Appendix C

Biological Resources Assessment
(Zander Associates)

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BIOLOGICAL RESOURCES ASSESSMENT
PHASE II
GENERAL JIM MOORE BOULEVARD/EUCALYPTUS ROAD IMPROVEMENT PROJECT

Fort Ord, California

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1.0 INTRODUCTION

The Fort Ord Reuse Authority (FORA) is proposing improvements to General Jim Moore Boulevard and Eucalyptus Road as part of a larger series of transportation improvements required to implement the circulation elements of the *Fort Ord Reuse Plan* and the *City of Seaside General Plan*, and mitigate the impacts of the development of these plans. The first phase of improvements focused on General Jim Moore Boulevard, beginning approximately 1,300 feet north of the intersection of Coe Avenue/Eucalyptus Road and terminating at Normandy Road (approximately 0.84 mile). The second phase of improvements focuses on Eucalyptus Road, beginning at the intersection of General Jim Moore Boulevard and continuing approximately 8,057 linear feet and General Jim Moore Boulevard from approximately 1,300 feet north of Eucalyptus Road to 700 feet north of State Highway 218. This report addresses the Phase II project and provides a description of the affected environment, identifies project effects and recommends mitigation measures, where appropriate.

1.1 Project Description

The Phase II project is located in the western portion of former Fort Ord and is focused along approximately 8,057 linear feet of Eucalyptus Road and 12,800 linear feet of General Jim Moore Boulevard (Figure 1). Proposed roadway improvements along Eucalyptus Road include widening and paving the existing dirt road to a two-lane roadway with six-foot wide shoulders/bike lanes on each side, installation of curbs and gutters, and left- and right-turn lanes to General Jim Moore Boulevard at the approach to this intersection. The limit of grading varies from 0 to 160 feet outside of the existing edges of the dirt roadway. Approximately 732,000 sq. ft. (17 acres) would be disturbed by the proposed improvements along Eucalyptus Road with grading of 170,000 cubic yards of cut and 55,000 cubic yards of fill.

General Jim Moore Boulevard would be improved to a four-lane divided roadway with 8-foot-wide shoulders and with a median that would vary from four feet to 18 feet to accommodate left turn lanes along the length of the roadway. Improvements also include installation of curb and gutter, six-foot sidewalks on both side of the street, a Class I bike lane on the east side of the road and intersection improvements to cross streets. Along General Jim Moore Boulevard, approximately 2,228,000 sq. ft. (52 acres) would be disturbed by the proposed improvements with grading of 280,000 cubic yards of cut and 246,000 cubic yards of fill.

1.2 The HMP

The *Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord* (HMP) (April 1997) establishes a habitat conservation area and corridor system and parcel-specific land use categories and management requirements for all lands on former Fort Ord. Four general categories of parcel-specific land use are identified: habitat reserve, habitat corridor, development with reserve areas or restrictions, and development with no restrictions. Resource conservation and management requirements and responsible parties for each parcel or group of parcels with habitat designations are discussed in Chapter 4 of the HMP.

A general goal of the HMP is to promote preservation, enhancement and restoration of habitat while allowing implementation of a community-based reuse plan that supports economic recovery after closure of Fort Ord. The HMP assumes a reuse development scenario for the entire base that will result in the removal of up to 6,300 acres of existing vegetation and wildlife habitat. Losses to 18 special-status species (HMP Species) are also accounted for by the HMP. The establishment of approximately 16,000 acres of habitat reserves with about 400 additional acres of connecting habitat corridors is the primary measure to minimize the impacts of reuse on HMP Species. The HMP further conditions development on approximately 2,200 additional acres by requiring reserve areas or restrictions on those lands.

Phase II of the General Jim Moore Boulevard / Eucalyptus Road Improvement Project is located within parcels designated as development in the HMP. These parcels have no management restrictions placed upon them and according to the HMP, the biological resources found in these parcels are not considered essential to the long-term preservation of sensitive species at former Fort Ord.

1.3 Methodology

Zander Associates conducted field surveys of the project area on the 16th and 23rd of April 2004. For Eucalyptus Road, our study area included an approximately 230 foot wide strip paralleling the existing road. For General Jim Moore Boulevard, our study area consisted of an approximately 350 foot wide area measured from the power lines east of the existing roadway. The study areas were determined using the limit of grading as indicated on the improvement plans provided by Creegan + D'Angelo dated March 2004. The focus of the April surveys was to characterize the habitat types within the study area and to map locations of special-status plant species, specifically sand gilia and Monterey spineflower. In August 2003, Zander Associates surveyed the portion of the project area previously reported to contain seaside bird's beak - near the intersection of General Jim Moore Boulevard and South Boundary Road - to confirm the species was still present and to generally map the extent of the population. No surveys for seaside bird's beak were conducted in 2004 and no species-specific surveys for special status animals were conducted for this project.

Prior to conducting field surveys, we reviewed the *Flora and Fauna Baseline Study of Fort Ord, California* (U.S. Army Corps of Engineers 1992), the *Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord, California* (U.S. Army Corps of Engineers 1997), and post-1992 survey data compiled by the Army to determine the occurrence or potential for occurrence of special status species and habitats within and adjacent to the study area. This information was used in combination with our field assessment to evaluate the likelihood for specific species to be present where directed surveys were not possible.

