

**FORT ORD REUSE AUTHORITY**



**Soil Management Plan  
Eucalyptus Road Phase II**

Former Fort Ord  
Monterey County, California

August 16, 2010

<b>1. Introduction</b>	<b>1</b>
1.1 Site Description	2
1.2 Overview of Soil Disturbance Activities	3
<b>2. Soil Management Protocols</b>	<b>3</b>
2.1 Asphalt Removal and Reuse	3
2.2 Fill Material	4
2.3 Measures to Minimize Dust from Soil Movement and Handling	4
2.4 Material Staging and Stockpile Management	5
2.5 Access Control	5
2.6 Detection of Unanticipated or Suspected Soil Contamination	6
2.7 Detection of Unanticipated MEC	7
<b>3. References</b>	<b>7</b>

**Table**

- 1 Notification Requirements

**Figures**

- 1 Former Fort Ord Location Map
- 2 Eucalyptus Road Phase II Work Area and MRS Boundaries
- 3 RQA Pilot Study RQA-SEA.4 Soil Screen and Soil Scrape Areas

## **1. Introduction**

The former Fort Ord is located adjacent to Monterey Bay in northwestern Monterey County, California (Figure 1). Since 1917, portions of the former Fort Ord were used by the United States Department of the Army (Army) for maneuvers, target ranges, and other purposes. Military munitions were fired into, fired upon, or used on the facility. As a result, a wide variety of conventional munitions and explosives of concern (MEC), consisting of unexploded ordnance (UXO) and discarded military munitions (DMM) items, and munitions debris (MD) have been encountered at the former Fort Ord.

This Soil Management Plan has been prepared in support of the proposed Eucalyptus Road Phase II work to be conducted by the Fort Ord Reuse Authority (FORA) and its subcontractors. The Eucalyptus Road Phase II includes the area for the proposed alignment of Eucalyptus Road, plus a 50-foot-wide work area on both sides of the new alignment of Eucalyptus Road for a total approximate width of 200 to 300 feet, hereafter referred to as “the proposed roadway extension” (Figure 1). This Soil Management Plan was prepared by ARCADIS and Weston Solutions, Inc. (WESTON; “the ARCADIS Team”) on behalf of FORA.

The proposed roadway extension lies within the boundaries of the Seaside Munitions Response Area (MRA) and the Phase II portion of the Parker Flats MRA (Figure 2), which were transferred to FORA under the Finding of Suitability for Early Transfer (FOSET), Former Fort Ord, Environmental Services Cooperative Agreement (ESCA) Parcels and Non-ESCA Parcels (Operable Unit Carbon Tetrachloride Plume; FOSET 5; Army 2007). A portion of the proposed roadway extension lies within property that is still owned by the Army (Figure 2). Previous sampling, investigation, and removal actions have been conducted over the majority of the proposed roadway extension and the results were presented in After-Action Reports and Technical Information Papers prepared by the Army or the Environmental Services Cooperative Agreement Remediation Program (ESCA RP) Team. One portion of the proposed roadway extension is located within the Parker Flats Phase II MRA which is currently being investigated by the ESCA RP Team on behalf of FORA as part of the Group 1 Remedial Investigation/Feasibility Study (RI/FS) Work Plan (“the Group 1 RI/FS Work Plan”; ESCA RP Team 2008).

The purpose of this Soil Management Plan is to identify the procedures to be followed to ensure that, when soil disturbance activities are required, they are conducted in a manner that is protective of human health and the environment. In addition, this Soil Management Plan outlines the proper notification and handling procedures to be

followed in the event that unanticipated chemical contamination in soil (as defined in Section 2.6) is encountered during the proposed roadway extension construction activities.

