

# GENERAL JIM MOORE BOULEVARD ROAD IMPROVEMENT PROJECT

INCIDENTAL TAKE PERMIT APPLICATION

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*Prepared for:*  
CREEGAN + D'ANGELO  
225 CANNERY ROW, SUITE H  
MONTEREY, CA 93940-1434  
&  
FORT ORD REUSE AUTHORITY (FORA)  
100 12TH STREET, BUILDING 2903  
MARINA, CA 93933

*Prepared by:*  
**PMC**<sup>®</sup>  


2729 PROSPECT PARK DRIVE, SUITE 220  
RANCHO CORDOVA, CA 95670

**NOVEMBER 2010**



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FORA ROADWAY IMPROVEMENT PROJECT

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## INTRODUCTION

The project is being proposed by the Fort Ord Reuse Authority (FORA) and is Phase 5 of the General Jim Moore Boulevard and Eucalyptus Road Improvement Project. The project consists of improving and realigning General Jim Moore Boulevard from approximately 700 feet north of State Highway 218 to 1,500 feet north of State Highway 218. The proposed project is located in the City of Del Rey Oaks (formerly Fort Ord) approximately seven hundred feet northeast of State Route 218 (Also known as Canyon Del Rey Boulevard) in Monterey County, California (**Figure 1** - Regional Location and **Figure 2** - Project Location). The proposed project site corresponds to the *Seaside, California* 7.5-minute United States Geologic Survey (USGS) topographic quadrangle (USGS 1947).

The proposed project is located within parcels designated as "Development" in the *Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord* (HMP) (U. S. Army Corps of Engineers [USACE] 1997). Lands designated "Development" have no habitat 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 the former Fort Ord. Impacts to sensitive species were anticipated and accommodated by the policies of the HMP for "Development" areas. Large tracts of habitat have been set aside by the HMP as conservation areas to mitigate for the loss of habitat for the affected species in the designated "Development" areas on the former Fort Ord.

The incidental take coverage provided to the U.S. Army through the HMP does not extend to other parties. Consequently, 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), Fish and Game Code Section 2081 Take Authorization, and Implementing Agreement (IA), which will provide the basis for issuance of base-wide incidental take authorizations from both the United State Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG). Until such base-wide authorizations are granted, incidental take of state or federally listed species must be addressed on a project-by project basis.

This application is to request Fish and Game Code Section 2081 Take Authorization for the state-endangered Seaside bird's beak (*Cordylanthus rigidus* ssp. *littoralis*) as necessary to construct Phase 5 of the General Jim Moore Boulevard and Eucalyptus Road Improvement Project.

## APPLICANT INFORMATION

Applicant: Fort Ord Reuse Authority (FORA)  
Jim Arnold, Senior Project Manager  
100 12th Street, Building 2903  
Marina, CA 93933  
Phone: 831-883-3672

## Species to Be Covered By the Permit

Under the proposed 2081 Incidental Take Permit, FORA is asking for take of **Seaside bird's-beak (*Cordylanthus rigidus* ssp. *littoralis*)** which is state-listed as endangered under the CESA. It designated as a California Native Plant Society (CNPS) list 1B.1 species. The species is not the subject of rules and guidelines pursuant to Section 2112 and Section 2114 of the Fish and Game Code. A Recovery Plan has not been prepared for this species.

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**FIGURE 1 – REGIONAL VICINITY**



**FIGURE 2 – PROJECT LOCATION**



Seaside bird's beak is found in closed-cone coniferous forest, chaparral (maritime), cismontane woodland, coastal dunes, and coastal scrub, on sandy, often disturbed sites, usually within chaparral or coastal scrub at elevations between sea level and 425 meters (1,394 feet) (CNPS 2010; CDFG 2010). This is an annual hemi-parasitic herb in the figwort family (Scrophulariaceae) with inconspicuous white flowers. Seaside bird' beak blooms late in the season, typically May through September, but can sometimes be identified from April until October (CNPS 2010; Elkhorn Slough 2009). It has a very limited distribution in Monterey County. It is generally found in coastal areas from Carmel to Elkhorn Slough. Seaside bird's-beak occurs on sandy soils in a variety of habitats ranging from dune to chaparral and coastal scrub. It is often found at transitional zones between these vegetation types and grasslands. This species is known from fewer than twenty occurrences (CNPS 2010). Four previously recorded occurrences are within one-mile radius of the proposed project site and an additional four previously recorded occurrences within a five-mile radius of the proposed project site (CDFG 2010).

## PROJECT DESCRIPTION

The proposed project involves improving and realigning General Jim Moore Boulevard from approximately 700 feet north of State Highway 218 to 1,500 feet north of State Highway 218. General Jim Moore Boulevard is proposed to be a four-lane divided roadway with a 15-foot median and two to nine-foot shoulders. The improvements include installation of curb, gutter, and five-foot sidewalks on both sides of the roadway.

## PROJECT LOCATION

Fort Ord is a former U. S. Army infantry base located in Monterey County, about five miles northeast of the City of Monterey (**Figure 1** and **Figure 2**). The proposed project is located on a land grant called "City Lands of Monterey" within the *Seaside, California* United States Geologic Survey (USGS) 7.5-minute quadrangle. The proposed project is located in the City of Del Rey Oaks (formerly Fort Ord) approximately seven hundred feet northeast of State Route 218 (Also known as Canyon Del Rey Boulevard). The grading limits of the proposed project are 130 feet wide maximum and the total length is 1,500 feet. The paved roadway width is 80 feet from edge of shoulder to edge of shoulder. The project footprint includes the grading limits for a total of 1.96 acres. A 20-foot buffer around the project footprint would accommodate any temporary constructions impacts associated with the project (i.e., movement of construction equipment). The 20-foot buffer is shown as the Temporary Construction Zone (TCZ) on **Figure 2**. The TCZ encompasses a total of 2.90 acres.

## PURPOSE AND NEED FOR THE PROPOSED ACTION/PROJECT

The proposed roadway improvements are identified in the *Fort Ord Reuse Plan* (1997) and reflect the planned roadway configurations in the *Fort Ord Reuse Plan*, *Del Rey Oaks General Plan* and the *City of Seaside General Plan*. The proposed action/project is part of a larger series of traffic improvements required to implement the *Fort Ord Reuse Plan*, which were developed to provide an adequate transportation system to serve planned uses on the former Fort Ord and mitigate the potential impacts of increased traffic associated with those uses. One of the objectives of the proposed action/project is to provide for adequate transportation service levels to accommodate planned development in the vicinity from 1997 through 2030. Under existing conditions General Jim Moore Boulevard and Eucalyptus Road do not accommodate bicycle lanes, adequate shoulders, or turning lanes. Therefore, a second objective of the proposed action/project would be to bring roadway segments up to current safety standards and provide sidewalks and bicycle lanes.

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### PROJECT BACKGROUND

Fort Ord is a former U.S. Army infantry base located in Monterey County, about five miles northeast of the City of Monterey. The former Army base once had a population of approximately 35,000 military personnel. It covers nearly 28,000 acres of land and is surrounded by the cities of Marina, Monterey, Del Rey Oaks, Seaside, and Sand City, and unincorporated lands in Monterey County.