The improvement plans provided by Creegan + D'Angelo were used to locate positions in the field, to delineate the extent of the various habitat types observed, and to delineate the location of special status plant species observed. The extent of the habitat types and the estimated extent of occupied habitat for the special status plant species was calculated using CAD.

2.0 AFFECTED ENVIRONMENT

Eucalyptus Road is a paved road situated largely within an undeveloped wildland area and the proposed improvements would occur at a maximum of 160 feet from the edge of asphalt on either side of the road. The project area on the north side of Eucalyptus Road consists of relatively intact habitat while the south side of Eucalyptus Road has been disturbed as a result of previous Army training activities. General Jim Moore Boulevard is situated largely within a developed urban area but the majority of the proposed improvements would occur up to 265 feet east of the existing roadway within undeveloped wildland areas.

Zander Associates identified two primary habitat types within the project area: maritime chaparral and coast live oak woodland. The composition of the maritime chaparral varies from relatively degraded habitat to mature stands with a dense cover of tall shrubs interspersed with coast live oak trees. Areas of degraded and mature chaparral are described separately below and the location and extent of each type is delineated on Plate 1, along with coast live oak woodland and the remaining maritime chaparral.

2.1 Maritime Chaparral

Maritime chaparral is characterized by a wide variety of evergreen, sclerophyllus (hard-leaved) shrubs occurring in moderate to high density on sandy, well-drained substrates within the zone of coastal fog. This community is primarily dominated by shaggy-barked manzanita. (*Arctostaphylos tomentosa* ssp. *tomentosa)* with chamise (*Adenostoma fasciculatum*), sandmat manzanita (*Arctostaphylos pumila*), Monterey ceanothus (*Ceanothus cuneatus* var. *rigidus*), and false heather (*Ericameria ericoides*). Coast live oak trees (Quercus agrifolia) are interspersed with the shrubs in several sites within the project area. Maritime chaparral is the dominant habitat type in the project area covering approximately 42.3 acres.

Maritime chaparral has the potential to support a diversity of wildlife. The fossorial black legless lizard takes advantage of the loose friable sandy soils found in maritime chaparral for burrowing deep in the sand and leaf litter beneath plants. California horned lizards inhabit the warm, sunny, open sandy areas and patches of loose soil where the lizard can bury itself. The Monterey dusky-footed woodrat can typically be found within the denser chaparral with moderately dense understory growth and abundant dead wood for nest construction. The oak trees present could provide roosting and nesting sites for a variety of birds.

2.2 Mature Maritime Chaparral

The mature maritime chaparral consists of the same composition of species but coast live oaks are co-dominant and the shrubs are dense and about 9 feet in height. There are very few breaks in the canopy layer and therefore few opportunities for low-growing shrubs or small annual herbs to establish in the understory. Mature maritime chaparral comprises approximately 4.3 acres of the study area and is located primarily north of Eucalyptus Road. Wildlife expected to use this habitat type are similar to those described above for maritime chaparral.

2.3 Degraded Maritime Chaparral

Degraded maritime chaparral describes areas of maritime chaparral that have undergone severe disturbance, resulting in soil compaction, lower densities of chaparral species and an abundance of non-native annuals, such as ripgut brome (*Bromus diandrus*), wild oat (*Avena fatua and barbata*), and filarees (*Erodium sp.*). Degraded maritime chaparral comprises approximately 13 acres and is abundant in the study area south of Eucalyptus Road and west of the existing General Jim Moore Boulevard. The area south of Eucalyptus Road contains numerous dirt roads and extensive soil compaction and has been disturbed for grading, topsoil removal, and training exercises. The vegetation on the south side has also been cut for unexploded ordnance removal by the Army.

Degraded maritime chaparral may support some of the wildlife species found in intact maritime chaparral, but it provides a lower quality habitat as there is more soil compaction and less cover in the form of an understory with leaf litter and dead wood. There are patches of loose friable sandy soils and an abundance of warm, sunny, open areas that could be inhabited by the fossorial black legless lizard or the California horned lizard.

2.4 Coast Live Oak Woodland

There are two stands of coast live oak woodland within the project area; one adjacent to the south side of Eucalyptus Road and the other on the east side of General Jim Moore Boulevard in the southernmost portion of the project area. In both stands, the canopy of coast live oak trees is fairly continuous and the understory has been subjected to varying levels of disturbance from previous Army training activities and ordnance removal. Along Eucalyptus Road, the understory is comprised of poison oak (*Toxicodendron diversilobum*), California blackberry (*Rubus ursinus*), few shaggy-barked manzanita, and numerous non-native herbs and grasses. Where there has been disturbance, the understory has been heavily invaded by non-native herbs and grasses. Additionally, in preparation for ordnance removal, the Army has cut the understory and has limbed the oak trees up to about 10 feet from ground level.