### **1.1 Site Description**

Eucalyptus Road is a paved road that runs through the approximate center of the former Fort Ord. Eucalyptus Road intersects with General Jim Moore Boulevard and runs northeast along the perimeter of the Seaside Munitions Response Area (MRA) and through the Parker Flats MRA (Figures 1 and 2). Eucalyptus Road then takes a sharp turn at the intersection with Parker Flats Cutoff Road and heads southeast along the northern perimeter of the former Impact Area (Figure 2). In 2009, FORA began construction activities related to the realignment of General Jim Moore Boulevard and Eucalyptus Road. As part of these activities, the pavement from the southern portion of Eucalyptus Road (at the intersection with General Jim Moore Boulevard) to an area approximately 4,360 linear feet (LF) to the northeast (referred to as station 53+00) was removed and the area re-graded in preparation for the new Eucalyptus roadway alignment. The proposed roadway extension work area extends from station 53+00 a distance of approximately 3,200 LF to Station 85+00, approximately 300 LF before the intersection of Eucalyptus Road and Parker Flats Cutoff Road. The proposed roadway extension includes the Eucalyptus Road alignment limits of grading plus an additional 50-foot-wide work area on either side of the road (Figure 2).

The proposed roadway extension lies within the boundaries of the Seaside MRA and the Phase II portion of the Parker Flats MRA (Figure 2), which were transferred to FORA under the FOSET 5 (Army 2007). A portion of the proposed roadway extension lies within property that is still owned by the Army (Figure 2). Portions of the following Munitions Response Sites (MRSs) are located within the boundaries of the proposed roadway extension (Figure 2):

- MRS-15MOCO.02 located in the Parker Flats Phase II MRA;
- MRS-44PBC and MRS-44EDC located in the Parker Flats Phase II MRA;
- MRS-15SEA.04 located in the Seaside MRA; and
- MRS-24A located on Army property.

## **1.2 Overview of Soil Disturbance Activities**

The subsurface disturbance activities expected as part of the proposed roadway extension construction activities include roadbase removal; grading; grubbing; removing/installing a new fenceline; and removing/installing underground utilities. Groundwater is not expected to be encountered during subsurface disturbances because the depth to groundwater at the site is reportedly greater than 100 feet below ground surface.

## **2. Soil Management Protocols**

The following sections present the management protocols for handling, moving, stockpiling, and reusing soil during the proposed roadway extension construction activities. Contingency protocols to be followed when unknown or suspected chemical contamination or underground structures are identified are also presented. This Soil Management Plan identifies the specific procedures and protocols that must be followed to ensure that soil disturbance activities are conducted in a manner that is protective of human health and the environment, and that does not interfere with investigation and removal action activities at the former Fort Ord. Discovery of unanticipated or suspected chemical contamination will be responded to as described in Section 2.6.

### **2.1 Asphalt Removal and Reuse**

An estimated 710 cubic yards (cy) of asphalt are required to be removed from the existing Eucalyptus Road as part of the proposed roadway extension construction activities. Asphalt removed from the existing Eucalyptus Road will be reused within the Former Fort Ord. Potential uses of this material include: placing the material along the blue-line road on the Seaside MRA to help stabilize the blue-line road; placing the material to build up the Watkins Gate fire road on the Seaside MRA; use by the United States Bureau of Land Management (BLM) in their fire road maintenance activities within the BLM property located on the Former Fort Ord; or incorporating the ground asphalt material into the embankment of the proposed roadway extension limits of grading. If other opportunities for asphalt reuse become available during the proposed roadway extension construction activities, the feasibility of each reuse option will be discussed with the United States Environmental Protection Agency (EPA), the Department of Toxic Substances Control (DTSC), and the Army for approval prior to reuse.

If temporary staging of the asphalt material is necessary, the material will be stockpiled within the 50-foot-wide work area on both sides of the roadway (outside of the proposed residential parcels) in accordance with the guidelines outlined in Section 2.4.

## **2.2 Fill Material**

Currently, the roadway construction requires an estimated 10,000 cy of geotechnically suitable fill to complete the grading activities.

A potential on-site source for fill material has been identified in the vicinity of the proposed roadway extension. In 2009, the ESCA RP Team conducted a Residential Quality Assurance (RQA) pilot study in MRS15-SEA.04. As part of the pilot study, the top 6 to 12 inches of soil was removed within several areas of the RQA pilot study area (Figure 3). As part of the proposed roadway extension, soil would be excavated from the RQA pilot study scraped areas and placed within the proposed roadway extension limits with UXO support. Soil from the RQA pilot study scraped area may be temporarily stockpiled adjacent to the excavation within the footprint of the scraped area prior to being placed within the proposed roadway extension.

