APPENDIX A

Seaside MRA Conceptual Site Model

4.0 SEASIDE MRA CONCEPTUAL SITE MODEL

The Seaside MRA CSM profiles are based on existing information and data provided by the Army and contained in the Fort Ord Administrative Record. Tables and figures associated with the Seaside MRA are located at the end of Section 4.0.

4.1 Seaside MRA Facility Profile

The facility profile provides information on location, physical boundaries, roadways and access, structures and utilities, historical military use, and administrative controls associated with the MRA.

4.1.1 Boundaries and Access

The Seaside MRA is located in the southwestern portion of the former Fort Ord, bordered by the City of Seaside and General Jim Moore Boulevard to the west, the former impact area to the east, Eucalyptus Road to the north, and additional former Fort Ord property to the south (Figure 4.1-1). The Seaside MRA is wholly contained within the jurisdictional boundaries of the City of Seaside.

The Seaside MRA encompasses approximately 419 acres and contains the following four United States Army Corps of Engineers (USACE) property transfer parcels: E23.1, E23.2, E24, and E34 (Table 4.1-1 and Figure 4.1-1).

The Seaside MRA is fenced along the eastern side of General Jim Moore Boulevard and the southern side of Eucalyptus Road, restricting access to most of the MRA and the former impact area to the east and south, respectively (Figure 4.1-1). The narrow area west of General Jim Moore Boulevard is within the MRA but access is not restricted. Use of Eucalyptus Road is restricted by road barriers marked with “road closed” signs located at the intersection of General Jim Moore Boulevard and Eucalyptus Road to the west and at the intersection of Parker Flats Road and Eucalyptus Road to the east. A number of other paved and unpaved roads and dirt trails are located throughout the Seaside MRA (Figure 4.1-1). Detailed information on roadways and access is provided in Table 4.1-2.

4.1.2 Structures and Utilities

The Seaside MRA contains a number of structures and utilities, including 21 existing structures that supported former military activities (Army 2007; Figure 4.1-1). Detailed information concerning location, size, description of structures, presence of asbestos-containing material (ACM) and/or lead-based paint (LBP), if evaluated, and year constructed is provided in Table 4.1-3.

The MRA is not currently served by utilities, such as water and sewer lines. However, a partially aboveground and partially underground line for aquifer recharge water is located

along the western boundary of the MRA parallel to General Jim Moore Boulevard. An abandoned underground communication line that was installed by the Army is reported to be present immediately east of General Jim Moore Boulevard. The exact location of the abandoned communication line could not be confirmed based on a review of available information. A major utility right-of-way for an existing overhead, high-power transmission line and an overhead electrical line runs through the MRA, parallel to General Jim Moore Boulevard (Figure 4.1-1). More detailed information on utilities within the MRA is provided in Table 4.1-2.

4.1.3 Historical Military Use

Figure 4.1-2 shows the locations of known firing ranges and training areas within the MRA. Table 4.1-4 summarizes the historical military uses of these areas within the Seaside MRA. To facilitate previous MEC investigations and removal activities, these locations were divided into four Munitions Response Sites (MRSs), which generally correspond to the four USACE property transfer parcels (Table 4.1-1), except for the narrow area west of General Jim Moore Boulevard, which was not included within the MRS boundaries associated with the MRA. The MRS boundaries are shown on Figure 4.1-3. The MRSs were designated as MRS-15 SEA 1 through MRS-15 SEA 4 and have been collectively referred to as MRS-15 SEA 1-4 (Parsons 2006b).

Initial use of the Seaside MRA began in approximately 1917 when the U.S. government purchased more than 15,000 acres of land and designated it as an artillery range. Although no training maps from this time period have been found, pre-World War II -era military munitions have been removed during previous Army response actions within the Seaside MRA. These munitions included Livens projectiles, Stokes mortars, and 37 millimeter (mm) and 75mm projectiles. Cavalry and artillery troops stationed at the Presidio of Monterey, along with infantry troops stationed at the Presidio of San Francisco, reportedly conducted training activities in the vicinity of the Seaside MRA, although the exact location is not known.

By 1945, 18 firing ranges and training sites were established within the boundaries of the 8,000-acre multi-range area, which was the area around the perimeter of the former impact area. The Seaside MRA lies on the westernmost part of the former multi-range area. The Seaside MRA contained the former firing points and some of the former targets associated with the following training areas:

- Small arms ammunition (SAA) training - Ranges 18, 19, 20, 21, 22, 23, 46, and 59
- Non-firing target range training - Old Range 22 and Range 23M
- Mortar and antitank training – Range 48
- Booby trap training - Range 50

According to the known configuration of the ranges, weapons were fired to the east and southeast from these firing points toward the center of the impact area (Figure 4.1-2). It is expected that munitions activity associated with these ranges would have occurred within the

range fans associated with the firing points. A munitions activity is intended to include military training activities at or near the range that involve the use or handling of military munitions.

4.1.4 Administrative Controls

A number of administrative controls have been and will be imposed on the Seaside MRA, including land use covenants, city ordinances, FORA resolutions, a Memorandum of Agreement (MOA) between FORA and the DTSC, habitat-related requirements, and BOs. The applicable administrative controls are described in more detail in Table 4.1-5. These administrative controls are enforceable and place constraints on field-related activities and future development activities until such time that remediation has been completed and the regulatory agencies have made a determination as to the closure status of the MRA.

4.2 Seaside MRA Physical Profile

The physical profile provides information on topography, geology, vegetation, surface water, and groundwater associated with the MRA that may affect the location, movement, detectability, and recovery of military munitions.

4.2.1 Topography and Geology

The terrain of the Seaside MRA varies from flat to moderately rolling hills. The elevation ranges from approximately 210 to approximately 520 feet mean sea level (msl) with 2 to 15 percent slopes (Figure 4.2-1). Old dune deposits up to 250 feet thick cover most of the area. Table 4.2-1 provides more detailed information on the geology of the former Fort Ord and soils encountered within the Seaside MRA. Surface soil conditions at the MRA are predominantly weathered dune sand (Figure 4.2-1), which provides a relatively good environment for conducting geophysical surveys, including electromagnetic and magnetic surveys.

4.2.2 Vegetation

Vegetation consists primarily of maritime chaparral with patches of non-native grassland and scattered stands of coastal and inland coast live oak woodlands (Table 4.2-2 and Figure 4.2-2; USACE/Jones & Stokes 1992). Poison oak is known to be prevalent in most areas of the MRA. In 2003, as part of the Army's Time-Critical Removal Action (TCRA) for MEC, 398 acres of the Seaside MRA vegetation were cut to make the surface safe and accessible for MEC removal crews. The maritime chaparral was cut to a 6-inch height, and the oak trees were pruned to shoulder height to allow access below the tree canopies. Additional vegetation removal occurred in support of NTCRA. Much of the native vegetation has been reestablished.

4.2.3 Surface Water and Groundwater

Groundwater investigations associated with the Basewide RI/FS have resulted in the installation of a number of groundwater monitoring wells within and adjacent to the Seaside MRA, some of which have been abandoned (Figure 4.2-1). The Seaside MRA overlies the Seaside Groundwater Basin, which is structurally complex and divided into several sub-basins. Groundwater is generally encountered at a depth greater than 100 feet below ground surface (bgs) and is not expected to influence geophysical surveys conducted for MEC remediation activities.

No significant surface-water features or delineated wetlands are reported to be present in the MRA; however, two aquatic features are known to exist to the south and southeast of the MRA.

4.3 Seaside MRA Release Profile

The release profile provides information on the MRA with respect to investigation and removal history, location and extent of military munitions, such as MEC, MPPEH, and MD, and history and conditions of HTW.

4.3.1 Investigation and Removal History

Numerous investigations and removal actions were performed by the Army in the Seaside MRA, which included:

- Field Latrine Investigation from March to November 1997 (USA 2001f)
- MEC Sampling in Small Arms Ranges (OE-15A Grid Sampling) from October to November 1997 (USA 2000a)
- MEC Sampling (OE-15B Grid Sampling) from October 1997 to February 1998 (USA 2000d)
- Impact Area Grid Sampling from March to August 1999 (USA 2001m)
- MEC Removal-Impact Area Roads and Trails from March 1997 to March 1998 (USA 2001d)
- MEC Removal-Blue Line Fuel Break from May to June 1998 (USA 2001p)
- MEC Removal to Support Lead-Contaminated Soil Remediation at Ranges 19, 21, 22, and 23 from April 1997 to June 1999 (USA 2001k)
- MEC Removal to Support Lead-Contaminated Soil Remediation at Range 46 from April to August 1999 (USA 2001k)
- Impact Area Fuel Break Maintenance in 2001 (Parsons 2001)
- TCRA – Vegetation and Surface MEC Removal from December 2001 to March 2002 (Parsons 2006b)

- NTCRA and Phase I Geophysical Operations – 4-foot Removal Action from March 2002 to March 2004 (Parsons 2006b)

The investigation and sampling efforts are summarized in Table 4.3-1. The removal actions are summarized in Table 4.3-2. During the removal actions, burial pits containing MEC were discovered. Additional information on burial pits is provided in the following subsection, and Tables 4.3-2 and 4.3-3 provide detailed information on the specific types of MEC recovered from these burial pits. The results of the removal actions with respect to MEC and MD are summarized in Table 4.3-4 and are shown on Figures 4.3-1, 4.3-2, and 4.3-3. These actions resulted in complete MEC removal to a depth of 4 feet, with the exception of 35 acres identified by the Army as special case areas (SCAs) and a narrow area west of General Jim Moore Boulevard, which was outside the western boundaries of MRS-15 SEA 1 and MRS-15 SEA 2 (Figure 4.3-4). Because the Army's investigation activities did not include the narrow area west of General Jim Moore Boulevard, the status of MEC in this area represents a data gap. Additional information on the SCAs is provided in the following subsection.

Burial Pits

During the removal actions, seven burial pits containing MEC were discovered (Figure 4.3-2). Of the MEC found during the removal actions, 131 of the items and 1 pound of bulk high explosives (HEs) were located in the seven burial pits. Table 4.3-3 provides more detailed information on the specific types of MEC recovered from the burial pits.

Special Case Areas

During the Army's NTCRA and Phase I Geophysical Operations at the Seaside MRA, approximately 35 acres of land were designated as SCAs either because the areas were inaccessible due to surface obstructions or because surface and near-surface features interfered with the signal for the digital geophysical instrumentation, making it difficult to distinguish individual anomalies. The SCAs are shown on Figure 4.3-4 and include:

- Existing Site Fence Area
- Original Fence Line
- Asphalt and Concrete
- Backhoe Excavations
- Excavations requiring Heavy Equipment
- Berms and Retaining Walls
- Structures and Latrines
- Range 46 Weather Station
- Debris Piles

4.3.2 Types of MEC Recovered and Hazard Classification

Table 4.3-4 includes a summary of MEC recovered from the Seaside MRA and associated hazard classification scores. All MEC removed from the Seaside MRA were identified and assigned a hazard classification, except for ordnance components and bulk explosives. Hazard classification scores range from 0 to 3 according to the following descriptions:

Hazard Classification Score	Description
0	Inert MEC that will cause no injury
1	MEC that will cause an injury or, in extreme cases, could cause major injury or death to an individual if functioned by an individual's activities
2	MEC that will cause major injury or, in extreme cases, could cause death to an individual if functioned by an individual's activities
3	MEC that will kill an individual if detonated by an individual's activities

The hazard classification provides a qualitative assessment of risk for MEC. These classifications will be used as inputs in future risk assessments for the Seaside MRA. It should be noted that SAA is not considered in the risk assessment because SAA poses no explosive risk.

4.3.3 Location of MEC and MD

Figures 4.3-1, 4.3-2, and 4.3-3 show the distribution of MEC and MD recovered to date from within the Seaside MRA. A summary of the MEC and MD encountered during previous investigations and removal actions in the Seaside MRA is provided in Table 4.3-5 and included:

- 370 UXO items
- 164 DMM items
- 56,524 pounds of MD (includes expended munitions debris [MD-E] and fragmented munitions debris [MD-F] if weights were documented)

The largest concentrations of MEC were located in MRS-15 SEA 4 between Ranges 18 and 46 in the northern portion of the MRA and in MRS-15 SEA 1 in the area of Range 23 and Watkins Gate Road in the southern portion of the MRA (Figure 4.3-2). MEC were also recovered from several discrete locations as shown on Figure 4.3-2.

The Military Munitions Response Program (MMRP) database indicates that the majority of the MEC recovered from the Seaside MRA were found on the surface, within 6 inches bgs, or in seven burial pits. Figure 4.3-5 shows the distribution of MEC recovered at specified depth intervals and does not include MEC recovered from the burial pits.

Recovered MD (total pounds per grid) in the Seaside MRA is shown on Figure 4.3-3. The majority of the grids contained less than 100 pounds of MD. A majority of the grids that contained more than 100 pounds of MD were concentrated in the southwestern portion of Ranges 19, 20, and 59 and in the southern and western potions of Ranges 23 and 23M, respectively. A portion of the MD identified on Figure 4.3-3 includes small arms scrap (SAS) but not SAA. It should be noted that soil containing small arms and possibly MD was removed from the Seaside MRA (Ranges 18, 19, 21, and 46) as part of the lead-contaminated soil remediation for the Installation Restoration Program (IRP) Site 39. The debris removed as part of the IRP Site 39 program was not likely recorded in the MMRP database and is, therefore, not captured as part of this analysis of MD data.

4.3.4 HTW History and Conditions

A Basewide Range Assessment (BRA) was conducted by the Army to evaluate the potential presence of chemicals of concern (COCs) at known or suspected small arms ranges, multi-use ranges, and military munitions training areas within the former Fort Ord (Shaw/MACTEC 2006). The areas were identified as historical areas (HAs). The objectives of the BRA investigation activities were to identify which HAs could be eliminated from consideration for potential remediation related to COCs, and to identify areas that require additional investigation for potential chemical contamination, or should be considered for remediation/habitat mapping related to COCs.

Table 4.3-6 summarizes the findings of the BRA investigation activities with respect to HTW for each MRS. As stated in the FOSET, based on the BRA, no further action has been recommended for HAs within this MRA (Army 2007). The Seaside MRA is also part of IRP Site 39 at the former Fort Ord. Previous soil remediation activities were conducted as part of the Site 39 program, which has an existing Record of Decision (ROD). In an effort to facilitate the closure of Site 39 Seaside Parcels with respect to risks related to residual metals in soil, a Draft Post-Remediation Health Risk Assessment (PRHRA) has been prepared on behalf of the Army for the Seaside MRA Parcels. The results indicate that the residual metals concentrations in soil do not pose an unacceptable risk to human health and the environment within the Seaside MRA Parcels and that a residential restriction due to residual metals concentrations in soil is not necessary on Ranges 18, 19, 21, and 46. The results of the PRHRA are presented in the "Draft Post-Remediation Risk Assessment, Seaside Parcels 1 through 4, Former Fort Ord, California, Revision C," prepared by Shaw/MACTEC in November 2007 (Shaw/MACTEC 2007b).

4.3.5 Regulatory Status

Work completed to date has been documented in after action reports, which have received regulatory reviews; however, the regulatory agencies have identified the following outstanding issues:

- The CERCLA process must be completed for the Seaside MRA, including development of an RI/FS, development of a Proposed Plan, and completion of a ROD;

- MEC removal action in the SCAs must be completed in accordance with the Army's approved removal action work plan or other agency-approved work plan;
- Additional quality assurance and MEC removal, if necessary, must be completed in areas proposed for residential development within the Seaside MRA.

4.4 Seaside MRA Land Use and Exposure Profile

The land use and exposure profile provides information on the MRA with respect to cultural resources, the current and reasonably foreseeable future uses of the land, and the potential human receptors that may be exposed to military munitions.

4.4.1 Cultural Resources

According to archaeological records, the greater Monterey Peninsula was occupied by Native American groups, including the Ohlone (Costanoan) Indians (EA 1991). Monterey County has designated the southeastern margin of the former Fort Ord as an archaeologically sensitive zone based on two known archaeological sites (EA 1991). The remaining portions of the former Fort Ord have been designated as having low or no archaeological sensitivity. The Seaside MRA is located in the southwestern portion of the former Fort Ord in an area designated as having no archaeological sensitivity.

Actions to be taken at the Seaside MRA will be in compliance with the Programmatic Agreement among the Department of the Army, the Advisory Council on Historic Preservation, and the California State Historic Preservation Officer Regarding the Base Closure and Realignment Actions at Fort Ord, California.

4.4.2 Current Land Use

The Seaside MRA is currently undeveloped, with the exception of General Jim Moore Boulevard, Eucalyptus Road, and a major utility corridor for the high-power transmission line that runs along General Jim Moore Boulevard (Figure 4.1-1). Residual structures that supported training activities at the MRA have been abandoned or are scheduled for demolition.

For the area immediately west of General Jim Moore Boulevard, which is within the MRA but outside of the MRSs, there is a newly installed aquifer recharge water line adjacent to the border with the City of Seaside that is partially aboveground and partially underground. This is a temporary line that does not require access on a routine basis. The area west of General Jim Moore Boulevard is not restricted for access by any control measure, such as fencing.

The area immediately east of General Jim Moore Boulevard and immediately south of Eucalyptus Road has restricted access via the existing site fence. Although infrequent, trespassing has occurred through this area. Along the eastern border of the MRA with the former impact area, a borderland development buffer area was established in the Habitat Management Plan (HMP) along the interface with the natural resources management area

(NRMA) designated as habitat reserve. The setback requirements for the borderland buffer were defined in the Draft Habitat Conservation Plan (HCP) as being 200 feet wide, which must be managed and maintained as prescribed.

Interim uses for this MRA may also include staging of helicopters in support of Army burn activities.

4.4.3 Reasonably Foreseeable Future Land Use

Table 4.4-1 and Figure 4.4-1 identify the proposed uses of the MRA by parcel. It is important to note that the development land use category encompasses infrastructure activities, such as roadway and utility corridor construction, as well as commercial/retail facilities, parks, and borderland activities.

As shown in the Base Reuse Plan, this area is predominantly planned for residential reuse. To facilitate reuse, infrastructure improvements, such as utilities and roadways, are required as described in the previous paragraph. A public park is planned for the southern portion of the Seaside MRA (Figure 4.4-1).

4.4.4 Potential Human Receptors

A number of potential human receptors that could come in contact with residual MEC have been identified for current and future land use scenarios. The potential human receptors include:

- Construction Workers (persons conducting surface and subsurface construction activities) – current/future
- Utility Workers (persons installing and maintaining surface and subsurface utilities) - current/future
- Trespassers (persons not authorized to enter or use an area) – current/future
- Firefighters (may require installation of fire breaks) – current/future
- Emergency Response Workers (police and emergency medical technicians conducting surface activities) – current/future
- Ancillary Workers (biologist, archaeologists) – current/future
- Residents (persons residing in the area conducting surface and subsurface activities) – future
- Recreational users (persons biking or on foot) – future

4.5 Seaside MRA Ecological Profile

The ecological profile provides information on the MRA with respect to biological resources, plant communities and habitats, threatened and endangered species, and habitat management. This information is discussed below and provided in Table 4.5-1.

As discussed in Section 4.3.4, COCs related to HTW have been previously addressed and no further action was recommended. Therefore, potential exposure of ecological receptors to the primary risk factors has been mitigated to an acceptable level and ecological receptor exposure is not considered further in this CSM.

The HMP identifies the Seaside MRA as development (which includes residential reuse) with a borderland development buffer area along the interface with an NRMA designated as habitat reserve (Figure 4.5-1). The NRMA interface separates the development category land within the Seaside MRA from the adjacent habitat reserve area of the former impact area. The NRMA and habitat reserve areas support plant and animal species that require implementation of mitigation measures identified in the HMP to ensure compliance with the ESA and to minimize impacts to listed species.

FORA will implement the mitigation requirements identified in the HMP during MEC activities in accordance with the BOs developed during formal consultation between the Army and the USFWS under Section 7 of the ESA. For habitat areas, these measures include conducting habitat monitoring in compliance with Chapter 3 of the HMP (USACE 1997b). For borderland areas, FORA will follow best management practices while conducting work to prevent the spread of exotic species, limit erosion, and limit access to the NRMA.

4.5.1 Major Plant Communities and Ecological Habitats

Vegetation consists primarily of maritime chaparral with patches of non-native grassland and scattered stands of coastal and inland coast live oak woodlands (Table 4.2-2 and Figure 4.2-2; USACE/Jones & Stokes 1992). Poison oak is known to be prevalent in most areas of the MRA.

4.5.2 Threatened and Endangered Species

The USFWS final Biological Opinion for the Disposal and Reuse of Fort Ord (USFWS BO) required that an HMP be developed and implemented to reduce the incidental take of listed species and loss of habitat that supports these species. The HMP for the former Fort Ord complies with the USFWS BO and establishes the guidelines for the conservation and management of wildlife and plant species and habitats that largely depend on former Fort Ord land for survival. The HMP incorporated conservation measures pursuant to the USFWS BO dated prior to issuance of the HMP in April 1997. Since April 1997, three additional BOs have been issued that are relevant to MEC removal activities (USFWS 1999, 2002, and 2005). Future MEC remediation is required to be consistent with the applicable conservation measures.

Plant species identified at the former Fort Ord that are either threatened or endangered include Contra Costa goldfields (*Lasthenia conjugens;* endangered), sand gilia (*Gilia tenuiflora ssp. Arenaria;* endangered), and Monterey spineflower (*Chorizanthe pungens var. pungens;* threatened).