The oak woodland next to General Jim Moore Boulevard has an understory comprised of maritime chaparral species such as shaggy-barked manzanita, sandmat manzanita (*Arctostaphylos pumila*), monkeyflower (*Mimulus aurantiacus*), coffeeberry (*Rhamnus californica*) and mock heather (*Ericameria ericoides*). Monterey spineflower can be found within disturbed openings in the understory. Areas of thicker canopy have poison oak, California blackberry and numerous non-native herbs and grasses as components of the understory.

Coast live oak woodland comprises 3.6 acres of the total study area. Along Eucalyptus Road this habitat type is not extensive, but it is contiguous with a larger intact oak woodland to the south that provides valuable habitat for a variety of wildlife species. Oak trees serve as nesting sites and provide cover for many birds and mammals, including the Monterey dusky footed woodrat. Acorns are a good food source for several animal species, including the California quail, western gray squirrel and black-tailed deer. Other representative animal species of oak dominated forests include arboreal salamander, western screech owl, scrub jay, and Virginia opossum. Red-tailed

hawks and other raptors may use the scattered trees around the woodland edges as perching and scanning points and other bird species may nest in these trees.

2.5 Special Status Species

For the purpose of this assessment, special-status species are those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS); those listed or proposed for listing as rare, threatened, or endangered by the California Department of Fish and Game (CDFG); plants occurring on lists 1B or 2 of the California Native Plant Society's *Inventory of Rare and Endangered Plants of California, Sixth Edition* (2001); animals designated as "Species of Special Concern" (CSC) by the CDFG; all HMP species. The *Flora and Fauna Baseline Study of Fort Ord, California* (U.S. Army Corps of Engineers 1992) documented eight special status plants and ten special status animals as occurring or potentially occurring within the Eucalyptus Road project area. Additionally, in its recent evaluation of actions that may affect California tiger salamander on former Fort Ord, the Army includes a portion of the project area within potential upland habitat for the salamander. Directed surveys for special status plants were conducted in the study area for this assessment. No surveys for special status animals were conducted but the habitat was evaluated for the potential to support these species. Following are the results of our surveys and habitat evaluation with respect to specific special status species.

2.5.1 Plants

The eight special status plant species documented in the flora and fauna baseline study as occurring within or adjacent to the General Jim Moore Boulevard project area are sand gilia (*Gilia tenuiflora ssp. arenaria*), Monterey spineflower (*Chorizanthe pungens* var. *pungens*), seaside bird's beak (*Cordylanthus rigidus* var. *littoralis*), sandmat manzanita, Eastwood's ericameria, wedge-leaved horkelia (*Horkelia cuneata ssp. sericea*), coast wallflower (*Erysimum ammophilum*) and Monterey ceanothus. Of these eight species, six were identified within the study area - sand gilia, Monterey spineflower, seaside bird's beak, sandmat manzanita, coast wallflower, and Monterey ceanothus. Following is a discussion of each of the species observed within the study area.

Sand gilia (*Gilia tenuiflora ssp. arenaria*)

Sand gilia is a state-listed threatened species and a federally listed endangered species. It is a small annual herb that occurs on sandy soils in openings in coastal dunes and scrub and in maritime chaparral. Zander Associates found this species throughout the project area. Along Eucalyptus Road there are about 580 sand gilia plants occupying approximately 0.03 acre. These plants all occur within less mature maritime chaparral on the north side of Eucalyptus Road with the exception of one plant that was found on the edge of coast live oak woodland on the south side of Eucalyptus Road. Along General Jim Moore Boulevard there are about 730 sand gilia plants occupying approximately 0.97 acre. These plants are all found within maritime chaparral on the east side of the existing General Jim Moore Boulevard with the most dense occurrences in the area beginning just south of Broadway Road and extending to just north of San Pablo Avenue.

Sand gilia is an annual plant and therefore the size and location of the population can fluctuate from year to year. Based on the 2004 surveys conducted by Zander Associates, there were about 1,310 sand gilia occupying approximately 1.0 acre within the study area (Plate 2).

Monterey spineflower (*Chorizanthe pungens* var. *pungens*)

Monterey spineflower is a federally listed threatened species. It occurs on sandy soils within coastal dune, coastal scrub, maritime chaparral, grassland, and other plant communities. Zander Associates found spineflower throughout the study area in maritime chaparral within vegetation clearings or in areas of intermittent disturbance, such as around electrical towers and on the edges of a dirt trail. Zander Associates mapped the extent of spineflower occurrences and estimated densities within each polygon as follows; < 5% cover = low density, > 5% but < 25% cover = medium density, and > 25% cover = high density. Monterey spineflower is an annual plant and therefore the size and location of the population can fluctuate from year to year. Based on the 2004 surveys conducted by Zander Associates, Monterey spineflower occupied approximately 18.2 acres within the project area; 4.9 acres of low density, 3.5 acres of medium density and 9.8 acres of high density (Plate 2).

In its designation of critical habitat for Monterey spineflower (Federal Register May 29, 2002), the U.S. Fish and Wildlife Service (USFWS) excluded areas designated as development in the HMP for Fort Ord. The portions of Eucalyptus Road and General Jim Moore Boulevard that are the focus of this project lie within HMP-designated development areas. Consequently, the project area is not within designated critical habitat for Monterey spineflower.