In 1994, the Fort Ord Reuse Authority (FORA) was established to coordinate the redevelopment of Fort Ord for civilian residential, commercial, recreational and educational uses at a civilian intensity equivalent to the military population of the former base. The FORA Board certified the *Fort Ord Reuse Plan EIR* and adopted the *Fort Ord Reuse Plan* on June 13, 1997. Prior to adopting the *Fort Ord Reuse Plan*, the U.S. Army Corps of Engineers (USACE) prepared the *Fort Ord Disposal and Reuse Final Environmental Impact Statement* (1993) and the *Fort Ord Disposal and Reuse Supplemental Environmental Impact Statement*. The Initial Study – Environmental Assessment (IS-EA) was prepared for the project in March 2005 (State Clearinghouse Number 2005031096).

The General Jim Moore Boulevard portion of the proposed project is a component of the greater *Fort Ord Reuse Plan* and has been designed in anticipation of additional development both on and off the former Fort Ord. General Jim Moore Boulevard is identified as the major north-south roadway through the southern part of the former Fort Ord in the *Fort Ord Reuse Plan*. It begins at State Highway 218 and progresses northward along the western boundary between Fort Ord and the City of Seaside. An intersection at Broadway provides access to the City of Seaside from General Jim Moore Boulevard and further north there are intersections at Coe Avenue and Lightfighter Drive. Coe Avenue connects General Jim Moore Boulevard with historically residential areas of Fort Ord, school sites, and ultimately the City of Seaside and Highway One. Light Fighter Drive provides access to central Fort Ord, California State University Monterey Bay (CSUMB), and Highway One, where there is a major interchange. General Jim Moore Boulevard terminates at 3rd Street, where it becomes 4th Avenue. The roadway has the potential to operate as a parallel route to State Highway One, providing direct linkage from CSUMB and the City of Marina to the City of Seaside and State Highway 218, and also providing indirect linkage to Highway 68 and the Monterey Peninsula (FORA 1997). General Jim Moore Boulevard is an arterial roadway supporting both former Fort Ord development and regional traffic.

### PROJECT ELEMENTS

These roadway improvements are planned as part of a larger series of transportation improvements required to implement the circulation elements of the Fort Ord Reuse Plan and to mitigate the impacts of the development of these plans.

The proposed roadway improvements are intended to implement the *Fort Ord Reuse Plan* transportation network and provide acceptable service levels based on traffic generation estimates for build-out and regional traffic patterns through 2030. The locations of the roadway improvements are shown in **Figure 3** (Engineering Drawing of the Proposed Project). The following description of the proposed action/project is based on the Preliminary Design Report (PDR) prepared by Creegan and D'Angelo Consulting Engineers in April 2004 and subsequent map modifications, which were prepared based on direction received from FORA staff and supplemented with additional information.

## **Roadway Improvements**

The proposed project involves improving and realigning General Jim Moore Boulevard from approximately 700 feet north of State Highway 218 to 1,500 feet north of State Highway 218 for a total of approximately 800 feet. General Jim Moore Boulevard will be improved to a four-lane divided arterial roadway with an 15-foot wide center median, reducing to four feet at left turn pockets at proposed intersections, and eight-foot wide shoulders. The proposed roadway will include the construction of new intersections at South Boundary Road and Del Rey Oaks Resort. Improvements along General Jim Moore Boulevard would include construction of curb and gutter and ten foot sidewalks on the east side of the roadway and five foot to eight foot sidewalks on portions of the west side of the roadway. Streetlights will be installed throughout the total length of the roadway improvements in the median and behind the curbs at the proposed intersections. Landscaping and irrigation will be installed within the medians through the length of the roadway alignment.

Ultimately, the intersection of South Boundary Road with General Jim Moore Boulevard is proposed to be relocated 300 linear feet to the north of its existing alignment. This realignment and conversion will allow additional space for a right turn lane leading from State Highway 218 to the proposed South Boundary Road intersection with General Jim Moore Boulevard. The proposed project makes provisions for this ultimate relocation of the South Boundary intersection.

### *Bicycle and Pedestrian Facilities*

The proposed action/project includes sidewalks and bike lanes along the length of the proposed roadway alignments. Ten-foot wide sidewalks would be constructed on the east side and a five foot to eight foot sidewalks would be constructed in portions on the west side of General Jim Moore Boulevard. The bike trails would form an important link in the integrated system of bicycle routes set forth in the Fort Ord Reuse Plan.

### *Grading*

In previously unpaved areas, the proposed action/project will involve vegetation clearing and grading along General Jim Moore Boulevard. Native soil would be removed and replaced with aggregate base prior to paving. Approximately 84,500 square feet (1.94 acres) would be disturbed by the proposed improvements along General Jim Moore Boulevard with approximately 8,000 cubic yards of cut and 700 cubic yards of fill. The remaining cut material not used as fill for the proposed project would be disposed of at the former Fort Ord in an approved disposal location and in compliance with the City of Del Rey Oaks Ordinance.

### *Tree and Vegetation Removal*

The proposed action/project along General Jim Moore Boulevard will result in disturbance of 1.94 acres of permanent and temporary impacts to coastal oak woodland, maritime chaparral, and degraded maritime chaparral. This includes grading of 8,000 cubic yards of cut and 700 cubic yards of fill. As part of disturbance, the proposed project would result in the removal of 19 trees greater than six inches diameter at breast height (dbh). In addition, another 35 trees located within twenty feet of the proposed grading limits may be affected by construction activities. Vegetation consists primarily of coast live oak woodland, maritime chaparral, degraded maritime chaparral, as well as the existing roadway.

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**FIGURE 3 - ENGINEERING DRAWING OF THE PROPOSED PROJECT**



### Drainage

Drainage from the proposed action/project will be conveyed via curb and gutters along the edges of the proposed roadway to underground percolation systems, which include oil and sediment interceptor tanks, designed to accommodate runoff up to 100-year storm events.

### Landscaping and Erosion Control

The proposed action/project will include hydroseeding of all exposed surfaces after grading is complete and implementation of irrigation and landscaping plan consistent with Recreation Policies B-2 and G-3 in the *Fort Ord Reuse Plan and the FORA "In Tract vs. Basewide Policy."* The medians of the proposed roadway improvements will be landscaped and irrigation would be provided where water is available. The proposed landscaping plans will be developed according to the Fort Ord Reuse Authority minimum standards.

### Street Lighting & Traffic Signals

The proposed action/project includes the installation of street lighting along the proposed alignment of General Jim Moore Boulevard south to State Highway 218. The proposed lighting will consist of a combination of double arm electroliers in the median, alternating with single arm poles located behind the curb line. Additional lighting would also be provided at the intersection of South Boundary Road, Broadway Avenue, and the Eucalyptus Road/Coe Avenue Intersections with General Jim Moore Boulevard. Based on meeting warrants for traffic signals, the Cities of Seaside and Del Rey Oaks may install traffic signals at intersections on General Jim Moore Boulevard at a later date.

### Utilities

The proposed action/project includes the installation of utilities within the proposed roadway alignment. The utilities to be installed include water and recycled water transmission lines, wastewater gravity and force main pipelines, and communication facilities.

### Storm Water Facilities

Stormwater generated by the new roadway construction will be handled on site using subsurface infiltration systems, which allow storm water to percolate into the ground.

### **Roadway Construction**

The new road alignment will widen existing General Jim Moore Boulevard from a two lane undivided road with no sidewalks to a four lane divided road with bike lanes and sidewalks. The project will consist of, but will not be limited to, the following types of construction activities: Clearing and grubbing, demolition of existing roadway, earthwork, soil off haul, sub-base compaction, trench excavations, domestic waterline construction, recycled waterline construction, sanitary sewer construction, storm drain infiltration systems, base rock and paving operations, concrete work for sidewalks, irrigation and landscaping, streetlights, roadway striping and unexploded ordnance construction support.