If soil is imported from off site, samples will be collected to confirm that the soil is clean for use underneath the proposed roadway extension. Sampling of the import fill material will be done in accordance with the DTSC Information Advisory for Clean Imported Fill Material. The soil will be deemed clean if the analytical results are non-detectable for chemicals of concern or if the soil contains a concentration of the chemicals of concern that is less than EPA Region IX preliminary remediation goals (PRGs) for industrial soil. The analytical data will be provided to the EPA, DTSC, and the Army.

If other opportunities for soil reuse become available during the proposed roadway extension construction activities, the feasibility of each soil reuse option will be evaluated with respect to applicable regulatory requirements and soil reuse guidelines. Any feasible soil reuse option outside of those presented in this report will be discussed with the EPA, the DTSC, and the Army for approval prior to reuse.

## **2.3 Measures to Minimize Dust from Soil Movement and Handling**

Soil handling activities may result in exposure to dust. Dust control measures should be implemented during the proposed roadway extension construction activities. In general, the most effective dust control measure is to water all active areas at least

twice per day or as necessary to prevent visible dust from migrating off site. Also, tarpaulins or other effective covers will be used for trucks transporting soils or for soil stockpiles that will not be utilized for an extended period.

#### **2.4 Material Staging and Stockpile Management**

Stockpiling and staging of soil, asphalt, or any other materials related to the construction of the proposed roadway extension must be conducted within the 50-foot-wide work area on both sides of the roadway, except for the soil that is excavated from the RQA Pilot Study. Soil from the RQA pilot study scraped area may be temporarily stockpiled adjacent to the excavation within the footprint of the scraped area prior to being placed within the proposed roadway extension. No other materials shall be stockpiled outside of the 50-foot-wide work area. Stockpiles will require management in accordance with the contractor's Storm-Water Pollution Prevention Plan.

Materials may be temporarily stockpiled in accordance with the following requirements:

- Stockpiled soils must not contain free liquids. The soil must also retain any liquid when subjected to the compressive weight of the piled soil. Should the soil exhibit free liquids, the soil must be stored in watertight containers.
- Stockpiles must be covered when not adding or removing soil to avoid erosion from wind and water. If windblown dispersion is a problem for uncovered portions of the pile, application of water spray may be necessary to control dust.
- Controls for precipitation runoff and run-on must be provided that comply with applicable storm-water permit requirements.

#### **2.5 Access Control**

The ESCA RP Team will relocate the fence located along the southern side of Eucalyptus Road to ensure that access to the former Impact Area is restricted during and following the proposed roadway extension construction activities. The fence will be moved from its existing location to the southern boundary of the proposed roadway extension work area. The fencing specifications are based on Army specifications for barbed wire fencing (Spec No. 9705, Section 02832). The fencing will include four-strand galvanized barbed wire with posts every 10 feet and pole posts every 500 feet. As an additional measure to restrict public access, concertina wire coils will be attached to the barbed wire fencing on the southern side.

## **2.6 Detection of Unanticipated or Suspected Soil Contamination**

Based on the Basewide Range Assessment (BRA; Shaw/MACTEC 2006), no historical areas or suspected soil contamination were identified within limits of the proposed roadway extension. It is not anticipated that residual chemical contamination will be encountered in the soil. However, the potential exists that as yet undiscovered chemical contamination may be encountered during the asphalt removal and associated soil handling activities associated with construction activities related to the proposed roadway extension.

Unanticipated chemical contamination conditions (i.e., “suspected” soil contamination) may include, but are not limited to:

- oily, shiny, or saturated soil or free product
- soil with strong chemical odor
- discovery of objects of environmental concern such as underground storage tanks and associated piping, buried drums, etc.
- discovery of suspected debris of environmental concern (i.e., buried refuse, asbestos-containing pipes, and Transite™)
- other conditions that vary materially from those documented during previous investigations

If suspected soil contamination is encountered during the proposed roadway extension activities, the following procedures will be followed:

1. All field activities that may potentially disturb the suspected contamination must be immediately stopped and the site vacated.
2. If an emergency situation requiring medical attention, containment assistance, or other emergency assistance arises, 911 should be called, and emergency procedures given in the subcontractor’s Health and Safety Plan should be followed.
3. Notify contacts listed in Table 1.