Seaside bird's beak (*Cordylanthus rigidus* var. *littoralis*)

Seaside bird's beak is a state-listed threatened species. It is an annual herb that is hemiparasitic, acting as a parasite by attaching its roots to a host plant while producing some of its own chlorophyll. It flowers in the summer and is insect pollinated to produce small seeds that are dropped or shaken by wind from their capsule. This species is found in sandy soils of stabilized dunes, maritime chaparral, and coastal scrub habitats at former Fort Ord.

No directed surveys for seaside bird's beak were conducted in the project area in 2004. However, based on information from the Army and previous surveys conducted by Zander Associates in 2001 and 2003, several plants are known to occur adjacent to the roadway near the intersection of General Jim Moore Boulevard and South Boundary Road (Plate 2). The extent of this occupied habitat was estimated based on surveys conducted in 2003 and is approximately 0.8 acre.

Sandmat manzanita (*Arctostaphylos pumila*)

Sandmat manzanita is a low-statured perennial shrub that is considered rare, threatened, or endangered in California by the California Native Plant Society (CNPS List 1B). This species has no state or federal status, but it is an HMP species. It typically occurs in sandy soils within chaparral or woodland plant communities. Zander Associates found sandmat manzanita to be a

primary component of the maritime chaparral throughout the project area and therefore did not map specific occurrences.

Coast wallflower (*Erysimum ammophilum*)

Coast wallflower is an annual or biennial herb that flowers in spring. It is considered rare, threatened, or endangered in California by the California Native Plant Society (CNPS List 1B) and it is an HMP species. Coast wallflower is insect pollinated, likely by bees and butterflies, and produces seed that is dropped or shaken by wind from the fruit. The species tends to colonize stabilized open sandy areas and is found in the coastal dunes of Monterey Bay and Santa Rosa Island (San Diego County), and in the coastal scrub on former Fort Ord. Populations are subject to fluctuation in numbers and location in any given year. Two patches of coast wallflower were found within the project area on the east side of General Jim Moore Boulevard. The patches of 12 and 50 individuals occur within 450 feet of each other within intact maritime chaparral habitat.

Monterey ceanothus (*Ceanothus rigidus*)

Monterey ceanothus is considered rare, threatened, or endangered in California by the California Native Plant Society (CNPS List 1B) and it is an HMP species. It is an evergreen shrub that occurs on sandy hills and flats, and is common throughout the maritime chaparral habitat on former Fort Ord. Monterey ceanothus is a primary component of the maritime chaparral habitat in the project area and therefore the locations of individual plants were not mapped.

2.5.2 Animals

The ten special status animal species identified in the flora and fauna baseline study as potentially occurring within the project area include; black legless lizard, coast horned lizard, Monterey dusky footed woodrat, Monterey ornate shrew, loggerhead shrike, horned lark, northern harrier, burrowing owl, golden eagle, and prairie falcon. The Army recently identified potential upland habitat for California tiger salamander in the southern portion of the project area along General Jim Moore Boulevard, south of Broadway Avenue.

California tiger salamander (*Ambystoma californiense*)

The Central California population of California tiger salamander (CTS) was listed as threatened by the U.S. Fish and Wildlife Service on August 4, 2004. The animal is also a CSC species and an HMP species. CTS breed in seasonal pools in grasslands and lowland hills, but spend most of their life in subterranean refugia in nearby upland habitat, commonly using small mammal burrows for that purpose. CTS are known to move long distances (± 1 km) between aestivation sites and breeding pools. For successful breeding, CTS require seasonal pools that hold water for a minimum of four months, to allow CTS larval metamorphosis to occur. Because CTS adults may take 4 to 5 years to reach sexual maturity, during which time they are using upland habitat, 95-99% of their life cycle is spent on land, and suitable upland habitat is critical to the survival of the species. Presence of the species is most readily determined by springtime pond surveys or by rainy season drift fencing, pit traps and nighttime observations.

There is no suitable breeding habitat for CTS within the project area but the Army identified potential breeding habitat for CTS within 1 kilometer of the site at the Frogpond Natural Area owned by the Monterey Peninsula Regional Park District. In its evaluation of Army actions that may affect CTS, the Army identified lands within a 2-kilometer radius of known and potential breeding habitat for CTS as potential upland habitat for the species. In this evaluation, lands within the project area, primarily south of Broadway Road, are identified by the Army as potential upland habitat for CTS.

California black legless lizard (*Aniella pulchra nigra*)

The black legless lizard is a CSC species and an HMP species. Legless lizards are fossorial animals that burrow in sand and leaf litter beneath plants and feed on insects and other invertebrates. The black legless lizard is found in loose, friable sandy soils in a variety of habitat types. At former Fort Ord, it is closely associated with the Baywood Sands and Oceano soils with native dune vegetation, coastal scrub, maritime chaparral, oak woodlands, oak savanna and grasslands. Within the project area the various maritime chaparral habitats and coast live oak woodland are potential habitat for black legless lizard and some sites within the urban / ruderal areas, where the soils are less compacted, could be suitable for this species.