### Construction Equipment

The type of equipment that will be used on site will consist of, but not be limited to, the following: Mowers, wood chippers, tree removal and pruning equipment, asphalt grinding equipment,

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dump trucks, backhoes, cold planers, compactors, hydraulic excavators, loaders, paving equipment, telehandlers, tractors, bull dozers, tractor-scraper, and pavement striping equipment.

### Project Staging Areas

The construction activities will be staged along existing roadways located approximately four hundred fifty feet northeast of the intersection of South Boundary Road and General Jim Moore Boulevard. The possible staging area will be approximately 0.5 acre (300 feet in length) and located on existing paved roads such as a portion of General Jim Moore Boulevard immediately north of the TCZ or Eucalyptus Road approximately 3.5 miles north of the TCZ.

### VEGETATIVE COMMUNITIES WITHIN THE TCZ

Four vegetative communities, including coastal oak woodland, maritime chaparral, degraded maritime chaparral, and existing roadway, have been identified within the TCZ (see **Figure 4** and **Table 1** below). Zander Associates conducted a Biological Resources Assessment for Phase II of the General Jim Moore Boulevard/Eucalyptus Road Improvement Project (November 2004), which identified the vegetative communities within the TCZ. These vegetative communities may provide habitat for a number of common and special-status plant and wildlife species. These communities, including associated common plant and wildlife species observed or expected to occur, are described below.

**TABLE 1 - VEGETATIVE COMMUNITIES WITHIN THE TCZ**

Biological Community	Acres		
	Project Footprint	TCZ	Total
Coastal Oak Woodland	0.52	0.24	<b>0.76</b>
Maritime Chaparral	0.24	0.20	<b>0.44</b>
Degraded Maritime Chaparral	0.30	0.44	<b>0.74</b>
Existing Roadway (Urban)	0.90	0.06	<b>0.96</b>
<b>Total</b>	<b>1.96</b>	<b>0.94</b>	<b>2.90</b>

### Coastal Oak Woodland

Coastal oak woodland occurs within the proposed project site. The overstory in coastal oak woodland consists of deciduous and evergreen hardwoods (Holland 2005). In mesic sites, trees characteristic of mixed evergreen forests mix with coast live oak, such as California bay (*Umbellularia californica*), pacific madrone (*Arbutus menziesii*), tanoak (*Lithocarpus densiflorus*), coast live oak (*Quercus agrifolia*), and canyon live oak (*Q. chrysolepis*) (Holland 2005). The coastal oak woodland occurs within the northeastern portion. The coastal oak woodland within the TCZ is comprised of shaggy-barked manzanita (*Arctostaphylos tomentosa* ssp. *bracteosa*), orange bush monkeyflower (*Diplacus aurantiacus* ssp. *aurantiacus*), and coffeeberry (*Rhamnus californica*).

**FIGURE 4 - VEGETATIVE COMMUNITIES WITHIN THE TCZ**



## Maritime Chaparral

The maritime chaparral community occurs on well-drained, sandy substrates within the zone of summer coastal fog incursion. Fire appears necessary for continued reproduction (CDFG 2007). This community, which is characterized by manzanita (*Arctostaphylos* spp.) and California lilac (*Ceanothus cuneatus*) species adapted to the foggy coastal climate, once dominated sandy hills along Monterey Bay, Nipomo Mesa, Burton Mesa, and Morro Bay (CDFG 2007). Maritime chaparral is now one of the region's most threatened community types, with its extent severely reduced by development (CDFG 2007). Within the TCZ, the maritime chaparral community is primarily dominated by shaggy-barked manzanita with chamise (*Adenostoma fasciculatum*) and Monterey ceanothus (*Ceanothus cuneatus* var. *rigidus*). Other species present include black sage (*Salvia mellifera*), turkey mullein (*Eremocarpus setigerus*), pampas grass (*Cortaderia selloana*), coyote brush (*Baccharis pilularis*), and sandmat manzanita (*Arctostaphylos pumila*). Monterey spineflower (*Chorizanthe pungens* var. *pungens*), a federally listed species, and diffuse spineflower (*Chorizanthe diffusa*) can be found within disturbed openings.

### 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 rip-gut brome (*Bromus diandrus*), wild oat (*Avena fatua* and *barbata*), and filarees (*Erodium* spp.) (Zander Associates 2004). The degraded maritime chaparral includes the area to the west of the existing General Jim Moore Boulevard in between the roadway and the backyards of single-family residences. The area has had extensive soil compaction.

### Existing Roadway (Urban/Ruderal)

Urban/ruderal habitat occurs within the proposed project site. Urban habitat is distinguished by the presence of both native and exotic species maintained in a relatively static composition within a downtown, residential, or suburbia setting. Paved roadways are included in this category. Vegetation in urban areas consists primarily of introduced ornamental trees and shrubs and manicured lawns as well as non-native and invasive herbaceous species in disturbed areas (McBride and Reid 1988). The urban/ruderal habitat within the TCZ consists of the existing dirt road north of South Boundary Road and the areas immediately surrounding existing roadways. The dirt roads were used as training sites for marching infantrymen. Since the closure of the military base, these dirt roadways have not been used extensively and plants are beginning to re-establish and grow within the roadways.

## IMPACT ANALYSIS

### METHODS

The TCZ was surveyed on October 26, 2010 for Seaside bird's beak by PMC biologists, Angela Calderaro and Jeannette Owen. An area along the dirt roadway approximately 150 feet inward from the edge of pavement on the east side of General Jim Moore Boulevard north of South Boundary Road was also surveyed as this area was proposed as a staging area. PMC biologists walked transects throughout the TCZ, paying special attention to areas with the potential to support Seaside bird's beak. Individual plants were GPS'd with a point while clumps of plants were GPS'd as polygons and each individual was counted. While conducting a rare plant survey for the Fort Ord Roadway Improvements Project at South boundary Road, PMC biologists identified Seaside bird's beak at the intersection of General Jim Moore Boulevard and South Boundary Road on August 3, 2009.

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Taxonomy of plant species is based on *The Jepson Manual of Higher Plants of California* (Hickman 1993). The survey was conducted outside the optimal identification period when the Seaside bird's beak is in full bloom. Technically Seaside bird's beak is in bloom from May to September but can sometimes be identified in October (CNPS 2010; Elkhorn Slough 2009). In accordance with the CNPS Botanical Survey Guidelines, the survey was conducted by personnel with the following qualifications: 1) experience with conducting floristic surveys; 2) intimate knowledge of plant taxonomy and plant community ecology and classification; 3) familiarity with the plants of the area, including special status and locally significant plants; 4) familiarity with the appropriate state and federal statutes related to plants and plant collecting; and 5) and experience with analyzing impacts of project activities on native plants and plant communities. The purpose of the survey was to Seaside bird's beak within the impact area of the proposed project. Botanical surveys were conducted in accordance with the *Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities* (Nelson 1994).