In 2004, the California tiger salamander (CTS; *Ambystoma californiense*) was identified as a threatened species. CTS may be found as far as 2 kilometers (km) from aquatic breeding habitats. As shown on Figure 4.5-1, the CTS may be found in MRS-15 SEA 1 and MRS-15 SEA 2 as these two MRSs are within 2 km of aquatic features that may provide habitat for the CTS.

The Seaside MRA is identified within the HMP as requiring special management for the boundaries between development areas and the NRMA. The requirements have both interim and long-term maintenance implications. As presented in the HMP, with the exception of boundary management requirements, the Seaside MRA is available for development without restrictions although future landowners will still be required to comply with environmental laws enforced by the federal, state, and local agencies, including the ESA.

4.5.3 Other Communities and Species of Concern

Dominant vegetation in the Seaside MRA consists of maritime chaparral with patches of non-native grassland. The maritime chaparral consists of sclerophyllous (hard-leaved) shrub communities within a live oak woodland (coastal coast and inland coast) region that is best developed on sandy soils within the summer fog zone. This type of chaparral is considered rare by the California Department of Fish and Game (CDFG) and is declining statewide. Development has now limited a majority of this community type in the Monterey Bay Area to undeveloped portions of the former Fort Ord. As identified in the HMP, a number of species could be found on the Seaside MRA, as identified by parcel in Table 4.5-2. The following species of concern to the State of California are identified in the HMP as having possible occurrence in the Seaside MRA: seaside bird's beak (*Cordylanthus rigidus ssp. Littoralis*), toro manzanita (*Arctostaphylos montereyensis*), sandmat manzanita (*Arctostaphylos pumila*), Monterey ceanothus (*Ceanothus cuneatus var. rigidus*), Eastwood's ericameria (*Ericameria fasciculata*), and coast wallflower (*erysimum ammophilum*).

4.6 Seaside MRA Pathway Analysis

As discussed in Section 4.3.4, potential exposure of human and ecological receptors to COCs related to the HTW program has been evaluated by the Army. Based on the Army's evaluation in the FOSET, no further action relative to the COCs is required under the ESCA RP. Therefore, no further discussion of potential exposure to human or ecological receptors to COCs relative to the HTW program is presented in this pathway analysis. The primary focus of the exposure pathway analysis is for human health risk from MEC that are potentially present.

4.6.1 Exposure Pathways

An exposure pathway analysis was conducted for the Seaside MRA using the information gathered in the CSM profiles. Exposure pathways include a source, access, receptor, and activity. The likelihood of exposure, however, has been significantly reduced as a result of previous removal actions by the Army. Exposure pathways for the Seaside MRA are presented on Figure 4.6-1 and discussed below.

Source

Source areas within the Seaside MRA were addressed during the Army's previous removal actions, with the exception of the SCAs (Figure 4.3-4). The historical source areas within the Seaside MRA are shown on Figure 4.1-3, and recovered MEC and MD from these areas are shown on Figures 4.3-1 through 4.3-3. The sources include firing points, target areas, and range safety fans for military weapons training activities and troop training/maneuver areas. There are no known source areas outside of MRS-15 SEA 1-4 to the west of General Jim Moore Boulevard.

Figure 4.6-2 illustrates the most likely release mechanisms for MEC being found in the Seaside MRA, which include:

- Mishandling/Loss, Abandonment, and Burial (Military Weapons Training)
- Direct and Indirect Firing and Thrown (Military Weapons Training)
- Intentional Placement, Mishandling/Loss, Abandonment, and Burial (Troop Training and Maneuvers)

Access

Access to the SCAs and historical source areas is restricted by the fence around MRS-15 SEA 1-4, located east of General Jim Moore Boulevard and south of Eucalyptus Road. Access to the area west of General Jim Moore Boulevard is unrestricted.

Receptor / Activity

Table 4.6-1 identifies the potential human receptors and exposure media as Ground Surface or Below Grade.

4.6.2 Exposure Pathway Analysis

As discussed above, Figure 4.6-1 graphically presents the exposure pathways analysis for the Seaside MRA. The graphic shows the current and future potentially incomplete and potentially complete pathways for activities in the Seaside MRA.

A small risk of MEC exposure remains to current and future receptors during intrusive activities (i.e., digging). There is also a potential risk of MEC exposure within the hillside

west of General Jim Moore Boulevard (Figure 4.3-4) because the information available to date does not appear to be sufficient to conclude presence or absence of MEC in this area.

4.7 Seaside MRA Conclusions and Recommendations

Potential exposure of human and ecological receptors to COCs related to the HTW program has been evaluated by the Army. Based on the Army's evaluation in the FOSET, no further action relative to the COCs is required under the ESCA RP. The CSM has identified a potential for human health risk associated with residual (or potentially present) MEC in the Seaside MRA.

As required by the AOC, the SEDR provides conclusions and recommendations for each MRA. Generally, the SEDR recommendations identify that a particular MRA falls into one or more of the following categories:

- No response action or no further response action is appropriate
- Response action is necessary
- Additional data are required to fill data gaps
- Proceed to RI

The MEC encountered within the Seaside MRA are consistent with the historical use as a weapons and troop training area. However, data gaps, uncertainties, and/or open regulatory issues have been identified and must be addressed prior to receiving regulatory closure and implementing the planned reuse of the MRA. Therefore, the Seaside MRA falls into two of the categories: 1) response action is necessary, and 2) additional data are required to fill data gaps. Based on the existing data for the Seaside MRA, the following recommendations are suggested:

- Response Action - Complete the Army's NTCRA to mitigate risk related to potential MEC in the SCAs.
- Collection of additional data to fill data gaps
    - Collect data sufficient to support the MEC RI on the hillside west of General Jim Moore Boulevard
    - Conduct a Residential Quality Assurance (RQA) Pilot Study to assess the potential for risk from undetected MEC in future residential areas.
- Proceed with Documentation - Prepare the RI/FS and subsequent ROD documentation.

The proposed pathway to regulatory closure incorporating the above recommendations is presented in Section 13.0 of this SEDR.

Table 4.1-1
Seaside MRA - Parcel Numbers, Acreage, and MRS Identifiers

USACE Parcel Number (for land transfer)	Acreage (approximate)	MRS Identifier
E24	198	MRS-15 SEA 1
E34	97	MRS-15 SEA 2
E23.1	48	MRS-15 SEA 3
E23.2	76	MRS-15 SEA 4
MRA TOTAL	419	

Note: Acreages for USACE Parcels E24 and E34 are slightly larger than their corresponding MRSs.

Table 4.1-2
Seaside MRA – Site Features

Feature	Description
Roadways	• General Jim Moore Boulevard is an active two-lane roadway running in a north/south direction through the MRA and is identified as a major roadway corridor. • Eucalyptus Road is a closed two-lane roadway running in an east/west direction along the northern boundary of the MRA that historically allowed access from General Jim Moore Boulevard to the inland portions of the former Fort Ord. • Watkins Gate Road is a secondary paved roadway that extends to the east through the MRA and into the former impact area. • Other roadways (paved or unpaved) that cross the MRA include Broadway Avenue, Evolution Road, Austin Road, and Pipeline Road (not shown on figures).
Structures and Utilities	• Twenty-one structures, which supported former range activities, exist at the MRA. The MRA is not currently served by water and sewer lines. • For the area immediately west of General Jim Moore Boulevard, which is within the MRA but outside of the MRSs, there is a newly installed aquifer recharge water line adjacent to the border with the City of Seaside that is partially aboveground and partially below ground. This is a temporary line that does not require access on a routine basis. • An abandoned underground communication line that was previously installed by the Army is reported to be present immediately to the east of General Jim Moore Boulevard; however, the exact location could not be confirmed based on available information. • A 100-foot-wide right-of-way runs through the MRA parallel to General Jim Moore Boulevard and north of Eucalyptus Road. This right-of-way was granted to Pacific Gas and Electric Company by the Army. The right-of-way contains high voltage (80 kilovolt) electrical wires supported by towers and low voltage (30 and 15 kilovolt) electrical wires supported by standard wooden poles. The low voltage wires are reportedly no longer active. There are additional wires on the wooden poles for data/communication purposes. No known easement has been granted for these activities.
Fencing and Access	• Access to the area east of General Jim Moore Boulevard is restricted by four-strand barbed-wire fencing reinforced with concertina, locked chain-link gates with concertina on the bottom to block the access roads into MRS-15 SEA 1 and MRS-15 SEA 2, and warning signs posted along the fencing. • Access to the area west of General Jim Moore Boulevard is unrestricted. • Access to the area south of Eucalytus Road is restricted by four-strand barbed-wire fencing reinforced with concertina and locked chain-link gates with concertina on the bottom to block the access roads into MRS-15 SEA 3 and MRS-15 SEA 4. • Vehicular access to Eucalyptus Road is restricted by barriers marked with “Road Closed” signs (at the General Jim Moore Boulevard/Eucalyptus Road and Parker Flats Road/Eucalyptus Road intersections).

Table 4.1-3
Seaside MRA - Existing Structures and Buildings

Parcel Number	Facility Number	Area (square footage)	Description	Asbestos-Containing Material	Lead-Based Paint	Year Built
E24	R9232	436	Range Support Building	Unknown	Unknown	Unknown
E24	R9230	410	Field Range Latrines	Unknown	NO	1984
E24	3908	419	Range House	Unknown	YES	1968
E24	R9221	307	Observation Tower	Not surveyed	Unknown	Unknown
E24	R9220	419	Field Range Latrines	No ACM	NO	1985
E34	8312	453	Observation Tower	No ACM	YES	1958
E34	R9190	1,155	Field Range Latrines	Rated 6 to 13	NO	1984
E23.2	R9181	189	Field Range Latrines	No ACM	NO	1984
E23.2	R9483	190	Field Range Latrines	Rated 6 to 13	NO	1984
E23.2	8302	121	Observation Tower	No ACM	YES	1959
E23.1	8304	659	Observation Tower	No ACM	YES	1963
E23.2	R9180	149	Field Range Latrines	Rated 6 to 13	NO	1984
E23.2	8301B	89	Range Support Building	No ACM	Unknown	Unknown
E23.2	8301A	452	Range Support Building	No ACM	Unknown	Unknown
E23.2	R9482	185	Field Range Latrines	No ACM	NO	1984
E23.2	3940	424	Covered Training Area	No ACM	NO	1989
E23.2	3939	1,388	Covered Training Area	No ACM	YES	1968
E23.2	3941	456	Ammunition Magazine	Rated 6 to 13	YES	1950
E23.2	R9460	463	Range Support Building	No ACM	NO	1984
E23.2	3983	73,490	Combat Pistol Range	Not surveyed	YES	1968
E23.2	R9463	186	Field Range Latrines	Unknown	NO	1984

Table 4.1-4
Seaside MRA – Historical Military Use

Location	Description
Range 18	• Used as a small arms firing range at the time of closure. • Past records indicate that 5.56mm, 7.62mm, and 30-caliber machine gun rounds were used or projectiles found on this range. • A historical Range 18, shown on a 1961 training facilities map, is roughly coincident with the current position of Range 18.
Range 19	• Range 19 is shown on maps dating back to 1956. • Use of the range is documented as a firing range from 1973 to present. • Some type of training with small arms took place in the 1940s and possibly early 1950s.
Range 20	• Used as a 10 meter machine gun and 25 meter rifle range at the time of closure. • Past records indicate that 5.56mm, 7.62mm, and 30-caliber machine gun rounds were used or projectiles found on this range.
Range 21	• Used as a 10 meter machine gun and 25 meter rifle range at the time of closure. • Past records indicate that 5.56mm, 7.62mm, and 30-caliber machine gun rounds were used or projectiles found on this range.
Range 22 and Old Range 22	• Used as a 50-caliber machine gun range at the time of closure. • Past records indicate that 5.56mm, 7.62mm, and 30-caliber machine gun rounds and 106mm recoilless rifle rounds were also used or projectiles found on this range. In addition, M48 series 50-caliber spotter-tracer projectiles (A574) that are used to check the aim of the 106mm recoilless rifle may also be present on the range. • Another Range 22, which was roughly parallel to General Jim Moore Boulevard, was shown on range control maps at the time of closure. It was decommissioned in the past and labeled as "non-firing" on numerous historical maps. According to reviewed documents, it was an identified target detection range (a non-firing range, use of live ammunition was not authorized). This decommissioned Range 22 is labeled as "Old Range 22" on applicable maps in this report.
Range 23	• Used as a squad attack range at the time of closure. • Past records indicate that 5.56mm and 7.62mm machine gun rounds, 40mm HE projectiles, and claymore mine components (electrical firing devices) were used or projectiles found on this range. • A 1961 training facilities map indicates an automatic rifle Table VIII (automatic rifle training), and a 1964 map shows a Range 23. Both ranges are roughly coincident with the current position of Range 23.
Range 23M	• Used as a non-firing training area for laser-aimed Dragon anti-armor weapons. • Some Dragon missiles and 4.2-inch mortar fragments have been found on the range.
Range 46	• Used as a small arms range from the late-1950s up to the time of closure. • Firing point located within MRS-15 SEA 4 with target sites located downrange to the southeast in front of a berm. • Records and field investigations indicate that the military munitions at this range were restricted to small arms (pistols and rifles).

Table 4.1-4
Seaside MRA – Historical Military Use

Location	Description
Range 48	• Used as a light antitank weapon (LAW) range at the time of base closure. • The firing point located within MRS-15 SEA 4 with target locations located downrange to the southeast. • Records show range was in use since the 1940s. • Used for weapons familiarization training, and as a sniper range, mortar range, and machine gun range. • Records and recent field investigations indicate the following military munitions used or found in this range: – fragmentation hand grenades; – practice rifle grenades; – practice mines, including claymore and antipersonnel, and AT types; – Dragon-guided and high-explosive antitank (HEAT) missiles; – mortars, including HE, illumination, target practice, and white phosphorous types; – projectiles including HE, HEAT, illumination, practice, smoke, and subcaliber types; – HEAT, incendiary, practice, and subcaliber rockets illumination signals; and small arms.
Range 50	• Identified as a Booby Trap training area in 1945.
Range 59	• Shown on a 1956 training facilities map, indicating that a range labeled M1 Table XI (M1 rifle training) existed in MRS-15 SEA 2. • A 1967 training facilities map shows a Range 59 that is roughly coincident with that area. Range 59 appears to have been decommissioned in the past and is not shown on range maps at the time of base closure.

References: USACE 1997a and Parsons 2006b

Table 4.1-5
Seaside MRA – Administrative Controls

Type	Description
Land Use Covenants	• As identified in the FOSET, Covenants Restricting the Use of the Property (CRUPs) have been imposed on the Seaside MRA parcels (Army 2007). • These CRUPs are defined in the "Memorandum of Agreement Among the Fort Ord Reuse Authority, Monterey County and Cities of Seaside, Monterey, Del Rey Oaks and Marina, California State University Monterey Bay, University of California Santa Cruz, Monterey Peninsula College, and the Department of Toxic Substances Control Concerning Monitoring and Reporting of Environmental Restrictions on the Former Fort Ord, Monterey County, California." • These restrictions involve the enforcement of site review and reporting requirements and agency cost recovery/reimbursement requirements as imposed by the DTSC.
Restrictions to Digging/ Excavation	• City of Seaside Ordinance No. 259 amending the municipal code referred to as Chapter 15.34. • The ordinance prohibits excavation, digging, development, or ground disturbance of any type on the former Fort Ord that involves the displacement of 10 or more cubic yards of soil without approval.
FORA Resolution 98-1	• An approved FORA resolution that contains proposed and suggested measures to avoid or minimize hazardous material impact.
ESCA MOA	• The MOA between FORA and the jurisdictions for the purpose of defining the terms of an agreement for holding and managing (ownership and responsibilities) property while remedial work is accomplished under an ESCA. • The MOA establishes FORA's ownership during the MEC remediation period; identifies that jurisdictions need to provide public safety response from police, fire, and other emergency personnel as needed; establishes control of access to ESCA property during the MEC remediation period; and agreement that access to properties will be governed by the restrictions included in the Land Use Covenant accompanying the transfer of the property.
Habitat Management Plan	• The HMP incorporated conservation measures pursuant to USFWS BOs dated prior to issuance of the HMP in April 1997. Specific MEC activities were addressed in Chapter 3 of the HMP (USACE 1997b).
Biological Opinions	• Since the release of the HMP, a number of BOs have been issued that are relevant to the MEC remediation period (USFWS 1999, 2002, and 2005). Accordingly, some information has been updated and additions have been made to the sections that address MEC activities. • Future MEC work is required to be consistent with the applicable conservation measures.

Table 4.2-1
Seaside MRA – Geology and Soils

Type	Description
General Geology	• The former Fort Ord is located within the Coast Ranges Geomorphic Province, which consists of northwest-trending mountain ranges, broad basins, and elongated valleys generally paralleling the major geologic structures. • The former Fort Ord is located at the transition between the mountains of the Santa Lucia Range and the Sierra de la Salinas to the south and southeast, respectively, and the lowlands of the Salinas River Valley to the north. • The geology of the former Fort Ord generally reflects this transitional condition. Older, consolidated rocks are characteristically exposed in the mountains near the southern base boundary, but are buried under a northward-thickening sequence of younger, unconsolidated alluvial fan and fluvial sediments in the valleys and lowlands to the north. In the coastal lowlands, these younger sediments commonly interfinger with marine deposits. • The former Fort Ord and the adjacent areas are underlain, from depth to ground surface, by one or more of the following older, consolidated units: Mesozoic granite and metamorphic rocks; Miocene marine sedimentary rocks of the Monterey Formation; and upper Miocene to lower Pliocene marine sandstone of the Santa Margarita Formation (and possibly the Pancho Rico and/or Purisima Formations). • Locally, these units are overlain and obscured by geologically younger sediments, including: Pliocene-Pleistocene alluvial fan, lake, and fluvial deposits of the Paso Robles Formation; Pleistocene eolian and fluvial sands of the Aromas Sand; Pleistocene to Holocene valley fill deposits consisting of poorly consolidated gravel, sand, silt, and clay; Pleistocene and Holocene dune sands; recent beach sand and alluvium. • The MRA includes deposits from the Paso Robles Formation and sand and gravel deposits of Aromas Sandstone.
Topography and Soils	• Terrain varies from flat to moderately rolling with 2 to 15 percent slopes. • Elevation ranges from approximately 210 to approximately 520 feet msl. • Soils consist predominantly of Baywood Sand with 2 to 15 percent slopes. • Soils formed by Pleistocene-age dune deposits (Baywood Sand) that may be up to 250 feet thick with Arnold Santa Ynez Complex sand deposits, which are older but similar in composition, to the east. The Baywood Sand deposits cover the entire MRA. • Mature plant communities largely stabilize these widespread, unconsolidated dune deposits.

References: EA 1991, HLA 1995, and the Fort Ord MMRP Database

Table 4.2-2
Seaside MRA – Vegetation

MRS Identifier	USACE Parcel Number	Vegetation
MRS-15 SEA 1	E24	All vegetation within the MRSs of the Seaside MRA was mechanically or manually cut to support the TCRA and NTCRA that were conducted by the Army from 2001 to 2003. The current vegetation may include early seral stages of maritime chaparral. Coast live oak woodland strands are scattered throughout the MRS.
MRS-15 SEA 2	E34	All vegetation within the MRSs of the Seaside MRA was mechanically or manually cut to support the TCRA and NTCRA that were conducted by the Army from 2001 to 2003. The current vegetation may include early seral stages of maritime chaparral
MRS-15 SEA 3	E23.1	All vegetation within the MRSs of the Seaside MRA was mechanically or manually cut to support the TCRA and NTCRA that were conducted by the Army from 2001 to 2003. The current vegetation may include early seral stages of maritime chaparral. A coast live oak woodland strand is located in the northwestern portion of the MRS, and individual coast live oaks are scattered throughout the MRS.
MRS-15 SEA 4	E23.2	All vegetation within the MRSs of the Seaside MRA was mechanically or manually cut to support the TCRA and NTCRA that were conducted by the Army from 2001 to 2003. The current vegetation may include early seral stages of maritime chaparral. A coast live oak woodland strand is located in the northwestern portion of the MRS, and individual coast live oaks are scattered throughout the MRS.

Table 4.3-1
Seaside MRA – Investigation and Sampling

Activity	Summary
Field Latrine Investigation	• From March to November 1997, removal work was performed on 52 of the approximately 132 field latrines scattered throughout the former Fort Ord because MEC may have been discarded in the latrines. Two field latrines located in MRS-15 SEA 1 were investigated, but no MEC were encountered (USA 2001f).
MEC Sampling in Small Arms Ranges (OE-15A Grid Sampling)	• From October to November 1997, 20 100-foot by 100-foot grids located in Site OE-15A were sampled to determine the need and scope of future removal actions. Site OE-15A consisted of those areas within the range fans of Small Arms Ranges 18, 19, 21, 39, and 46. • Five of the 20 sample grids were placed within the boundaries of the Seaside MRA. MRS-15 SEA 2 contained one grid in Range 19 (Grid G1); MRS-15 SEA 4 contained three grids in Range 18 (Grids G1, G2, and G3) and one grid in Range 46 (Grid G1). • Schonstedt magnetometers were used to investigate 100 percent of each sample grid. All anomalies detected were investigated to depth and resolved (USA 2000a).
MEC Sampling (OE-15B Grid Sampling)	• From.October 1997 to February 1998, 41 100-foot by 100-foot grids located in OE-15B were sampled to determine the need and scope of future removal actions and establish the types and distribution of MEC in the impact area. • Of the 41 sample grids, six were located within the boundaries of the Seaside MRA; five grids (G16, G18, G19, G20, and G37) were located in MRS-15 SEA 1; and one grid (G21) was located in MRS-15 SEA 2. • Schonstedt magnetometers were used to investigate 100 percent of each sample grid (USA 2000d).
Impact Area Grid Sampling	• Between March and August 1999, 213 100-foot by 100-foot grids in MRS-MOCO.2, MRS-15 SEA 1-4, MRS-DRO.2, and MRS-MOCO.1 were sampled to determine the need and scope of future removal actions. • One hundred fifty-five sample grids were placed in MRS-15 SEA 1-4, and 100 percent of each grid was investigated with Schonstedt magnetometer (USA 2001m).

