [g]	122,356	1,132 0.9%
Ratio of jobs to housing [j]	1.36	NA	NA	NA	1.44	0.08
Employment	164,900	(26,985)	38,774	25,186	201,875	36,975 0.224
Output (in millions of 1991 dollars)	12,250	(402)	2,313	1,543	15,704	3,454 22.4%
Personal income (in millions of 1991 dollars) [k]	4,809	(543)	1,015	563	5,844	1,035 21.5%

[a] Existing conditions represent pre-closure conditions in Monterey County in 1991.
Sources: Huppertz and Bloomquist 1991, California Department of Finance 1992, California Employment Development Department 1992, Minnesota IMPLAN Group 1985, U.S. Bureau of Economic Analysis 1989.

[b] Represents the direct population and housing impacts and direct and secondary employment, output, and personal income impacts of Fort Ord closure. Source: Fort Ord Disposal and Reuse Environmental Impact Statement (Volume II), Jones & Stokes Associates 1993.

[c] Represents conditions on installation properties with reuse under Revised Alternative 7. Population totals do not include an estimated 20,000 students that would reside on the California State University of Monterey Bay campus. Source: Table B-2 in Appendix B.

[d] Represents secondary economic activity within Monterey County generated by reuse under Revised Alternative 7. Source: Table B-2 in Appendix B.

[e] Represents conditions in Monterey County following buildout under Revised Alternative 7. Calculated by subtracting Fort Ord Closure impacts from 1991 countywide conditions, and adding the direct and secondary impacts of reuse.

[f] Up to 20,000 students housed on campus considered separately.

[g] Secondary population and housing impacts associated with onsite employment-generating land uses were not estimated because of the difficulty of separating these impacts from direct impacts and to avoid double counting.

[h] Includes 23,716 housing units located at Fort Ord, including 9,745 barrack spaces.

[i] Represents new and existing housing located on installation properties under Alternative 7. Totals do not include hotel rooms, and dormitory rooms located on the California State University of Monterey Bay campus.

[j] Ratios calculated excluding secondary jobs generated by reuse of Fort Ord properties.

[k] Personal income is defined as employee compensation plus proprietary income.

Note: NA = not applicable.

Implementing Revised Alternative 7 would result in the following direct, secondary, and net regional economic effects (net effects are the sum of direct and secondary effects of reuse minus the estimated effects of Fort Ord closure) (Table 5-29):

- employment increase: direct - 38,800; secondary - 25,200; net - 37,000
- industrial output increase: direct - $2,313 million; secondary - $1,543 million; net - $3,454 million
- direct personal income increase: total - $1,015 million; secondary - $563 million; net - $1,035 million

These effects are beneficial; no mitigation is required.

The increase in economic activity caused by implementing Revised Alternative 7 could result in decreased unemployment and reduced demand for community services, such as welfare payments and crisis intervention programs. Increased economic activity could benefit programs designed to assist unemployed and undertrained persons seeking employment opportunities in Monterey County.

Soils, Geology, Topography, and Seismicity

Overall, the effects of Revised Alternative 7 would be similar to those of Alternative 7, as described under "Soils, Geology, Topography, and Seismicity" in Section 5.3.1.2. Substantial areas of new development would result in the disturbance or loss of existing soil resources through excavation, grading, paving, landscaping, and other development activities. New development would disturb or cover approximately 6,300 acres of existing natural soils on former Fort Ord lands. In addition to the polygons affected by disturbance or overcovering of natural soil described under Alternative 7, the following polygons would also be affected under Revised Alternative 7: the additional portions of polygon 23 that would be developed for medium-density residential and retail uses (revised use area GG) and the portions of polygon 25 that would be developed for transit (revised use area HH). This loss would be combined with soil disturbance from other potential development in the region, as described in Table 5-1.

As under Alternative 7, the approximately 6,300 acres of soil surface disturbance and removal of vegetation from relatively undisturbed areas would result in increased wind erosion, accelerated water-induced soil erosion, increased susceptibility to landslide, and increased creek channel sedimentation downslope and downstream from new development. Wind erosion and blowing sand could affect aviation use of the airport and could damage existing vegetation and structures in all areas. Water-induced soil erosion could compromise the stability of proposed development, particularly on areas of the Arnold soil series (sandy soil over a cemented hardpan). Additional areas affected under Revised Alternative 7 include the medium-density residential and retail uses in polygon 23, the transit uses in polygon 25, the southern portion of polygon 19a, and most of polygon 21b.

Cumulative development in and around former Fort Ord's open lands could suppress low-temperature natural wildfires. This could result in buildup of fuel and risk of high-temperature wildfires, which could deplete the soil surface horizon reserve of organic matter and reduce the soil's fertility and water-holding capacity.

As under Alternative 7, the mitigation measures for these impacts are the same as those described in the final EIS (Volume I, pages 6-28 to 6-31). The major control efforts include minimizing ground

disturbance in areas with highly erosive soils, maintaining a fire management program with periodic controlled burns, revegetating disturbed areas, and using runoff control structures.

Public Services and Utilities

In general, cumulative impacts and mitigation measures for Revised Alternative 7 are similar to those associated with Alternative 7. The Fort Ord Reuse Infrastructure Study (Reimer Associates 1995) was prepared to define specific public service and utility requirements for reuse of the installation. Capital improvements have been identified in this study that must be constructed to support development under Revised Alternative 7 (see Figures 5-1 through 5-7 at the end of this section). Figure 5-11 shows potential areas where easements would be transferred by the Army to a new utility provider for initial modifications to the electrical distribution system. These initial modifications are needed to support the POM Annex and to achieve compliance with CPUC regulatory requirements in areas to be excessed.

Wastewater. Wastewater treatment requirements for Revised Alternative 7 are expected to be slightly less than those described for Alternative 7. Total dwelling units would increase but total jobs would be substantially less. Among the changes in land uses under this alternative are a reduction in the quantity of industrial development and an increase in land devoted to golf courses and open space.

Wastewater impacts and mitigation for Alternative 7 also are applicable to Revised Alternative 7 and are discussed in Section 5.3.1.2, "Cumulative Impacts".

Solid Waste. With regard to solid waste management, the cumulative effects of reuse would be similar to the direct impacts of reuse. Revised Alternative 7 would generate slightly less refuse than would be generated under Alternative 7. Buildout of this alternative would reduce the lifespan of the Marina Landfill and add to cumulative contributions from other local development projects that contribute to the waste stream.

Telephone. Development under Revised Alternative 7 would create a new demand for telephone service comparable in magnitude to that resulting from Alternative 7. This is considered a less-than-significant cumulative impact because availability of telephone service is not anticipated to be a limiting factor for development.

Gas and Electric. At buildout under Revised Alternative 7, the demand for gas and electric service would be slightly less than the demand described for Alternative 7. New infrastructure would be required in addition to upgrading or replacing existing infrastructure. Gas and electric systems could be expanded as necessary to accommodate increased use. Availability of gas and electric infrastructure is not anticipated to be a limiting factor for development. Potential easements that could be transferred to utility system operators (through FORA) for initial modifications to the infrastructure system are shown in Figure 5-11.

Cable Television. As stated for Alternative 7, Revised Alternative 7 would also have a reduced requirement for cable television compared to original conditions. This reduction may be attributed to the conversion of military buildings and barracks to other nonresidential uses that do not require cable service. This is considered a less-than-significant cumulative impact.

Storm Drainage System. Buildout of Revised Alternative 7 would result in development of undeveloped open space, causing additional surface runoff that may contribute to cumulative watershed flooding problems, particularly to 100-year floodplains designated by the Federal Emergency Management Agency. Comparatively, Revised Alternative 7 would have slightly less developed area compared to Alternative 7, with a corresponding decrease in storm drainage requirements.

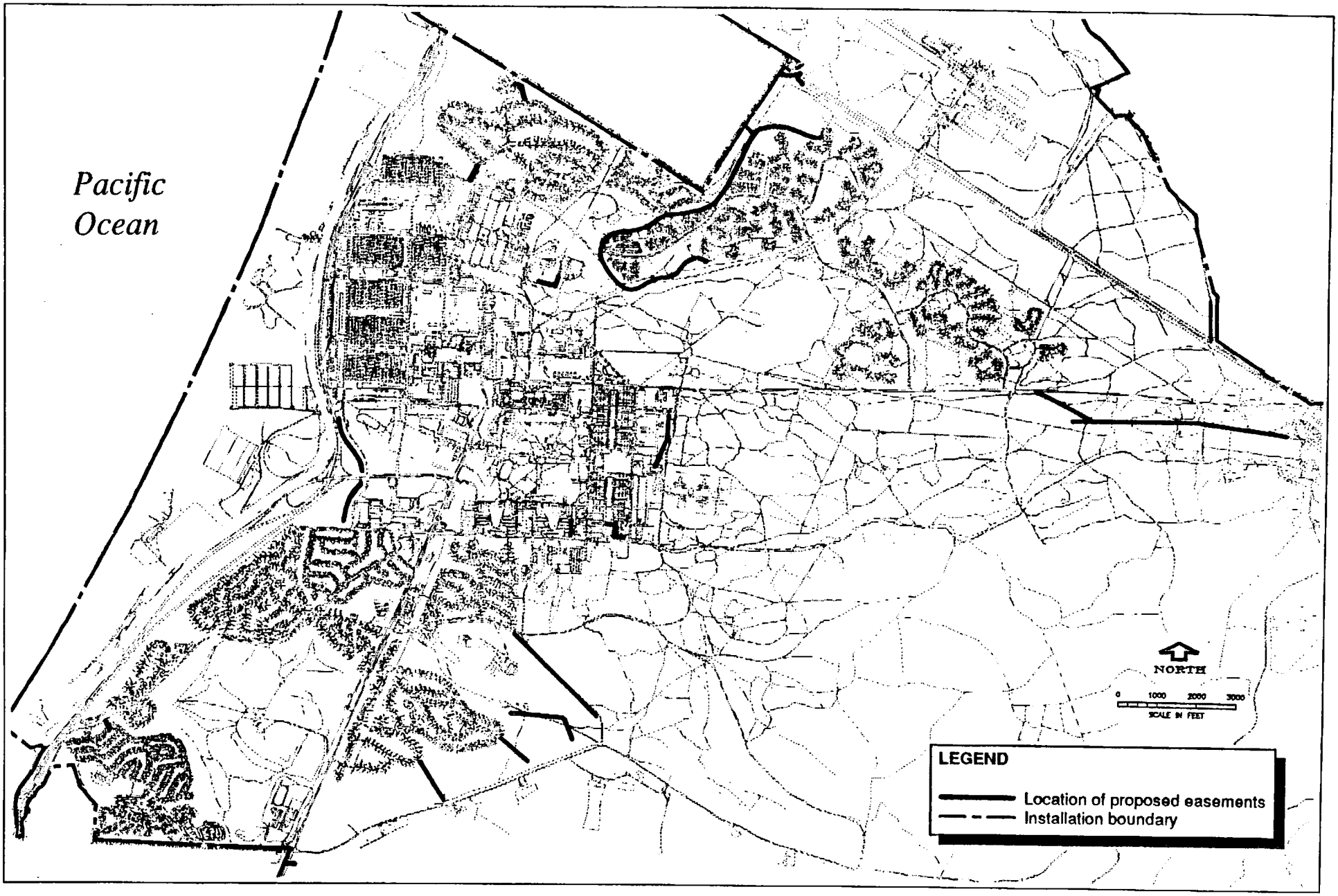


Figure 5-11
Locations of Proposed Easements for Initial Utility Modifications

Water Distribution. Under Revised Alternative 7, water distribution infrastructure would be required in areas that currently consist of undeveloped open space. Cumulative impacts on the water distribution system would be the same as those described for Alternative 7.

Recreation. Cumulative impacts on recreation associated with Revised Alternative 7 would be similar to those described for Alternative 7.

Schools. Buildout of Revised Alternative 7 would result in impacts on public schools that are slightly greater than those described for Alternative 7. The total requirement is not expected to exceed existing capacity. Refer to Section 5.3.1.2, "Cumulative Impacts", for additional discussion of cumulative impacts on public schools.

Water Resources

Water Supply and Demand. Total water demand for the former Fort Ord under Revised Alternative 7 is estimated to be approximately 17,000 af/yr. Water demand would increase by approximately an additional 3,400 af/yr in water demand outside the former Fort Ord, in the Salinas-Monterey area, for university students, employees, and their families living off campus. The total water demand for the Fort Ord area would be 83% of the total increase in regional water demand of 20,400 af/yr.