### RESULTS OF SURVEYS AND IMPACTS TO SEASIDE BIRD'S-BEAK

Seaside bird's-beak was found surrounding the intersection of General Jim Moore Boulevard and South Boundary Road by Zander Associates (2004). Exact locations and counts of individuals were not recorded. Seaside bird's-beak was observed north of the intersection with South Boundary Road on the west side of General Jim Moore Boulevard and on the northeast corner of the intersection with South Boundary Road during the August 3, 2010 survey conducted by PMC. During the October 26, 2010 survey by PMC, individuals were concentrated in opening on the northeast corner of the intersection of General Jim Moore Boulevard and South Boundary Road and scattered locations on the west side of General Jim Moore Boulevard. **Table 2** lists the number of individual plants or groups of individuals observed in the TCZ from the 2009 and 2010 PMC surveys. Although the results of the 2009 survey are shown on the map, they are not counted. Note: Points on the map that only represent one individual are not labeled with a Map ID number and are not shown on the table in **Figure 5** (Seaside Bird's Beak Locations within the TCZ).

**TABLE 2 - NUMBER OF SEASIDE BIRD'S BEAK PLANTS OBSERVED WITHIN THE TCZ DURING THE 2010 SURVEY**

Map Identifier	Number of Individuals
**	18*
1	3
2	36
3	27
4	5
5	4
6	32
7	56
8	205
9	143
<b>Total</b>	<b>529</b>

Source: PMC 2010. \*\*Points that only had one individual associated with the point were not given a map ID.

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**FIGURE 5 - SEASIDE BIRD'S BEAK LOCATIONS WITHIN THE TCZ**



Seaside bird's beak plants are present within the project footprint (impact area) or TCZ, and therefore they may be "taken" through impacted by trampling, compaction, or removal. Although there will be "take" to Seaside bird's beak by the proposed project, the proposed project is within the HMP-designated "Development" parcels and, as such, the loss of habitats and certain special-status species are anticipated and are mitigated through the preservation and management of over 16,000 acres on former Fort Ord for habitat conservation.

The HMP, however, does not authorize incidental take of any species listed as threatened or endangered under the federal and California ESAs and entities are responsible for submitting the HMP in combination with additional documentation. Any impacts to listed plant species prior to adoption of the Fort Ord HCP or receipt of an incidental take permit are considered potentially significant. Since the Fort Ord HCP will not be completed prior to the time limits on the grant money, the loss of Seaside bird's beak would require project-specific incidental take authorization from CDFG. The incidental take authorization would require mitigation beyond that provided by the HMP for the loss of at 529 Seaside bird's beak plants and approximately 1.94 acres of potential habitat.

**Figure 5** shows the locations of Seaside bird's beak plants identified within the TCZ. Four plants are located within the TCZ that have the potential to be temporarily impacted during construction. Since habitat will only be temporarily impacted, these species may return after construction is complete. A total of 521 plants are located within the project footprint. Eight individual plants are located within the 20-foot buffer of the project footprint. **Table 3** shows the permanent and temporary impacts to potential habitat for Seaside bird's beak; however, it is important to note that this species requires specific microhabitat components such as level of light, soil, disturbance, and host plant that does not occur uniformly in these habitat types. Seaside bird's beak was not observed in the maritime chaparral vegetative community; however, it was observed in degraded maritime chaparral. It was most abundant in openings of coastal oak woodland.

**TABLE 3 - PERMANENT AND TEMPORARY IMPACTS TO SEASIDE BIRD'S BEAK HABITAT**

Biological Community	Acres		
	Permanent (within the Project Footprint)	Temporary (within the TCZ)	Total Area of Impact
Coastal Oak Woodland	0.52	0.24	<b>0.76</b>
Maritime Chaparral	0.24	0.20	<b>0.44</b>
Degraded Maritime Chaparral	0.30	0.44	<b>0.74</b>
<b>Total</b>	<b>1.06</b>	<b>0.88</b>	<b>1.94</b>

**Species Continued Existence Jeopardy Analysis**

Known Population Trends

According to CNDDDB, 30 occurrences of Seaside bird's beak are presumed extant and an additional three occurrences are possibly extirpated (CDFG 2010). Occurrence number 30, which is located within the PSA, was first identified in 1992 as a part of the baseline data for Fort Ord (CDFG 2010). The plant density was reported as being low. The majority of the occurrences (21 out of 33) are dated from the 1980s and 1990s. Only two occurrences are recent, dated from

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2002 and 2003. The remaining ten occurrences date from 1908 to 1972 (CDFG 2010). It is unknown the current trends of the species.

This roadside community of over 500 plants is the only recent documented occurrence according to CNDDDB within a five-mile radius of the TCZ (CDFG 2010). The 2002 CNDDDB occurrence (#2) was recorded within the last ten years, but the number of individuals seems to have dwindled from when it was first recorded in the 1980s. **Table 4** lists the occurrences within a five-mile radius of the TCZ according to CNDDDB. Most CNDDDB occurrences are from a 1992 survey conducted by Jones and Stokes for U.S. Army Corps of Engineers. **Figure 6** shows the previously recorded occurrences of Seaside bird's beak within a five-mile radius of the TCZ.

**TABLE 4 - INFORMATION ON CNDDDB RECORD OF SEASIDE BIRD'S BEAK WITHIN A FIVE-MILE RADIUS OF THE TCZ**

Occurrence Number	Element Date	Number of Plants	Notes
1	1941	Unknown	Exact location unknown. Mapped as best guess by CNDDDB in the vicinity of Seaside. The only source of information for this occurrence is the 1925 Abrams Collection.
2	2002	Varies (50+ plants in 1983; 700+ in 1984; one - 2002)	Polygon at entrance (Olmsted/ Fred Kane Road) is from non-specific data (Heckard 1974). Two polygons to the east are from specific data. Few plants seen during drought years (1976-1977). Occurrence 80-90% destroyed by 1983 due to office park development.
3	1941	Unknown	Exact location unknown. Mapped as best guess by CNDDDB between 4-6 road miles NE of Monterey PO, between Hwy 1 and Ocean. 1941 Wolf collection from "1 mile N of Seaside" also attributed to this occurrence.
5	1940	Unknown	Exact location unknown. Mapped as best guess by CNDDDB in the vicinity of Del Monte. Several collections from "Del Monte" also attributed to this occurrence. Needs fieldwork.
30	1992	"Low"	Adjacent to Frog Pond nature Preserve and mapped just east of the east end of Carlton Drive, Del Rey Oaks. Plant density reports as low in "Flora and Fauna Baseline Study of Fort Ord, California" (USACE 1992).
31	1992	"Low"	Mapped on north side of dirt road about 0.25 miles east of General Jim Moore Boulevard (formerly North-South Road) at Kimball Road. Plant density reports as low (USACE 1992).
32	1992	"Low"	Four colonies mapped along dirt roads in this vicinity. Plant density reports as low (USACE 1992).
33	1992	"Low"	Four colonies mapped along roads to the east, west, and south of ranger station. Plant density reports as low (USACE 1992).

Source: CDFG 2010.

**FIGURE 6 - PREVIOUSLY RECORDED OCCURRENCES OF SEASIDE BIRD'S BEAK WITHIN A FIVE-MILE RADIUS OF THE  
TEMPORARY CONSTRUCTION ZONE**



Known Threats to the Species

Little is known about the ecological factors, which influence the distribution and abundance of seaside bird's beak. Like other annual herbs with which it co-occurs, seaside bird's-beak could be reduced due to fire exclusion, which increases shrub and tree cover; trampling and loss of habitat due to unnatural disturbance including recreation; and the invasion and spread of large, highly competitive noxious-weeds (e.g., *Cortaderia jubata*, *Carpobrotus chilensis*, *Genista monspessulana*). Its abundance may also be reduced by the competition from European annual plants. Seaside bird's beak may also be influenced by interannual variability in climate. It is a hemi-parasite; however, its host specificity unknown and more research would be needed to determine whether host availability may influence the distribution and abundance of Seaside bird's beak (ICF Jones & Stokes 2009).