Table 4.3-2
Seaside MRA – Removal Activities, Burial Pits, and Special Case Areas

Activity	Summary
MEC Removal – Impact Areas Roads and Trails	• From March 1997 to March 1998, vegetation clearance operations and a 4-foot removal conducted with Schonstedt magnetometers were performed on eight range roads and 32 dirt trails in the former impact area to facilitate travel for field activities. Six of the roads (Winchester, Range 23, Hangfire, Tracer, Canister, and Broadway) were located in the Seaside MRA. • MEC items were removed from grids on Winchester Road, Hangfire Road, and Range 23 Access Road located in MRS-15 SEA 1 (USA 2001d).
MEC Removal – Blue Line Fuel Break Reestablishment	• Between May and June 1998, vegetation clearance operations and a 4-foot removal (with Schonstedt magnetometers) were performed on the 30-foot-wide, approximately 6-mile-long fuel break (the Blue Line) that extends west along the southern border of MRS-MOCO.2 and MRS-15 SEA 3–4 and then bends south along the eastern boundaries of MRS-15 SEA 1–2, MRS-DRO.1–2, MRS-MOCO.1, and MRS-46. • This work was performed to reestablish the fuel break as part of the wildfire safety and control program in the former impact area. MRS-15 SEA 1–4 contained 133 contiguous sections (grids) of this fuel break (USA 2001p).
MEC Removal to Support Lead-Contaminated Soil Remediation – Ranges 19, 21, 22, and 23	• From April 1997 to June 1999, 4-foot removal operations with Schonstedt magnetometers were conducted in Ranges 19, 21, 22, and 23 to support efforts to remediate spent SAA and lead-contaminated soil and to provide safe access routes for personnel and equipment into the areas (USA 2001k). • In Ranges 19, removal operations were completed on nine access road sections and 23 target boxes to prepare the target boxes for the lead remediation work. No MEC were encountered during this operation. • In Range 21, removal operations were performed on, in front of, and behind a berm to prepare the area for the lead remediation work. The removal work in front of the berm was stopped because the excessive anomalies in the area interfered with the Schonstedt. The removal operations on and behind the berm were successfully completed. No MEC were encountered. • In Range 22, removal operations were planned to prepare the area for the lead remediation work; however, they were cancelled because it was determined that there was insufficient lead contamination to warrant remediation operations. • In Range 23, removal operations were completed on an access road into the range before operations were cancelled because it was determined that there was insufficient lead contamination to warrant remediation operations. Three MEC items were found on the access road before work was stopped (a 22mm subcaliber M744 projectile, a practice 3-inch Stokes trench mortar, and a practice 40mm M781 cartridge).
MEC Removal to Support Lead – Contaminated Soil Remediation – Range 46	• From April to August 1999, 4-foot operations with Schonstedt magnetometers were conducted on 26 grids around Range 46 to support efforts to remediate spent SAA and lead-contaminated soil around the range's firing line (USA 2001k). • Of the 26 cleared grids, all or a portion of 23 were located in MRS-SEA 4. • During this work, no MEC were encountered.
Impact Area Fuel Break Maintenance	• To prevent and control wildfires in the former impact area, maintenance work was conducted in 2001 on old roads, trails, and fuel breaks in the impact area used during military training activities. Surface removals were conducted on the 15-foot sides of each fuel break, and a 4-foot removal (with deeper excavations approved by the USACE Ordnance and Explosives Safety Specialist [OESS]) was performed with

Table 4.3-2
Seaside MRA – Removal Activities, Burial Pits, and Special Case Areas

Activity	Summary
	Schonstedt magnetometers on some of the fuel breaks' 15- to 20-foot-wide centers. Five of the reestablished fuel breaks had sections that were within MRS-15 SEA 1-4: Austin Road, General Jim Moore Road (North and South), Broadway Road (West), Watkins Gate Road, and Nowhere Road (Parsons 2001).
TCRA	• During December 2001 to March 2002, a TCRA was completed over the surface of MRS SEA.1-4 (this action was done separately under an Action Memorandum, which describes the decision for conducting the TCRA). The TCRA was done to address the imminent threat posed to human health (public safety) or welfare or the environment posed by the presence of MEC on the surface on MRS-SEA 1-4 (Parsons 2006b). • To make the surface safe and accessible for UXO removal crews, the predominantly maritime chaparral vegetation covering MRS-15 SEA 1-4 was cut. UXO teams visually searched the surface with the aid of Schonstedt magnetometers to help detect items that might be under debris. • All surface items that were observed or detected with a Schonstedt were removed.
NTCRA & Geophysical Operations	• During March 2002 to March 2004, an NTCRA and 100 percent digital geophysical survey were performed at the MRA. The NTCRA was performed on five distinct removal areas within the MRA that were determined based on the results of the previous investigations (portions of MRS-15 SEA 1-4 adjacent to the removal areas were also subjected to the NTRCA if MEC were found near the removal area boundaries). The NTCRA was performed by the Army to address the threat to human health (public safety) or the welfare or the environment posed by the presence of MEC of MRS-15 SEA 1-4 (Parsons 2006b). • A 100 percent digital geophysical survey was also conducted by the Army on all remaining portions of the site not covered by the NTCRA. The 100 percent digital geophysical survey was conducted to confirm the previous sampling work done. Prior to the geophysical survey, approximately 87 acres of vegetation in three areas were re-cut in fall 2003. • The geophysical operations specified in he Army's approved MRS-15 SEA 1-4 Site-Specific Work Plan were completed in all accessible portions (about 91 percent) of MRS-15 SEA 1-4 to the maximum capacity of the technologies and instruments used. Analog and digital ordnance detection instruments were used over all accessible portions of MRS-15 SEA 1-4 to locate subsurface anomalies, and all detected anomalies were resolved.
NTCRA Burial Pits	• During the NTCRA and Phase I Geophysical Operations, seven burial pits containing MEC were discovered (Parsons 2006b). • The MEC recovered from the seven burial pits consisted of 105 M10 series hand grenade fuzes, 17 ordnance components, three MKII practice hand grenades, and six 3-inch MK1 practice mortar (Table 4.3-3). • Military munitions recovered from other burial pits (containing MD) included 80 SAA and 22 items determined to be MD-E consisting mostly of expended 3-inch and 4-inch MK1 practice mortars. • All MEC items found below 8 inches and 86 percent of all items found in MRS-15 SEA 3 were located in a single burial pit.

Table 4.3-2
Seaside MRA – Removal Activities, Burial Pits, and Special Case Areas

Activity	Summary
NTCRA Special Case Areas	• During the NTCRA and Phase I Geophysical Operations, approximately 35 acres of land were inaccessible or near-surface sources of interference prevented the digital geophysical instruments from being able to distinguish individual anomalies (Parsons 2006b). These areas were categorized by the Army as SCAs, and include the following: • Existing Site Fence Area The metallic site fence and associated chain-link access gates to the MRSs along General Jim Moore Boulevard and Eucalyptus Road interfered with the geophysical instruments in areas within 5 to 15 feet of the fence. • Original Fence Line The original fence line area is located 10 to 15 feet inside the boundaries for MRS-SEA 1-3, just east of General Jim Moore Boulevard. The original fence, which consisted of concertina, was removed, and electromagnet operations were performed over the area to collect metal debris associated with the deteriorating fencing. Following the electromagnetic operations, the digital instrument response was saturated in the immediate area of the original fence line because the soil surface was magnetized due to the electromagnetic operations. As a result, this area could not be geophysically surveyed for the presence of military munitions. • Asphalt and Concrete The asphalt range roads extending from General Jim Moore Boulevard and Eucalyptus Road into the Seaside MRA and the adjacent asphalt/concrete range pads made the surface inaccessible to the geophysical instruments at the time of the investigation. There are also several range structures (e.g., range towers, break areas, etc.) on top of the asphalt and culverts in the subsurface near the asphalt roads. • Backhoe Excavations Approximately 350 locations require backhoe excavations. These include areas where backhoe excavations were started but not completed due to budgetary constraints and areas containing buried cable/wire, grounding rods, range markers, reinforced concrete, and wood. • Heavy Equipment Excavations Approximately 40 locations require excavation with heavy equipment. These include concrete bunkers, fighting positions, flag/utility poles, target boxes, tie downs, utility poles, and wooden stairs. • Berms There are several berms in the Seaside MRA, some of which are reinforced with wooden retaining walls. The metal connectors of the retaining walls prevented geophysical surveys from being conducted in some of the areas near the berms, and the material in the berms was too thick to effectively detect military munitions. • Structures/Latrines There are several structures and latrines in the Seaside MRA. The surface underneath the structures and latrines was inaccessible, and the immediate areas around these buildings could not be surveyed because of interference. • Range 46 Weather Station

Table 4.3-2
Seaside MRA – Removal Activities, Burial Pits, and Special Case Areas

Activity	Summary
	A remote automated weather station (RAWS) was situated on Range 46 during previous removal actions at the Seaside MRA and has since been removed. The ground surface underneath the former RAWS was inaccessible, and the immediate areas around the RAWS could not be geophysically surveyed because of interference. • Debris Piles There are several locations where debris was piled that were inaccessible to the geophysical operations.

Table 4.3-3
Seaside MRA – Burial Pits Containing MEC

Site	Grid	Pit No. *	Type	Description	Qty	Depth (inches bgs)
MRS-SEA 1	**B1B8D5**		UXO	Projectile, 3-inch, mortar, HE, MK I	5	20
	BIB8F7		UXO	Ordnance components	17	18
	B1C7G7		UXO	Projectile, 3-inch, mortar, practice, MK I	1	48
MRS-SEA 2	**B1F9F3**		UXO	Bulk, HE (Model Unknown)	1 pound	24
MRS-SEA 3	**B2I1I9**	**1**	DMM	Fuze, grenade, hand, M10 series	7	8
		2	UXO	Fuze, grenade, hand, M10 series	98	16
MRS-SEA 4	**C2A3D0**		UXO	Grenade, hand, practice, MK II	3	4

Note: * If more than one pit was found in a grid.

Reference: Fort Ord MMRP Database

Please note: Munitions descriptions have been taken directly from the Army's MMRP Database and/or other historical documents. Any errors in terminology, filler type, and/or discrepancies between model number and caliber/size are a result of misinformation from the data sources.

Table 4.3-4
Seaside MRA – Types of MEC Removed and Hazard Classification

Location	MEC Item	UXO	DMM	Hazard Classification
MRS-15 SEA 1	Cap, blasting, electric, M6	0	4	1
	Cartridge, 40mm, practice, M781	0	20	1
	Fuze, grenade, hand, M10 series	0	86	1
	Fuze, grenade, hand, practice, M205 series	0	2	1
	Fuze, grenade, hand, practice, M228	2	3	1
	Fuze, projectile, combination, M1907	1	0	1
	Fuze, projectile, point detonating, M48 series	1	0	2
	Fuze, trench mortar, point detonating, MK VI	1	0	2
	Grenade, hand, fragmentation, MK II	1	0	3
	Grenade, hand, incendiary, TH3, AN-M14	1	0	1
	Grenade, hand, riot, CS, M7A3	1	0	1
	Grenade, hand, smoke, M18 series	5	0	1
	Ordnance Components	19	0	NS
	Projectile, 22mm, subcaliber, practice, M744	1	0	1
	Projectile, 37mm, low explosive, MK I	3	0	3
	Projectile, 3inch, trench mortar, practice, MK I (Stokes)	28	0	1
	Projectile, 40mm, parachute, illumination, M583 series	1	0	1
	Projectile, 4inch, mortar, screening smoke, FM (Stokes)	6	0	3
	Projectile, 4inch, mortar, smoke, HC (Stokes)	4	0	2
	Projectile, 4inch, trench mortar, practice, MK I (Stokes)	5	0	1
	Projectile, 4inch, trench mortar, smoke, white phosphorous, MK I (Stokes)	1	0	3
	Projectile, 75mm, high explosive, MK I	1	0	3
	Projectile, 75mm, Shrapnel, MK I	6	0	3
	Projector, Livens, screening smoke, FM	2	0	3
	Rocket, 35mm, subcaliber, practice, M73	1	0	1
	Signal, ground, rifle, parachute, M17 series	2	0	1
	Signal, illumination, M187	1	0	1
	Simulator, grenade, hand, M116A1	1	0	2
	MRS TOTAL	**95**	**115**	
MRS-15 SEA 2	Bulk, high explosive (model unknown) – 1 pound *	0	0	NS
	Fuze, grenade, hand, M10 series	0	2	1
	Fuze, grenade, hand, practice, M205 series	0	2	1
	Grenade, hand, smoke, M18 series	1	0	1
	Projectile, 3inch, trench mortar, practice, MK I (Stokes)	6	0	1
	Signal, illumination, ground, M125 series	1	0	2
	MRS TOTAL	**8**	**4**	
MRS-15 SEA 3	Cap, blasting, electric, M6	0	1	1
	Fuze, grenade, hand, M10 series	98	10	1
	Fuze, grenade, hand, practice, M205 series	2	0	1
	Fuze, grenade, hand, practice, M228	0	4	1

Location	MEC Item	UXO	DMM	Hazard Classification
	Grenade, rifle, smoke, M22 series	1	0	1
	Projectile, 37mm, high explosive, MK II	1	0	1
	Projectile, 37mm, low explosive, MK I	1	0	3
	Rocket, 3.5inch, practice, M29 series	1	0	0
	Rocket, 35mm, subcaliber, practice, M73	2	0	1
	Signal, ground, rifle, parachute, M17 series	1	0	1
	Signal, illumination, ground, M21A1	1	0	1
	MRS TOTAL	**108**	**15**	
MRS-15 SEA 4	Activator, mine, antitank, practice, M1	0	1	1
	Cap, blasting, non-electric, M7	0	1	1
	Cartridge, ignition, M2 series	39	3	1
	Flare, surface, trip, M49 series	3	0	1
	Fuze, grenade, hand, M10 series	2	12	1
	Fuze, grenade, hand, practice, M228	1	11	1
	Fuze, mine, antitank, practice, M604	0	1	1
	Fuze, mine, combination, M6A1	0	1	1
	Fuze, projectile, point detonating, M503 series	1	0	2
	Grenade, hand, fragmentation, MK II	3	0	3
	Grenade, hand, practice, M30	22	0	1
	Grenade, hand, practice, MK II	32	0	1
	Grenade, hand, smoke, M18 series	1	0	1
	Grenade, rifle, smoke, M22 series	15	0	1
	Mine, antitank, practice, M1	1	0	1
	Ordnance Components	7	0	NS
	Pot, 10lb, smoke, HC, screening, M1	3	0	1
	Primer, igniter tube, M57	2	0	1
	Projectile, 3inch, Hotchkiss	1	0	3
	Projectile, 40mm, high explosive, M386	1	0	3
	Projectile, 57mm, high explosive, M306 series	14	0	3
	Projectile, 60mm, mortar, high explosive, M49 series	2	0	3
	Projectile, 75mm, Shrapnel, MK I	2	0	3
	Projectile, 81mm mortar, high explosive M43 series	1	0	3
	Rocket, 35mm, subcaliber, practice, M73	4	0	1
	Signal, illumination, ground, M125 series	1	0	2
	Simulator, flash artillery, M110	1	0	1
	MRS TOTAL	**159**	**30**	
	SEASIDE MRA TOTAL	**370**	**164**	

Notes: NS = Not Specified.

* = MMRP database identified item as UXO with a quantity of zero.

Reference: Fort Ord MMRP Database.

Please note: Munitions descriptions have been taken directly from the Army's MMRP Database and/or other historical documents. Any errors in terminology, filler type, and/or discrepancies between model number and caliber/size are a result of misinformation from the data sources.

Table 4.3-5
Seaside MRA – Summary of Recovered MEC and MD

Type	Summary
UXO	370 items
DMM	164 items
MD	56,524 pounds (includes MD-E and MD-F items if weights were documented)
Aerial Extent	• The largest concentrations of MEC were located in MRS-15 SEA 4 between Ranges 18 and 46 in the northern portion of the MRA and in MRS-15 SEA 1 in the area of Range 23 and Watkins Gate Road in the southern portion of the MRA. • MEC were also recovered from several discrete locations. • The majority of the grids contained less than 100 pounds of MD. A majority of the grids that contained more than 100 pounds of MD were concentrated in the southwestern portion of Ranges 19, 20, and 59 and in the southern and western portions of Ranges 23 and 23M, respectively.
Vertical Extent	• The MMRP database indicates that the majority of the MEC recovered from the Seaside MRA were found on the surface, within 6 inches bgs, or in seven burial pits.

Table 4.3-6
Seaside MRA – HTW History and Conditions

Location	Summary
MRS-SEA 1 (Parcel E24)	• Remediation at IRP Site 39, Range 21 (HA-21D), was conducted to remove lead, copper, and antimony in soil from spent SAA. The remedial action included the removal of approximately 9,600 cubic yards of affected soil. The average lead concentration of soil remaining in place following remedial activities at Range 21 was 35 milligrams per kilogram (mg/kg). Results of the confirmation sampling indicated that soil with chemical concentrations above target cleanup concentrations was removed. No further action related to munitions constituents (MC) was recommended for HA-21D under the BRA. • The evaluation of HA-112 (MRS-15 SEA 01) included a literature search, a review of the information gathered during the munitions response at the MRA, and a site reconnaissance. No suspect areas outside of the previously identified overlapping HAs were identified during the reconnaissance of the MRA, and no further action related to MC was recommended under the BRA. • The assessment of HA-22D (Range 22) included site reconnaissance and site investigation soil sampling for MC. Site reconnaissance identified targets and areas with concentrations of spent SAA. Soil sample results indicated that lead concentrations were below the Fort Ord maximum background concentration and copper concentrations were below screening levels and under the U.S. EPA residential preliminary remediation goal (PRG). No further action related to MC was recommended for HA-22D under the BRA. • The assessment of HA-23D (Range 23) included site reconnaissance and site investigation soil sampling for MC. Site reconnaissance identified some areas with concentrations of spent SAA. Soil sample results indicated that the lead concentrations were below screening levels under the U.S. EPA Region IX PRG in four of five samples collected. No further action related to MC was recommended for HA-23D under the BRA.
MRS-SEA 2 (Parcel E34)	• Remediation at IRP Site 39 Range 19 (HA-19D) was conducted to remove lead, copper, and antimony in soil from spent SAA. The remedial action included the removal of approximately 1,400 cubic yards of affected soil. Results of the confirmation sampling indicated that soil with chemical concentrations above target cleanup concentrations was removed. No further action related to MC was recommended for HA-19D under the BRA. • The evaluation of HA-113 (MRS-15 SEA 02) included a literature search, review of the information gathered during the munitions response at the MRA, and a site reconnaissance. No suspect areas outside of the previously identified overlapping HAs were identified during the reconnaissance of the MRA, and no further action related to MC is recommended under the BRA. • The assessment of HA-20D (Range 20) included site reconnaissance and site investigation soil sampling for MC. Soil sample results indicated that metals concentrations were below the Fort Ord maximum background concentrations and no further action related to MC was recommended for HA-20D under the BRA. • The evaluation of HA-59D (Range M1) included a literature search, review of the information gathered during the munitions response, and reconnaissance of the site. No targets, spent ammunition, or other MEC-related items were observed, and no further action related to MC was recommended for HA-59D under the BRA.
MRS-SEA 3 (Parcel E23.1)	• Remediation at IRP Site 39, Range 18 (HA-18D), was conducted to remove lead, copper, and antimony in soil from spent SAA. The remedial action included the removal of approximately 24,900 cubic yards of affected soil. Results of the confirmation sampling indicated that soil with chemical concentrations above target cleanup concentrations was removed. No further action related to MC was recommended for HA-18D under the BRA. • The evaluation of HA-114 (MRS-15 SEA 03) included a literature search and review of

Table 4.3-6
Seaside MRA – HTW History and Conditions

Location	Summary
	the information gathered during the munitions response at the site. Based on the limited number of items identified during the munitions response, no further action related to MC was recommended for HA-114 under the BRA.
MRS-SEA 4 (Parcel E23.2)	• Remediation at IRP Site 39, Ranges 18 and 46 (HA-18D and HA-46D), was conducted to remove lead, copper, and antimony in soil from spent SAA. The remedial action at Range 18 included the removal of approximately 24,900 cubic yards of affected soil. Results of the confirmation sampling indicated that soil with chemical concentrations above target cleanup concentrations was removed. No further action related to MC was recommended for HA-18D under the BRA. • The remedial action at Range 46 included the removal of approximately 3,900 cubic yards of affected soil. The average lead concentration of soil remaining in place following remedial activities at Range 46 was 26 mg/kg. Results of the confirmation sampling indicated that soil with chemical concentrations above target cleanup concentrations was removed. No further action related to MC was recommended for HA-46D under the BRA. • The assessment of HA-48D (Range 48) included site reconnaissance and site investigation soil sampling for MC. Soil sample results indicated that metals concentrations exceeded the Fort Ord maximum background concentrations, but were below cleanup levels. Because sample results were below cleanup levels, no further action related to MC was recommended for HA-48D under the BRA. • The evaluation of HA-115 (MRS-15 SEA 04) included a literature search, review of the information gathered during the munitions response at the site, and a site reconnaissance. No suspect areas outside of the previously identified overlapping HAs were identified during the reconnaissance of the site, and no further action related to MC is recommended under the BRA. • The evaluation of HA-50D (Booby Trap Range) included a literature search and reconnaissance of the site. Blank casings, 50-caliber links, and concrete debris were found. No targets, fighting positions, or other MEC-related items were observed, and no further action related to MC was recommended for HA-50D under the BRA.