The methodology used to estimate water demand is the same as described for Alternative 7 (Section 5.3.2.1). The cumulative effect of implementing Revised Alternative 7 is an estimated total water demand roughly 3 times greater than the baseline water use and availability. Similar to Alternative 7, the great majority of water demand for this alternative is derived from proposed civilian uses. The future users will need to cooperate with MCWRA in developing new water supply projects or develop their own water supplies from other sources. No mitigation action for water demand increases, beyond those described for Alternative 7, would be required by the Army.

Hydrology and Water Quality. Revised Alternative 7 may contribute to cumulative watershed problems including flooding in identified flood hazard areas and to degradation of water quality by urban pollutants. The magnitude of the impacts are essentially the same as those described for Alternative 7. Mitigation measures described in the final EIS (Volume 1, pages 6-52 to 6-55) would decrease these impacts.

Public Health and Safety

Cumulative impacts on public health and safety services associated with buildout of Revised Alternative 7 are similar to those associated with Alternative 7. Each issue is discussed below.

Law Enforcement. Buildout of the Revised Alternative 7 land use scenario would not require an increase in the number of law enforcement officers when compared to baseline conditions at former Fort Ord (Table 5-22). However, as law enforcement responsibilities are transferred to local jurisdictions, approximately 135 officers may eventually be required for law enforcement (Table 5-22).

Mitigation for the cumulative effects of buildout of this alternative would be the same as under Alternative 7. Refer to Section 5.3.1.2, "Cumulative Impacts", for a discussion of these effects.

Fire Protection. Under Revised Alternative 7, 26 additional firefighters would be required compared to previous fire protection staffing for former Fort Ord. As local jurisdictions assume responsibilities for fire protection services, 66 firefighters may be required (Table 5-22).

Mitigation for the cumulative effects of buildout of this alternative would be the same as under Alternative 7. Refer to Section 5.3.1.2, "Cumulative Impacts", for a discussion of these effects.

Medical and Emergency Medical Services. Revised Alternative 7 would generate a population of approximately 45,000 that would require medical and emergency medical services. This population would not exceed the local service capacity. In addition, the student population of 20,000 housed on the university campus would require similar services.

Mitigation for the cumulative effects of buildout of this alternative would be the same as under Alternative 7. Refer to Section 5.3.1.2, "Cumulative Impacts", for a discussion these effects.

Seismic Safety. There would be no cumulative seismic safety impacts.

Traffic and Circulation

As indicated in Table ES-1, buildout of Revised Alternative 7 would result in approximately 1,200 more dwelling units and 20,000 less jobs compared to Alternative 7. This difference is due to increased residential densities on some parcels and a reduction in acreage for light industrial, retail, and office park uses. The net result of these changes is a 30,000-40,000 reduction in the number of daily vehicle trips within and adjacent to former Fort Ord compared to Alternative 7. Daily trips would total 395,000-405,000. Cumulative effects associated with buildout of Revised Alternative 7 would be slightly less than those described for Alternative 7 (Section 5.3.1.2, "Cumulative Impacts"); therefore, the total roadway requirements to accommodate traffic volume would also be slightly less.

Mitigation necessary to reduce the effects of these high traffic volumes would be the same as those described for Alternative 7.

Air Quality

Table 5-24 shows that Revised Alternative 7's uncontrolled PM10 construction emissions of 59 ppd would not exceed the MBUAPCD's significance threshold of 82 ppd. The notes in Table 5-24 also provide interim year estimates for 2015. Construction-related ROG and NO_x emissions are not considered significant because they have been included in the air quality planning emission inventories prepared by MBUAPCD (MBUAPCD 1995). Although PM10 mitigation measures are not required based on the emission estimates for build out, individual development projects may require such mitigation measures to prevent short-term dust problems. Dust reducing mitigation measures are described in detail in the final EIS (Volume I, pages 6-75 and 6-76). Dust-reducing measures could include using dust suppressants at construction sites, minimizing the area of ground disturbance, halting construction in high winds, and seeding and watering barren soil areas.

Table 5-25 shows emissions associated with buildout of Revised Alternative 7 and compares those emissions to existing conditions and to the ROD. Compared to existing conditions, Revised Alternative 7 results in a net decrease in all pollutants except CO. The notes in Table 5-25 also provide interim year estimates for 2015.

CO concentrations were not modeled for Revised Alternative 7. However, Revised Alternative 7 would result in an approximately 8% decrease in total CO emissions as compared to Alternative 7. Since the CO modeling conducted for Alternative 7 did not show any exceedances of either the 1-hour or 8-hour CO standards, Revised Alternative 7 is also unlikely to cause any exceedances of the CO standards.

The population and employment increases associated with Revised Alternative 7 have been compared to the population forecasts used to prepare the 1994 AQMP for the Monterey Bay region (MBUAPCD 1994). The population, housing, and employment estimates for Revised Alternative 7 are less than those associated with the land use scenario contained in the Army's original ROD for Fort Ord disposal and reuse.

Noise

As discussed previously for the newly excessed lands and revised use areas under Revised Alternative 7, predicted traffic noise levels for Alternative 7 (Table 5-8) are considered to be reasonably representative of those that would occur under Revised Alternative 7.

Under Revised Alternative 7, there would be approximately 1,200 more dwelling units and 20,000 fewer jobs as compared to Alternative 7. The increase in dwelling units is primarily the result of more dense residential development, whereas the decrease in jobs is attributable primarily to mixed uses and resort uses in areas previously proposed for light industrial uses. Overall, 30,000-40,000 fewer trips would be generated under Revised Alternative 7 than under Alternative 7, for a reduction in trips of 7-9%. Traffic noise is relatively insensitive to changes in traffic volume. A reduction in traffic volume of 7-9% corresponds to less than a 0.5-dB reduction in noise. Accordingly, predicted traffic noise levels listed in Table 5-8 are considered to be reasonably representative of those that would occur under Revised Alternative 7, and traffic noise impacts under Revised Alternative 7 are considered to be the same as those described for Alternative 7.

The traffic noise analysis conducted for Revised Alternative 7 is inherently cumulative because traffic volumes resulting from background growth and development outside former Fort Ord are included. Accordingly, basewide cumulative effects and cumulative effects outside Fort Ord are included in this analysis. Cumulative traffic noise effects generally can be identified at those roadway segments where implementation of an alternative contributes to an excess noise condition or where the overall increase in noise relative to existing conditions is substantial (i.e., greater than about 5 dB).

Under Revised Alternative 7, traffic noise on two of the roadway segments analyzed would increase by more than 5 dB relative to existing conditions. On 12 segments analyzed, traffic noise would increase by less than 5 dB. Implementing Revised Alternative 7 would contribute to excess cumulative noise conditions along all these roadways (Table 5-8).

Cumulative effects could occur when noise from stationary sources combines with noise from other stationary or mobile sources. For example, noise from an industrial facility when combined with traffic noise or aircraft noise could result in an excess noise condition and a cumulative noise effect. These types of effects are not anticipated to occur under Revised Alternative 7 because mitigation would be required for the direct effects from new sources of noise.

The noise implications of operating the transportation system for Revised Alternative 7 were described in the earlier impact discussion for newly excessed lands and revised use areas. Some conflicts between the proposed transportation system and noise-sensitive areas proposed in Revised Alternative 7 were identified, and mitigation was discussed.

Hazardous and Toxic Waste Site Remedial Action

Similar to Alternative 7, the cumulative effects of disposal and reuse of former Fort Ord under Revised Alternative 7 would include accurate characterization of hazardous materials and waste and cleanup and removal of hazardous materials. Both of these effects would be beneficial to the former installation and the surrounding area. Potential road construction conflicts with HTRW cleanup sites, except for the proposed road over the landfill caps, would occur under Revised Alternative 7 as they would under Alternative 7.

Ordnance and Explosives

The Army does not consider UXO to be a hazardous waste or a hazardous substance requiring a CERCLA response action. Nonetheless, the Army has determined that it will conduct a voluntary CERCLA removal action to address UXO at former Fort Ord in an effort to expedite the cleanup and transfer of former Fort Ord.

Similar to Alternative 7, the cumulative effects of disposal of former Fort Ord and reuse under Revised Alternative 7 would include accurate characterization of potential OE. The Army's response action would be implemented before disposal and reuse. Reuse risks would be greatly reduced where removal and disposal activities are undertaken. Not all OE would necessarily be removed due to available technology, reuse plans, and cost. The increased residential development proposed around the fringes of the inland ranges (use areas GG and HH, Figure 4-1) under Revised Alternative 7 would slightly increase the potential risks to public health and safety compared to Alternative 7 conditions. Mitigation proposed under Alternative 7 would apply to this alternative.

Vegetation, Wildlife, and Wetland Resources

Introduction. Revised Alternative 7 was analyzed through a comparison against the reuse scenario described in the February 1994 HMP. Revised Alternative 7 includes land uses derived from a number of sources (Table 3-1), including mitigation measures for specific road segments and associated reuse parcels, which are included in a Draft Revised HMP described in Appendix D. Areas where the alternative differed from the February 1994 HMP relative to locations of development and habitat reserves were identified (Figure 5-12). 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 February 1994 HMP differed. These acreages were totaled to provide the net change in acreage of habitat reserve under Revised Alternative 7 compared to the February 1994 HMP.

Mitigation Measures for Revised Alternative 7. Mitigation measures for impacts on biological resources included in Revised Alternative 7 (included in Appendix D) have been developed and agreed on through continued coordination with the Army, USFWS, UC, and FORA. These measures are described in the "Coordination With USFWS" subsection near the end of this "Vegetation, Wildlife, and Wetland Resources" section. The mitigation measures were agreed on during meetings and discussions between the four agencies on March 15 and 28, 1996.

Analysis. Eight areas were identified where the alternative differed relative to locations of development and habitat reserve areas identified in the February 1994 HMP. These areas, labeled "regions", are shown in Figure 5-12 and include:

- the former Fritzsche Army Airfield area,
- the landfill parcel,
- the north-central installation area and East Garrison area,
- the proposed Monterey County residential/golf/resort hotel area,
- the proposed recreation area expansion areas,
- the Fort Ord Expressway area,
- the southern T areas, and
- the eastern T area.

The primary difference between the February 1994 HMP reuse scenario and Revised Alternative 7 in these individual regions is the reduction or addition of area considered habitat reserve or corridor.

One additional area where changes in area of habitat reserve exist between Revised Alternative 7 and the February 1994 HMP was excluded from consideration because its inclusion in Revised Alternative 7 is consistent with the intent of the HMP for the area. A habitat corridor bordering Reservation Road is smaller under Revised Alternative 7 than shown in the February 1994 HMP. However, no loss in available habitat should result from this reduction. The boundaries of the habitat corridor parcel shown in the February 1994 HMP were derived from aerial photographs and other sources. Boundaries between native habitat and developed areas south of the parcel were miscalculated. The reserve parcel polygon in Revised Alternative 7 has been surveyed and ground-truthed and contains the same habitat areas intended to be included in the February 1994 HMP parcel.