Seaside bird's beak is threatened by development, energy projects, off-road vehicles, and military operations (Elkhorn Slough 2009). Road maintenance, development, grazing, and trampling are the threats listed in CNDDDB (CDFG 2010). Possible other threats include erosion and weed encroachment as this species is often found in disturbed sandy soils.

This species is a partial root parasite on herbs; the hosts required and their ecology are virtually unknown. As a hemi-parasitic annual herb, it receives much of its water and nutrients from perennial hosts and may have related germination requirements (Uhl et al. 2007). Unpublished experiments on herbivory exclusion via fencing to exclude rabbits and deer significantly increased plant size and reproduction relative to un-caged plants (Uhl et al. 2007). In addition, seed predation from Lepidopterans may inhibit the plant's reproductive potential.

Reasonably Foreseeable Impacts from Other Related Projects

The development of the surrounding area as outlined in the Fort Ord HMP (USACE 1997) may further reduce the local population of Seaside bird's beak in the immediate vicinity. The TCZ is located within "Development" area as designated by the former Fort Ord HMP (USACE 1997). Although large tracts of habitat have been set aside in the HMP as conservation areas to mitigate for the loss of habitat for the affected species in the "Development" areas on the former Fort Ord, this may reduce the number of individuals and therefore the viability of the species as a whole.

**Proposed Mitigation Measures**

Mitigation of this species will include three separate strategies: (1) preservation of an adjacent parcel for restoration of habitat at a 4:1 ratio (four acres preserved for each acre permanently impacted), (2) preservation of another confirmed occurrences of the species (1:1 ratio), (3) funding of research to aid in the conservation efforts of the species, and (4) avoidance of species if feasible.

1 – Creation of Species Habitat

The adjacent parcel, Assessor Parcel Number (APN) 0311-191-0113-000 to the north of South Boundary Road and east of General Jim Moore Boulevard will be preserved in perpetuity as open space. The location of the parcel in relation to the TCZ is shown in **Figure 7**. The parcel is approximately 4.65 acres of dense Coast live oak woodland with inclusions of maritime chaparral. Opening suitable for Seaside bird's beak will be created and Seaside bird's beak will be planted.

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**FIGURE 7 - PREVIOUSLY RECORDED OCCURRENCES OF SEASIDE BIRD'S BEAK WITHIN A FIVE-MILE RADIUS OF THE  
TEMPORARY CONSTRUCTION ZONE**



Consistent with the Habitat Restoration Plan Site 39 Inland Ranges (Denise Duffy & Associates 2007), mitigation of impacted habitat will occur at a 4:1 ratio (four acres preserved for every one acre of impact). The 1.06 acre of permanent impacts to coastal oak woodland, maritime chaparral and degraded maritime chaparral will be mitigated for at a greater than 4:1 ratio. Degraded maritime chaparral will not be restored or preserved; instead, impacts to the degraded habitat will be mitigated by maritime chaparral or coastal oak woodland.

A propagation program shall be developed for the salvage and transfer of rare, threatened, or endangered plant populations from the site before the initiation of construction activities including earth-grading and vegetation removal. Permits may be required from the CDFG or USFWS, which will ensure that certified biologists are involved in the propagation and transport of rare, threatened, or endangered plant species. After a botanical inventory report is completed for the 4.65-acre parcel documenting any rare plant species, portions of the 4.65-acre mitigation parcel will be partially cleared of vegetation. Clearing of vegetation will only occur in areas that do not contain rare or sensitive plant species. These openings of sandy soil will be planted with seed and seed bank salvaged from the impact area. Seed will be collected from plants within the permanent impact area between December and March prior to proposed construction activities.

A Rare Plant Restoration Plan shall be prepared and implemented by a qualified biologist within 12 months of seed or seed bank salvage and prior to January 15 to provide sufficient time for germination, growth, and seed production. The plan shall include, but is not limited to, the following:

- A description of the baseline conditions of the habitats within the area of impact, including the presence of any special-status species, their locations, and densities;
- Procedures to control non-native species invasion and elimination of existing non-native species within the area of impact;
- Provisions for ongoing training of facility maintenance personnel to ensure compliance with the requirements of the plan;
- A detailed description of on-site and off-site restoration areas, salvage of seed and/or soil bank, plant salvage, seeding and planting specifications; and
- A monitoring program that describes annual monitoring efforts, which incorporate success criteria and contingency plans if success criteria are not met. Plant species monitoring will be conducted following the methodology established by the Plant Monitoring Program for the Installation-Wide Multispecies Habitat Conservation Plan.

It is recommended that a portion of the Seaside bird's beak plants used in restoration consist of out-plantings of greenhouse-grown plants from the seeds salvaged. Special considerations are required for seaside bird's beak, as it is a hemi-parasite that grows on other shrub species including black sage (*Salvia mellifera*), mock heather (*Ericameria ericoides*), and wedge-leaved horkelia (*Horkelia cuneatus*) (CDFG 2002 as cited in Denise Duffy & Assoc. 2007). Marvier and Smith (1997) recommend active greenhouse establishment of both seaside bird's beak and its host plants, then cross colonizing the two species in the greenhouse. Out-planting needs to include Seaside bird's beak already established on its host plant in pots. Based on the variability in host plants, seaside bird's beak should be grown with all three host plants in the greenhouse (Denise Duffy & Assoc. 2007).

## **INCIDENTAL TAKE PERMIT**

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Likewise, a portion of the Seaside bird's beak plants used in restoration may be from broadcasted seed from the seed or seed bank salvaged from the impact area. Associated species selected for planting or broadcasting in the cleared areas would mimic the closest adjoining habitat considered a reference site of healthy maritime chaparral. Native species plantings at the restoration sites would be limited to native seed or seedlings from Fort Ord genetic stock whenever possible and CNPS guidelines for collection of propagation material from rare species will be followed.

Any area occupied by HCP plant species that is adjacent to or within the restoration area, but that is not intended to be disturbed by heavy equipment or other motorized vehicles will be marked with flagging. Vehicle and foot traffic will be prohibited within the flagged area.

### *Proposed Plan to Monitor Compliance*

For mitigation measure 1, the monitoring of the plant species within the restoration area and the area adjacent to construction activities will be conducted in accordance with the Plant Monitoring Program developed for the Installation-Wide Multispecies Habitat Conservation Plan.

Restoration monitoring reports will be submitted annually for five years to CDFG to track the progress and success of the restoration efforts.

### 2 - Preservation of Confirmed Occurrence

In addition to the restoration and preservation efforts outlined above, the project proponent shall preserve another confirmed occurrence of Seaside bird's beak that is currently not protected in perpetuity. Conserving species in their natural settings is key to ensuring their long-term survival. The occurrence must be located within Monterey County. This mitigation requirement may be fulfilled through the purchase of conservation easements, credits by a CDFG-approved mitigation bank, or other CDFG-approved method.

### *Proposed Plan to Monitor Compliance*

Evidence of compliance with this mitigation measure will be submitted to CDFG.