Reference: Army 2007

Table 4.4-1
Seaside MRA - Future Land Use by Parcel

USACE Parcel Number	MRS Number	Land Use Category	Description	Acreage
E24	MRS-15 SEA 1	Development	Residential - Single Family	108
E24	MRS-15 SEA 1	Development	Road and Inland Range Buffer	74
E24	MRS-15 SEA 1	Development	Residential - Single Family	16
E34	MRS-15 SEA 2	Development	Residential - Single Family	48
E34	MRS-15 SEA 2	Development	Road and Inland Range Buffer	40
E34	MRS-15 SEA 2	Development	Residential - Single Family	9
E23.1	MRS-15 SEA 3	Development	Residential - Single Family	42
E23.1	MRS-15 SEA 3	Development	Road and Inland Range Buffer	6
E23.2	MRS-15 SEA 4	Development	Residential - Single Family	65
E23.2	MRS-15 SEA 4	Development	Inland Range Buffer	11
			MRA TOTAL	**419**

Table 4.5-1
Seaside MRA – Ecological Information

Type	Summary
Biological	• Dominant vegetation in the area is central maritime chaparral with patches of non-native grassland. Central maritime chaparral consists of variable sclerophyllous (hard-leaved) shrub communities within a scrub-live oak forest region that is best developed on sandy soils within the summer fog zone. This type of chaparral is considered rare by the CDFG and is declining statewide. Development has now limited the majority of this community type in the Monterey Bay Area to undeveloped portions of Fort Ord. As identified in the HMP, a number of species could be found on the Seaside MRA.
Habitat Management Plan/ Biological Opinions	• The USFWS BO required that an HMP be developed and implemented to reduce the incidental take of listed species and loss of habitat that supports these species. The HMP for former Fort Ord complies with the USFWS BO and establishes the guidelines for the conservation and management of wildlife and plant species and habitats that largely depend on former Fort Ord land for survival. The HMP incorporated conservation measures pursuant to USFWS BOs dated prior to issuance of the HMP in April 1997. • To maintain compliance with habitat management and monitoring requirements presented in the HMP, biological resources are monitored after MEC removal activities have been completed. The HMP specifies mitigation measures to monitor the successful regeneration of species and habitat following removal of MEC. Monitoring includes conducting follow-up monitoring for a period of 5 years after MEC removal to document habitat conditions. Since the inception of the MEC removal program, the Army had elected to augment the monitoring program, where feasible, to include the collection of baseline data prior to MEC removal. Baseline data have been collected to provide additional information on preexisting species composition and distribution of herbaceous annual sensitive species. Both baseline and follow-up data are used to compare community regeneration to HMP success criteria. • The HMP identifies the area as development and habitat reserve with borderland development areas along an NRMA interface (Figure 4.5-1). The NRMA separates the development category land from the adjacent habitat reserve area. The NRMA and habitat reserve areas support plant and animal species that require implementation of mitigation measures identified in the HMP to ensure compliance with the ESA and minimize impacts to listed species. • FORA will implement the mitigation requirements identified in the HMP in accordance with the BO developed during formal consultation between the Army and the U. S. FWS under Section 7 of the ESA. For habitat areas, these measures include conducting habitat monitoring in compliance with Chapter 3 of the HMP. For borderland areas, FORA will follow best management practices while conducting work to prevent the spread of exotic species, limit erosion, and limit access to the NRMA. • Since April 1997, a number of BOs have been issued that are relevant to MEC remediation activities (USFWS 1999, 2002, 2005). Future MEC remediation is required to be consistent with the applicable conservation measures.

Table 4.5-1
Seaside MRA – Ecological Information

Type	Summary
Threatened and Endangered Species	• Special-status biological resources are those resources, including plant, wildlife, and native biological communities, that receive various levels of protection under local, state, or federal laws, regulations, or policies. The closure and disposal of former Fort Ord is considered a major federal action that could affect several species proposed for listing or listed as threatened or endangered under the federal ESA. • Plant species identified at the former Fort Ord that are either threatened or endangered include Contra Costa goldfields (endangered), sand gilia (endangered), and Monterey spineflower (threatened). • In 2004, the CTS was identified as a threatened species. CTS may be found as far as 2 km from aquatic breeding habitats. As shown on Figure 4.5-2, it is possible the CTS may be found in the MRS-15 SEA 1 and MRS-15 SEA 2 as they lie within 2 km of an aquatic feature that is likely to have a presence of CTS. • Seaside MRA is identified within the HMP to require special management for the boundaries between developed areas and the NRMA. The requirements have both interim and long-term maintenance implications. As presented in the HMP, with the exception of boundary management requirements, the Seaside MRA is available for development without restrictions although future landowners will still be required to comply with environmental laws enforced by the federal, state, and local agencies, including the ESA.

Table 4.5-2
Seaside MRA - HMP Category by Parcel and Possible Occurrence of HMP Species

USACE Parcel Number	HMP Designated Use	HMP Species
E24	Development (includes residential and a borderland buffer along the NRMA Interface)	sand gilia; Monterey spineflower; Seaside Bird's beak; toro manzanita; sandmat manzanita; Monterey ceanothus; Eastwoods ericameria, coast wallflower; California black legless lizard; California tiger salamander
E34	Development (includes residential and a borderland buffer along the NRMA Interface)	sand gilia; Monterey spineflower; sandmat manzanita; Monterey ceanothus; Eastwoods ericameria, California black legless lizard; California tiger salamander
E23.1	Development (includes residential and a borderland buffer along the NRMA Interface)	sandmat manzanita; Monterey ceanothus; Eastwoods ericameria, California black legless lizard
E23.2	Development (includes residential and a borderland buffer along the NRMA Interface)	Monterey spineflower; sandmat manzanita; Monterey ceanothus; Eastwoods ericameria, California black legless lizard

Reference: USACE 1997b

Table 4.6-1
Seaside MRA – Potential Receptors and Exposure Media

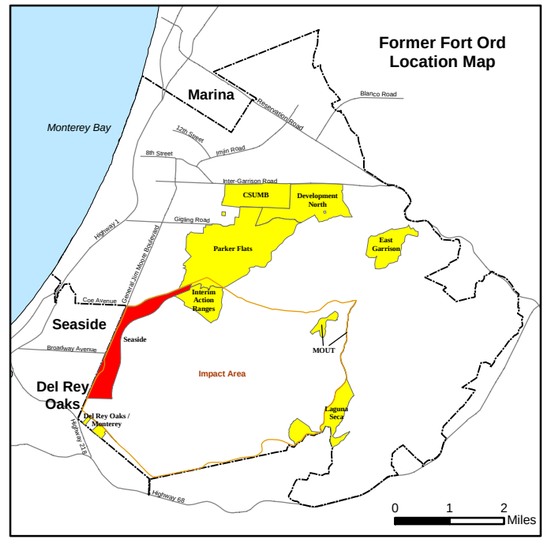
Potential Receptor	Exposure Media			Exposure Media		
	Current	Ground Surface	Below Grade	Future	Ground Surface	Below Grade
Construction Workers	✓	✓	✓	✓	✓	✓
Utility Workers	✓	✓	✓	✓	✓	✓
Trespassers	✓	✓		✓	✓	
Firefighters	✓	✓	✓	✓	✓	✓
Emergency Response Workers	✓	✓		✓	✓	
Ancillary Workers	✓	✓	✓	✓	✓	✓
Residents				✓	✓	✓
Recreational Users				✓	✓	✓

Eucalyptus Road (West)
Coe Avenue
City of Seaside
General Jim Moore Boulevard
Broadway Avenue
Former
Impact Area
R9463
R9460
3983
3941
3939
3940
R9483
E23.2
R9482
8301A
R9180
8301B
R9181
8302
8304
E23.1
R9190
8312
E34
R9220
R9221
E24
3908
R9230
R9232

Legend

- School
- Fire Station
- Gate
- Entry Forbidden Sign
- Sign
- Hydrant
- High-Power Transmission Line Tower
- Electrical Line Pole
- Former Fort Ord Boundary
- Munitions Response Area
- Major Road
- Electrical Line
- Fence
- Gas Line
- Storm Line
- Telephone Line
- Water Line
- Sewer Line
- High-Power Transmission Line and Right of Way
- Aquifer Storage and Recovery Well
- R9211 Structure
- E23.1 USACE Parcel

Former Fort Ord Location Map



N

0 1,200 2,400 Feet

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Seaside MRA Facility Profile Physical Features

FORA ESCA RP
Monterey County, California

Figure 4.1-1

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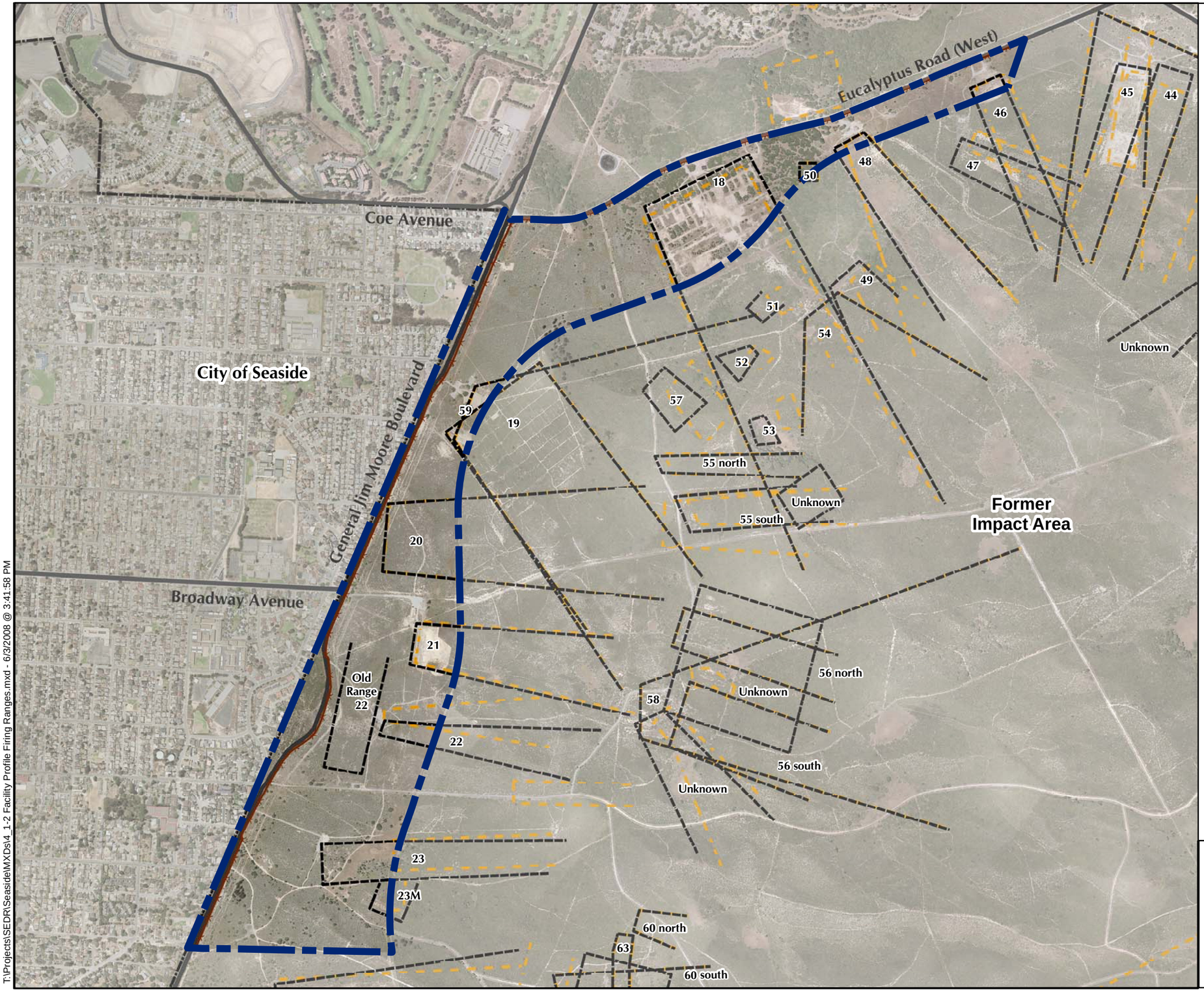
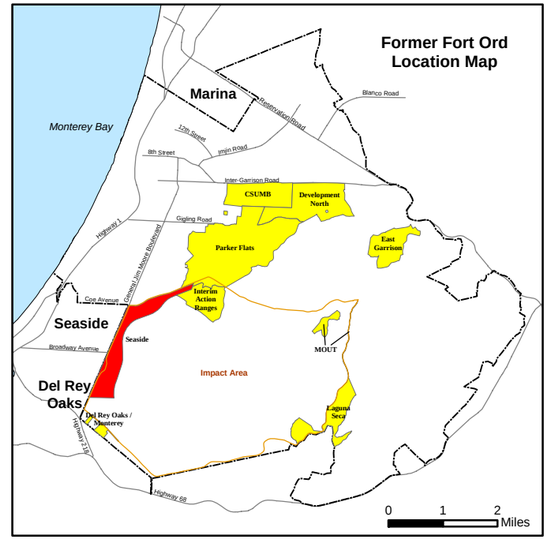


Legend

- Munitions Response Area
- 42 Firing Range
- Historical Range
- Major Road
- Fence
- Former Fort Ord Boundary

Note: Ranges 18, 19, 21, 22, 46 and 59 were reportedly used for small arms ammunition training only.



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Seaside MRA Facility Profile
Ranges and Training Sites

FORA ESCA RP
Monterey County, California

Figure 4.1-2

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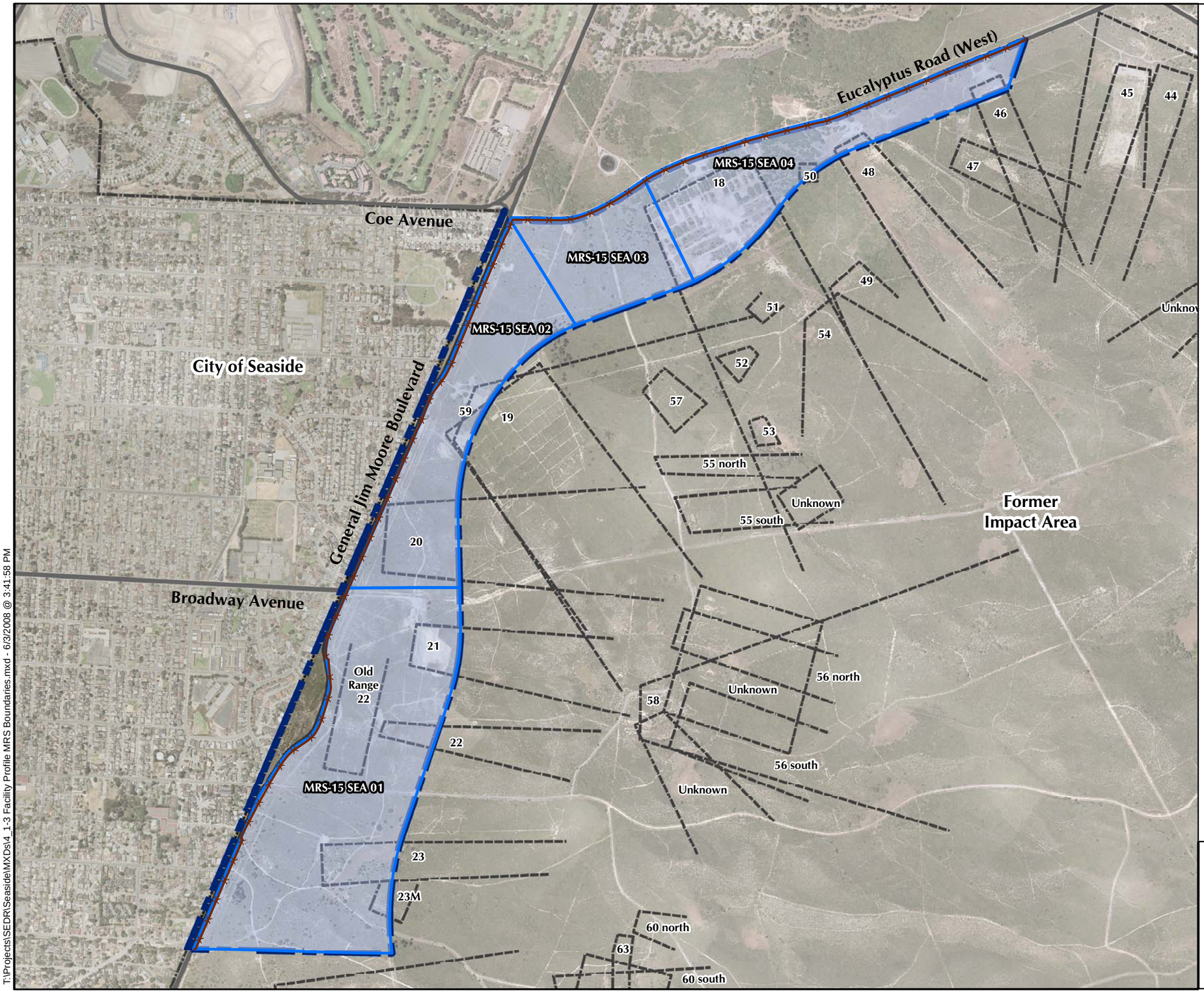
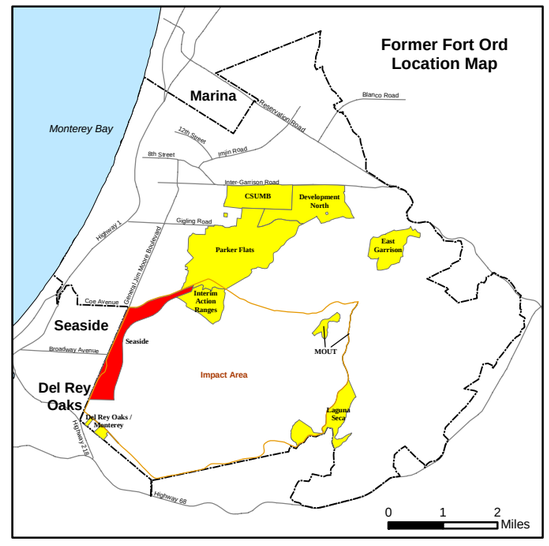


Legend

- Munitions Response Area
- Major Road
- Fence
- 51 Firing Range
- Former Fort Ord Boundary
- MRS-15-SEA 02 Munitions Response Site



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Seaside MRA Facility Profile
Munitions Response Site Boundaries

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Monterey County, California

Figure 4.1-3

Coe Avenue

Eucalyptus Road (West)

General Jim Moore Boulevard

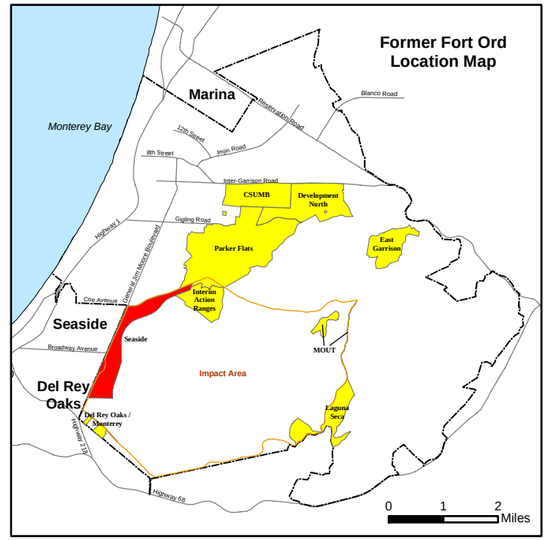
Broadway Avenue

Legend

- Environmental Well
- Abandoned Well
- Water Supply Well
- Aquifer Storage and Recovery Well
- 540 Topography 5 ft and 10 ft
- Munitions Response Area
- Major Road
- Former Fort Ord Boundary

Soil Type

- Arnold-Santa Ynez Complex
- Baywood Sand, 2 to 15 Percent Slopes
- Oceano Loamy Sand, 2 to 15 Percent Slopes



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Seaside MRA Physical Profile Topography and Soil Type