California horned lizard (*Phrynosoma coronatum frontale*)

This lizard is also a CSC species but is not an HMP species. California horned lizards inhabit open country, especially sandy areas, washes, flood plains, and wind-blown deposits in a wide variety of habitats, including shrublands, woodlands, riparian habitats and annual grassland. Warm, sunny, open areas are a main habitat requirement, along with patches of loose soil where the lizard can bury itself. The California horned lizard is known to occur in many habitat types on former Fort Ord, and it may be present in the project area where the soils are not compacted and where there are remnants of native vegetation.

Monterey dusky-footed woodrat (*Neotoma fuscipes luciana*)

The Monterey dusky-footed woodrat is a California Species of Special Concern (CSC). It is restricted to western and central Monterey County and northwestern San Luis Obispo County. This subspecies is typically found within dense chaparral or oak woodland habitats with moderately dense understory growth and abundant dead wood for nest construction. The coast live oak woodland and mature maritime chaparral could provide habitat for Monterey dusky-footed woodrat.

Monterey ornate shrew (*Sorex ornatus salerius*)

Monterey ornate shrew is a CSC species and an HMP species. It occupies a variety of mostly moist riparian woodland habitats. Little is known about this species, since it is difficult to locate and does not survive well in traps due to very high metabolic rates. Shrews are often short-lived (less than a year), and several generations may occur in a single year. There are no riparian areas

in the project area and the coast live oak woodlands are relatively dry reducing the likelihood that shrews are present.

Special-status birds

The Migratory Bird Treaty Act (16 USC 703) prohibits the taking, hunting, killing, selling, purchasing, etc. of migratory birds, parts of migratory birds, and their eggs and nests. As used in the act, the term "take" is defined as meaning, "to pursue, hunt, capture, collect, kill or attempt to pursue, hunt, shoot, capture, collect or kill, unless the context otherwise requires." Most native bird species in the vicinity of the study area, including those described above, are covered by this act. The California Fish and Game Code (Section 3511) also provides protection for certain species as listed in the Section. Section 3503.5 of the Fish and Game Code specifically protects the nests and eggs of birds-of-prey and essentially overlaps with the Migratory Bird Treaty Act.

Several special-status bird species suspected to occur in the vicinity could forage and/or nest in the project area. The California horned lark (*Eremophila alpestris actia*) is a ground-nester and the California burrowing owl *(Athene cunicularia)* nests in abandoned ground squirrel burrows. The northern harrier (*Circus cyaneus*) also nests on the ground in marsh vegetation or tall dense grass. All of these are CSC species and their nesting habitat is of primary concern. No evidence of horned lark or northern harrier nests or burrowing owl activity was observed in the project area during our surveys and these species are not expected to nest in the vicinity due to the amount of ground and vegetation disturbance.

The loggerhead shrike (*Lanius ludovicianus*) is a CSC species that prefers open woodland habitats with scattered trees, shrubs, posts, fences, or other perches. Nests are usually built in trees and shrubs; however, structures such as telephone poles and abandoned buildings are also used. This species could utilize the coast live oak woodland habitat in the project area.

The golden eagle (*Aquila chrysaetos*) is a CSC species and is also provided protection under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act (16 USC 668). Nests are usually constructed on cliffs or in large trees in open areas and eagles are relatively site-faithful, often reusing old nests. No active golden eagle nests are known to occur in the vicinity of the project area and due to the amount of disturbance, golden eagles are not expected to nest in or nearby the project area.

The prairie falcon (*Falco mexicanus*) is a CSC species and its nesting habitat is of primary concern. Prairie falcons are scarce and local residents of open and dry interior country of southern and eastern Monterey County. They nest on cliffs, in rock fissures or crevices and forage in grasslands and oak savanna habitats. There is no suitable nesting habitat for the prairie falcon in the project area.

Special-status bats

There are four special-status bat species with ranges in Monterey County that are known to utilize buildings or trees for roosts. These species include: Townsend's western big-eared bat (*Plecotus townsendii*), pallid bat (*Antrozous pallidus*), western mastiff bat (*Eumops perotis*), and

long-legged myotis (*Myotis volans*). All of these bats are CSC species. The coast live oak woodland within the project area could provide suitable roosting habitat for these bat species. Although, due to the level of disturbance for ordnance clearing, etc., it is unlikely that bats would roost in or nearby the project area.

3.0 PROJECT EFFECTS

The assessment of potential effects on biological resources presented in this section is based on the Improvement Plans prepared by Creegan + D'Angelo dated March 2004 and the project description provided by Pacific Municipal Consultants. Impacts on biological resources resulting from implementation of this phase of the General Jim Moore Boulevard / Eucalyptus Road Improvement Project were considered significant if they would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any special-status species.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans or by CDFG or USFWS.
- Interfere substantially with the movement of any resident or migratory fish or wildlife species.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.
- Conflict with the "take" provisions in the federal or state endangered species law.
- Result in losses greater than those anticipated in the *Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord* (April 1997).