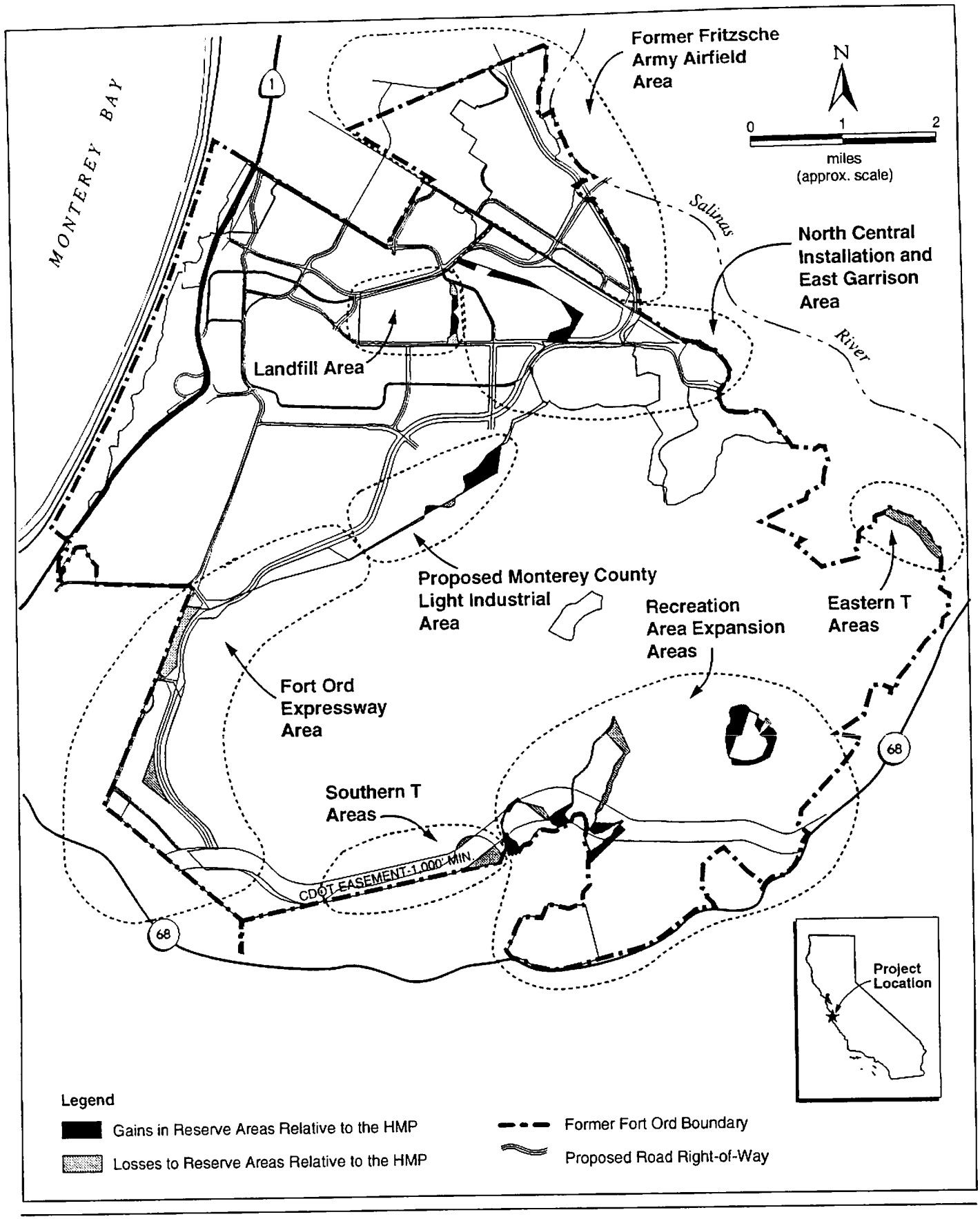


Figure 5-12
Comparison between the February 1994 HMP and Revised Alternative 7

Four mechanisms were identified that reduce or increase the amount of area considered habitat reserve or corridor under Revised Alternative 7 compared to the February 1994 HMP. One or more of these mechanisms may occur in each of the eight regions shown in Figure 5-12.

- **Modifications to Polygon Boundaries**. In many locations, reuse polygon size or configuration has been modified under Revised Alternative 7 relative to the February 1994 HMP. In some locations, these modifications may result in an increase in area considered habitat reserve or corridor; in other locations, the result is a conversion of habitat reserve to development.

- **Inclusion of Road Corridors**. Revised Alternative 7 shows a phased transportation system improvement scenario that includes road rights-of-way (ROWs) for a proposed transportation network. In two locations, road ROWs occur in areas considered habitat reserve or corridor in the February 1994 HMP. Construction of these road segments would remove habitat reserve and corridor areas.

- **Separation of Habitat Areas from Habitat Reserves**. Road segments may pass through areas considered habitat reserve in the February 1994 HMP and separate small segments of reserve area from the larger remaining reserve area. These small habitat areas are not considered functional as habitat reserves. Acreage from these areas was considered removed from the total habitat reserve area at former Fort Ord and converted to another use.

- **Increased Development Permitted within a Polygon**. In the February 1994 HMP, it was assumed that only limited development would occur in the landfill area (polygon 8a) to support scientific research and teaching and to manage habitat. Under Revised Alternative 7, 25% of the parcel would be available for development. This increased level of development in the polygon would result in the removal of area considered habitat reserve in the February 1994 HMP.

Impacts on HMP habitat reserve and conservation areas and key HMP resources for each region where differences occur between Revised Alternative 7 and the February 1994 HMP are analyzed below. For this analysis, key HMP resources include areas supporting populations of sand gilia, Monterey spineflower, and Seaside bird's beak. Losses or gains in area considered habitat reserve under Revised Alternative 7 compared to the February 1994 HMP are listed in Table 5-30. Losses or gains for key HMP resources are listed in Table 5-31.

Former Fritzsche Army Airfield Area. In the area constituting the former Fritzsche Army Airfield (Figure 5-12), small changes in polygon boundary configurations between Revised Alternative 7 and the February 1994 HMP occur in numerous locations. The net effect of all boundary modifications combined is a decrease of approximately 7 acres in area considered habitat reserve under Revised Alternative 7 compared to the February 1994 HMP (Table 5-30).

The net effect on key HMP resources from these boundary changes includes a gain of approximately 3 acres (relative to the February 1994 HMP) of habitat supporting medium-density populations of sand gilia, a loss of approximately 8 acres of area supporting low-density populations of Monterey spineflower, and a gain of approximately 3 acres of area supporting medium-density Monterey spineflower populations (Table 5-31).

Landfill Parcel. In the area identified as the landfill parcel in Figure 5-12 minor changes in the parcel boundaries occur between Revised Alternative 7 and the February 1994 HMP. The net effect of these changes is a negligible increase in area considered habitat reserve under Revised Alternative 7 (shown as 0 acre of change in Table 5-30).

Table 5-30. Changes in Acreage of Habitat Reserve or Corridor under Revised Alternative 7 Compared to the February 1994 Habitat Management Plan

Location	Reason for Change				Total Change (acres)
	Boundary Modification	New Roads	Isolation from Reserve Areas	Increased Development	
Former Fritzsche Army Airfield	(7)	0	0	0	(7)
Landfill parcel	0	0	0	(80)	(80)
North-central installation and East Garrison	(13)	(61)	0	0	(74)
Monterey County light industrial	(25)	0	0	0	(25)
Recreation area expansion	77	0	0	0	77
Fort Ord Expressway	(30)	(117)	(44)	0	(191)
Southern T Areas	(30)	0	0	0	(30)
Eastern T Area	(40)	0	0	0	(40)
Total impact	(68)	(178)	(44)	(80)	(370)

Note: Numbers in parentheses represent a decrease in acreage.

Table 5-31. Acreage Change to Key Habitat Management Plan Resources under Revised Alternative 7 Compared to the February 1994 Habitat Management Plan

Location	Sand Gilia Density			Monterey Spineflower Density			Seaside Bird's Beak[a]
	Low	Medium	High	Low	Medium	High	
Former Fritzsche Army Airfield	0	3	0	(6)	3	0	0
Landfill parcel	(25)	(5)	0	(55)	(10)	0	0
North-Central Installation and East Garrison	(23)	(1)	8	(70)	(28)	15	0
Monterey County Light Industrial	(6)	0	0	10	(20)	(4)	(20)
Recreation area expansion	5	0	0	0	0	0	0
Fort Ord Expressway	(65)	0	0	(62)	(7)	(4)	(5)
Southern T Areas	0	0	0	0	0	0	0
Eastern T Area	0	0	0	0	0	0	0
Total impact	(114)	(3)	8	(183)	(62)	7	(25)

Note: Numbers in parentheses represent a decrease in acreage.

[a] Low density only.

The net effect on key HMP resources from these boundary changes is also negligible. However, in the February 1994 HMP, it was assumed that only limited development would occur in the landfill parcel to support scientific research and teaching and to manage habitat. Under Revised Alternative 7, 25% of the parcel would be available for development, increasing the removal of HMP resources. With 25% of the parcel available for development, approximately 80 acres of area considered habitat reserve in the February 1994 HMP would be removed.

The exact location of the 25% development is unknown but must be consistent with the Operable Unit 2 landfill ROD and cap design; therefore, it is assumed for the purposes of this analysis that 25% of the occurrences of each key HMP resource would be removed in the landfill parcel under Revised Alternative 7. The net effect on key HMP resources from this increased level of development is the removal of approximately 25 acres of area supporting low-density sand gilia populations, approximately 5 acres of area supporting medium-density sand gilia populations, approximately 55 acres of area supporting low-density Monterey spineflower populations, and approximately 10 acres of area supporting medium-density Monterey spineflower populations. No Seaside bird's-beak is known to occur in the landfill parcel (Table 5-31).

North-Central Installation and East Garrison Areas. In the area between the former Fort Ord landfill and the East Garrison, three primary differences occur between Revised Alternative 7 and the February 1994 HMP: modifications to various polygon boundaries, use of the former agri-center polygon for planned development mixed use/POST facility uses, and construction of a road corridor included in the proposed transportation network. The net effect of all boundary modifications combined is a decrease of approximately 13 acres in area considered habitat reserve or corridor under Revised Alternative 7 compared to the February 1994 HMP (Table 5-30).

The proposed road corridors in the north-central installation and East Garrison area (Figure 5-12) affect polygons considered county habitat area and RV park/youth camp. Approximately 36 acres in the county habitat area considered habitat reserve in the February 1994 HMP would be removed by the proposed road corridor. An additional 25 acres would be removed in a portion of the RV park/youth camp considered habitat corridor in the February 1994 HMP.

Portions of the proposed road corridor also would affect the planned development mixed use/POST facility polygon (11b). However, the specifics of how much development would occur in the polygon and where it would occur are not fully known. Therefore, it cannot be determined at this time how much of the proposed road corridor would affect areas where habitat potentially would be conserved.

The total result of all changes in the north-central installation and East Garrison areas proposed under Revised Alternative 7 is a reduction in habitat reserve areas of approximately 74 acres relative to the February 1994 HMP (Table 5-30). Impacts on specific resources can only be estimated because the locations of development of some land uses are unknown.

The estimated net effect on key HMP resources from all actions in the north-central installation and East Garrison area is a loss of approximately 23 acres of habitat supporting low-density populations of sand gilia; the loss of approximately 1 acre of area supporting medium-density sand gilia populations; a gain of approximately 8 acres of area supporting high-density sand gilia population; a loss of approximately 70 acres and 28 acres, respectively, of area supporting low- and medium-density Monterey spineflower populations; and a gain of approximately 15 acres of area supporting high-density Monterey spineflower populations (Table 5-31).

In addition, construction of the road corridor would limit the function of the RV park/youth camp as a habitat corridor as described in the February 1994 HMP and Draft Revised HMP. The function of the habitat corridor is to allow the passage of special-status plant and wildlife species between the NRMA and northern reserve areas at former Fort Ord. Construction of the proposed roadway not only would remove habitat from the RV park/youth camp polygon (17b) but would compromise the area's function as a habitat corridor. The road ROW as proposed (more than 400 feet wide) would provide a substantial barrier to the passage of wildlife and plant seeds and pollen.

Monterey County Residential/Golf/Resort Hotel Area. The boundary between the Monterey County residential/golf/resort hotel area (polygon 21b) and the NRMA is modified under Revised Alternative 7 compared to the February 1994 HMP. The net result is a decrease in area considered habitat reserve of approximately 25 acres under Revised Alternative 7 relative to the February 1994 HMP (Table 5-30).

The net effect on key HMP resources from these boundary changes is a loss of approximately 6 acres of habitat supporting low-density sand gilia populations; a gain of approximately 10 acres of area supporting low-density Monterey spineflower populations; a loss of 20 acres and 4 acres, respectively, of area supporting medium- and high-density Monterey spineflower populations; and a loss of approximately 20 acres of area supporting low-density Seaside bird's beak populations (Table 5-31).

Recreation Area Expansion Parcels. The location or configuration, or both, of the three RAE polygons included in the February 1994 HMP has been modified under Revised Alternative 7. In many cases, the size of the RAE parcels has been reduced. The net result of these changes is an increase in area considered habitat reserve of approximately 77 acres under Revised Alternative 7 relative to the February 1994 HMP (Table 5-30).

The net effect on key HMP resources from these boundary changes is a gain of approximately 5 acres of habitat supporting low-density populations of Monterey spineflower (Table 5-31).