FORA ESCA RP
Monterey County, California

Figure 4.2-1

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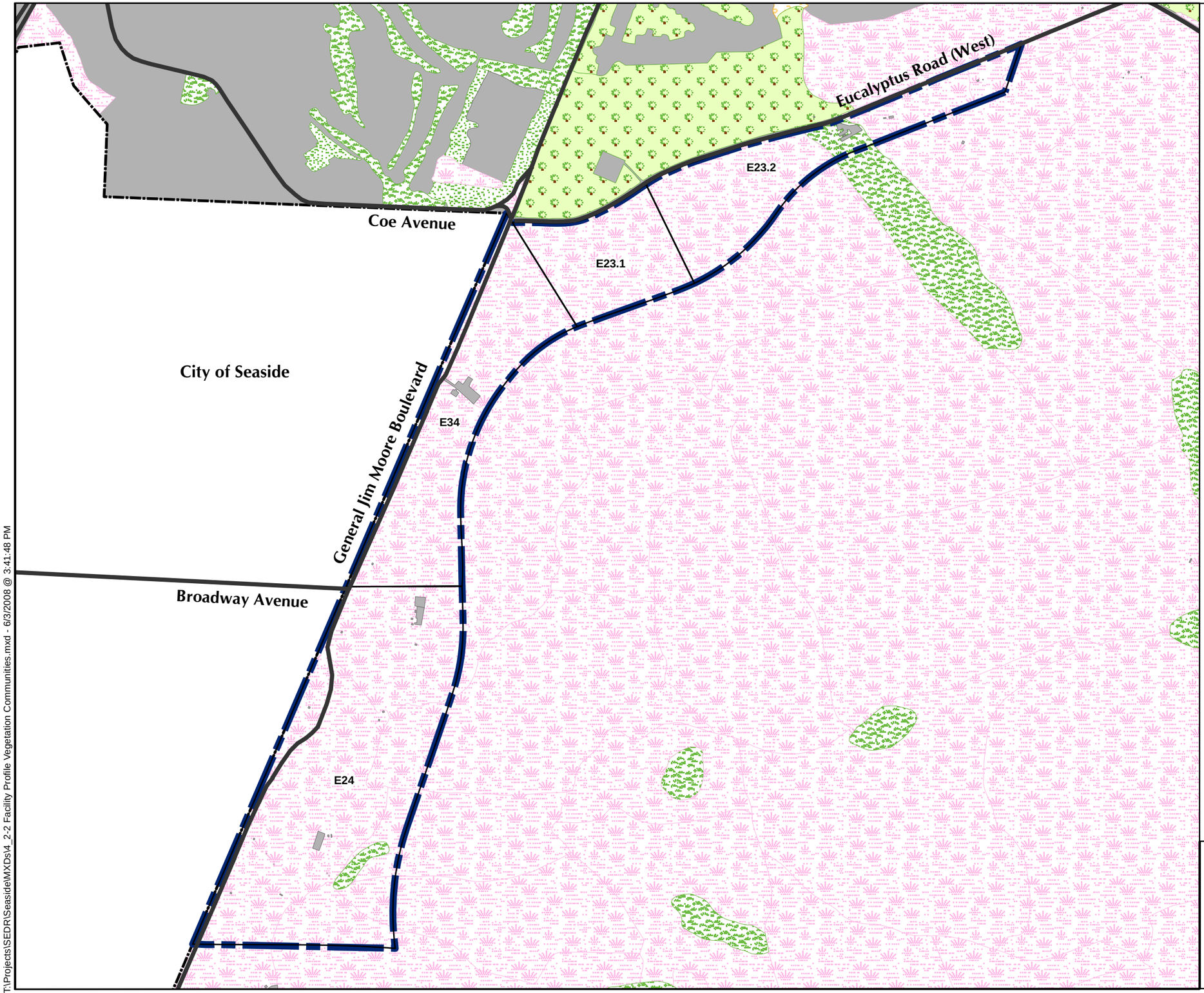


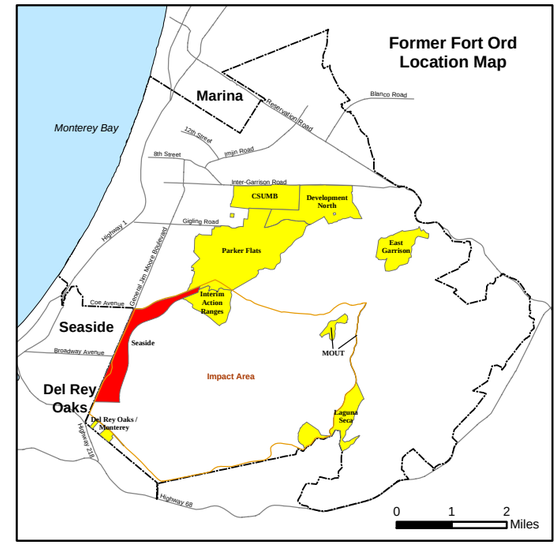
Legend

- Munitions Response Area
- Major Road
- Former Fort Ord Boundary
- E23.1 USACE Parcel

Vegetation Type

- Grassland
- Maritime Chaparral
- Coastal Coast Live Oak Woodland
- Developed / Disturbed

Source: Flora and Fauna Baseline Study of Fort Ord, California, Jones and Stokes Association Inc., December 1992.



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Feet

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Seaside MRA Physical Profile
Generalized Vegetation Communities

FORA ESCA RP
Monterey County, California

Figure 4.2-2

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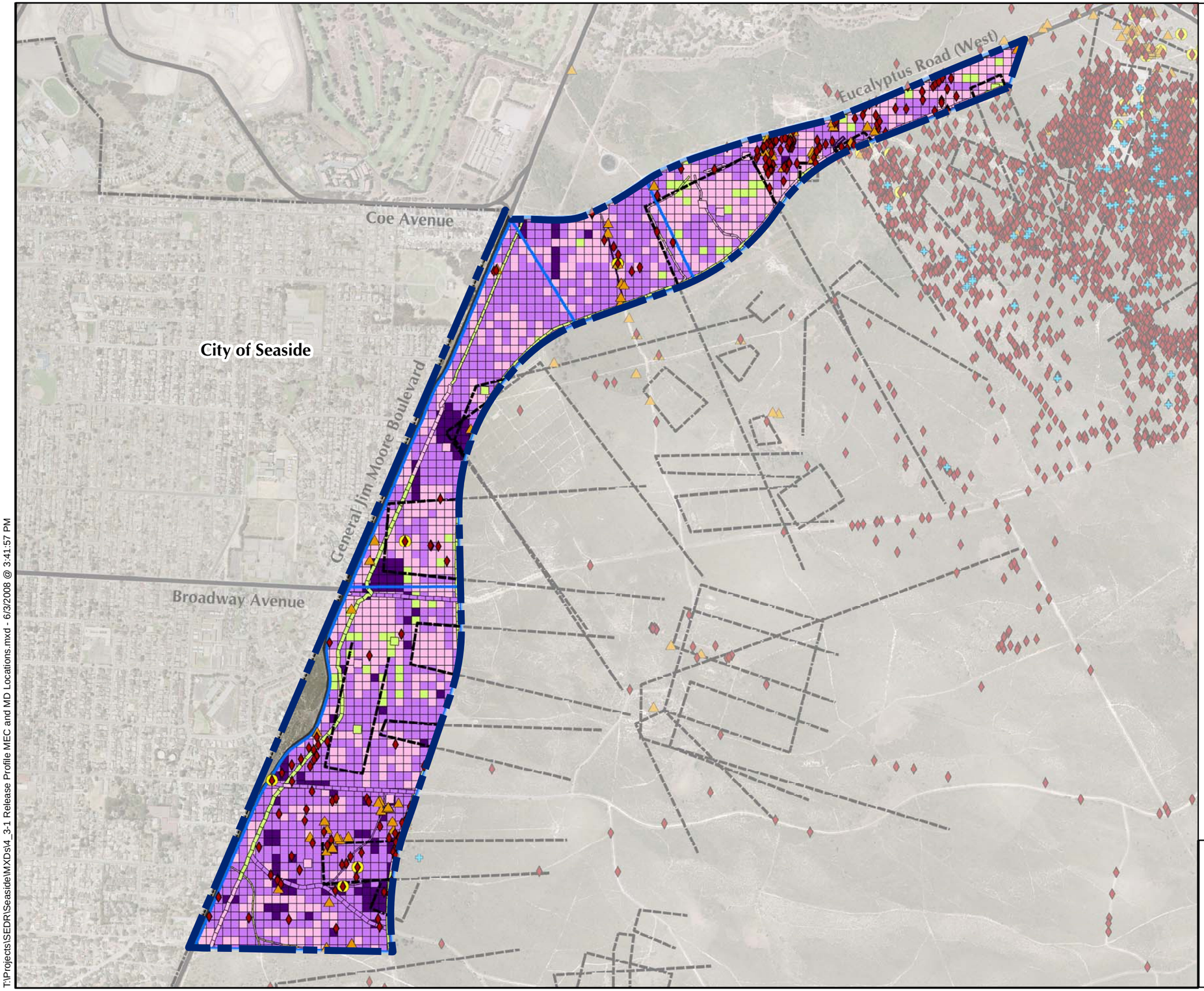


Legend

- Munitions Response Area
- Firing Range
- Munitions Response Site
- Major Road
- Former Fort Ord Boundary

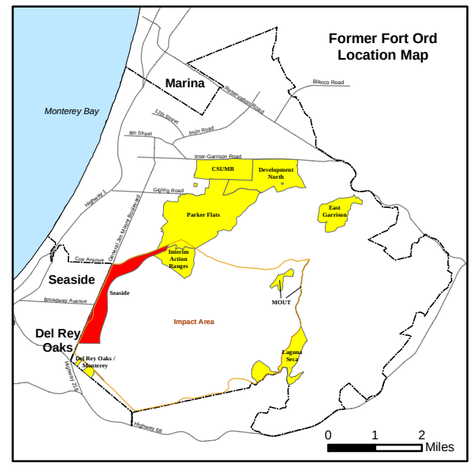
MEC Type

- Unexploded Ordnance (UXO)
- Discarded Military Munition (DMM)
- Insufficient Data (ISD)
- Burial Pit Containing MEC

Munitions Debris (MD) by Weight (total pounds per grid)

- No Data
- 0
- < 10
- 10 to 100
- > 100

Note: Munitions Debris (MD) includes scrap related to small arms ammunition.



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0 1,200 2,400 Feet

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Seaside MRA Release Profile MEC and MD Locations

FORA ESCA RP
Monterey County, California

Figure 4.3-1

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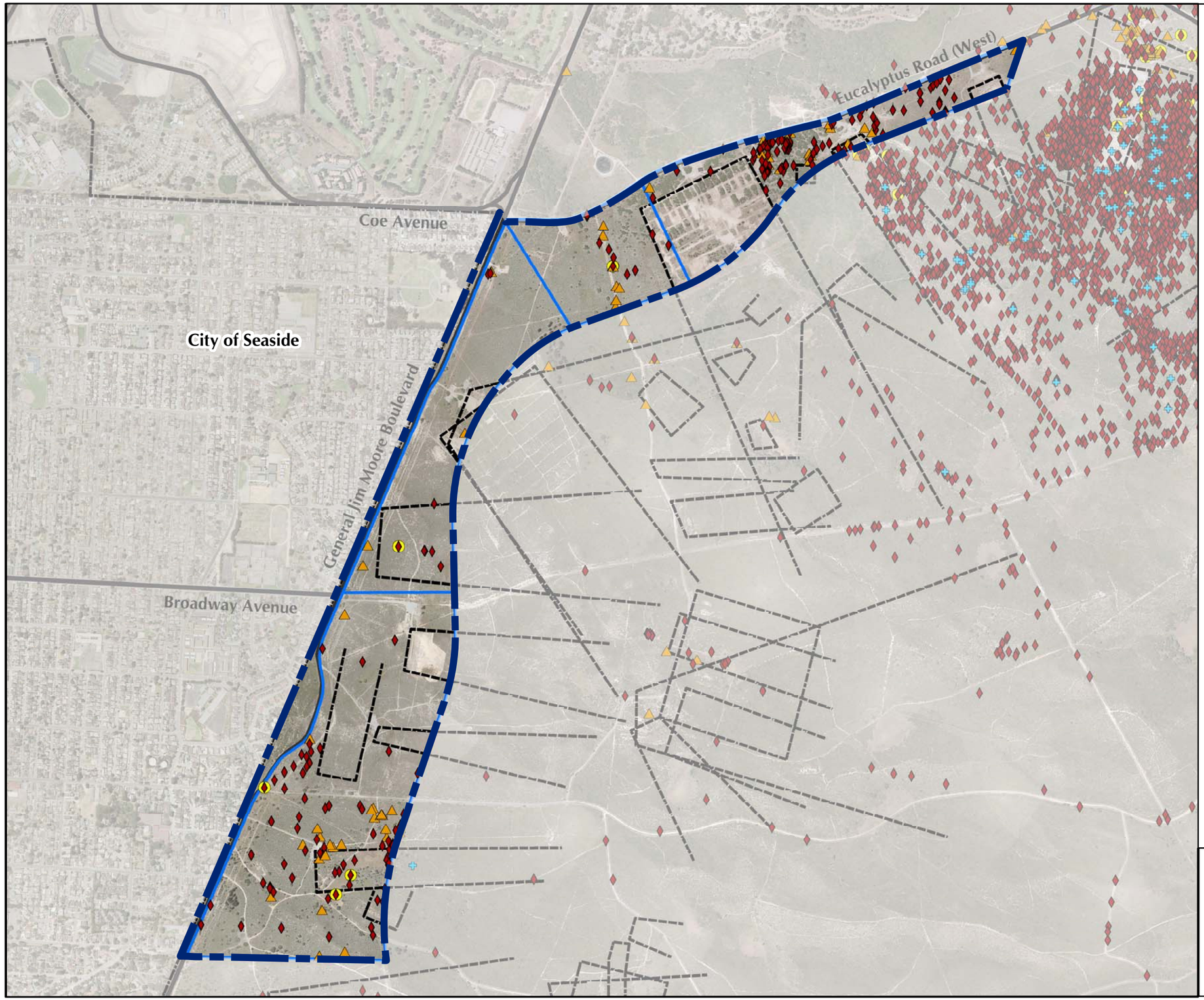


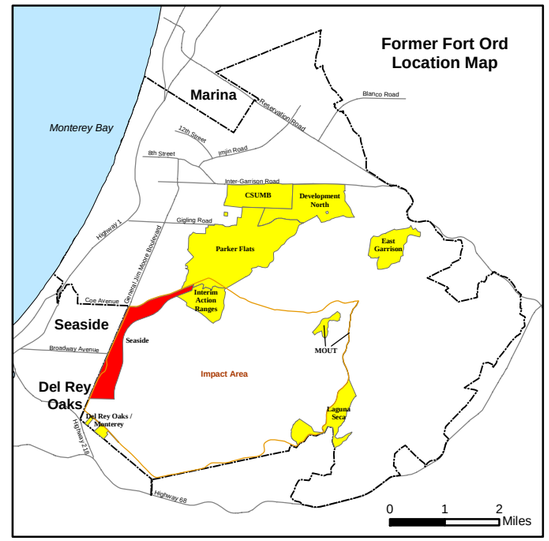
Legend

- Munitions Response Area
- Munitions Response Site
- Firing Range
- Major Road
- Former Fort Ord Boundary

MEC Type

- Unexploded Ordnance (UXO)
- Discarded Military Munition (DMM)
- Insufficient Data (ISD)
- Burial Pit Containing MEC

Note: MEC locations may include more than one item.



N

0 1,200 2,400 Feet

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Seaside MRA Release Profile
MEC Locations

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Monterey County, California

Figure 4.3-2

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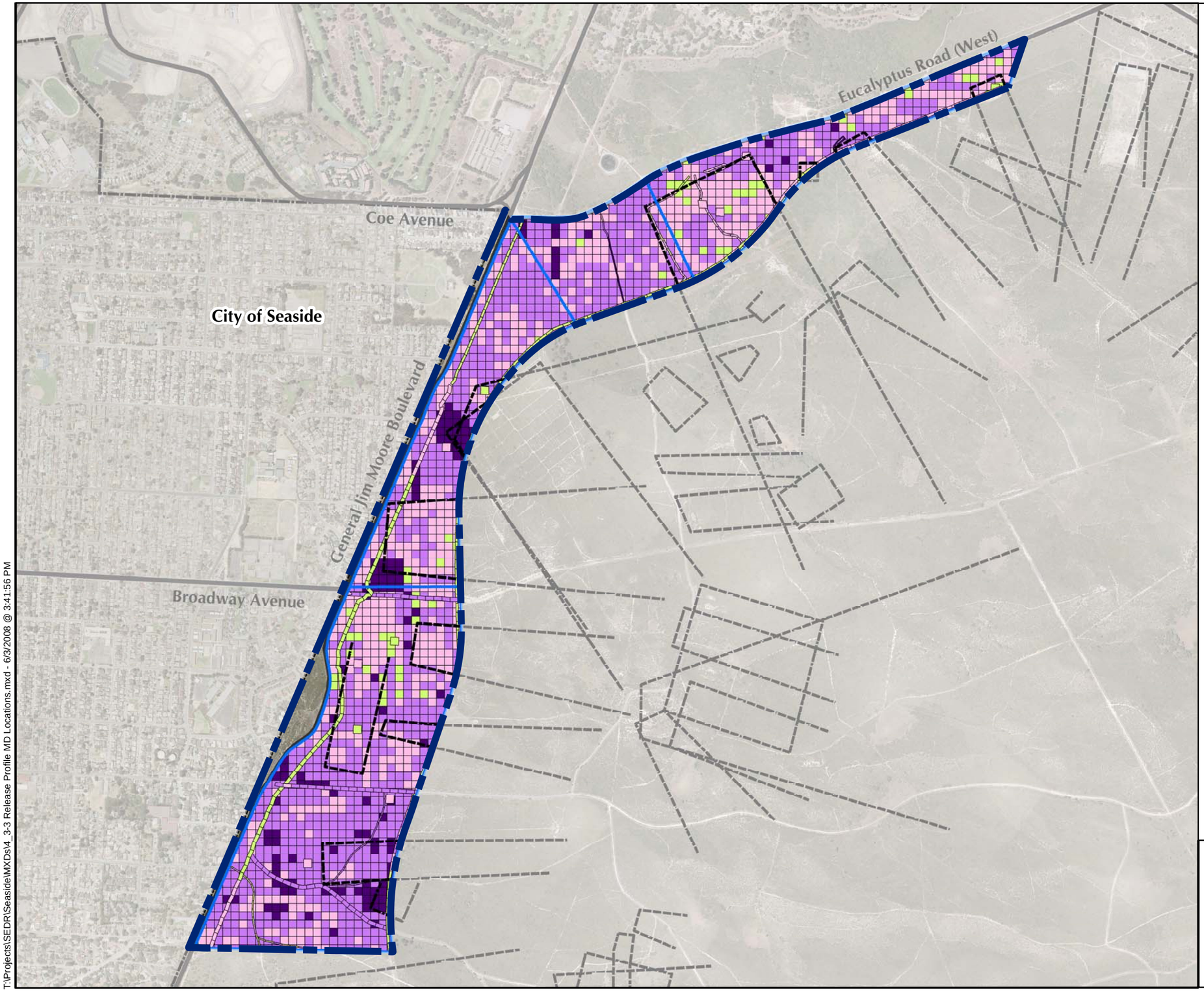


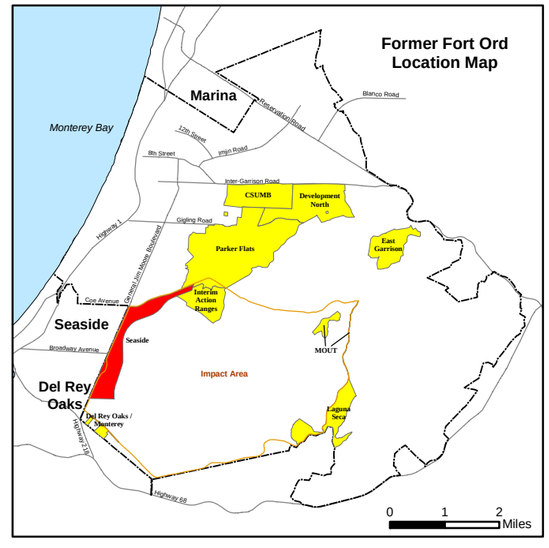
Legend

- Munitions Response Area
- Munitions Response Site
- Firing Range
- Major Road
- Former Fort Ord Boundary

Munitions Debris (MD) by Weight (total pounds per grid)

- No Data
- 0
- < 10
- 10 to 100
- > 100

Note: Munitions Debris (MD) includes scrap related to small arms ammunition.