### 3 - Funding of Research

The project proponent shall fund research that would further the knowledge to better conserve the species. Specifically, the project proponent proposes funding of the mapping of sandy openings in oak woodland or chaparral habitat and the subsequent surveying for Seaside bird's beak to obtain a greater understanding of the distribution of the species on former Fort Ord. The goal of the research would be to determine the viability of the current population.

Other research options may focus on population genetics, reproductive strategies, long-term population trends, habitat characterization, or other topics, which may help guide conservation and management decisions. Academic researchers at universities, museums, botanical gardens, and private foundations would work under Memoranda of Understanding to answer questions, which may be important to the conservation of Seaside bird's beak.

### *Proposed Plan to Monitor Compliance*

Evidence of compliance with this mitigation measure will be submitted to CDFG.

#### 4 - Avoidance of Rare Plants in TCZ

Eight plants are located within the TCZ that have the potential to be temporarily impacted during construction. These plants will be avoided during construction so that the plants can re-colonize the area of disturbance after construction is complete. Construction activities shall be restricted as necessary to avoid disturbance of these four plants. On Figure 5, the point labeled #1 with three plants at the northeast corner of General Jim Moore Boulevard will be avoided. In addition, the five points at the southwestern extreme of General Jim Moore Boulevard.

Avoidance measures shall include fencing of the population(s) before construction to ensure no ingress of personnel or equipment at a minimum radius of 10 feet around a rare plant population, where feasible, and construction monitoring by a qualified biologist. Avoidance areas shall be identified on project plans. Silt fencing and other Best Management Practices (BMPs) shall be used to ensure that the hydrology surrounding the population is not affected by project construction. In addition, no trees or shrubbery shall be removed surrounding the rare plant populations so that sunlight/shade is not changed that may affect their viability.

Avoidance measures shall include fencing of the population(s) before construction to ensure no ingress of personnel or equipment at a minimum radius of 10 feet around a rare plant population and construction monitoring by a qualified biologist. Avoidance areas shall be identified on project plans. Silt fencing and other BMPs shall be used to ensure that the hydrology surrounding the population is not affected by project construction. In addition, no trees or shrubbery shall be removed surrounding the rare plant populations so that sunlight/shade is not changed that may affect their viability. If these special-status plants cannot be avoided, the following mitigation measures shall apply.

Any special-status plant species that are identified adjacent to the TCZ, but not proposed to be disturbed by the project, shall be protected by barrier fencing to ensure that construction activities and material stockpiles do not impact special-status plant species. These avoidance areas shall be identified on project plans.

#### *Proposed Plan to Monitor Compliance*

A qualified biological monitor approved by the CDFG will be present on-site for all clearing and grading activities to ensure that construction activities avoid the Seaside bird's beak plants in TCZ (or 20-foot buffer from the project footprint). If the project results in taking of Seaside bird's beak within the 20-foot buffer, construction shall halt until CDFG is notified and consulted.

#### FUNDING SOURCE DESCRIPTION

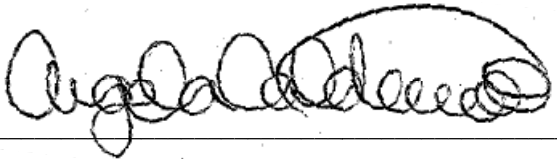
FORA has set aside and maintains a fund for the Habitat Conservation Plan and endowment. These funds are available for application to requisite biological impact mitigation. The funds are adequate to provide the mitigation set forth herein.

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### CERTIFICATION STATEMENT

I certify that the information submitted in this application is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to suspension or revocation of this permit and to civil and criminal penalties under the laws of the State of California.

X 

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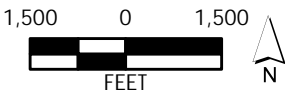