Fort Ord Expressway Area. In the Fort Ord Expressway area, acres of habitat reserve area are reduced under Revised Alternative 7 through three mechanisms: removal of habitat to construct the expressway, removal of habitat to support development, and separation of habitat areas from the NRMA by the expressway. These reductions leave these areas nonfunctional as habitat reserves.

The expressway and proposed development areas east of the road ROW had a greater impact when first presented as part of Alternative 7. However, as part of a cooperative effort to provide mitigation for impacts associated with the proposed transportation system, mitigation measures have been developed, including modifying the road configuration to reduce impacts associated with the Fort Ord Expressway. These mitigation measures have been incorporated into the Draft Revised HMP (described in Appendix D) and therefore are included in Revised Alternative 7. The discussion below reflects impacts for the Revised Alternative 7 and is based on the mitigated expressway alignment.

The net result of construction in the Fort Ord Expressway area would be an approximately 191-acre reduction in area considered habitat reserve under Revised Alternative 7 relative to the February 1994 HMP (Table 5-30). This estimate includes acreage losses from construction of the road (with the mitigation), construction of associated development areas, and exclusion of areas as habitat reserve because of separation from the NRMA by the road.

The net effect on key HMP resources under Revised Alternative 7 would be a loss of approximately 65 acres of area supporting low-density sand gilia populations; a loss of approximately 62 acres, 7 acres, and 4 acres, respectively, of area supporting low-, medium-, and high-density populations of Monterey spineflower; and the loss of approximately 5 acres of habitat supporting low-density populations of Seaside bird's beak (Table 5-31).

Southern T Area. Three T areas are included in Revised Alternative 7: the western, southern, and eastern T areas (Figure 5-12). (These areas are also included as part of Alternative 8 and are discussed again in the analysis of that alternative.) BLM requested that the southern and eastern T areas be excluded from the conveyance request for the NRMA. BLM does not wish to acquire these areas because each area is separated from the main body of the NRMA by paved roads. Because of this separation and the small size of each area, these two T areas would require a relatively high management effort for a relatively small benefit to biological resources. The western T area occurs with the proposed Caltrans SR 68 ROW. Both the February 1994 HMP and Draft Revised HMP consider this polygon developed. For this analysis, it is assumed that these T areas would not be included in the NRMA and would be converted to some transit-related use with no natural resources retained.

The southern T area, along the southern boundary of former Fort Ord, covers approximately 80 acres. However, approximately 50 acres of this area was identified in the February 1994 HMP as part of the Caltrans SR 68 ROW and was considered developed. Any development in this portion of the T area would not reduce the acreage of habitat reserve available relative to that identified in the February 1994 HMP. However, approximately 30 acres of native habitat within these T areas was proposed for inclusion in the NRMA. For this analysis, it is assumed that some transit-related use would take place in the 30-acre area and that no natural resources would be retained; therefore, there would be a reduction of 30 acres of area identified as habitat reserve compared to the February 1994 HMP. No key HMP resources are known to occur in these areas.

Eastern T Area. The eastern T area (Figure 5-12) covers approximately 40 acres. It consists of a downward slope between an existing paved road and the former Fort Ord boundary. The area is dominated by maritime chaparral habitat. Removal of the eastern T area from the NRMA would result in a reduction of 40 acres of area considered habitat reserve compared to the February 1994 HMP. No key HMP resources are known to occur in this area.

Total Effect of Revised Alternative 7. 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 February 1994 HMP to developed area or some other 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.

Coordination with USFWS. To resolve USFWS concerns regarding the compatibility of proposed uses in the newly excessed lands and revised use areas of Alternative 7, Revised Alternative 7, and Alternative 8 with the February 1994 HMP, representatives from the Army, USFWS, and FORA met on March 15, 1996, and participated in a telephone conference with UC on March 28, 1996. These discussions were designed to clarify impact and mitigation information presented in the draft supplemental EIS and to agree on mitigation measures needed to avoid significant impacts on HMP species. The meeting resulted in an agreement by the Army, FORA, UC, and USFWS to adopt the following items:

a. The requirement for the landfill parcel to be included as an HMP habitat management area is revised from being an Army responsibility to being a UC or FORA responsibility. The Army will not be required to restore habitat on the landfill cap, nor will the Army be required to perform habitat management activities in the parcel while the landfill is being remediated or in caretaker status.

b. UC (if not UC, then FORA) will obtain the landfill parcel as part of an Economic Development Conveyance (EDC) transfer. Following land transfer from the Army, UC or FORA will manage seventy-five percent (75%) of the landfill parcel (including the completed landfill cap) as habitat. The remaining twenty-five percent (25%) of the parcel will be available for development. Other changes in boundaries and trade-offs of development and habitat areas will be made in the Draft Revised HMP as shown in Figure 5-13, "Draft Revised Habitat Management Plan for Former Fort Ord". This will satisfy basewide HMP habitat management requirements for all proposed development areas (shown as land areas with no HMP habitat preservation requirements in Figure 5-13).

c. The other development areas adjacent to the BLM Natural Resources Management Area (NRMA) will be obtained as part of the EDC. In these areas of undeveloped habitat adjacent to the NRMA, FORA will either arrange to have existing native habitat managed or construct and maintain fire breaks and vehicle barriers to separate these areas from the NRMA until such time as roads and other developments are constructed in these locations. (See Figure 5-13 for locations of fire breaks along the edge of the NRMA.) This will replace the individual development parcel prescriptions contained in the February 1994 HMP. The Draft Revised HMP will rely on this measure to accomplish the desired separation of habitat areas from future development areas. The land-use-specific requirements for development parcels will be removed in the Draft Revised HMP.

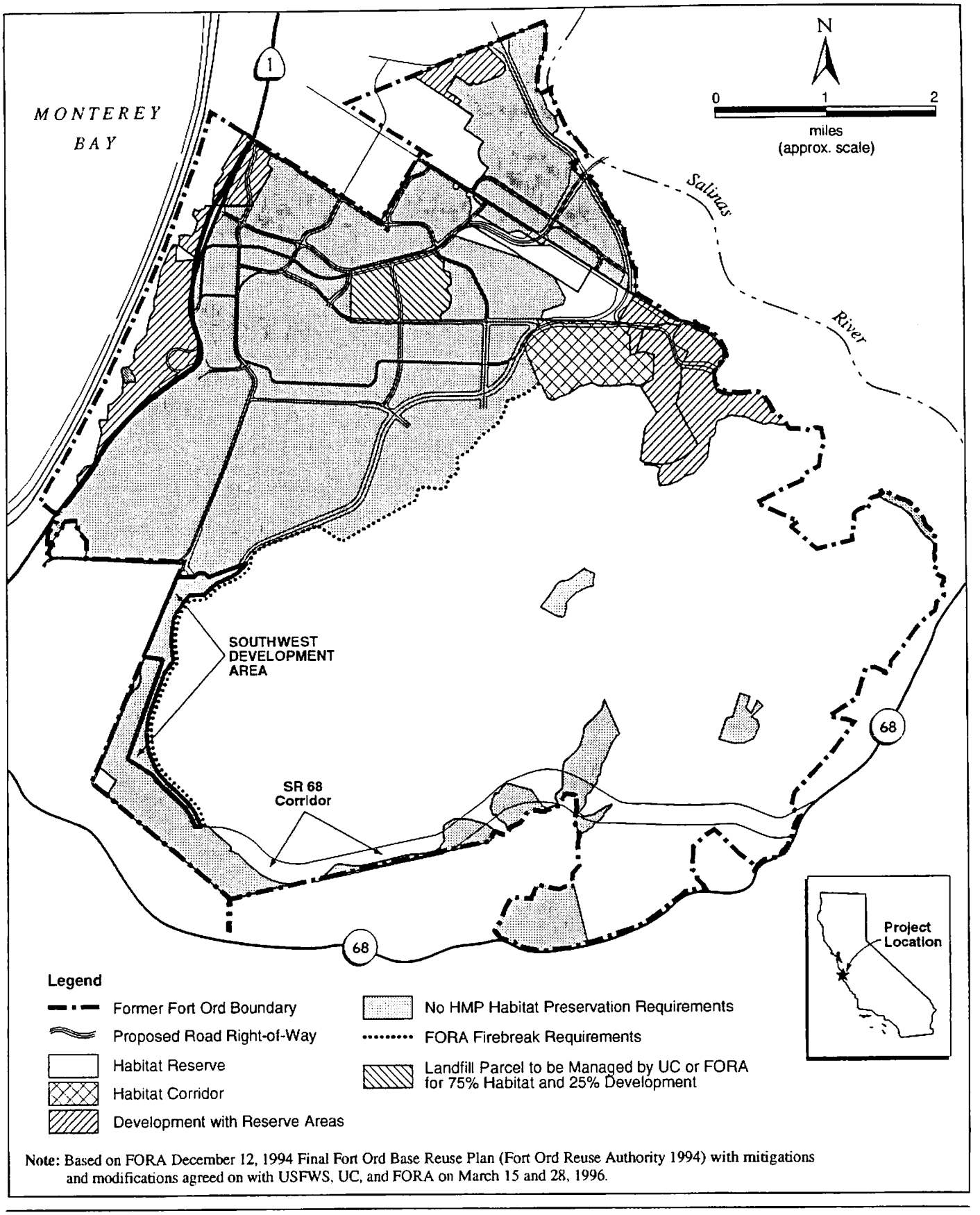
The original February 1994 HMP will be modified to reflect these new mitigation measures. A Draft Revised HMP map is shown in Figure 5-13. The dotted line along the northern and western boundaries of the NRMA in Figure 5-13 identifies the areas where FORA will either construct and maintain fire breaks to separate these areas from the NRMA or will arrange to have existing native habitat managed. This Draft Revised HMP map has been incorporated into Revised Alternative 7.

Based on the measures agreed to by the Army, USFWS, UC, and FORA on March 15 and 28, 1996, and the associated modifications to the HMP, implementation of a reuse scenario consistent with this mitigation approach would not compromise the goals and intent of the original February 1994 HMP.

Regional Cumulative Impacts. Cumulative impacts outside former Fort Ord resulting from disposal and reuse of newly excessed lands and revised use areas, and under the reuse scenario described in Revised Alternative 7, would be similar to cumulative impacts described in the Final EIS (Volume I, page 6-130). These include continued incremental losses to special-status plant and wildlife species in the Monterey Bay region.

Resources that may not be substantially affected by actions taken at former Fort Ord may be more severely affected by cumulative impacts of continued development in Monterey and Santa Cruz Counties and throughout California. The list of reasonably foreseeable future projects in the Fort Ord vicinity (Table 5-1) does not alter the assessment of potential cumulative effects provided in the Final EIS (Volume I, page 6-130).

Although the proposed roadway realignments included as part of the mitigation measures in Revised Alternative 7 provide mitigation for impacts on biological resources, impacts on other resources may be increased. Areas west of the revised road alignment that previously were proposed for natural resource management are available for development, and the local demand for water and public services and utilities could be increased. Incremental increases in traffic, air, and noise impacts also may occur.



Note: Based on FORA December 12, 1994 Final Fort Ord Base Reuse Plan (Fort Ord Reuse Authority 1994) with mitigations and modifications agreed on with USFWS, UC, and FORA on March 15 and 28, 1996.

Figure 5-13
Draft Revised Habitat Management Plan for Former Fort Ord (April 1996)

Visual Resources

As under Alternative 7, implementing Revised Alternative 7 would alter the visual character and reduce the visual quality of some areas on former Fort Ord and as seen from SR 68, SR 1, and the Salinas Valley. On a regional level, implementing Revised Alternative 7 would contribute to the regional urbanization of the greater Monterey Bay region. Refer to the impact discussion in Section 5.3.1.2 under "Visual Resources", as well as the discussion for the "Reduced Visual Unity and Intactness for Some Visually Sensitive Areas Resulting from Short- and Long-Term Construction Impacts" impact in Section 5.3.2.1 under "Visual Resources".

In general, visual effects could be minimized through the local planning process by maintaining and enhancing the landscaping and natural landforms, restricting building heights, and developing a visual resource protection plan to provide standards, guidelines, and review for future development. Such a plan could include more specific measures, such as requiring landscape plans to use native vegetation and restricting excessive commercial signage.