N

0 1,200 2,400 Feet

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Seaside MRA Release Profile MD Locations

FORA ESCA RP
Monterey County, California

Figure 4.3-3

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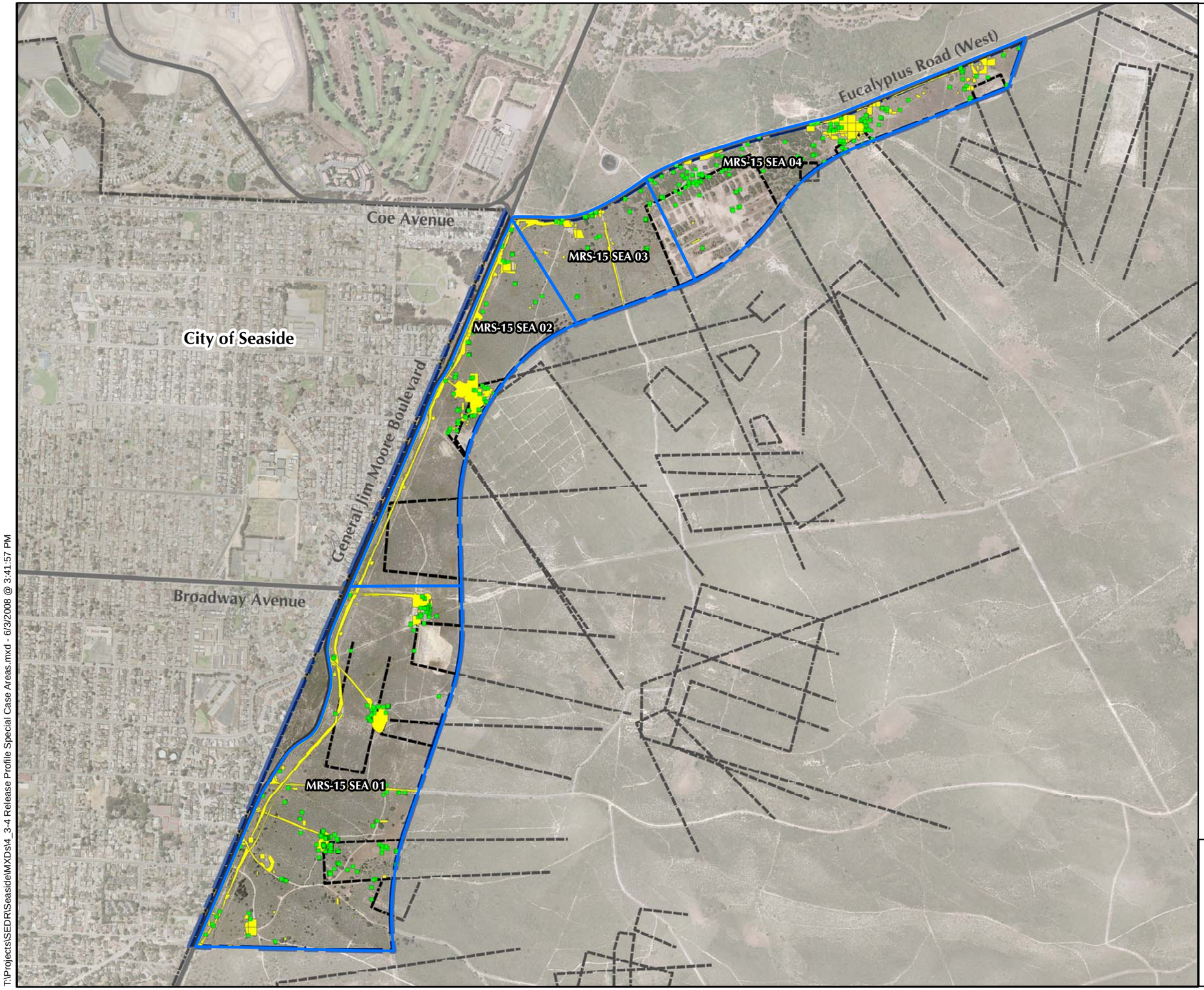
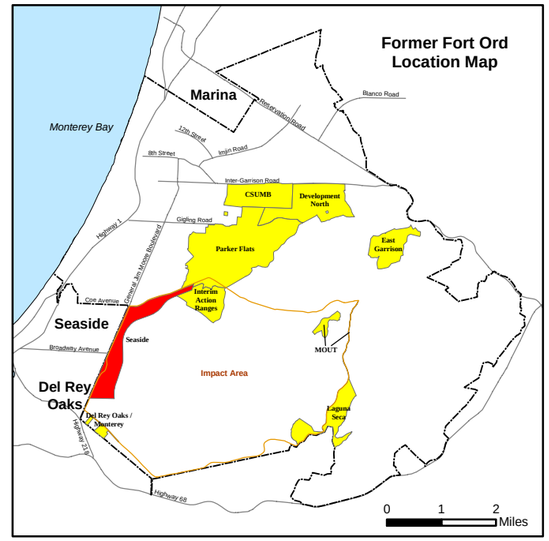


Legend

- Munitions Response Area
- Munitions Response Site
- Firing Range
- Major Road
- Former Fort Ord Boundary
- Special Case Area Point
- Special Case Area



N

0 1,200 2,400 Feet

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Seaside MRA Release Profile Special Case Areas

FORA ESCA RP
Monterey County, California

Figure 4.3-4

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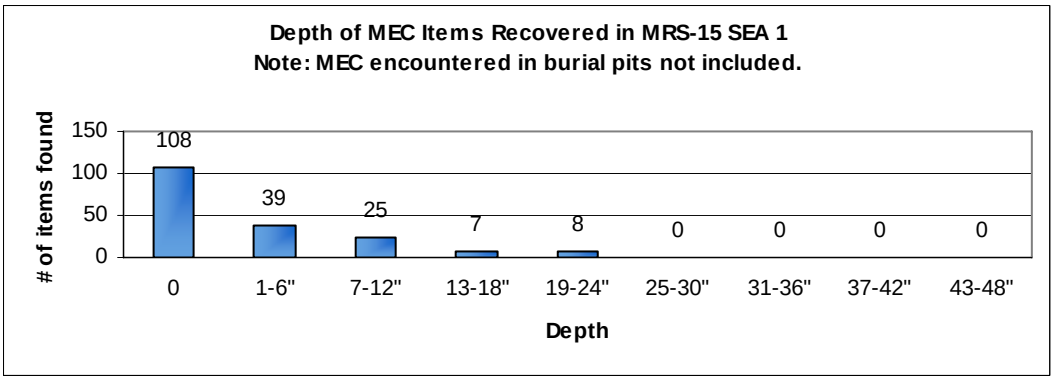

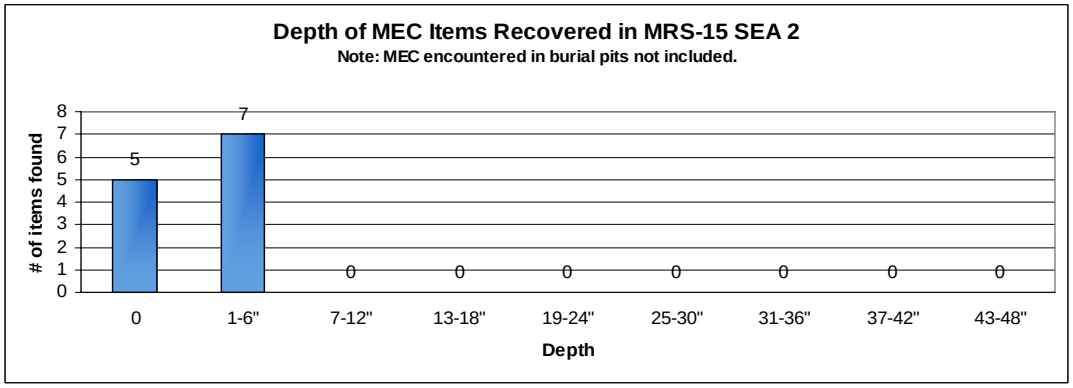

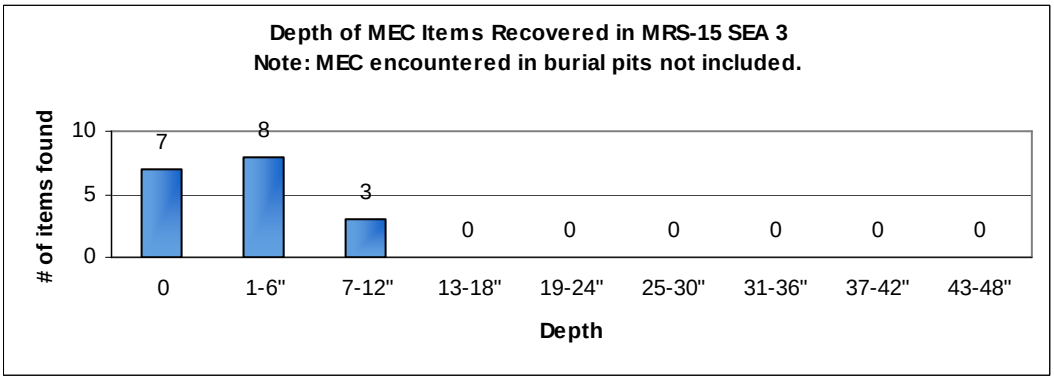

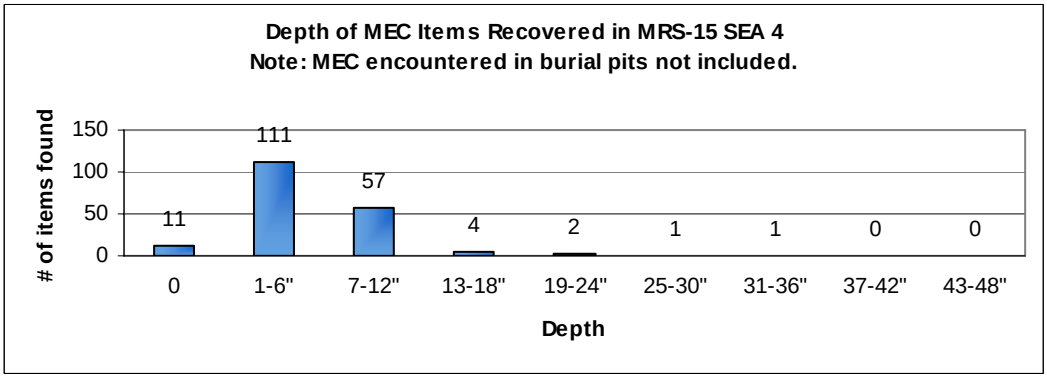

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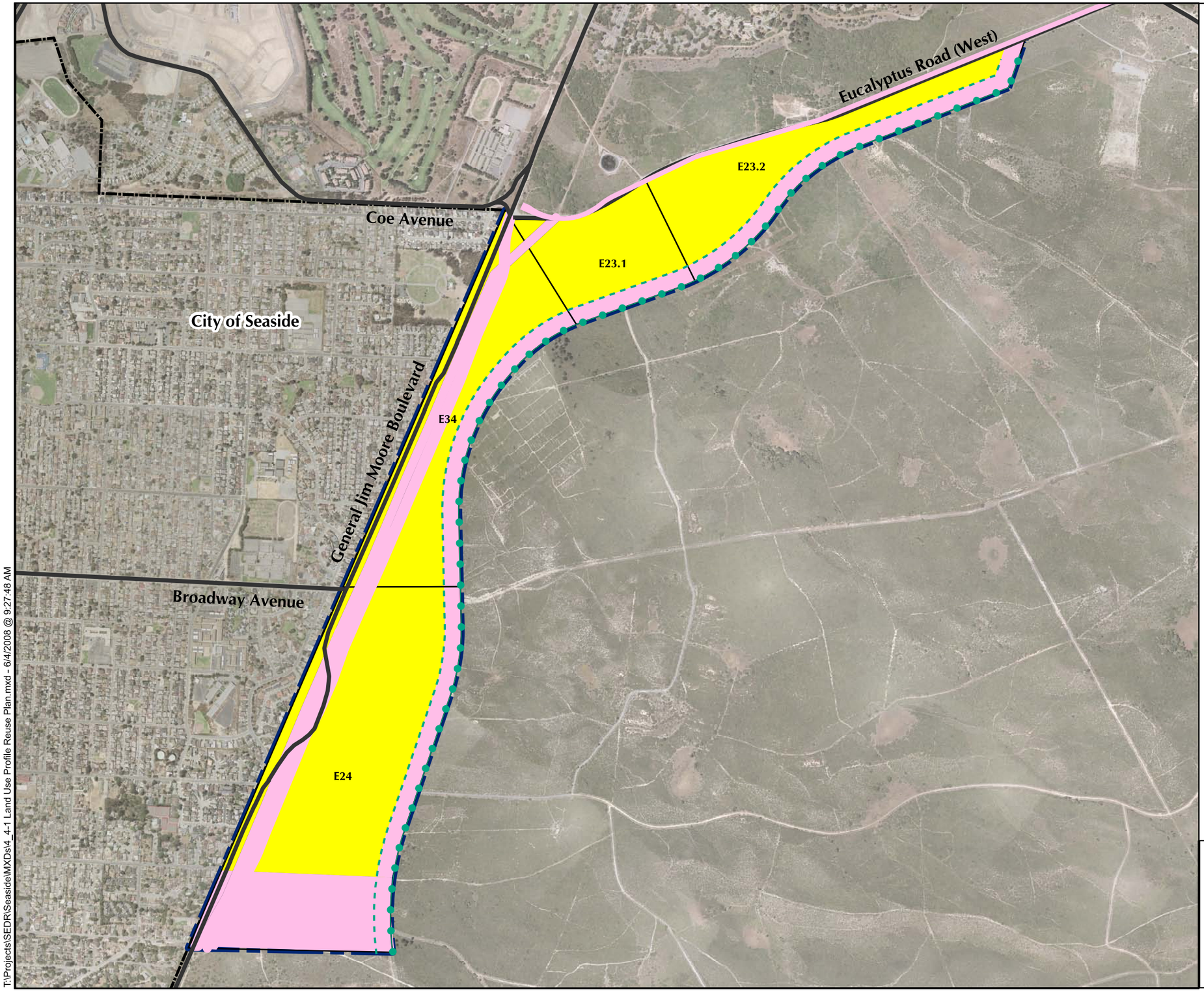
Seaside MRA
Distribution of MEC Recovered by Depth Interval

FORA ESCA RP
Monterey County, California

Figure 4.3-5

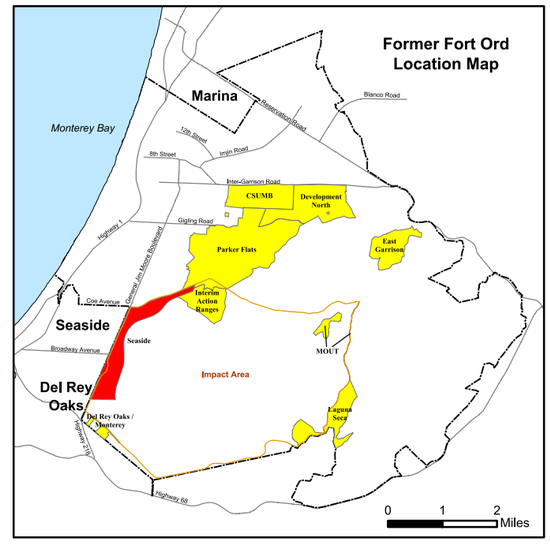


Legend

- Munitions Response Area
- Major Road
- Former Fort Ord Boundary
- E23.1 — USACE Parcel

Future Land Use

- Residential
- Non-Residential
- Habitat Reserve
- Borderland Interface
- 200-Foot Buffer from Borderland Interface



N

0 1,200 2,400 Feet

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Seaside MRA Land Use Profile Reuse Plan

FORA ESCA RP
Monterey County, California

Figure 4.4-1

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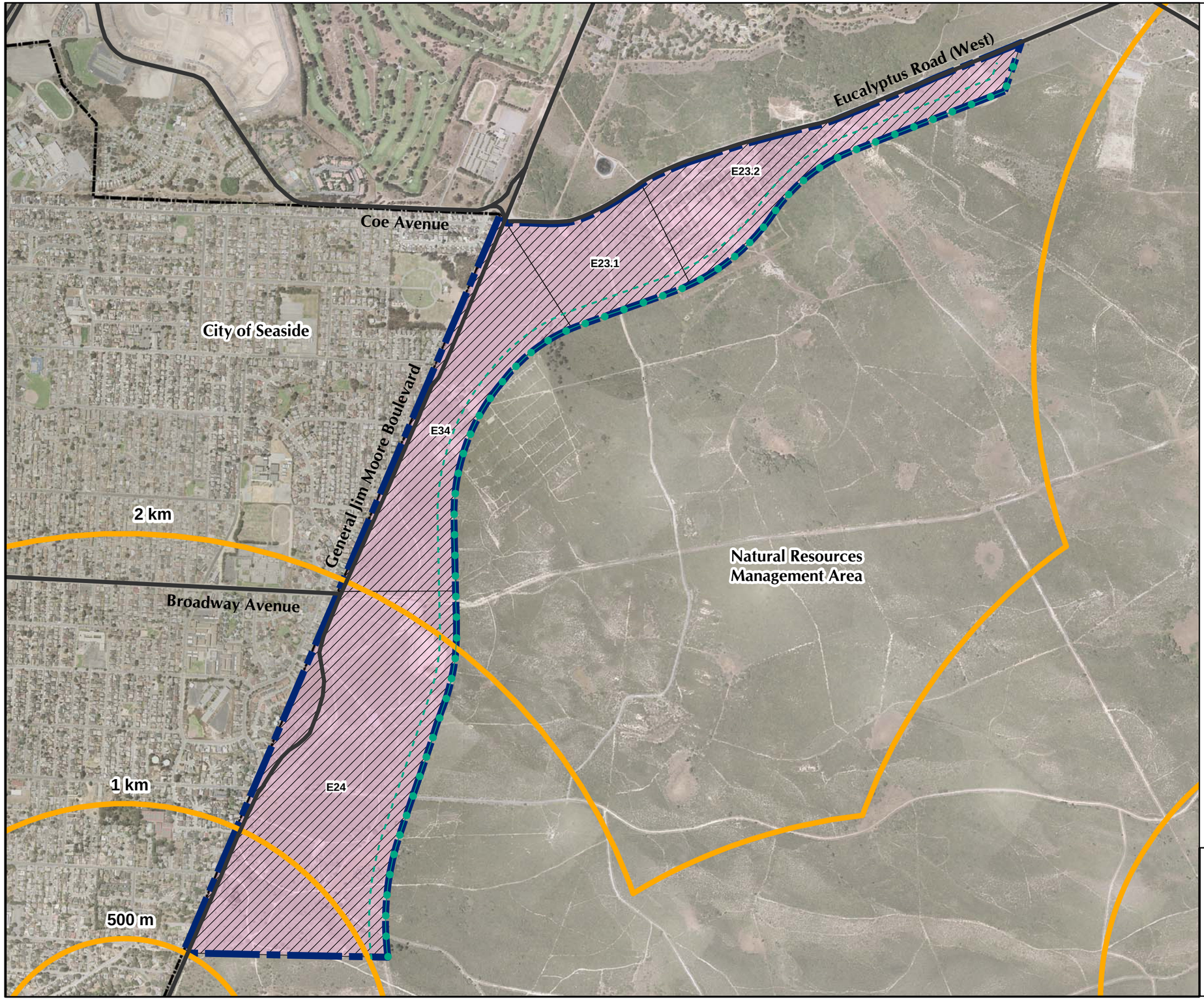
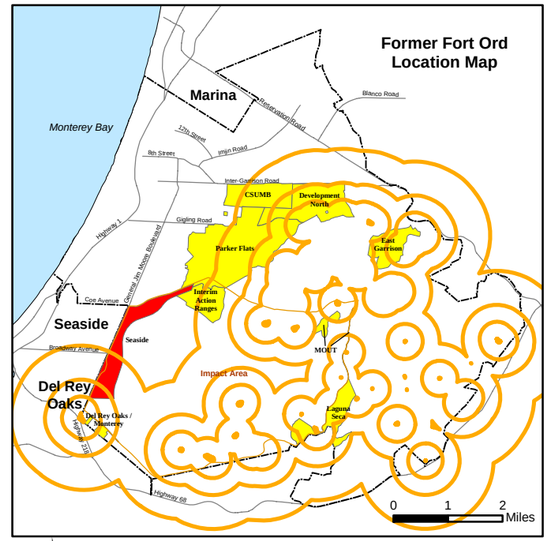


Legend

- Munitions Response Area
- California Tiger Salamander Buffer
- Major Road
- Former Fort Ord Boundary
- Borderland Interface
- 200-Foot Buffer from Borderland Interface
- Aquatic Features

Habitat Management Plan Category

- Development (includes future Residential and Non-Residential areas)
- Development with Reserve or Restrictions
- Habitat Corridor
- Habitat Corridor with Development
- Habitat Reserve



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0 1,200 2,400 Feet

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Seaside MRA Ecological Profile Habitat Type

FORA ESCA RP
Monterey County, California

Figure 4.5-1

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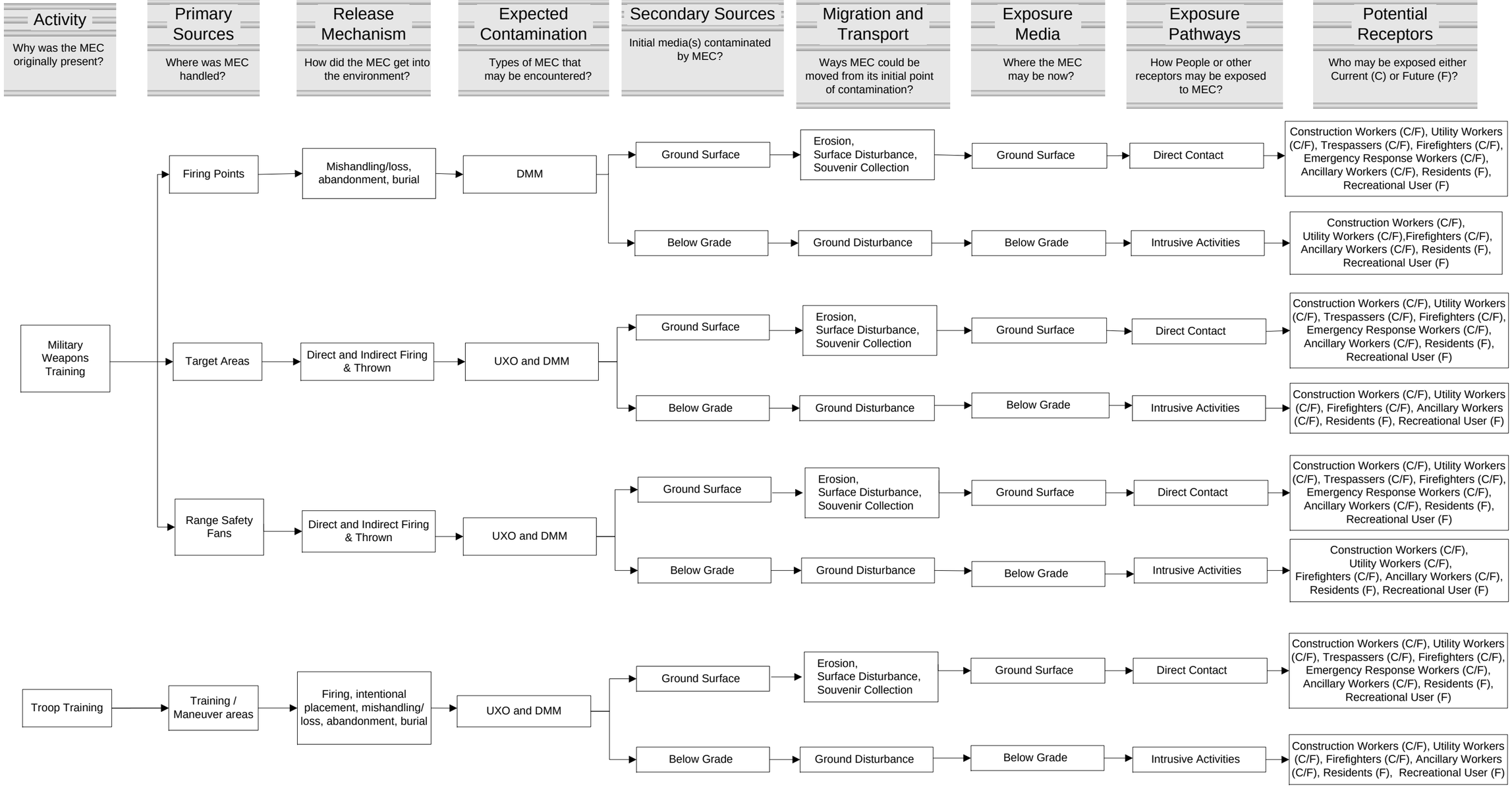