Implementation of Phase II of the General Jim Moore Boulevard / Eucalyptus Road widening and improvement project would result in the removal of all vegetation within the designated clearing limits but not exceeding 160 feet of both sides of the existing Eucalyptus Road alignment for approximately 8,057 linear feet and removal of vegetation within an approximate 250-foot-wide corridor paralleling 12,800 linear feet of General Jim Moore Boulevard. This would result in the direct loss of approximately 42.3 acres of maritime chaparral, 4.3 acres of mature maritime chaparral, 13.1 acres of degraded maritime chaparral, and 3.6 acres of coast live oak woodland. Additionally, there would be direct loss of several special status plant species: approximately 1.0 acre of sand gilia, 18.2 acres of Monterey spineflower, 0.8 acre of seaside bird's beak, 62 plants of coast wallflower and several plants of sandmat manzanita and Monterey ceanothus. A summary of the project effects is provided in Table 1 and the extent of habitat and species impacts within the limit of disturbance is depicted graphically on Plates 1 and 2, respectively.

Table 1: Summary of Project Effects

Habitats to be Removed	Maritime Chaparral	42.3 acres
	Mature Maritime Chaparral	4.3 acres
	Degraded Maritime Chaparral	13.1 acres
	Coast Live Oak Woodland	3.6 acres

Special Status Plants to be removed	Sand gilia		1.0 acre (1,310 plants)
	Monterey spineflower	High Density	9.8 acres
		Medium Density	3.5 acres
		Low Density	4.8 acres
	Seaside bird's beak		0.8 acre
	Coast wallflower		62 plants

Because the project area is within HMP designated development parcels, the loss of habitats and special status species were anticipated and are mitigated through the set aside and management of over 16,000 acres on former Fort Ord for habitat conservation. The HMP is a base-wide strategy to insure that adequate habitat reserves are established that support the full range of HMP species to sustain those species and to compensate for losses from development and reuse of the base. The HMP has been approved by the USFWS as the basis for consultation with the Army under the federal Endangered Species Act and has been signed by various participatory agencies, organizations and jurisdictions. Considering all of these factors, with implementation of the HMP, the loss of maritime chaparral, oak woodland, and the component species of these habitats for the project is not significant. Sandmat manzanita and Monterey ceanothus are major components of the extensive areas of maritime chaparral that will be set aside and managed for habitat conservation on former Fort Ord and therefore the project area will not have an adverse effect on these species.

The majority of recorded occurrences of coast wallflower on former Fort Ord are within the Fort Ord Dunes State Park, the Fort Ord Natural Reserve and the Natural Resource Management Area and because coast wallflower is an HMP species, management activities within these areas will address the conservation of these populations. Consequently, the loss of 62 plants of coast wallflower for the General Jim Moore Boulevard / Eucalyptus Road Improvements is not expected to adversely affect the species.

The removal of trees associated with the oak woodland habitat will be subject to the conditions in the City of Seaside Municipal Code Chapter 8.54 and mitigation may be required. A specific count of the species and number of trees to be removed will likely be necessary to determine mitigation for this tree loss. From a biological resources perspective, the loss of trees within the project area is not considered significant unless tree removal were to result in the disturbance or abandonment of any active migratory bird or raptor nest, or maternity roost of special status bat species

Sand gilia and Monterey spineflower are both federally listed species that will be affected by the project. Under the federal Endangered Species Act (ESA), any activity with a federal nexus such as this one (e.g. EDA funding, Army authorization) that may affect a federally listed plant or animal requires consultation (Section 7) with the U.S. Fish and Wildlife Service (USFWS). Considering that 1) the General Jim Moore Boulevard / Eucalyptus Road Improvements are within HMP designated development parcels, 2) the Army has already consulted with the USFWS on the closure and reuse of Fort Ord and the USFWS issued a biological opinion on the Army's actions relative to Monterey spineflower and sand gilia, and a biological opinion addressing the loss of critical habitat for Monterey spineflower (1-8-01-F-70R), there should be

no need for any further consultation with USFWS. However, the federal entities involved with the project may elect to confirm with USFWS that the project conforms with all provisions of the previous Biological Opinions prior to proceeding.

Sand gilia is also a state-listed species as is seaside bird's beak. Removal of plants of these species will require incidental take authorization under the California Endangered Species Act (CESA). Currently, the principal parties that have or will be acquiring land at former Fort Ord are in the process of preparing a Habitat Conservation Plan (HCP) and Implementing Agreement (IA), which will provide the basis for issuance of basewide incidental take authorizations from both the USFWS and California Department of Fish and Game (CDFG). However, if the HCP and IA are not fully executed prior to initiation of construction of Phase II of the General Jim Moore Boulevard/ Eucalyptus Road Improvements, then independent authorization for incidental take for sand gilia and seaside bird's beak will be required.

While there is precedent for obtaining individual incidental take authorizations for state-listed plants on former Fort Ord, CDFG is discouraging such applications and is recommending that projects affecting these species be addressed through execution of the HCP. Should an applicant choose to pursue an individual take authorization, mitigation for the loss of plants and suitable habitat for the plants will need to be provided. Based on the data provided by the Army and reconnaissance surveys conducted in 2003, Zander Associates estimates that about 0.8 acre of seaside bird's beak habitat could be affected by the project. Further discussion of this mitigation is provided in Section 4.0 below.