To mitigate impacts in the coastal zone and on views from SR 1, the Army will incorporate height restrictions for the proposed resort hotel in reuse area 2 (polygon 22) into its property transfer agreement. The City of Seaside, the potential property recipient, would limit the hotel height so it is not a prominent element on the skyline as viewed from SR 1. There is already a local mitigation agreement in place to protect the visual buffer between the former Fort Ord coastal zone and the inland areas of former Fort Ord by maintaining and enhancing where necessary the landscaping and natural landform screening immediately east of SR 1 (see the "Mitigation Agreement" portion of Section 3.2.2).

Cultural Resources

Cumulative cultural resources impacts from buildout of Revised Alternative 7 would be similar to those described for buildout of Alternative 7 in Section 5.3.1.2, "Cumulative Impacts". Revised Alternative 7, however, is very unlikely to have an adverse effect on the historic value of Stilwell Hall. The Asilomar-type facility, planned adjacent to Stilwell Hall in the coastal zone as part of Alternative 7, is not proposed as part of Revised Alternative 7. Therefore, the physical setting of that structure is not likely to be affected.

Implementation of Revised Alternative 7 land uses would require adoption of historic resources mitigation measures for the East Garrison area similar to those described for Alternative 7. The mitigation suggested to protect the East Garrison historic district would be especially valuable considering the range of land uses planned for use area CC (polygon 11b)

Minor modification to utilities may occur near the East Garrison Historic District (Figure 5-11). These modifications would be completed following the SHPO programmatic agreement in accordance with stipulation IV.B. as shown in Appendix C.

Coastal Resources

Revised Alternative 7 would result in considerably fewer effects on coastal resources than Alternative 7 because many of the development proposals have been removed. The coastal road and the Asilomar-type facility have been eliminated, and the aquaculture facility has been reduced in size in Revised Alternative 7. Parks and open space uses would replace these development proposals

Army land transfers of coastal areas will be consistent with the Army's Coastal Zone Management Act consistency determination, approved in March 1994, and subsequent negative determinations.

Indirect effects on coastal zone resources also would result from cumulative development in the Monterey region. Buildout of Revised Alternative 7, including the transportation system, could lead to effects in the areas of traffic, air quality, noise, aesthetics, water quality, and biological resources. However, because the intensity of development proposed for Revised Alternative 7 is less than that included in the coastal consistency determination and contains the mitigation adopted by local reuse communities, the effects would not be substantial.

Mitigation measures included in the March 1994 consistency determination address the impacts of reuse on coastal zone resources. These mitigation measures include limitations on development on former Fort Ord and preparation of a traffic study to determine the proper balance of transportation supply and demand. These measures, included in a letter to the California Coastal Commission from the local reuse communities, also commits them to adoption of land use measures to reduce the number of vehicle trips if supply and demand are not in balance (refer to the "Mitigation Agreement" portion of Section 3.2.2).

5.3.3 Alternative 8: Modification in Public Benefit Conveyances and Preliminary Requests for Newly Excessed Lands

5.3.3.1 Alternative Use Areas

The proposals that the Army received prior to issuance of the draft supplemental EIS for changes to lands to be conveyed for public benefit and other federal transfers include the following:

- modifications in the BLM boundary,
- modification of locations of McKinney Act properties,
- preliminary indication of requests for newly excessed lands,
- new uses suggested during scoping (i.e., proposed golf courses), and
- proposed new road alignments that conflict with public benefit conveyances or existing Army environmental programs.

The land uses suggested during scoping are included within Alternative 8 to assess the Army's disposal action and subsequent reuse. The analysis of those changes focuses on proposed changes that would create impacts substantially different from those under Alternative 7 (Figure 3-1) and the other reuse alternatives in the final EIS (Alternatives 1-6R). The major impacts are associated with the two golf course proposals (8a and 19a in Figure 3-6) and the additional 1,200 residential units proposed in conjunction with the golf course in Polygon 19a. Other impact concerns are raised by the extension of the community park across Inter-Garrison Road (17a), extension of transportation corridors across lands proposed for natural resource protection (8a and 25), and the development of transportation-related uses along the southern border of the installation. The minor changes in the mix of uses proposed in polygons 20d and 20e/41 would result in no substantial impacts because these areas are already developed.

Relocation of the Fort Ord Expressway, which is part of the overall mitigation strategy included in Revised Alternative 7 (i.e., the Draft Revised HMP), is also applied to Alternative 8. Therefore, impacts on biological resources described for Alternative 8 (Section 5.3.3.1, "Alternative Use Areas", and Section 5.3.3.2, "Cumulative Impacts") include these revised parcel boundaries and road alignments in the Fort Ord Expressway area.

Land use changes suggested during the scoping process resulted in overlapping land use considerations in polygon 19a where it abuts polygon 17a. The small area of overlap was suggested for both community park and golf course uses (see Figure 3-6). For the Alternative 8 analysis, it was assumed that the area would be used for community park (a public benefit conveyance request).

Land Use: Potential Incompatibility between Major Proposed Transportation Corridors and Proposed Golf Course and Community Park Uses. From a land use perspective, the proposed golf course overlying the land fill area and the proposed golf course to the south (polygons 8a and 19a in Figure 3-6) and the extension of the community park in polygon 17a have the potential to conflict with major roadway corridors included in the FORA Final Base Reuse Plan (December 1994) (Figures 3-3 and 3-6). A proposed 300-foot-wide corridor would bisect the park, and a 200-foot-wide corridor would bisect the golf course overlying the land fill area in polygon 8a. These conflicts could be resolved through proper site and access planning for each of these facilities, such as relocating the roadway around the golf course. The California Department of Transportation (Caltrans) ROW would conflict with the proposed community park (29e).

Socioeconomics: Changes in Population, Housing Units, and Jobs. Changes in land use under Alternative 8 would result in increased population growth; larger numbers of housing units; and decreased economic activity, including reductions in employment compared to Alternative 7. These changes would primarily result from the development of golf courses on properties designated for light industrial uses and research uses (polygons 8a and 19a in Figure 3-6).

Increases in population and housing would occur as residential uses around the proposed golf course in polygon 19a replace light industrial uses. The number of housing units would increase by approximately 1,200, and population would increase by approximately 3,500 residents. Under Alternative 7, no housing development would occur in polygon 19a.

Golf course development under Alternative 8 would result in fewer jobs than for light industrial development and research development in polygons 8a and 19a under Alternative 7. Direct employment would fall from an estimated 9,400 jobs to approximately 50 jobs, resulting in a decrease of 9,350 jobs. Approximately 1,050 jobs would be lost in other areas not considered alternative use areas. Direct industrial output also would be greatly reduced under Alternative 8, falling from approximately $947.7 million to $2.0 million, primarily because the light industrial area would be eliminated from polygon 19a. Similarly, direct personal income would fall from approximately $328.8 million to $0.7 million.

The increase in housing units and decrease in employment under Alternative 8 would improve the jobs/housing imbalance from overall reuse of installation properties. This is discussed in more detail below under "Cumulative Impacts". Changes in land use under Alternative 8 would have little effect on social services programs within Monterey County; however, the reductions in employment generated by reuse under Alternative 8 would slightly reduce the benefits to employment and welfare programs associated with employment growth under Alternative 7.

Water Resources: Increase in Water Demand. Land use changes under Alternative 8 would result in a large increase in water demand relative to the original condition (7th IDL present) and a relatively small increase in water demand relative to Alternative 7. The differences in water demand between Alternatives 7 and 8 stem from the proposed golf courses on polygons 8a and 19a and the expansion of the proposed community park in polygon 17a. Polygon 8a contains the existing landfill and would be used for landfill research under Alternative 7. A small amount (66 af/yr) of research-related irrigation was assumed for this use. The golf course proposed under Alternative 8 was assumed to occupy the entire polygon (which is similar in size to the existing golf courses in polygon 22) and to have the same overall water use intensity (1.07 af per year per acre). The estimated annual water demand for the golf course is 357 af.

Under Alternative 7, polygon 19a would contain 398 acres of light industrial development and 320 acres of undeveloped land. The estimated annual water demand is 633 af. Under Alternative 8, polygon 19a would contain two golf courses, a lodging facility, and a tract of medium-density residential housing. Assuming the golf courses occupy the same amount of area (375 acres) and have the same water demand (403 af) as the existing pair of golf courses in polygon 22, and that the lodging and housing tract have the same water

demand as the resort hotel and residential area proposed for polygon 23 adjacent to the existing golf courses (222 af), the total estimated water demand for polygon 19a under Alternative 8 is 625 af per year.

The expansion of the community park in polygon 17a to include approximately 10 acres of polygons 11a and 17b was assumed to increase irrigation demand by approximately 12 af (for 5 acres of turf and 1 acre of non-turf landscaping). The slight changes in office park and transit center uses in polygons 20e/41 and 20d would not result in a significant change in water demand. Similarly, conversion from NRMA to transit uses in the T areas along the southern boundary of the base would not result in new water demands. Thus, the overall annual water demand for Alternative 8 would be approximately 300 af greater than for Alternative 7, or approximately 17,200 af. This impact may be reduced if a reclaimed water source is tapped to irrigate the proposed golf courses and community park expansion, but the availability and overall demand for reclaimed water under base reuse are unknown.

Water Resources: Water Quality Changes. The proposed golf courses referenced in the previous paragraph, the expansion of the community park, and the addition of transportation facilities in the southern portion of former Fort Ord could increase the discharge of nutrients, pesticide and herbicide residues, and other urban runoff-related contaminants to groundwater and Monterey Bay. Golf courses and landscaped parks are typically maintained through heavy use of fertilizers and herbicides. Transportation corridors or related transportation facilities are a source of oil, grease, and heavy metals. Onsite control or treatment of storm runoff from these areas would be needed to reduce pollutant discharge to Monterey Bay.

Traffic and Circulation. As noted earlier in this section under "Socioeconomics", Alternative 8 would result in approximately 10,400 fewer jobs at buildout than Alternative 7. This difference would result from the replacement of light industrial development with a golf course and related uses and from the replacement of an office park with institutional and educational uses. Alternative 8 also would result in approximately 1,200 more housing units than Alternative 7. The lower number of jobs would reduce the number of vehicle trips generated by Alternative 8; conversely, the higher number of housing units would increase the number of trips generated by Alternative 8. Overall, Alternative 8 would be expected to generate fewer trips than Alternative 7. It is estimated that Alternative 8 would generate 5,000-10,000 fewer trips than Alternative 7.

Air Quality. As stated in the traffic and circulation discussion, Alternative 8 would generate 5,000-10,000 fewer trips than Alternative 7. Ten thousand fewer trips would translate into 2% fewer trips for Alternative 8. Consequently, Alternative 8 would result in criteria pollutant emissions of approximately 2% less than those associated with Alternative 7.

Vegetation, Wildlife, and Wetland Resources: Potential Effects on Biological Resources. The land use differences that are shown in polygons 20e/41 and 20d (Figure 3-6) are located primarily in developed areas and will have little or no effect on biological resources.

Development of the proposed golf course (19a) and the most westerly of the three T areas will result in the removal of biological resources. Resources within the proposed golf course polygon (19a) include approximately 50 acres of maritime chaparral habitat; 432 acres of coastal coast live oak woodland; roughly 67 acres of annual grasslands; approximately 216 acres which support low density populations of Monterey spineflower, 81 acres which support medium density populations, and 40 acres which support high density populations; 6 acres which support both high density Eastwood's ericameria and Monterey ceanothus; 67 acres which support low density sandmat manzanita populations; 28 acres which support low density Toro manzanita; 28 acres which support low density population of wedge-leaved horkelia, and 10 acres which support medium density population; 40 acres of potential habitat for the black legless lizard; 432 acres of potential habitat for the Monterey ornate shrew; and 482 acres of potential habitat for the Monterey dusky-footed woodrat.

However, development of these polygons is consistent with areas assumed to be developed in the February 1994 HMP and the Draft Revised HMP (Figure 5-13); therefore, impacts will be mitigated through preservation and enhancement of habitat in other areas. Also, the replacement of the light industrial area with a golf course in polygon 19a could provide opportunities for preservation or restoration of native habitat between fairways.

The expansion of the community park (polygon 17a) into both the county habitat area and a portion of the RV park/campground area intended as a habitat corridor could reduce the amount of area reserved as native habitat. Biological resources potentially affected include coastal coast live oak woodland habitat; Monterey spineflower populations; and potential habitat for the Monterey dusky-footed woodrat, Monterey ornate shrew, American badger, and Salinas harvest mouse.