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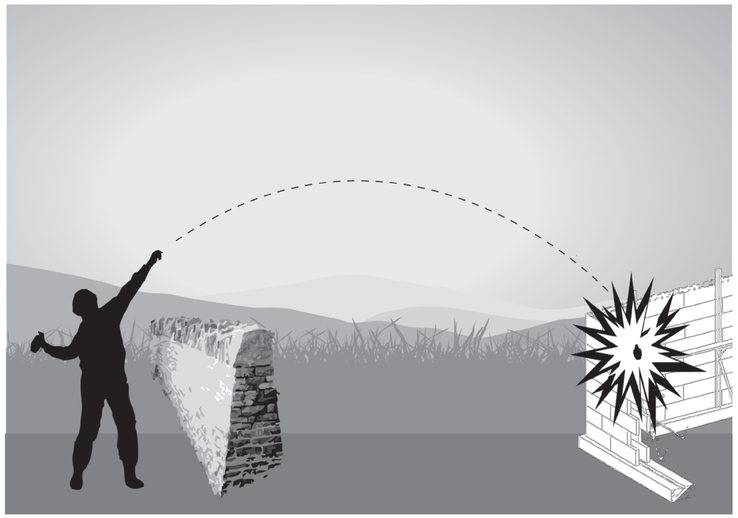
Seaside MRA
Pathway Analysis
Flowchart

FORA ESCA RP
Monterey County, California

Figure 4.6-1



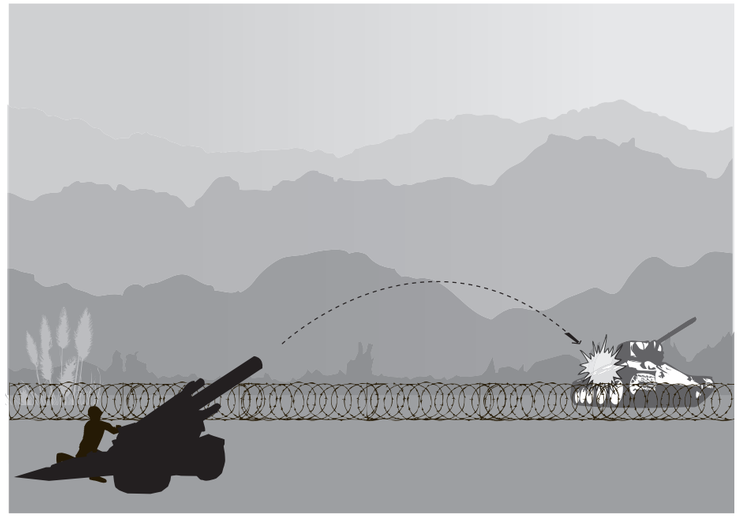
Thrown Ordnance

Burial / Mishandling / Loss

Firing

Direct Fire

Indirect Fire



Indirect Fire

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Seaside MRA
Release Mechanism Illustrations

FORA ESCA RP
Monterey County, California

Figure 4.6-2

APPENDIX B

Parker Flats MRA Conceptual Site Model

5.0 PARKER FLATS MRA CONCEPTUAL SITE MODEL

The Parker Flats MRA CSM profiles are based on existing information and data provided by the Army and contained in the Fort Ord Administrative Record. Tables and figures associated with the Parker Flats MRA are located at the end of Section 5.0.

The Army completed a Track 2 Munitions Response RI/FS ("Track 2 RI/FS") for a portion of the Parker Flats MRA (MACTEC 2006). For the purpose of this CSM, the Parker Flats MRA is divided into two parts: Parker Flats MRA Phase I and Parker Flats MRA Phase II (Figure 5.1-1). The area included in the Track 2 RI/FS is referred to in this document as the Parker Flats MRA Phase I, which has a Proposed Plan and a pending ROD. The proposed remedy for the Parker Flats MRA Phase I is land use controls (LUCs). Five-year reviews would also be required for this area. The Parker Flats MRA Phase II portion is addressed in this CSM.

5.1 Parker Flats MRA Facility Profile

The facility profile provides information on location, physical boundaries, roadways and access, structures and utilities, historical military use, and administrative controls associated with the MRA.

5.1.1 Boundaries and Access

The Parker Flats MRA is located in the central portion of the former Fort Ord, bordered by the CSUMB MRA and the Development North MRA to the north, the Interim Action MRA to the south, CSUMB campus property to the west, and additional former Fort Ord property to the east and southeast (Figure 5.1-1). The Parker Flats MRA is contained within the jurisdictional boundaries of the City of Seaside and the County of Monterey.

The Parker Flats MRA (Phase I and Phase II areas) encompasses approximately 1,180 acres and fully contains USACE property transfer parcels E18.1.1, E18.1.2, E18.1.3, E18.4, E19a.1, E19a.2, E19a.5, E20c.2, E21b.3, L20.18, L23.2, and L32.1, and portions of USACE property transfer parcels E19a.3 and E19a.4 (Table 5.1-1 and Figure 5.1-1). The remaining portions of USACE property transfer parcels E19a.3 and E19a.4 are contained in the Development North MRA (Section 7.1.1). The area completed under the Phase I activities was approximately 698 acres; the remaining approximately 482 acres were included under the Phase II activities (Table 5.1-1).

Gigling Road is located along a portion of the northern boundary of the MRA. The western portion of Gigling Road is an active roadway with vehicle traffic on a daily basis and is a major roadway of the FORA transportation network. Eucalyptus Road crosses the southern portion of the MRA and is restricted by road barriers marked with "road closed" signs located at the intersection of General Jim Moore Boulevard and Eucalyptus Road to the west and at the intersection of Parker Flats Road and Eucalyptus Road to the east. Watkins Gate Road also borders a portion of the eastern boundary of the MRA. Parker Flats Road crosses

through the central portion of the MRA. A number of unpaved roadways and dirt trails are located throughout the MRA (Figure 5.1-1).

The Parker Flats MRA is primarily open land; there are no fences and only limited gates and barricades that restrict access to the property, except for the four-strand barbed-wire fencing reinforced with concertina wire and locked chain-link gates along the southern side of Eucalyptus Road, restricting access to a small portion of the MRA and the former impact area to the south (Figure 5.1-1). "U.S. Government Property-No Trespassing" and "Danger-Explosives Area" warning signs are posted along the fence line and locked gates. Detailed information on roadways and access is provided in Table 5.1-2.

5.1.2 Structure and Utilities

The Parker Flats MRA contains several existing structures and buildings associated with the previous use of the area (Figure 5.1-1; Army 2007). Detailed information concerning location, size, description of structures, presence of ACM and/or LBP, if evaluated, and year constructed is provided in Table 5.1-3.

Several utilities extend onto or cross the Parker Flats MRA. Telephone, electrical, and water lines cross the southwestern portion of the MRA along or near Eucalyptus Road. A high-powered transmission line crosses the entire MRA in a northeast to southwest direction. Several utilities (water, storm drain, natural gas, telephone, sewer, and electrical) also extend into the MRA in the northwestern portion of the MRA along the boundary with CSUMB (Figure 5.1-1). More detailed information on utilities within the MRA is provided in Table 5.1-2.

5.1.3 Historical Military Use

Initial use of the Parker Flats MRA began in approximately 1917 when the U.S. government purchased more than 15,000 acres of land and designated it as an artillery range. Although no training maps from this time period have been found, pre-World War II-era military munitions have been removed during previous Army response actions within the Parker Flats MRA. Because the northern portion of the Parker Flats MRA (north of Gigling Road) prior to 1940 was privately owned agricultural land, it is unlikely that this area was used for military training until after this time.

Figure 5.1-2 shows the locations of known firing ranges and training sites within the MRA. Table 5.1-4 summarizes the historical military uses of these areas within the Parker Flats MRA. To facilitate previous MEC investigations and removal activities, the historical use areas were divided into MRSs.

The MRSs within the Parker Flats MRA Phase I included MRS-3, MRS-4B, MRS-13B, MRS-27A (portion), MRS-27B (portion), MRS-27G (portion), MRS-37, MRS-40, MRS-50, MRS-50EXP, MRS-52, MRS-53, MRS-53EXP, MRS-54EDC, and MRS-55 (Table 5.1-1 and Figure 5.1-3). The northern portion of the Parker Flats MRA Phase I is comprised entirely of MRS-13B (Practice Mortar Range), and is separated from the southern portion of the Parker

Flats MRA Phase I by an area that has not been fully investigated for the presence of MEC (Figure 5.1-3).

The MRSs within the Parker Flats MRA Phase II include MRS-4A, MRS-27A (portion), MRS-27B (portion), MRS-27C, MRS-44EDC/PBC, and MRS-15MOCO.2 (Table 5.1-1 and Figure 5.1-3). The historical use of the Parker Flats MRA Phase II areas was for troop training and maneuvers.

Historical uses for specific MRSs in the Parker Flats MRA Phase II include:

- MRS-4A - former Chemical, Biological, and Radiological (CBR) Training Area
- MRS-27A (Training Site 1), MRS-27B (Training Site 2), and MRS-27C (Training Site 3) - overnight bivouac areas
- MRS-15MOCO.2 - Firing lines for Ranges 44 and 45 (antitank weapons and 40mm grenade ranges, respectively)
- MRS-44EDC and MRS-44PBC - Actual historical use is unknown; evidence of military weapons and troop training.

Table 5.1-4 identifies the historical military uses of the MRSs within the Parker Flats MRA.

5.1.4 Administrative Controls

A number of administrative controls have been and will be imposed on the Parker Flats MRA, including land use covenants, city and county ordinances, FORA resolutions, an MOA between FORA and the DTSC, habitat-related requirements, and BOs. The applicable administrative controls are described in more detail in Table 5.1-5. These administrative controls are enforceable and place constraints on field-related activities and future development activities until such time that remediation has been completed and the regulatory agencies have made a determination as to the closure status of the MRA.

5.2 Parker Flats MRA Physical Profile

The physical profile provides information on topography, geology, vegetation, surface water, and groundwater associated with the MRA that may affect the location, movement, detectability, and recovery of military munitions.

5.2.1 Topography and Geology

The terrain of the Parker Flats MRA is primarily rolling hills with moderate to steep slopes. The elevation ranges from approximately 280 to approximately 490 feet msl with 2 to 15 percent slopes (Figure 5.2-1). The surface soils are characterized as eolian (sand dune) and terrace (river deposits), which consist of unconsolidated materials of the Aromas and Old Dune Sand formations. The primary soil type present in the Parker Flats MRA is Oceano Loamy Sand with smaller areas of Arnold-Santa Ynez complex and Baywood Sand (Figure

5.2-1). Soil conditions at the MRA consist predominantly of weathered dune sand, which provides a relatively good environment for conducting geophysical surveys including electromagnetic and magnetic surveys. Table 5.2-1 provides more detailed information on the geology of the former Fort Ord and soils encountered within the MRA.

5.2.2 Vegetation

Vegetation in the Parker Flats MRA consists primarily of coastal coast live oak woodland with smaller areas of maritime chaparral, grassland, and coastal scrub (Table 5.2-2 and Figure 5.2-2; USACE/Jones & Stokes 1992). Vegetation varies from sparsely vegetated areas to heavy brush. Past field activities have noted the presence of poison oak in the area. As part of the Army's removal actions for MEC, vegetation was cut to make the surface safe and accessible for MEC removal crews. In 2005, FORA, under the supervision of the Army, performed a prescribed burn on 147 acres of the Parker Flats MRA.

5.2.3 Surface Water and Groundwater

Groundwater investigations associated with the Basewide RI/FS have resulted in the installation of a number of groundwater monitoring wells on former Fort Ord property near the Parker Flats MRA. The Seaside and Salinas Groundwater Basins are the main hydrogeologic units that underlie the MRA. The depth to groundwater is estimated to be greater than 100 feet bgs. One known groundwater monitoring well is located in the northwestern portion of the MRA in the Phase I area, and two groundwater monitoring wells are located northwest of the MRA (Figure 5.2-1). The occurrence of groundwater beneath the MRA is not expected to influence geophysical surveys conducted for MEC remediation activities.

There are no aquatic features (i.e., vernal pools, ponds) or delineated wetlands reported to be present on the Parker Flats MRA; however, several aquatic feature are present to the east and southeast of the MRA (Figure 5.2-2).

5.3 Parker Flats MRA Release Profile

The release profile provides information on the MRA with respect to investigation and removal history, location and extent of military munitions, such as MEC, MPPEH, and MD, and history and conditions of HTW.

5.3.1 Investigation and Removal History

Previous work in the Parker Flats MRA includes site investigations, sampling investigations, and removal actions. Details of information on the investigations within the Parker Flats MRA Phase I were documented in the Parker Flats RI/FS (MACTEC 2006). The evaluation of the Parker Flats MRA Phase I area is complete. A ROD is pending for the Phase I area. Figures 5.3-1 through 5.3-3 show the results of investigations and removal actions by identifying the location of MEC and MD previously removed from the Parker Flats MRA.

Following is a summary of previous site investigations and removal actions conducted by the Army within the Parker Flats MRA Phase II:

MRS-4A

- Sampling investigation of six grids from 1993 to 1994 (HFA 1994)
- Site Stats/Grid Stats (SS/GS) sampling and removal at six 100-foot by 200-foot grids in November 1997 (USA 2000b)
- 100 percent 4-foot ordnance and explosives (OE) removal at 38 100-foot by 100-foot grids in February 1998 (USA 2000b)

MRS-27A, MRS-27B, and MRS-27C

- Preliminary Assessment/Site Inspection (PA/SI) in 1996 (USACE 1997a)
- 4-foot OE removal performed between September 1998 and December 2000 on 5 acres of 27A overlapping with the site OE-53 expansion area (USA 2001i)
- 4-foot OE removal performed between March and October 1999 on 4 acres of 27A and 3.5 acres of 27B overlapping with the site OE-55 expansion area (USA 2001n)
- Visual surface removal in accessible areas from 2001 to 2002 (Parsons 2002a and 2002c)

MRS-44 EDC and MRS-44PBC

- SS/GS sampling at 12 100-foot by 200-foot grids from May 26 to July 13, 1998 (USA 2001o)
- 100 percent grid sampling at 22 100-foot by 100-foot grids in the EDC in 1999 (USA 2001o)
- 100 percent grid sampling at 13 100-foot by 100-foot grids in the Public Benefit Conveyance (PBC) in 1999 (USA 2001o)
- 100 percent 4-foot removal action at 83 complete and partial grids in MRS-44 PBC only from September to December 2000 (USA 2001o)
- Visual surface removal in accessible areas of the northern portion of MRS-44EDC from 2001 to 2002 (Parsons 2002a and 2002c)

MRS-15MOCO.2

- 100 percent grid sampling at 20 100-foot by 100-foot grids from March to August 1999 (USA 2001m)
- Fuel break maintenance at 35 15-foot by 100-foot grids in 2001 (USA 2001p)
- Surface TCRA at Ranges 43-48 from August to December 2001 (Parsons 2002b)

- Prescribed burn preparatory action at Ranges 43-48 from August to October 2002 (Parsons 2004a)
- NTCRA Phase I from July to November 2003, which included an analog removal to depth at 98 100-foot by 100-foot complete grids and 97 partial grids and digital geophysical surveys in accessible portions of Notice of Intent (NOI) areas and identified SCA (Parsons 2004b)
- MRS Ranges 43-48 and MRS-MOCO.2 – Removal of selected range-related debris (RRD) between October and December 2004 to facilitate ongoing or future munitions responses on portions of the site made inaccessible by RRD. No MEC were found in MRS-MOCO.2 (Parsons 2005)
- NTCRA Phase II, which included analog removal, digital geophysical mapping, and MEC removal to depth from January to December 2005 (Parsons 2006d)

In addition, a visual surface removal was conducted in accessible areas that covered the majority of the Parker Flats MRA Phase II. Several sampling grids shown on Figure 5.3-1 have also been investigated in the Phase II area (Parsons 2002a and 2002c).

These investigations and removal actions are summarized in Tables 5.3-1 and 5.3-2. Table 5.3-3 includes a list of MEC found within the individual MRS that are within Parker Flats MRA Phase I and Phase II, and MEC and MD are shown on Figures 5.3-1, 5.3-2, and 5.3-3.

5.3.2 Types of MEC Recovered and Hazard Classification

Table 5.3-3 includes a summary of MEC recovered from the Parker Flats MRA and associated hazard classification scores. All MEC removed from the MRA were identified and assigned a hazard classification. Hazard classification scores range from 0 to 3 according to the following descriptions:

Hazard Classification Score	Description
0	Inert MEC that will cause no injury
1	MEC that will cause an injury or, in extreme cases, could cause major injury or death to an individual if functioned by an individual's activities
2	MEC that will cause major injury or, in extreme cases, could cause death to an individual if functioned by an individual's activities
3	MEC that will kill an individual if detonated by an individual's activities

The hazard classification provides a qualitative assessment of risk for MEC. These classifications will be used as inputs in future risk assessments for the Parker Flats MRA. It should be noted that SAA is not considered in the risk assessment because SAA poses no explosive risk.

5.3.3 Location of MEC and MD

Figures 5.3-1, 5.3-2, and 5.3-3 show the distribution of MEC and MD within the Parker Flats MRA (Phase I and Phase II). A summary of the MEC and MD encountered during previous investigations and removal actions in the Parker Flats MRA Phase II only is provided in Table 5.3-4 and included:

- 365 UXO items
- 569 DMM items
- 1 Insufficient Data (ISD) item (potential MEC that could not be classified as either UXO or DMM)
- 11,734 pounds MD (includes MD-E and MD-F items if weights were documented)

Figures 5.3-2 and 5.3-3 show the patterns and concentrations of recovered MEC and MD in the Parker Flats MRA. Significant amounts of MEC and MD were encountered during previous investigations throughout the Parker Flats MRA Phase I. The largest concentrations of MEC were located in the central and southern portions of the Phase I area and in MRS-15MOCO.2. A significant amount of MEC was also recovered from the north central portion of MRS-13B.

Recovered MD (total pounds per grid) in the Parker Flats MRA is shown on Figure 5.3-3. The majority of the grids along the boundaries of previous investigations and removal actions contained less than 10 pounds of MD per grid. Many of those boundary grids contained no MD. A portion of the MD identified on Figures 5.3-1 and 5.3-3 includes SAS but not SAA.

The MMRP database indicates that the majority of the MEC items recovered from the Parker Flats MRA were located between 0 and 24 inches bgs, or in the many burial pits found in the Phase I area. Figure 5.3-4 shows the distribution of MEC recovered at specified depth intervals.

5.3.4 HTW History and Conditions

A BRA was conducted by the Army to evaluate the potential presence of COCs related to HTW at known or suspected small arms ranges and military munitions training sites within the former Fort Ord (Shaw/MACTEC 2006). The areas are identified as HAs. The objectives of the BRA investigation activities were to identify which HAs could be eliminated from consideration for potential remediation related to COCs, and to identify areas that require additional investigation for potential chemical contamination or should be considered for remediation/habitat mapping related to COCs.

Table 5.3-5 summarizes the findings of the BRA with respect to HTW for each MRS. As stated in the FOSET, all identified HTW issues have been addressed and no further action was recommended (Army 2007).

5.3.5 Regulatory Status

Work completed to date has been documented in after action reports (Section 5.3.1), which have received regulatory reviews; however, the regulatory agencies have identified the following outstanding issues:

- The CERCLA process must be completed for the Parker Flats MRA Phase II, including development of an RI/FS, development of a Proposed Plan, and completion of a ROD.
- Additional quality assurance and MEC removal, if necessary, must be completed in areas proposed for residential development within the MRA.