4. Equipment and clothing coming in contact with the contamination shall be decontaminated.

### **2.7 Detection of Unanticipated MEC**

The proposed roadway extension construction activities will be conducted with UXO support. UXO support will be provided in accordance with the UXO Support Work Plan prepared by the ARCADIS Team. In addition to UXO support, work crews will be required to attend a basic ordnance recognition safety briefing prior to beginning soil disturbing activities. This briefing shall be coordinated by the contractor prior to commencement of construction activities, and thereafter conducted on an as-needed basis for new or additional workers. The recognition training will provide workers with information on the types of munitions found elsewhere on the former military facility, and the appropriate actions to perform in the event an ordnance-related item is located. Workers will under no circumstances pick up or remove anything found during grading that resembles a MEC or MEC-like item.

### **3. References**

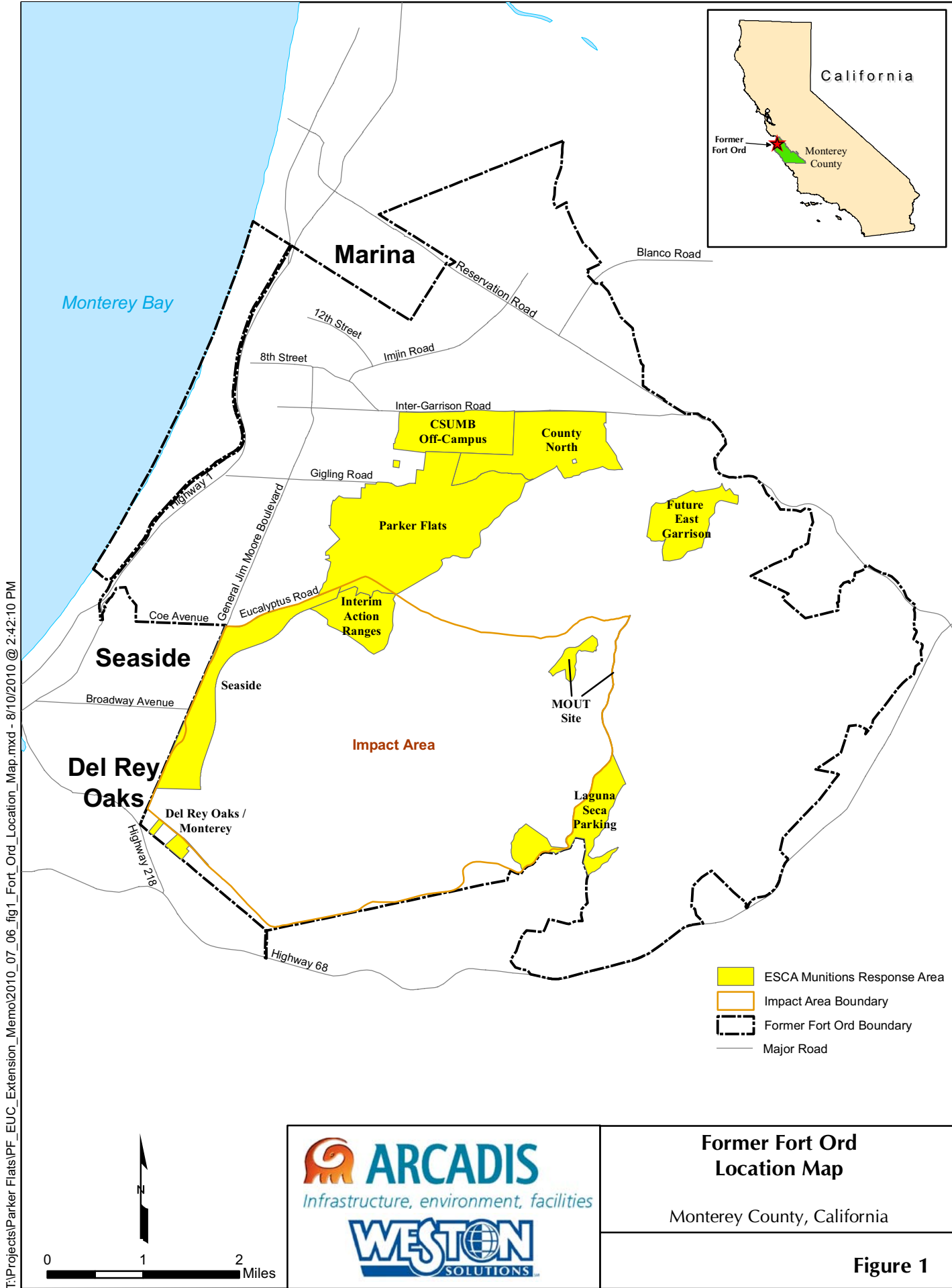
Environmental Services Cooperative Agreement Remediation Program Team (ESCA RP Team). 2008. Final Group 1 Remedial Investigation/Feasibility Study Work Plan, Seaside Munitions Response Area and Parker Flats Munitions Response Area Phase II, Former Fort Ord, Monterey County, California. December 17. (Fort Ord Administrative Record No. ESCA-0124)