Inclusion of the remaining two T areas also will reduce the amount of area considered habitat reserve under Alternative 8. BLM requested that the southern and eastern T areas be excluded from the conveyance request for the NRMA. BLM does not wish to acquire these parcels, as each area is separated from the main body of the NRMA by paved roads. Because of this separation and the small size of each parcel, the two T areas would require a relatively high management effort for a relatively small benefit to biological resources. For this analysis, it is assumed that because the T areas will not be included in the NRMA some other use will be developed on the parcels and no natural resources will be retained. (These areas are included in the Draft Revised HMP.)

The T area along the southern boundary of former Fort Ord covers approximately 80 acres. However, approximately 50 acres of this area was identified in the February 1994 HMP as part of the Caltrans SR 68 ROW and was considered developed. Any development in this portion of the T area would not reduce the acreage of habitat reserve available relative to that identified in the February 1994 HMP. However, approximately 30 acres of native habitat within this T area was proposed for inclusion in the NRMA. For this analysis, it is assumed some other use would take place in the 30-acre area and no natural resources would be retained. The entire 30-acre area supports maritime chaparral habitat; medium-density populations of sandmat manzanita, Monterey ceanothus, wedge-leaved horkelia, and virgate eriastrum; and potential habitat for the Monterey dusky-footed woodrat, golden eagle, and greater roadrunner.

The easternmost T area covers approximately 40 acres. It consists of a downward slope between an existing paved road and the former Fort Ord boundary. Resources in the parcel that would no longer be considered part of the NRMA include approximately 31 acres of maritime chaparral habitat; 9 acres of annual grassland habitat; 29 acres that support low-density populations of Monterey ceanothus and small-leaved lomatium; 40 acres of area considered potential golden eagle habitat; 9 acres considered potential habitat for the burrowing owl, northern harrier, and American badger habitat; and 31 acres considered potential habitat for the greater roadrunner.

The former Fort Ord landfill and adjacent area is identified as a UCSC Research Area in the February 1994 HMP and the FORA Final Base Reuse Plan (December 1994). Construction of a new golf course only on the capped landfill cells in polygon 8a would not directly result in a loss of biological resources because the capping process itself will remove habitat and limit vegetation restoration possibilities. The February 1994 HMP accounts for the loss of habitat from the capping process and does not require restoration of habitat on the capped areas. However, the February 1994 HMP does require UCSC (the proposed recipient of the property in the ROD) to preserve native vegetation in the remainder of the polygon; inventory, monitor, and actively manage biological resources in this area; and foster targeted research to address species and habitat management issues. Also, any development outside the capped areas would be limited to that needed by UCSC to support scientific research on both the landfill and remaining natural habitats and to support teaching and habitat management activities. Under the Draft Revised HMP, the requirement for the landfill parcel to be included as an HMP habitat management area is revised from being an Army responsibility to being a UC or FORA responsibility. The Army will not be required to restore habitat on the landfill cap, nor will the Army

be required to perform habitat management activities in the parcel while the landfill is being remediated or in caretaker status. The University of California (if not UC, then FORA) will obtain the landfill parcel as part of an EDC transfer. Following land transfer from the Army, UC or FORA will manage 75% of the landfill parcel (including the completed landfill cap) as habitat. The remaining 25% of the parcel will be available for development.

Based on the Draft Revised HMP, a golf course (or other development) would not be considered acceptable relative to impacts on biological resources unless it occupied 25% or less of the landfill parcel.

The same road-related impacts described in Section 5.3.2.2 under "Vegetation, Wildlife, and Wetland Resources" would occur under Alternative 8.

Hazardous and Toxic Waste Site Remedial Action: Potential Health Risks. The proposed reuses of Alternative 8 are different from the reuses described in the 1993 NEPA ROD and Alternative 7. Alternative 8 proposes development of new golf courses on polygons 8a (landfill) and 19a (light industrial), whereas the other alternatives proposed some type of semi-industrial mixed uses or university research.

Polygon 19a, located south of polygon 8a, is currently undeveloped and is not associated with known hazardous or toxic wastes. Polygon 8a contains the Fort Ord landfills, which have been subjected to thorough investigation and planning to remediate groundwater contamination. Based on these remedial investigations, human and environmental health risk assessments and cleanup feasibility studies were completed. A cleanup plan was developed that included capping the landfill areas to minimize infiltration and leachate production, and extracting and treating contaminated groundwater from the "A" and 180-foot aquifers (Harding Lawson Associates 1995). The groundwater extraction system is also designed to contain the contaminant plume. The plan was submitted to the regulatory agencies and the Army (with the concurrence of EPA) issued a CERCLA ROD in August 1994. The proposed golf course is not consistent with the approved remedial plan and the landfill cap. The plan calls for a cap composed of a foundation layer, a flexible membrane barrier, and an approximately 1-foot-thick cover of local dune sand to support native vegetation. A drainage and grading plan has been developed to accommodate the vegetation cover and rainfall.

Implementation of the land uses proposed in Alternative 8 on polygons 8a and 19a will result in increased application of irrigation water compared to the existing condition or the other reuse alternatives. The landfill cap design does not anticipate golf course uses or the land modifications and irrigation that would be needed to support golfing. Surplus irrigation water could recharge the "A" and 180-foot aquifers. Increased groundwater recharge on polygon 8a might adversely affect the containment function of the groundwater extraction system.

As shown in Figure 4.5-1 of the final EIS (page 4-54), the Salinas Valley Aquiclude is not precisely known. The northern boundary of polygon 19a follows the inferred southern boundary of the aquiclude. Therefore, increased recharge on the polygon may alter the rate and direction of flow of groundwater in the "A" aquifer. Consequently the proposed golf course in polygon 19a may affect the contaminant extraction and containment program.

In addition, pesticide use on the proposed golf course may be incompatible with the groundwater treatment system. Remedial investigations of the landfill area, indicated that pesticides, VOCs, and semi-volatile organic compounds were detected in the soils and groundwater in the landfill area. If pesticides of similar chemical nature are used on the proposed golf course, the groundwater monitoring program may detect excess pesticides and improperly conclude that the groundwater containment system is ineffective.

The proponents of a golf course on polygon 8a could retain a licensed hydrogeologist to investigate the effects of increased recharge of the "A" aquifer, specifically the rate and direction of flow. The hydrogeologist also could evaluate the effects on the cleanup programs underway at Fort Ord. By maintaining

complete pesticide application records and implementing a monitoring program, it should be possible to separate pesticides used at the golf course from those being leached from the landfill areas. These evaluations would be submitted to the Corps, the Army, EPA, the California Department of Toxic Substances Control, and the RWQCB for approval. If the locally proposed projects adversely affect the function of the completed landfill caps and the groundwater remedial action program, the golf course proponent would need to provide funding as necessary to modify the landfill caps and other parts of the remedial action system to protect public and environmental health for reuse as a golf course.

5.3.3.2 Cumulative Impacts

The cumulative analysis for Alternative 8 has been developed using the same methodology as used for Alternative 7. The specific land use proposals raised through scoping and early indication of public benefit conveyance have been substituted for those uses contained in Alternative 7. The implications of full buildout of this modified reuse scenario for former Fort Ord have been combined where appropriate with reasonably foreseeable projects expected to occur outside of former Fort Ord (Table 5-1).

The Alternative 8 reuse scenario includes relatively minor land use adjustments when compared to Alternative 7. The major differences are contained in golf course proposals that replace a large university research area overlying the Fort Ord landfill in the City of Marina's sphere of influence and a large area of planned light industrial use in the Monterey County sphere of influence. Other changes represent minor adjustments to the range of uses expected in office park and transit center areas, adjustments in the boundaries of a community; park, the addition of some right-of-way to be dedicated to Caltrans, and changes in the boundary of the large natural resources management area in the undeveloped portion of former Fort Ord. The transportation system proposed for Revised Alternative 7 would be the same in Alternative 8 except for modifications to the Fort Ord Expressway included in the Draft Revised HMP (Figure 5-11).

Because these alternatives are similar, their cumulative impacts are also similar. The cumulative impact analysis for Alternative 8 is essentially the same as Alternative 7 in the following resource areas: public services and utilities; public health and safety; cultural resources; visual resources; coastal resources; and soils, geology and seismicity. Refer to Section 5.3.1.2 for the cumulative impacts discussions for these resources. Impact discussions for the other resource areas are presented below.

Land Use

Alternative 8's cumulative land use impacts would be similar to those of Alternative 7 in that about 18% of the currently undeveloped portion of former Fort Ord would be converted to predominantly urban uses at full build-out (Alternative 7 converts about 16% of the currently undeveloped land at former Fort Ord to urban uses). Alternative 8 would also have similar potential incompatibilities with current local plans and policies as described in Section 5.3.1.1 under "Land Use". However, the percent of former Fort Ord dedicated to particular land use types would be slightly different (Table 3-2). Because Alternative 8 replaces large areas of open space and light industrial uses with golf courses and associated residential use, the open space and industrial percentages are slightly lower than Alternative 7, and the parks and recreation percentage is slightly larger. This cumulative land use difference has a positive influence on the jobs-housing balance when compared to Alternative 7 (see "Socioeconomics" below).

Socioeconomics

The socioeconomic effects of Alternative 8 were evaluated by modifying the Alternative 7 analysis. The IMPLAN output for Alternative 7 was adjusted to account for the changes occurring in polygons 8a and 9a. A separate IMPLASN model run was not completed because of the small relative changes.

Implementing Alternative 8 would improve the imbalance in the relative amounts of employment and housing generated by installation-wide reuse under Alternative 7. A total of approximately 15,000 new housing units, population of 45,000, and 48,100 jobs would be generated by Alternative 8. Compared to Alternative 7, Alternative 8 would result in approximately 1,200 additional housing units, an increase in population of 3,500 and 10,400 fewer jobs. Implementing Alternative 8 would result in a decrease in the county's ratio of jobs to housing from 1.62 under Alternative 7 to 1.52 under Alternative 8. Nevertheless, the jobs/housing ratio of 1.52 under Alternative 8 is higher than the ratio of 1.36 existing in Monterey County in 1991. The remaining imbalance in the relative amounts of jobs and housing is considered adverse because it increases the countywide ratio that already exceeds the ratio of jobs to housing generally considered optimal for maintaining a jobs/housing balance. These effects are considered unavoidable unless adequate housing development is approved elsewhere in the county to coincide with the development of onsite employment-generating uses.

Water Resources

Development as proposed under Alternative 8 would contribute to a cumulative impact on regional groundwater resources. Total demand for the entire former Fort Ord area would be approximately 17,200 af/yr at build-out. Combined with increases in demand expected outside of former Fort Ord, the total regional increase in demand would be approximately 20,600 af/yr.

The total water demand for former Fort Ord under Alternative 8 is more than three times greater than baseline water use. If the increases are supplied by wells in the Salinas basin, seawater intrusion would be accelerated. Groundwater recharge from irrigation return flow, leaky water and sewer pipes, and infiltration of runoff from impervious surfaces would increase somewhat under the alternative. However, these increases would only partially offset the increases in pumping.

As with Alternative 7, Alternative 8 development would occur in phases subject to the availability of water supplies. Land development and water supply development would be coordinated with the MCWRA (see the "Mitigation Agreement" portion of Section 3.2.1). A number of approaches to development of new water supplies would be pursued to support the full buildout of Alternative 8.

Traffic and Circulation

The land uses in Alternative 8 are expected to generate approximately 425,000-430,000 vehicle trips per day. This total is about 5,000-10,000 lower than predicted for Alternative 7. The increases in housing and the decreases in land uses supporting new jobs create this decrease.

Vegetation, Wildlife, and Wetland Resources

Cumulative impacts under Alternative 8 would be similar to those described for Revised Alternative 7. Mitigation for vegetation, wildlife, and wetland resources would be addressed in the same manner as described for Revised Alternative 7. Construction of a golf course on the landfill cap in parcel 8a could conflict with mitigation measures included in the Draft Revised HMP that involve this parcel (unless the golf course occupies 25% or less of the landfill parcel). Other than the potential conflict with the golf course in the landfill parcel, Alternative 8 would not significantly compromise the objectives for management of listed, proposed, and candidate species and other wildlife contained in the Draft Revised HMP.