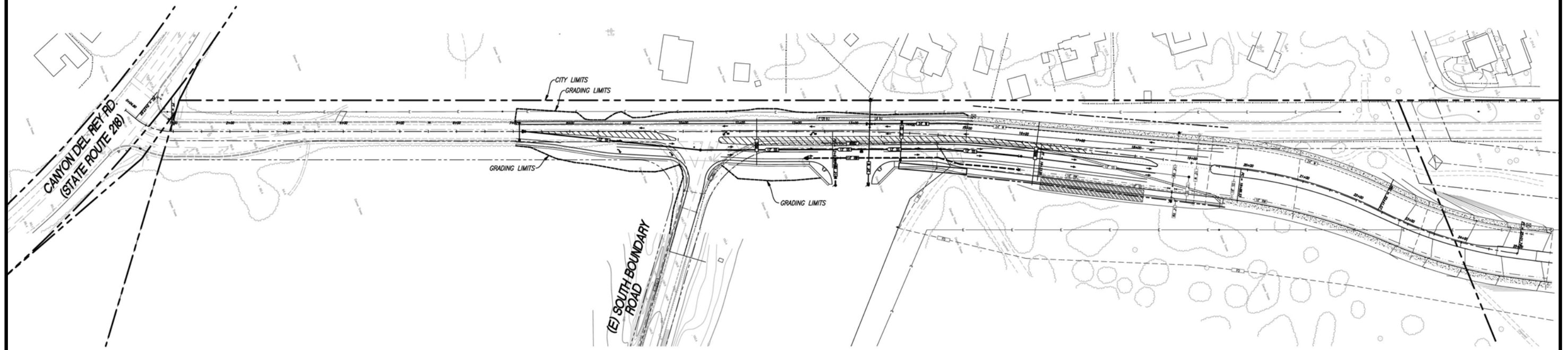
Figure 1  
Regional Location





Figure 2  
Project Location





*PLAN - GENERAL JIM MOORE BLVD.*

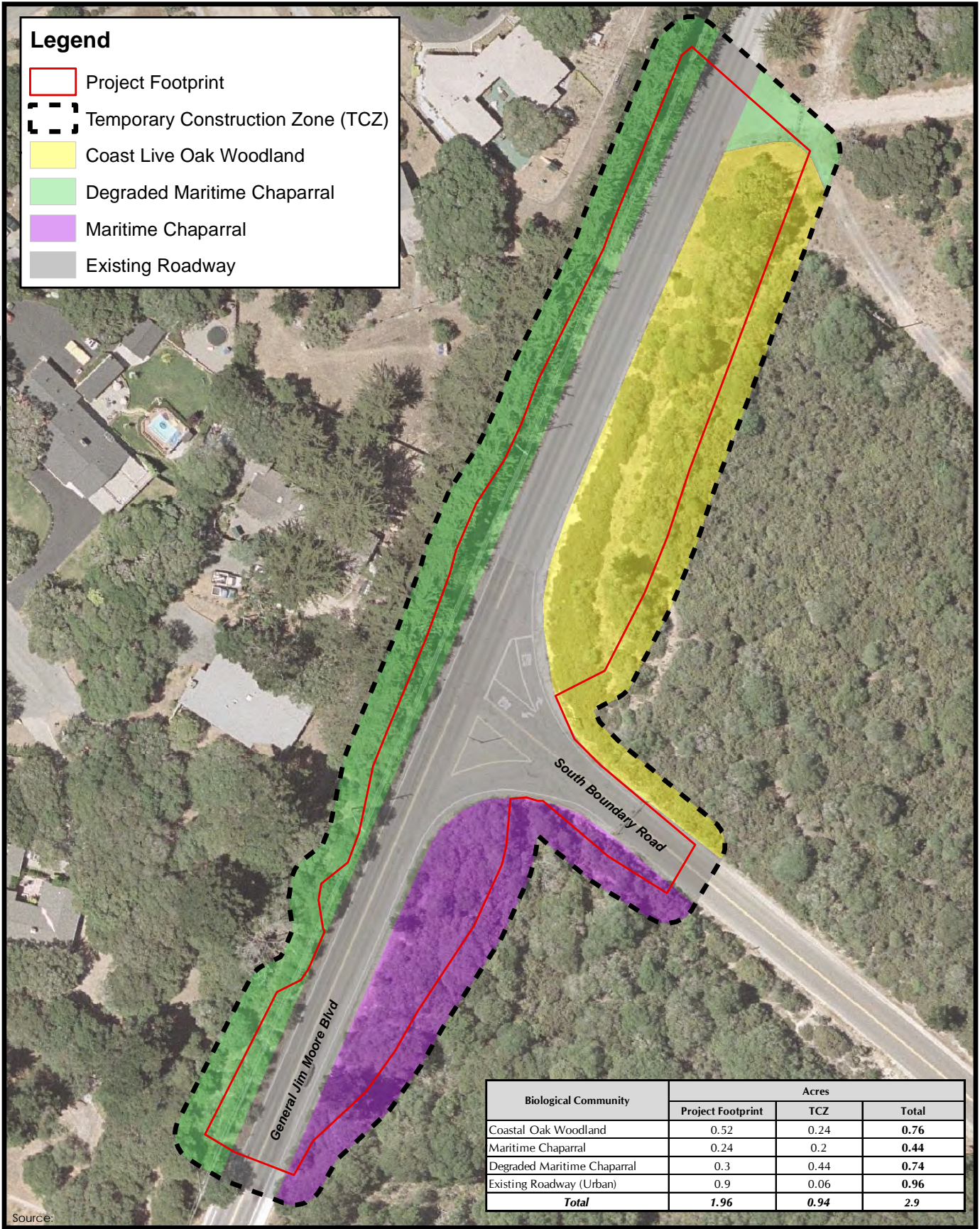
Source: C+D Engineering 2010



Figure 3  
Engineering Drawing of the Proposed Project







Source:

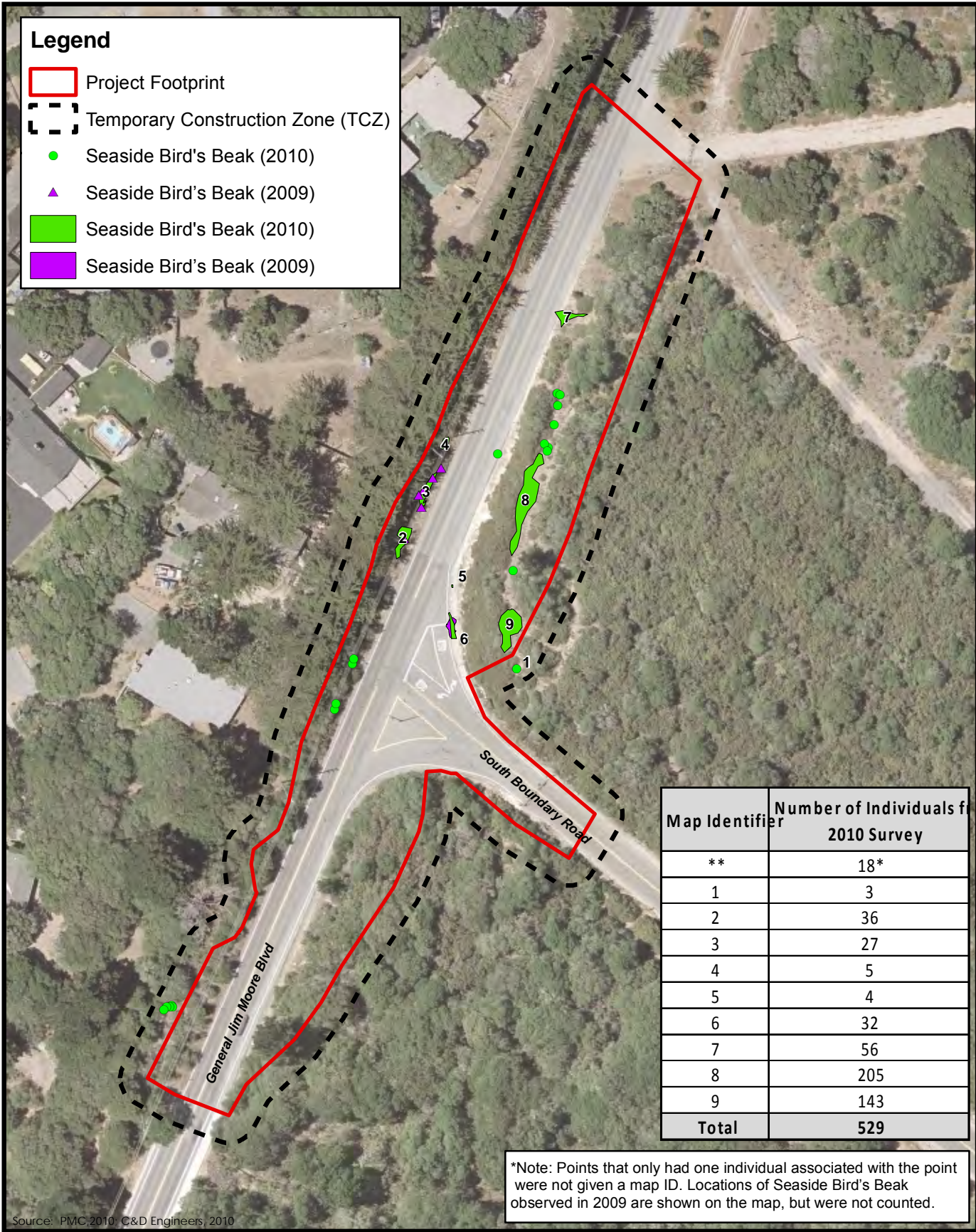


Figure 4  
Vegetative Communities within the TCZ



**Legend**

- Project Footprint
- Temporary Construction Zone (TCZ)
- Seaside Bird's Beak (2010)
- ▲ Seaside Bird's Beak (2009)
- Seaside Bird's Beak (2010)
- Seaside Bird's Beak (2009)



Map Identifier	Number of Individuals from 2010 Survey
**	18*
1	3
2	36
3	27
4	5
5	4
6	32
7	56
8	205
9	143
<b>Total</b>	<b>529</b>

\*Note: Points that only had one individual associated with the point were not given a map ID. Locations of Seaside Bird's Beak observed in 2009 are shown on the map, but were not counted.