Shaw Environmental, Inc./MACTEC Engineering and Consulting, Inc. (Shaw/MACTEC). 2006. Draft Final Comprehensive Basewide Range Assessment Report, Former Fort Ord, California, Revision 1C. November 24. (Fort Ord Administrative Record No. BW-2300G)

United States Department of the Army (Army). 2007. Finding of Suitability for Early Transfer (FOSET), Former Fort Ord, Environmental Services Cooperative Agreement (ESCA) Parcels and Non-ESCA Parcels (Operable Unit Carbon Tetrachloride Plume) (FOSET 5). November 15. (Fort Ord Administrative Record No. FOSET-004J)

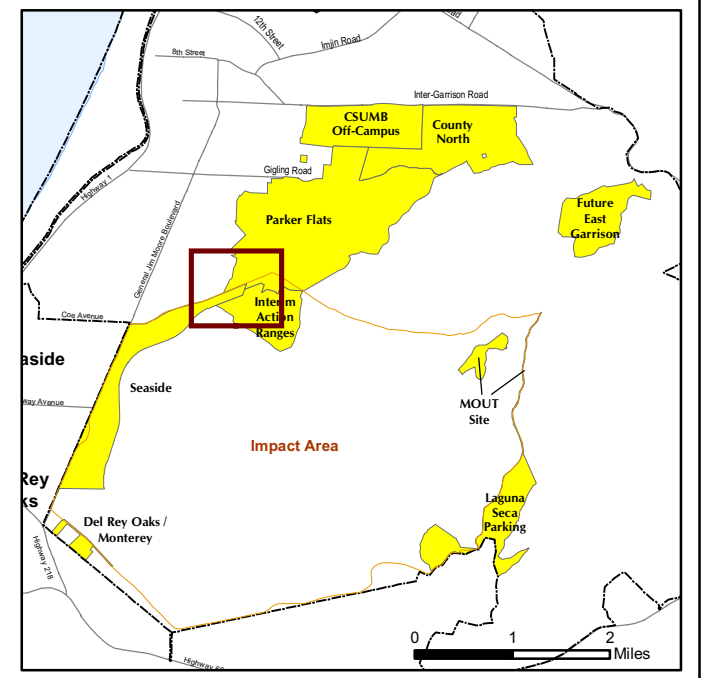
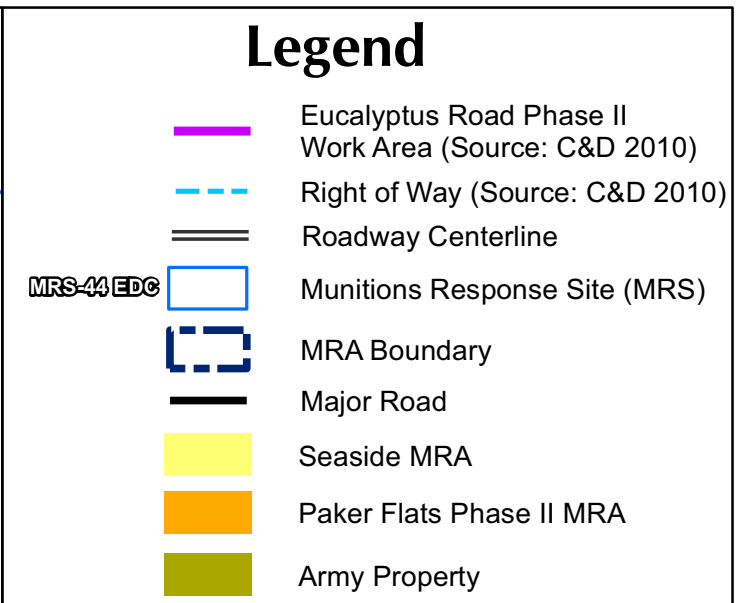
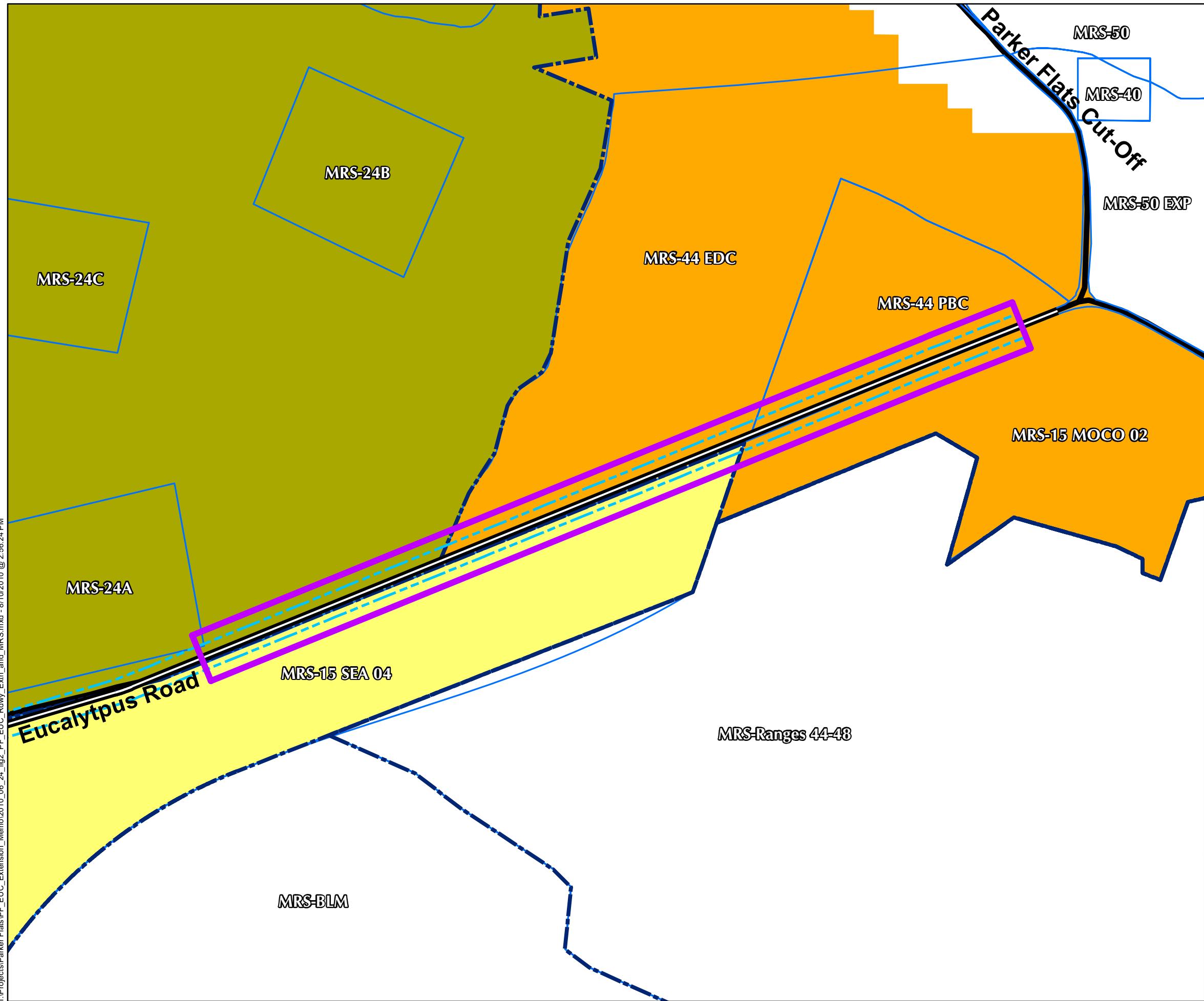
**Table 1 - Notification Requirements**