5.4 ENVIRONMENTAL JUSTICE

The Army's primary action (disposal) is not designed to create a benefit for any group or individual. Disposal of an additional 250 acres of the POM Annex does not create disproportionately high or adverse human health or environmental impacts on minority or low-income populations of the surrounding community.

Review and evaluation of economic, social, and health information from statistical databases and input from local groups and communities during the public involvement phase have not disclosed the existence of identifiable minority or low-income communities in the vicinity of the POM Annex. 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. Analysis of reuse scenarios does not indicate a potential for any disproportionate adverse effects on minority or low-income communities.

Executive Order 12898 requires federal agencies to examine proposed actions to determine whether they will have disproportionately high and adverse human health or environmental effects on minority or low-income populations. No adverse human health or environmental effects have been identified for disposal and reuse of installation properties that would disproportionately affect minority or low-income populations. Reuse of installation properties could result in beneficial effects for minority and low-income populations residing near the installation (i.e., in Marina and Seaside) and elsewhere in Monterey County. The increase in direct and secondary economic activity (i.e., employment, industrial output, and personal income) under reuse would more than offset the adverse economic effects of closure of Fort Ord. The net increase in economic activity under reuse conditions would result in new employment opportunities and growth in personal income for all county residents, including minority and low-income populations. The direct and indirect beneficial effects of economic growth would be spread throughout Monterey County, with beneficial effects expected to be distributed among income and ethnic groups approximately in proportion to their numbers within nearby communities and the county.