Source: PMC, 2010; C&D Engineers, 2010



Figure 5  
Seaside Bird's Beak Locations within the TCZ



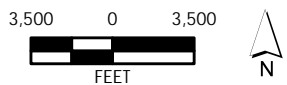
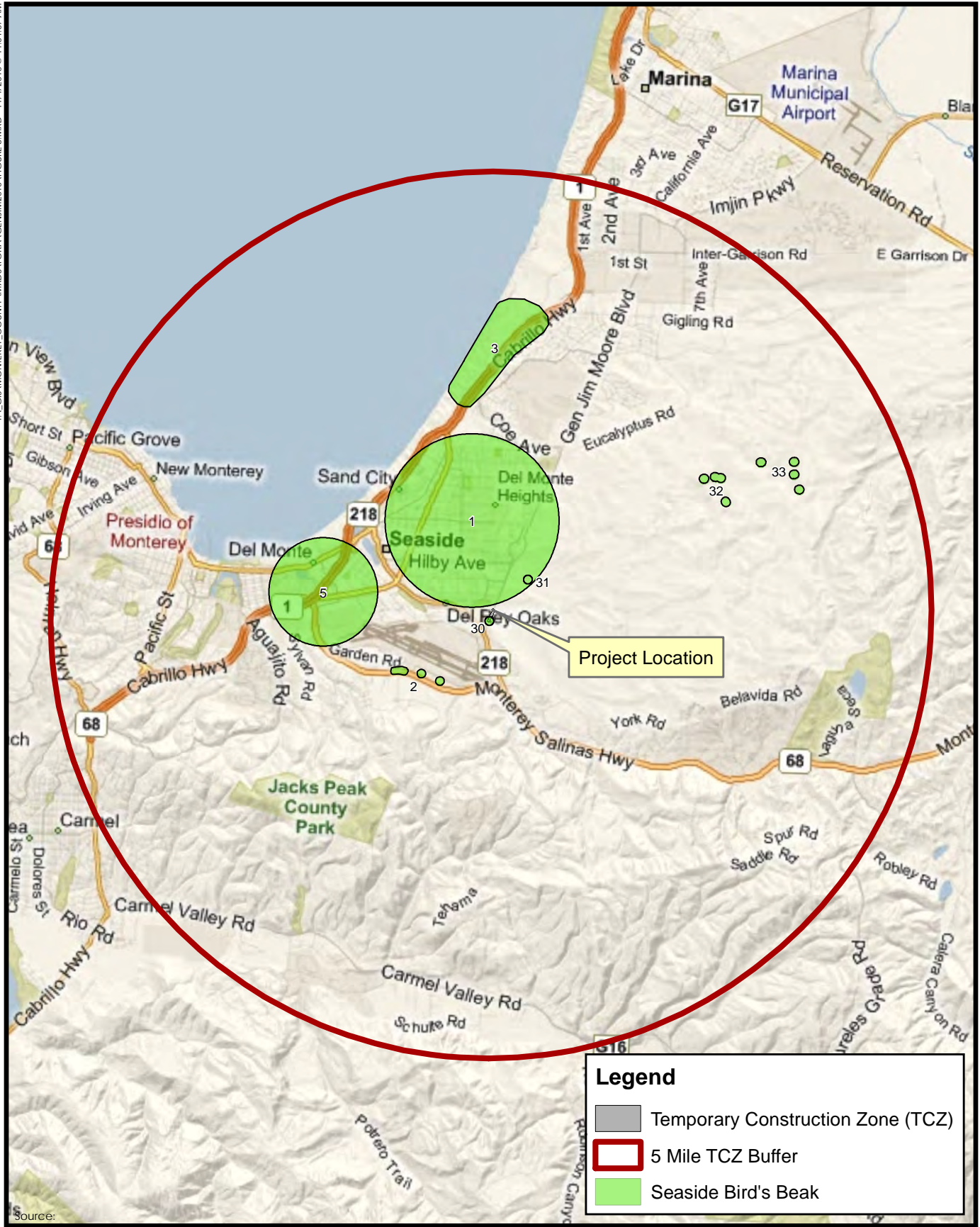
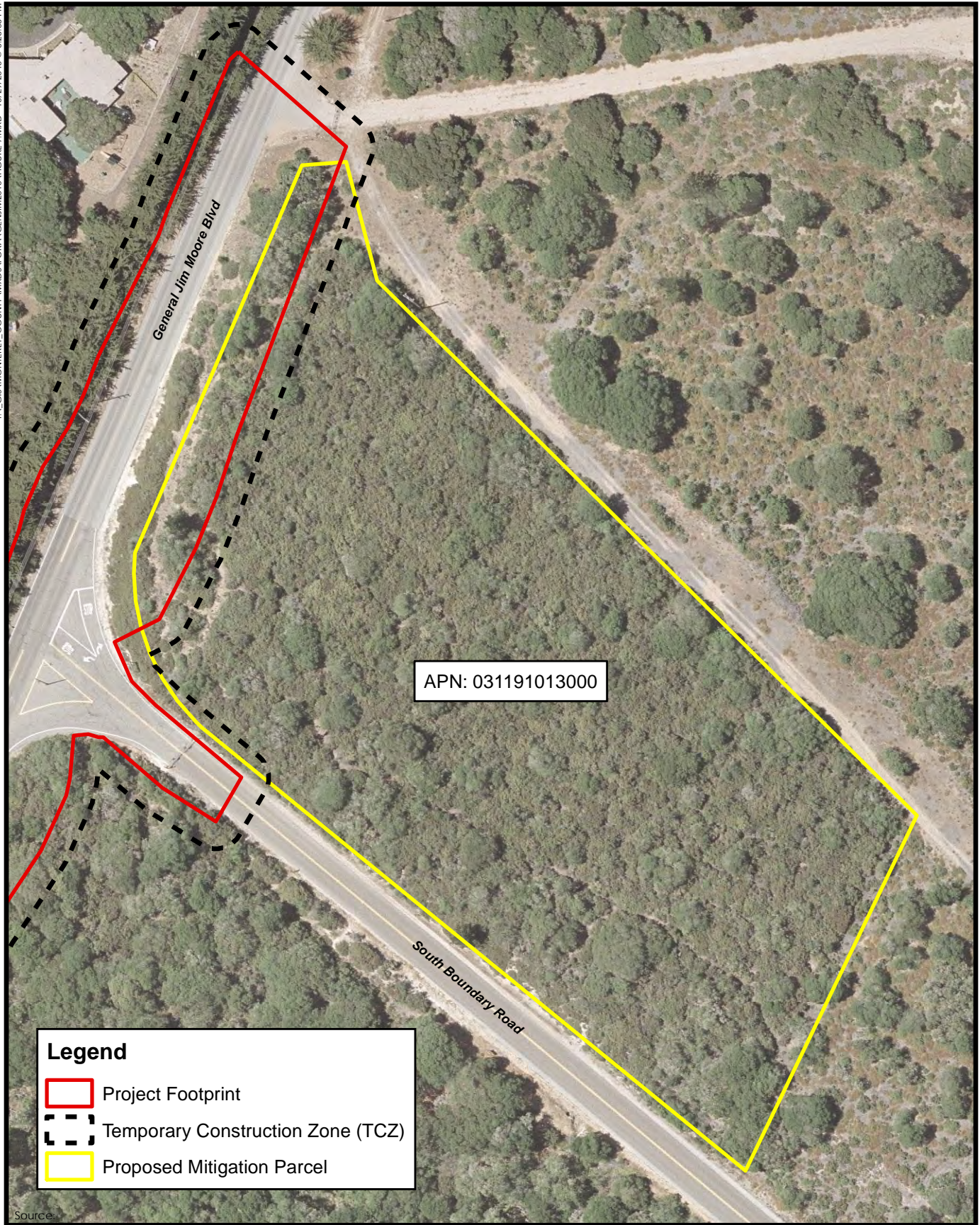





Figure 6  
Previously Recorded Occurrences of Seaside Bird's Beak  
within a Five-mile Radius of the Temporary Construction Zone





**Legend**

-  Project Footprint
-  Temporary Construction Zone (TCZ)
-  Proposed Mitigation Parcel

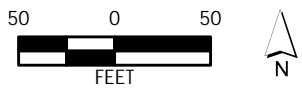


Figure 7  
Proposed Mitigation Site