Potential upland habitat for the federally listed California tiger salamander has been identified within the southern portion of the project area. As described above, under the federal ESA, any activity with a federal nexus such as this one that may affect a federally listed plant or animal requires consultation (Section 7) with the USFWS. Although the HMP addresses impacts to CTS, the *Biological and Conference Opinion on the Closure and Reuse of Fort Ord, Monterey County, California* (1-8-99-F/C-39R) did not include a provision for incidental take of CTS because the species was not listed or proposed for listing at that time. The Army is currently re-initiating consultation with the USFWS to address incidental take of CTS for Army pre-disposal and property transfer actions and is requesting USFWS issue a Non-Jeopardy Biological Opinion. Road improvements such as General Jim Moore Boulevard and Eucalyptus Road will be addressed in the Biological Opinion the Army is requesting.

The black legless lizard and California horned lizard may be present in the study area. The black legless lizard is not federally- or state-listed, but it is designated as a Species of Special Concern by CDFG. Loss of potential habitat for the black legless lizard is anticipated, and mitigation is provided through the set-aside and management of habitat reserve areas within the boundaries of the former Fort Ord as described in the April 1997 HMP. The California horned lizard can be relatively mobile, and as such is likely to avoid the construction areas and construction equipment. No substantial loss of habitat for this species is expected to result from project construction.

Potential habitat for the Monterey dusky footed woodrat and Monterey ornate shrew is identified within the project area. However, the project is not expected to result in a substantial loss of

habitat for either of these species. The oak woodland provides potential nesting habitat for a variety of special-status and migratory birds and potential roosting sites for special-status bats. Active nests of birds-of-prey and other migratory birds are protected under the Migratory Bird Treat Act and under Section 3503.5 of the Fish and Game Code. Construction activities within or adjacent to the oak woodland habitat could disturb active nests through direct removal (if trees are to be removed) or by causing abandonment by the adults. Established roosts of special-status bat species are of concern to CDFG and if active roosts are present in the oak woodlands, these could be disturbed during tree removal and/or construction activities.

4.0 MITIGATION MEASURES

If the HCP and IA are not fully executed prior to initiation of construction, then a pre-construction survey should be conducted by a qualified biologist and independent authorization for incidental take for sand gilia and seaside bird's beak should be obtained from CDFG. The incidental take authorization will likely require mitigation for the loss of plants and suitable habitat for sand gilia and seaside bird's beak. FORA is currently undertaking efforts to mitigate sand gilia losses for other road improvement projects on the former Landfill. Mitigation would follow what was approved with the issuance of take authorizations for previous road projects and would result in the creation of suitable habitat at a replacement ratio determined by the biologist hired to perform the pre-construction survey and consistent with California Department of Fish and Game requirements. This mitigation will not need to be implemented if there is an approved base wide Habitat Conservation Plan in place.

To obtain incidental take authorization for seaside bird's beak, the actual extent of seaside bird's beak habitat and the number of individuals to be removed should be determined through appropriately timed directed surveys in summer 2005. Based on CDFG recommendations for previous mitigation proposals for seaside bird's beak, both the area impacted as well as the number of individuals lost should be mitigated at an appropriate replacement ratio as determined by the biologist hired to perform the time-directed surveys. Zander Associates previously identified potential mitigation areas for seaside bird's beak on former Fort Ord on land to be transferred to the Bureau of Land Management, specifically on a former range site (Range 45). This site was identified because it has sandy substrates similar to those known to support seaside bird's beak and is on land that will be transferred to BLM for habitat restoration and management. The site is approximately 5 acres and could provide enough area to accommodate the required project mitigation. This mitigation will not need to be implemented if there is an approved base wide Habitat Conservation Plan in place.

To address incidental take of CTS, the project will be required to comply with the conditions in the Biological Opinion to be issued to the Army by the USFWS as described in Section 3.0. Only those conditions relevant to the project area would apply.

To comply with the Migratory Bird Treaty Act and the California Fish and Game Code relative to active bird nests and special status bat maternity roosts, the following measures should be implemented:

Migratory birds: If construction activities are initiated after August 1 and before January 15 (outside of the typical nesting season for the birds-of-prey and migratory birds that may nest in the study area), then pre-construction surveys for active nests should not be necessary. If activities are initiated before August or after January, then pre-construction surveys for active nests within a certain radius of proposed activities are recommended. If active nests are found and the biologist determines that construction activities would remove the nest or have the potential to cause abandonment, then those activities should be avoided until the young have fledged as determined through monitoring of the nest. Once the young have fledged, construction activities can resume in the vicinity.

Special-status bats: Prior to tree removal in the coast live oak woodland, a qualified biologist shall survey the trees for presence of roosting bats. If special-status bat species are present, the following measures should be implemented.