Figure 5-1
FORA Communication Systems

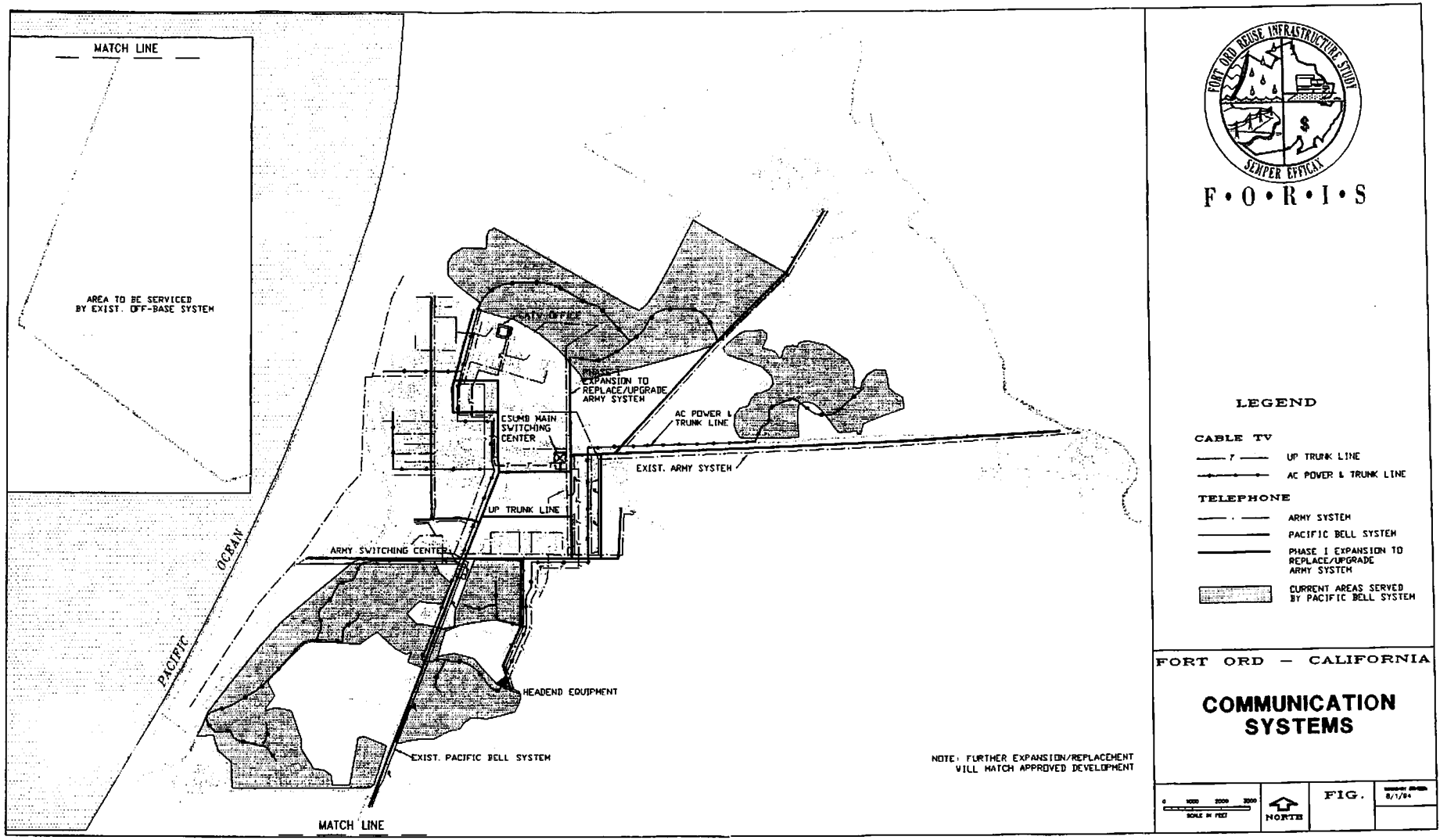


Figure 5-2
FORA Phased Wastewater System

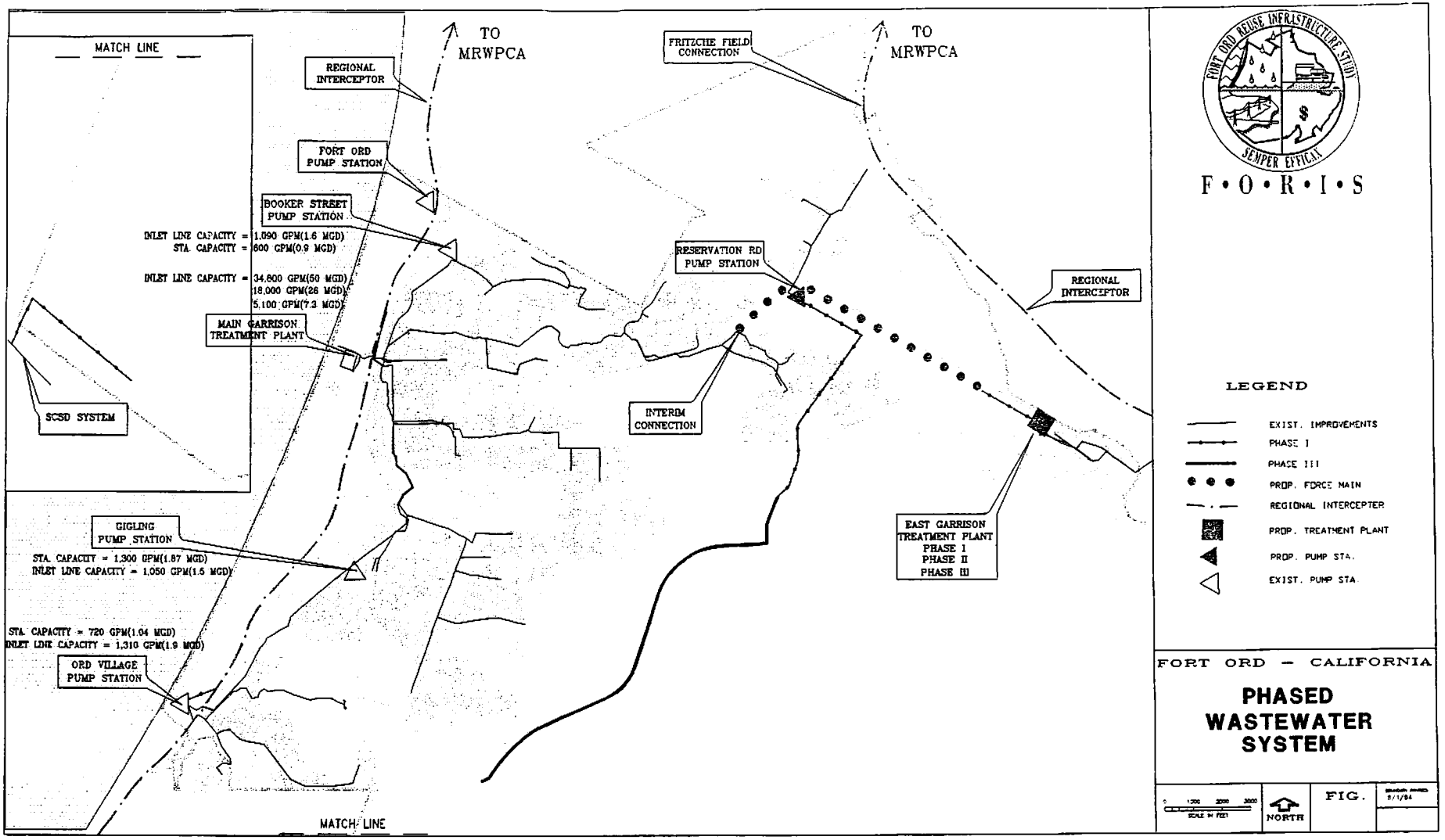


Figure 5-3
FORA Phased Energy Supply Systems

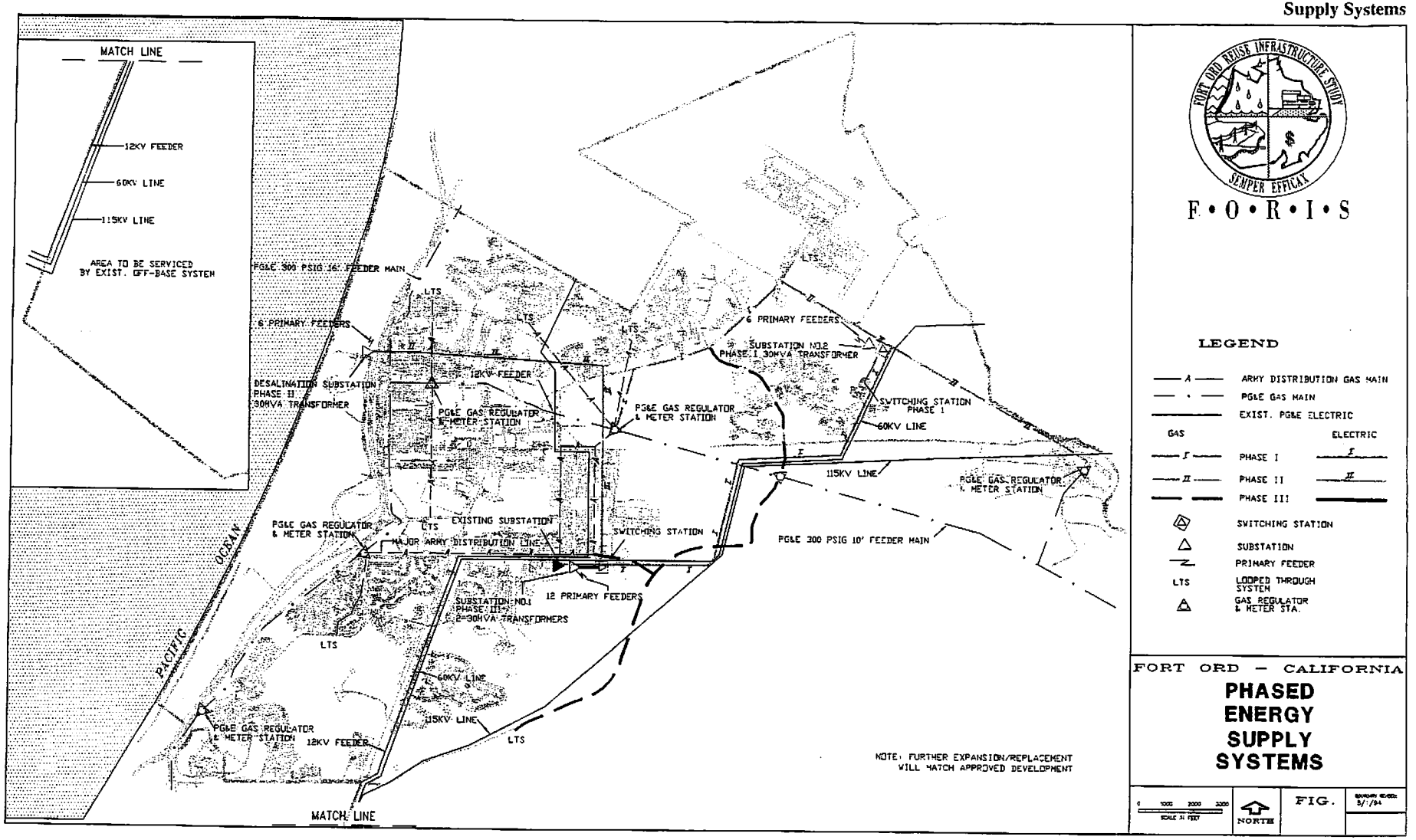


Figure 5-4
FORA Phased Water Distribution System

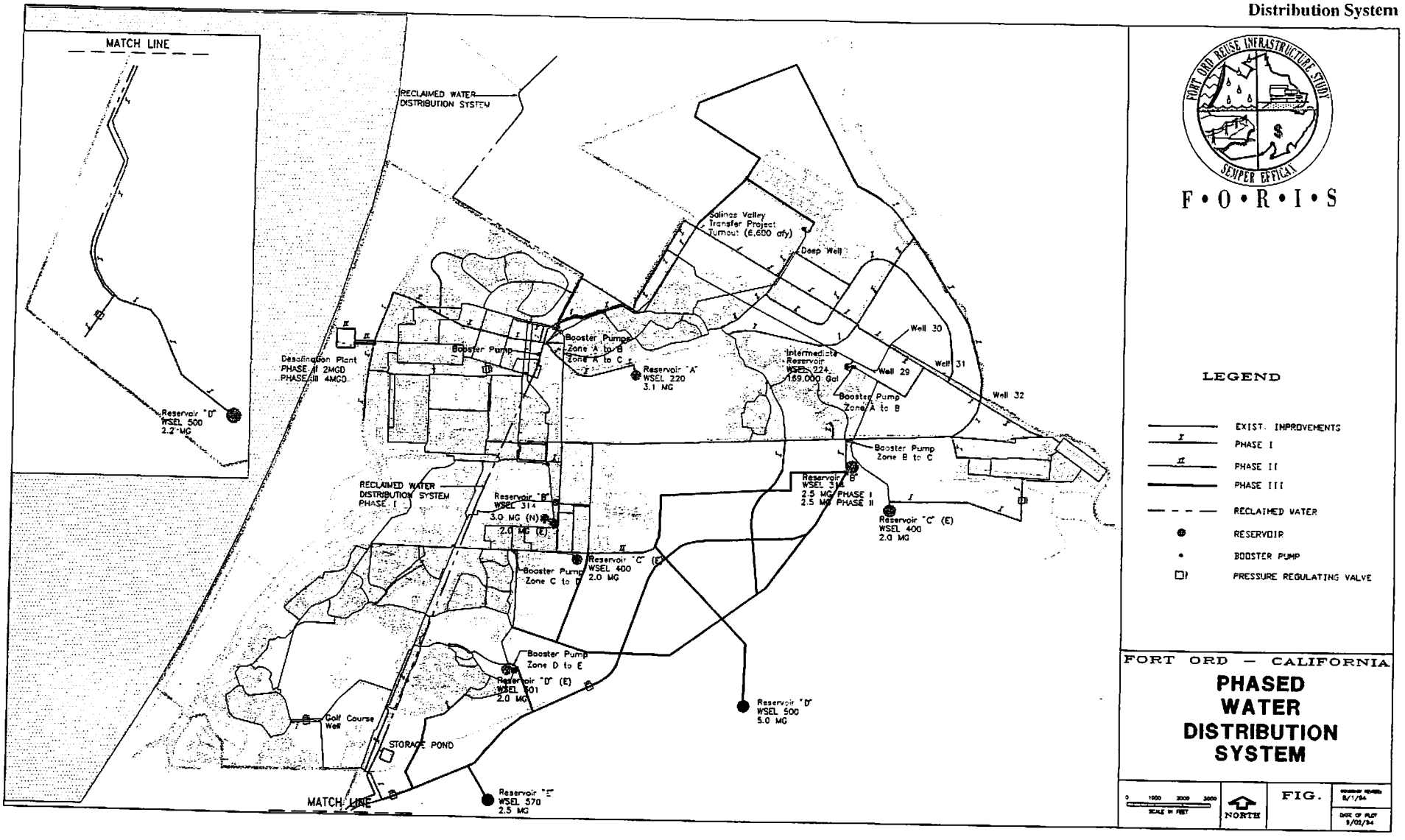


Figure 5-5
FORA Stormwater System

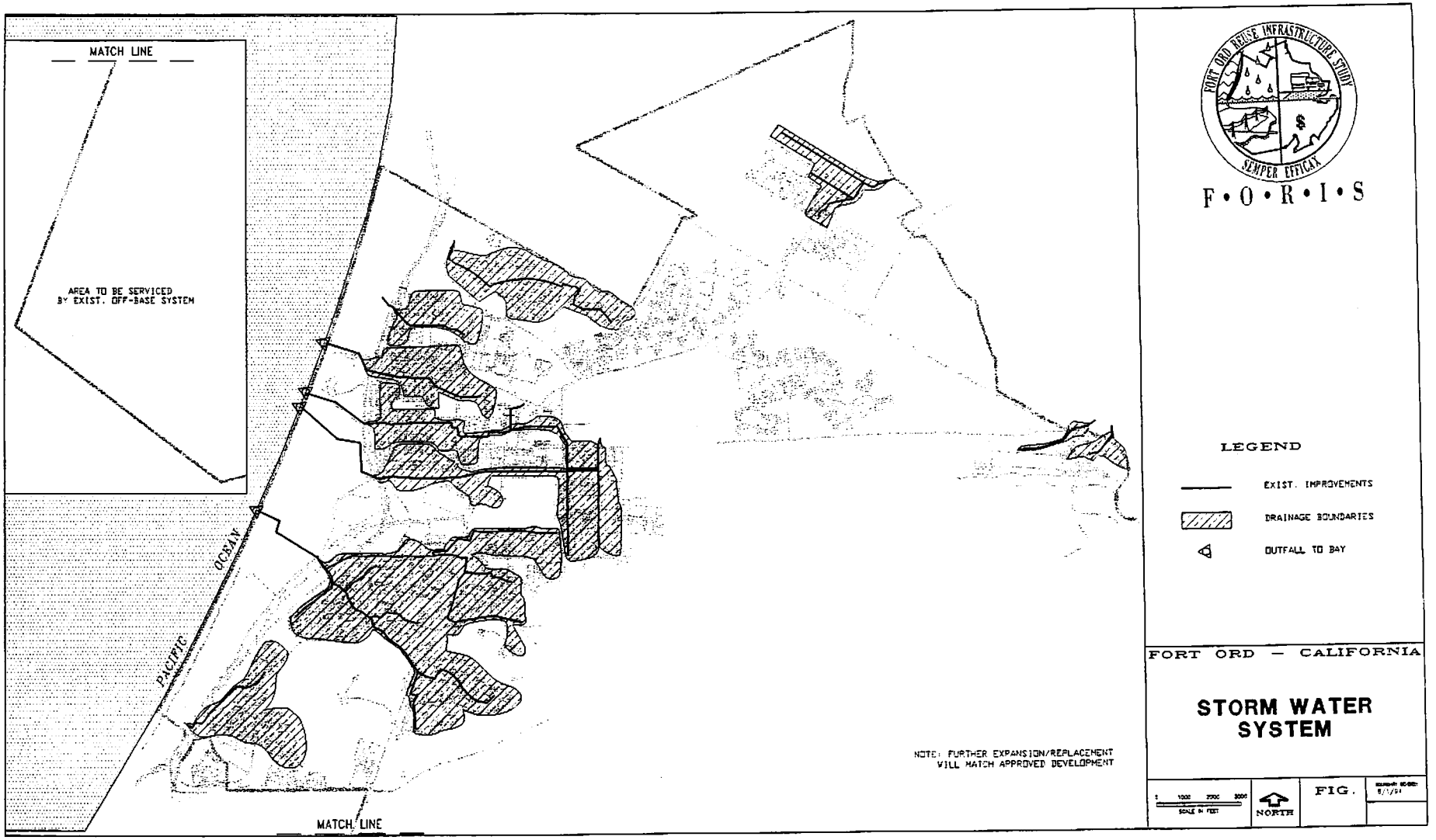


Figure 5-6
FORA Phased Transportation System Improvements

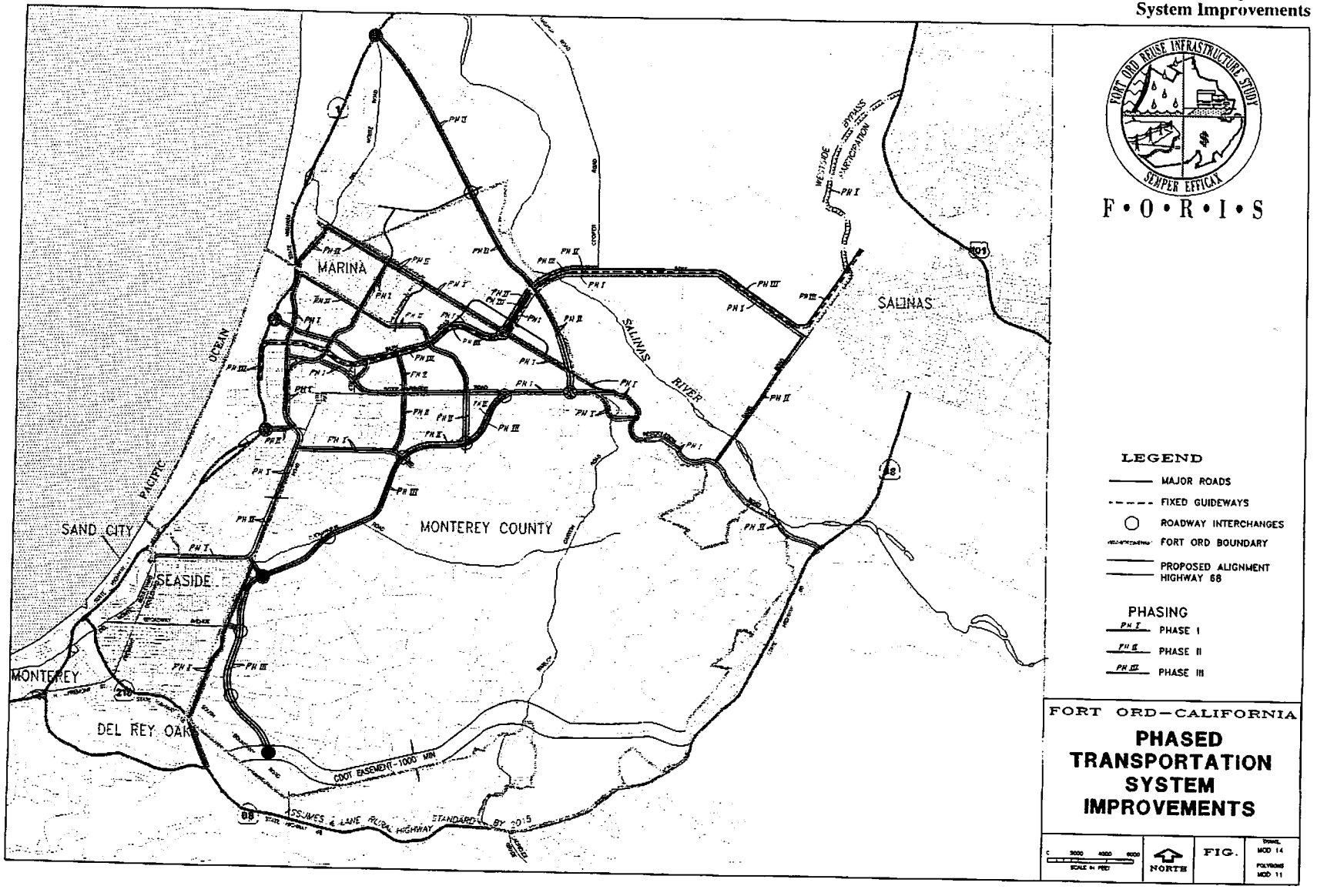


Figure 5-7
FORA Proposed Transportation Corridor Rights-of-Way