Contact	Telephone (office/cell)
If unanticipated contamination is encountered or suspected in the field, the persons below must be notified <u>immediately</u> .	
<b>Owner – Fort Ord Reuse Authority</b> Contact: Jim Arnold Stan Cook	831.883.3672
<b>Environmental Consultant</b> WESTON: Linda Temple  ARCADIS: Wendy Bellah <u>or</u> Mike Doherty <u>and</u> Kristie Reimer	831.384.3221  510.596.9608 / 510.590.7317 831.384.3221 / 503.729.1467 831.384.3221 / 650.224.8545
If unanticipated contamination is visually confirmed in the field by the environmental consultant representative identified above, the appropriate persons indicated below will be notified <u>within 24 hours</u> by FORA or their environmental consultant.	
<b>U.S. EPA:</b> Judy Huang	415.972.3681
<b>DTSC:</b> Roman Racca	916.255.6407
<b>Army:</b> Gail Youngblood	831.242.7918
Monterey County Department of Environmental Health, if needed	831.755.4500
Other agencies as applicable (if a specified contaminant is discovered or suspected) e.g., National Response Center	800.424.8802




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Infrastructure, environment, facilities



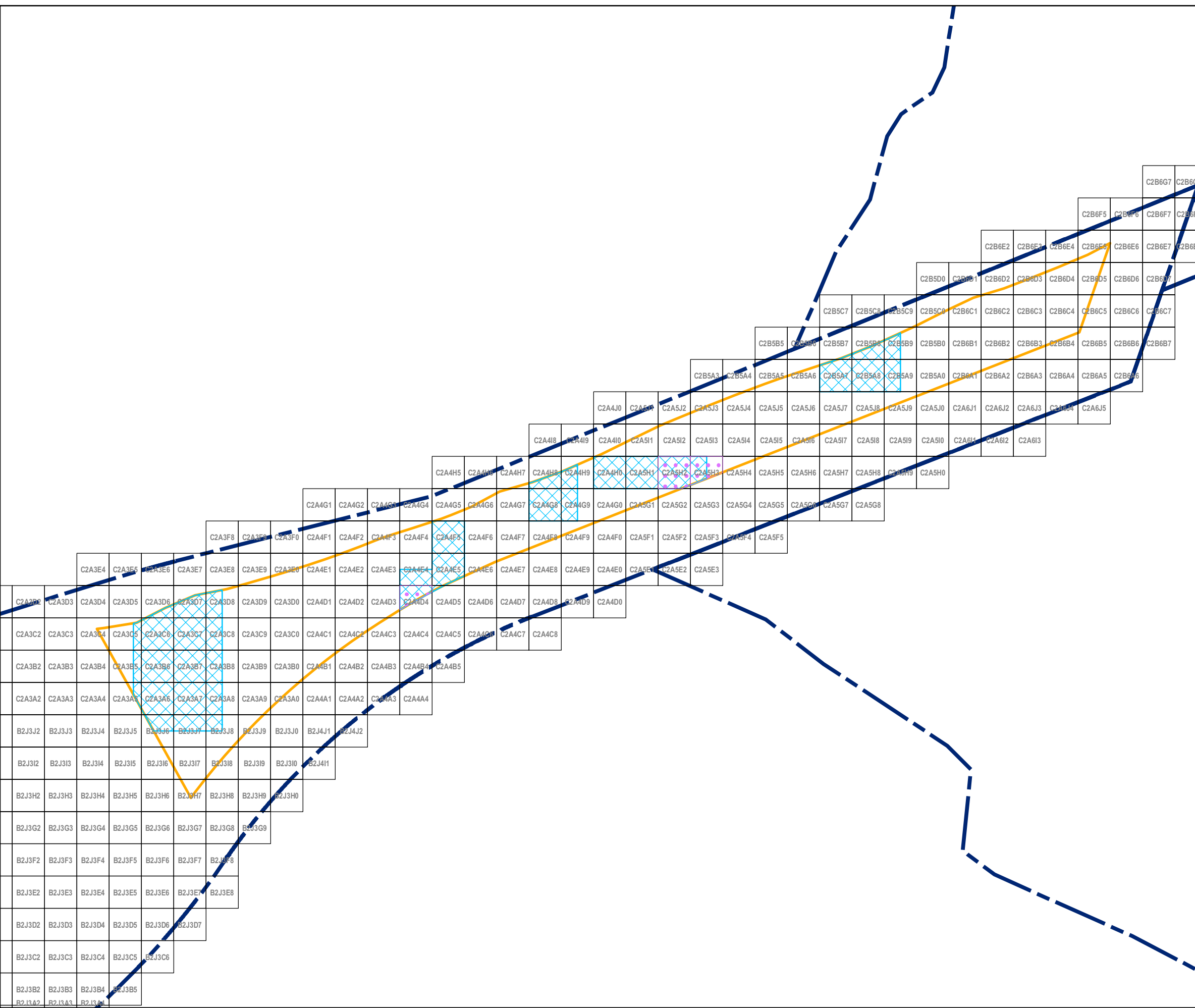
WESTON  
SOLUTIONS

### Eucalyptus Road Phase II Work Area and MRS Boundaries






Monterey County, California

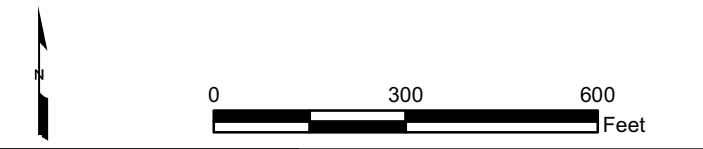
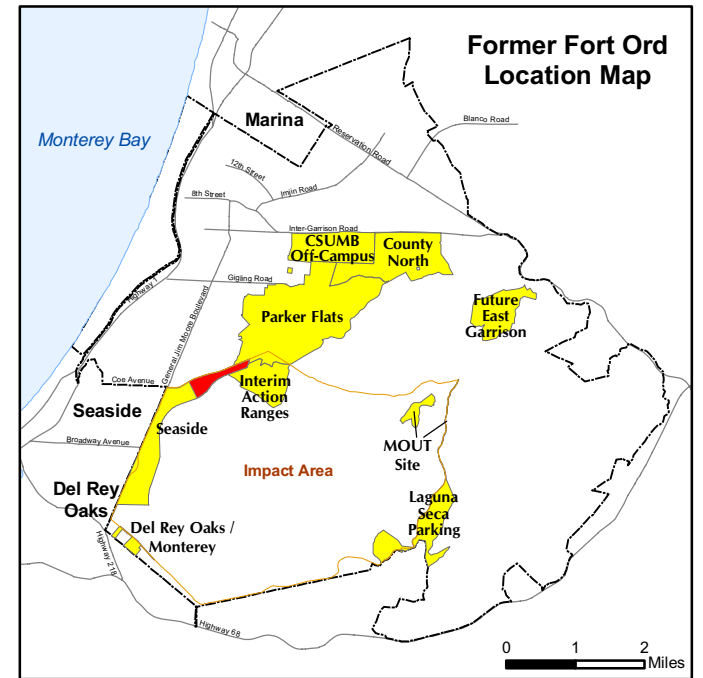
**Figure 2**

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### Legend

-  RQA-SEA.4 Soil Scrape Areas (Approx. 5.1 ac.)
-  RQA-SEA.4 Screened Areas (Approx. 0.3 ac.)
-  Seaside MRA Boundary
-  RQA-SEA.4 Boundary
-  100-ft Grid



**Eucalyptus Road Phase II**  
**RQA-SEA.4**  
**Soil Screen and**  
**Soil Scrape Areas**  
 Monterey County, California

Figure 3