- Tree removal should not occur if maternity bat roosts are present (between April 15 and August 1) in the trees to be removed.
- No tree removal should occur within 300 feet of the maternity roost until all young bats have fledged – as determined by a qualified biologist.
- If special-status bats are present but there is not an active maternity roost, a Memorandum of Understanding (MOU) with the CDFG should be obtained in order to remove the animals prior to tree removal. Alternate habitat may need to be provided if bats are to be excluded from maternity roosts. A roost with comparable spatial and thermal characteristics should be constructed as directed by a qualified biologist. In the event that adult bats need to be handled and relocated, a qualified biologist should prepare and implement a relocation plan subject to approval by CDFG that includes relocating all bats found on-site to an alternate suitable habitat. A Mitigation and Monitoring Plan that mitigates for loss of bat roosting habitat should be prepared by a qualified biologist and approved by CDFG prior to tree removal.

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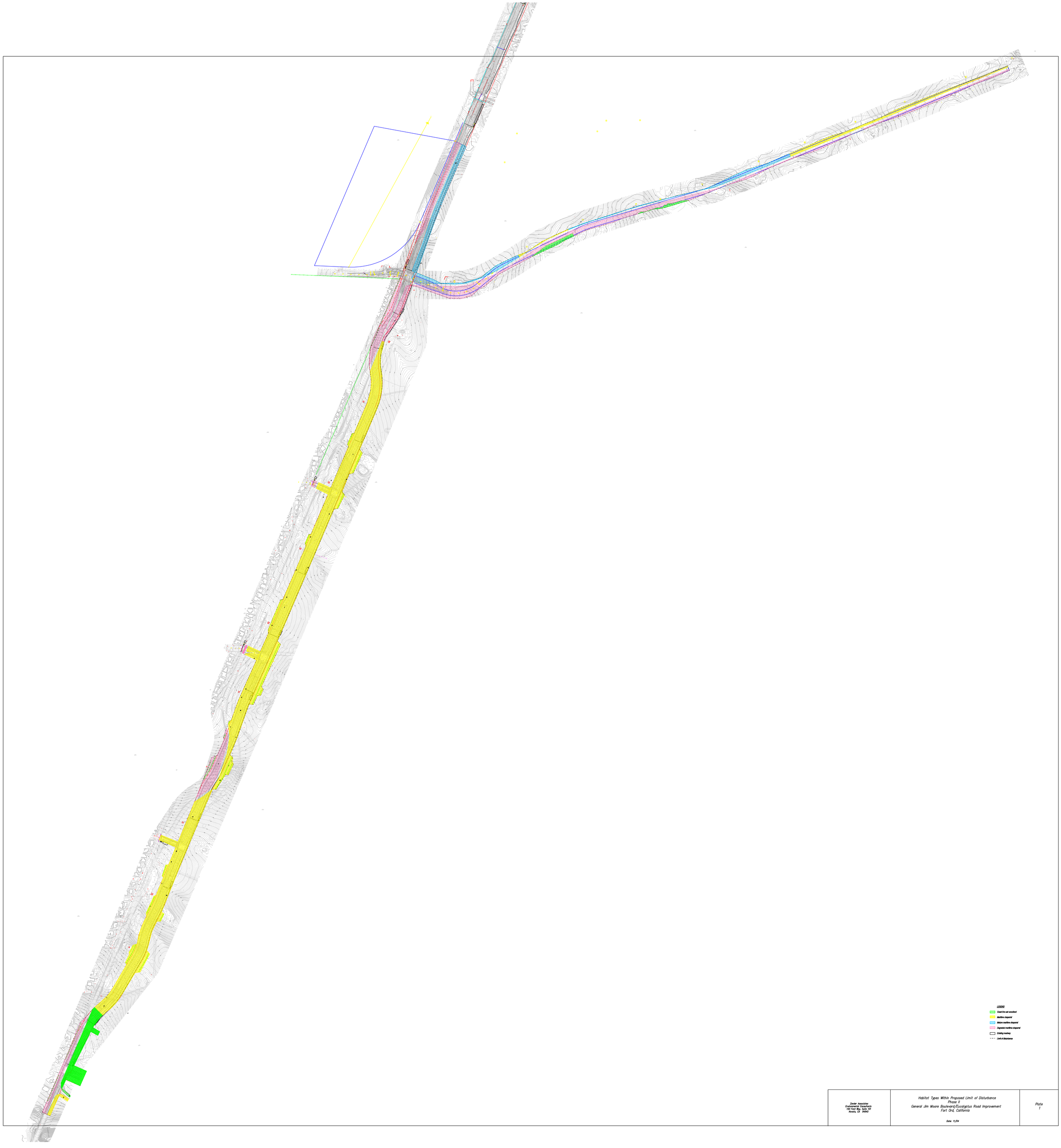

Zander Associates Environmental Consultants 150 Ford Way, Suite 101 Novato, CA 94945	Habitat Types Within Proposed Limit of Disturbance Phase II General Jim Moore Boulevard/Eucalyptus Road Improvement Fort Ord, California Date: 11/04	Plate 1

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Special Status Plant Locations Within Proposed Limit of Disturbance
Phase II
General Jim Moore Boulevard/Eucalyptus Road Improvement
Fort Ord, California

Date: 11/04

Plate
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