5.4 Parker Flats MRA Land Use and Exposure Profile

The land use and exposure profile provides information on the MRA with respect to cultural resources, the current and reasonably foreseeable future uses of the land, and the potential human receptors that may be exposed to military munitions.

5.4.1 Cultural Resources

According to archaeological records, the greater Monterey Peninsula was occupied by Native American groups, including the Ohlone (Costanoan) Indians (EA 1991). Monterey County has designated the southeastern margin of the former Fort Ord as an archaeologically sensitive zone based on two known archaeological sites (EA 1991). The remaining portions of the former Fort Ord have been designated as having low or no archaeological sensitivity. The Parker Flats MRA is located in the central portion of the former Fort Ord in an area designated as having low archaeological sensitivity.

Actions to be taken at the CSUMB MRA will be in compliance with the Programmatic Agreement among the Department of the Army, the Advisory Council on Historic Preservation, and the California State Historic Preservation Officer Regarding the Base Closure and Realignment Actions at Fort Ord, California.

5.4.2 Current Land Use

The current uses for the MRA include open land. There are residual structures that were in support of the training at the MRA, but these have been abandoned. Reportedly, the area is accessed by day recreational users, including hikers and mountain bikers. There is also evidence of trespasser activity and illegal dumping.

5.4.3 Reasonably Foreseeable Future Land Use

Table 5.4-1 and Figure 5.4-1 identify the proposed uses of the MRA by parcel. As indicated in the Base Reuse Plan, this area is planned for residential, development with borderland interface, and habitat reserve. It is important to note that general development land use category encompasses infrastructure activities, such as roadway and utility construction as

well as commercial/retail, parks, borderland activities, a horse park, and the State Central Coast Veterans Cemetery.

5.4.4 Potential Receptors

A number of potential human receptors that could come in contact with residual MEC have been identified for current and future land use scenarios. The potential human receptors include:

- Construction Workers (persons conducting surface and subsurface construction activities) – current/future
- Utility Workers (persons installing and maintaining surface and subsurface utilities) - current/future
- Trespassers (persons not authorized to enter or use an area) – current/future
- Firefighters (may require installation of fire breaks) – current/future
- Emergency Response Workers (police and emergency medical technicians conducting surface activities) – current/future
- Ancillary Workers (biologist, archaeologists) – current/future
- Residents (persons conducting surface and subsurface activities) – future
- Recreational Users (persons biking and on foot) – future

5.5 Parker Flats MRA Ecological Profile

The ecological profile provides information on the MRA with respect to biological resources, plant communities and habitats, threatened and endangered species, and habitat management. This information is discussed below and provided in Table 5.5-1.

As discussed in Section 5.3.4, COCs related to HTW have been previously addressed and no further action was recommended. Therefore, potential exposure of ecological receptors to the primary risk factors has been mitigated to an acceptable level and ecological receptor exposure is not considered further in this CSM.

The HMP identifies the Parker Flats MRA as development (including residential) and habitat reserve with borderland development areas along an NRMA interface (Figure 5.5-1). The NRMA separates the development category land from the adjacent habitat reserve area. The NRMA and habitat reserve areas support plant and animal species that require implementation of mitigation measures identified in the HMP to ensure compliance with the ESA and to minimize impacts to listed species.

FORA will implement the mitigation requirements identified in the HMP for MEC activities in accordance with the BOs developed during formal consultation between the Army and the USFWS under Section 7 of the ESA. For habitat areas, these measures include conducting habitat monitoring in compliance with Chapter 3 of the HMP (USACE 1997b). For

borderland areas, FORA will follow best management practices while conducting MEC activities to prevent the spread of exotic species, limit erosion, and limit access to the NRMA.

5.5.1 Major Plant Communities and Ecological Habitats

Vegetation in the Parker Flats MRA consists primarily of coastal coast live oak woodland with smaller areas of maritime chaparral, grassland, and coastal scrub (Table 5.2-2 and Figure 5.2-2; USACE/Jones & Stokes 1992). Vegetation varies from sparsely vegetated areas to heavy brush. Past field activities have noted the presence of poison oak in the area.

5.5.2 Threatened and Endangered Species

Special-status biological resources are those resources, including plant, wildlife, and native biological communities, that receive various levels of protection under local, state, or federal laws, regulations, or policies. The closure and disposal of former Fort Ord is considered a major federal action that could affect several species proposed for listing or listed as threatened or endangered under the federal ESA.

The HMP for former Fort Ord complies with the USFWS BOs and establishes the guidelines for the conservation and management of wildlife and plant species and habitats that largely depend on former Fort Ord land for survival (USACE 1997b). The HMP incorporated conservation measures pursuant to USFWS BOs dated prior to issuance of the HMP in April 1997. Since April 1997, three additional BOs have been issued that are relevant to MEC removal activities (USFWS 1999, 2002, and 2005). Future MEC remediation is required to be consistent with the applicable conservation measures.

Threatened or endangered plant species identified as having possible occurrence in the Parker Flats MRA include sand gilia (endangered) and Monterey spineflower (threatened).

In 2004, the CTS was identified as a threatened species. CTS may be found as far as 2 km from aquatic breeding habitats. As shown on Figure 5.5-1, it is possible the CTS may be found in the Parker Flats MRA as the majority of the MRA is within 2 km of aquatic features that may provide breeding habitat for the CTS.

5.5.3 Other Communities and Species of Concern

As identified in the HMP, a number of species could be found on the Parker Flats MRA, which have been identified in Table 5.5-2 by parcel. The vegetation on the MRA consists primarily of native oak woodland with smaller areas of maritime chaparral, grassland, and coastal scrub. The following species are identified in the HMP as having possible occurrence in the Parker Flats MRA: toro manzanita, sandmat manzanita, Hooker's manzanita, seaside bird's beak, Monterey ceanothus, Eastwood's ericameria, California black legless lizard, and Monterey ornate shrew.

5.6 Parker Flats MRA Pathway Analysis

As discussed in Sections 5.3.4 and 5.5, potential exposure of human and ecological receptors to COCs related to the HTW program has been evaluated by the Army. Based on the Army's evaluation in the FOSET, no further action relative to the COCs is required under the ESCA RP. Therefore, no further discussion of potential exposure to human or ecological receptors to COCs relative to the HTW program is presented in this pathway analysis. The primary focus of the exposure pathway analysis is for human health risk from MEC that are potentially present.

5.6.1 Exposure Pathways

An exposure pathway analysis was conducted for the Parker Flats MRA using the information gathered in the CSM profiles. The likelihood of exposure, however, has been significantly reduced as a result of the Army's previous surface and subsurface removal actions. Exposure pathways for the Parker Flats MRA are presented on Figure 5.6-1 and discussed below.

Source

Source areas within the Parker Flats MRA were addressed during the Army's previous removal actions. The historical source areas within the Parker Flats MRA are shown on Figure 5.1-3, and recovered MEC and MD from the MRA are shown on Figures 5.3-1, 5.3-2, and 5.3-3. The source areas include troop training and maneuver areas. It is anticipated that the areas showing no MEC or MD data, having undergone surface removal, would contain similar types of MEC in the subsurface as found in adjacent areas. Areas where subsurface investigations are not complete are considered data gaps.

Figure 5.6-2 illustrates the most likely release mechanisms for MEC being found in the Parker Flats MRA, which included:

- Firing, Intentional Placement, Mishandling/Loss, Abandonment, and Burial (Troop Training and Maneuvers)

Access

Access is mostly unrestricted to the Parker Flats MRA Phase II with the exception of MRS-15MOCO.2, which is restricted by the fence around the impact area.

Receptor / Activity

Table 5.6-1 identifies the potential human receptors and exposure media as Ground Surface or Below Grade. The activities of the five current and six future surface receptors would result in potential exposure on the ground surface. The activities of three current receptors and four future receptors would result in a potential subsurface exposure in the Parker Flats

MRA Phase II areas where subsurface activities would be expected and subsurface removal actions have not occurred.

5.6.2 Exposure Pathway Analysis

As discussed above, Figure 5.6-1 graphically presents the exposure pathways analysis for the Parker Flats MRA.

There remains a risk of MEC exposure to current and future receptors during surface and intrusive activities. The risk of surface exposure was greatly reduced as a result of surface removal actions. Those surface removal actions focused on accessible areas; therefore, MEC may be present on the surface.

All current and future receptors anticipated to conduct subsurface activities would be at risk of exposure in areas having no history of subsurface MEC removal actions.

5.7 Parker Flats MRA Conclusions and Recommendations

Potential exposure of human and ecological receptors to COCs related to the HTW program has been evaluated by the Army. Based on the Army's evaluation in the FOSET, no further action relative to the COCs is required under the ESCA RP. The CSM has identified a potential for human health risk associated with residual (or potentially present) MEC in the Parker Flats MRA.

As required by the AOC, the SEDR provides conclusions and recommendations for each MRA. Generally, the SEDR recommendations identify that a particular MRA falls into one or more of the following categories:

- No response action or no further response action is appropriate
- Response action is necessary
- Additional data are required to fill data gaps
- Proceed to RI

The evaluation of the Parker Flats MRA Phase I area is complete. A ROD is pending for the Phase I area. Remedial action will be implemented after the ROD is issued.

The MEC encountered within the Parker Flats MRA are consistent with the historical use as a troop training area. However, data gaps, uncertainties, and/or open regulatory issues have been identified and must be addressed prior to receiving regulatory closure and implementing the planned reuse of the MRA. Therefore, the Parker Flats MRA falls into one of the categories, which is additional data are required to fill data gaps. Based on the information as presented in the CSM for the Parker Flats MRA, the recommendations are:

- Collection of additional data to fill data gaps:
  - Collect data sufficient to support the MEC remedial investigation in all areas where limited data are available. It is not anticipated that collection of additional data is required in MRS-15MOCO.2, MRS-44PBC, and MRS-4A.
  - Conduct an RQA Pilot Study to assess the potential for risk from undetected MEC in future residential areas after MEC investigation is completed in those areas.
- Proceed with Documentation – Prepare RI/FS and subsequent ROD.

The proposed pathway to regulatory closure incorporating the above recommendations is presented in Section 13.0 of this SEDR.

Table 5.1-1
Parker Flats MRA – Parcel Numbers, Acreage, and MRS Identifiers

USACE Parcel Number (for land transfer)	Acreage (approximate)			MRS Identifier
	Phase I	Phase II	Total	
E18.1.1	63	37*	100	MRS-44 EDC, MRS-50
E18.1.2	65*	13*	78	MRS-40, MRS-44 EDC, MRS-50
E18.1.3	0	40*	40	MRS-4A
E18.4	1	1*	2	MRS-4A
E19a.1	6	66*	72	MRS-4A, MRS-50, MRS-53
E19a.2	1	72*	73	MRS-27A, MRS-27B
E19a.3	188	75*	263	MRS-13B, MRS-27A, MRS-4B, MRS-53, MRS-55
E19a.4	144	94*	238	MRS-27B, MRS-27C, MRS-3, MRS-37, MRS-52, MRS-53, MRS-54, MRS-55
E19a.5	227	0	227	MRS-50, MRS-53, MRS-27G
E20c.2	0	34	34	MRS-44 EDC
E21b.3	0	32	32	MRS-15MOCO.2
L20.18	0	7*	7	MRS-44
L23.2	0	11	11	MRS-44 PBC
L32.1	3		3	MRS-13B
MRA TOTAL	698	482	1,180	

Note: * Indicates that a portion of the acreage is not designated as an MRS.

Table 5.1-2
Parker Flats MRA – Site Features

Feature	Description
Roadways	• Gigling Road is located along a portion of the northern boundary of the MRA, and only the western portion is an active roadway with vehicle traffic on a daily basis and is a major roadway of the FORA transportation network. • Eucalyptus Road crosses the southern portion of the MRA • Watkins Gate Road also borders a portion of the eastern boundary of the MRA. • Parker Flats Road crosses through the central portion of the MRA. • A number of unpaved roadways and dirt trails are located throughout the MRA.
Structures and Utilities	• The MRA includes a rappelling tower, a CBR training facility, several latrines, two support buildings, air transportation mock-ups, enlisted barracks, a gas chamber, and an observation tower. • Telephone, electrical, and water lines cross the southwestern portion of the MRA along or near Eucalyptus Road. • A high-powered transmission line crosses the entire MRA in a northeast to southwest direction. • Several utilities (water, storm drain, natural gas, telephone, sewer, and electrical) also extend into the MRA in the northwestern portion of the MRA along the boundary with CSUMB.
Fencing and Access	• The MRA is primarily open land, and there are no fences, gates, or barricades that restrict access to the property except for the four-strand barbed-wire fencing reinforced with concertina wire and locked chain-link gates along the southern side of Eucalyptus Road, restricting access to a small portion of the MRA and the former impact area to the south. • "U.S. Government Property-No Trespassing" and "Danger-Explosives Area" warning signs are posted along the fence line and locked gates. • Eucalyptus Road is restricted by road barriers marked with "road closed" signs located at the intersection of General Jim Moore Boulevard and Eucalyptus Road to the west and at the intersection of Parker Flats Road and Eucalyptus Road to the east.

Table 5.1-3
Parker Flats MRA – Existing Structures and Buildings

Parcel Number	Facility Number	Area (square feet)	Description	Asbestos-Containing Material	Lead-Based Paint	Year Built
Phase I Area						
E18.1.1	4B52	81	Field Range Latrines	Rated 6 to 13	Unknown	Unknown
E19a.3	4A52	207	Field Range Latrines	Not Surveyed	Unknown	Unknown
E19a.3	4B74	96	Field Range Latrines	No ACM	Unknown	Unknown
E19a.3	3984	1,364	Gas Chamber	No ACM	No	1984
E19a.4	4A44	174	Field Range Latrines	No ACM	Unknown	Unknown
E19a.5	4A22	179	Field Range Latrines	Rated 6 to 13	Unknown	Unknown
E19a.5	4A29	179	Field Range Latrines	No ACM	Unknown	Unknown
E19a.5	4A30	295	Field Range Latrines	No ACM	Unknown	Unknown
E19a.5	4A35	404	Field Range Latrines	Rated 6 to 13	Unknown	Unknown
E19a.5	4B50	180	Field Range Latrines	Rated 6 to 13	Unknown	Unknown
E19a.5	4A64	101	Field Range Latrines	No ACM	Unknown	Unknown
E19a.5	3949	21,372	Air Trans Mock-Up	No ACM	Yes	1976
E19a.5	3949A	2,921	Air Trans Mock-Up	No ACM	Unknown	Unknown
E19a.5	3949B	958	Air Trans Mock-Up	No ACM	Unknown	Unknown
E19a.5	3953B	42	Observation Tower	No ACM	Yes	1951
L32.1	H441	185	Fence Wall	Not Surveyed	Unknown	Unknown
Phase II Area						
E18.1.3	4386	7,332	Enlisted Barracks	Rated 6 to 13	Yes	1974
E18.1.3	4387	7,233	Enlisted Barracks	Rated 6 to 13	Yes	1974
E18.1.3	4476	74,167	Softball Field	Not Surveyed	No	1978
E18.4	4475	0	Water Tower	No ACM	Yes	1964
E19a.2	4B57	165	Field Range Latrines	Rated 6 to 13	Unknown	Unknown
E19a.2	4B58	165	Field Range Latrines	Rated 6 to 13	Unknown	Unknown
E19a.2	4B60	165	Field Range Latrines	No ACM	Unknown	Unknown
E19a.3	2028A	0	Field Range Latrines	Rated 6 to 13	Unknown	Unknown
E19a.3	4A34	176	Field Range Latrines	No ACM	Unknown	Unknown
E19a.3	4B56	174	Field Range Latrines	Not Surveyed	Unknown	Unknown
E19a.3	4B77	147	Field Range Latrines	No ACM	Unknown	Unknown
E19a.3	3950	305	Rappelling Tower	Not Surveyed	No	1981
E19a.4	4A26	165	Field Range Latrines	No ACM	Unknown	Unknown

Parcel Number	Facility Number	Area (square feet)	Description	Asbestos-Containing Material	Lead-Based Paint	Year Built
E19a.4	4A27	165	Field Range Latrines	No ACM	Unknown	Unknown
E19a.4	4A60	380	Field Range Latrines	No ACM	Unknown	Unknown
E19a.4	R391	96	Re-Locatable Building	Not Surveyed	Unknown	Unknown
E19a.4	R392	467	Re-Locatable Building	Not Surveyed	Unknown	Unknown
E19a.4	R393	300	Re-Locatable Building	Not Surveyed	Unknown	Unknown
E21b.3	3991	243	Covered Training Area	Unknown	Unknown	Unknown
E21b.3	R9441	161	Field Range Latrines	No ACM	No	1984

Table 5.1-4
Parker Flats MRA Phase II – Historical Military Use

Location	Description
General Vicinity	• The historical use of the Parker Flats MRA Phase II areas was for troop training and maneuvers. • 1940s training areas include portions of training areas G-1, G-2, H-1, and P. • 1950s training areas are assigned to 1st Brigade, 2nd Infantry, 3rd Brigade, 10th Infantry, 11th Infantry, and "RFP." • 1950s and 1960s maps indicate "1000' MTR RNG," "PTA," "Map Reading," and "MTR SQ." • "MTR SQ" appears in several locations of the northern portions of Parker Flats MRA Phase II. • "Sinkhole Practice Mortar Range" appears in the southern portion of MRS-13B.
MRS-4A	• A portion of MRS-4A was a former CBR Training Area. • This training area appears on historical maps (Fort Ord Training Areas & Facilities) July 15, 1957 and January 10, 1958.
MRS-27A (TS-1), MRS-27B (TS-2), MRS-27C (TS-3)	• Areas were part of a group of 25 training sites designated as Site OE-27 in the Revised Archive Search Report (USACE 1997a). • Training areas that were used as overnight bivouac areas. • These areas were labeled on a historical training area map called the Beardsley Map, date unknown.
MRS-44EDC/PBC	• Located in the area to the north of the former impact area. • The boundaries of these areas were identified when an ordnance safety specialist discovered 37mm HE fragmentation and a 37mm rotating band during a site visit for an adjacent site.
MRS-15MOCO.2	• Located within the boundary of the former impact area and contains the firing lines for Ranges 44 and 45. • Range 44 was used for firing of antitank weapons. • Range 45 was a 40mm grenade range.

Table 5.1-5
Parker Flats MRA – Administrative Controls

Type	Description
Land Use Covenants	• To further ensure protection of human health and the environment, the Army has agreed to enter into CRUPs with the State of California. The CRUPs place additional use restrictions on all of the transferring property, as appropriate. • Due to Fort Ord's former use as a military installation, the property may contain MEC and there remains a risk of encountering subsurface MEC. Any person conducting ground-disturbing or intrusive activities (e.g., digging or drilling) must comply with the applicable municipal code. Any alterations, additions, or improvements to the property in any way that may violate excavation restrictions are prohibited. No actual or potential hazard exists on the surface of the property from MEC that may be in the subsurface of the property provided the CRUPs are adhered to (Army 2007). • The CRUPs are defined in the "Memorandum of Agreement Among the Fort Ord Reuse Authority, Monterey County and Cities of Seaside, Monterey, Del Rey Oaks and Marina, California State University Monterey Bay, University of California Santa Cruz, Monterey Peninsula College, and the Department of Toxics Substances Control Concerning the Monitoring and Reporting of Environmental Restrictions on the Former Fort Ord, Monterey County, California." • These restrictions involve the enforcement of site review and reporting requirements and agency cost recovery/reimbursement requirements as imposed by the DTSC.
Restrictions to Digging / Excavation	• City of Seaside Ordinance No. 259 amending the municipal code referred to as Chapter 15.34 and Monterey County Ordinance 16.10. • These ordinances prohibit excavation, digging, development or ground disturbance of any type on the former Fort Ord that involves the displacement of 10 or more cubic yards of soil without approval.
FORA Resolution 98-1	• An approved FORA resolution that contains proposed and suggested measures to avoid or minimize hazardous material impact.
ESCA MOA	• MOA between FORA and the jurisdictions for the purpose of defining terms of an agreement for holding and managing (ownership and responsibilities) property while remedial work is accomplished under an ESCA. • MOA establishes FORA's ownership during the MEC remediation period; identifies that jurisdictions need to provide public safety response from police, fire, and other emergency personnel as needed; establishes control of access to ESCA properties during the MEC remediation period; and agreement that access to properties will be governed by the restrictions included in the Land Use Covenant accompanying the transfer of the property.
Habitat Management Plan	• The HMP incorporated conservation measures pursuant to USFWS BOs dated prior to issuance of the HMP in April 1997. Specific MEC activities were addressed in Chapter 3 of the HMP (USACE 1997b).
Biological Opinions	• Since the release of the HMP, three additional BOs have been issued that are relevant to the MEC remediation period (USFWS 1999, 2002, and 2005). Accordingly, some information has been updated and additions have been made to the sections that address MEC activities. • Future MEC work is required to be consistent with the applicable conservation measures.

Table 5.2-1
Parker Flats MRA – Geology and Soils

Type	Description
General Geology	• The former Fort Ord is located within the Coast Ranges Geomorphic Province, which consists of northwest-trending mountain ranges, broad basins, and elongated valleys generally paralleling the major geologic structures. • The former Fort Ord is located at the transition between the mountains of the Santa Lucia Range and the Sierra de la Salinas to the south and southeast, respectively, and the lowlands of the Salinas River Valley to the north. • The geology of the former Fort Ord generally reflects this transitional condition. Older, consolidated rocks are characteristically exposed in the mountains near the southern base boundary but are buried under a northward-thickening sequence of younger, unconsolidated alluvial fan and fluvial sediments in the valleys and lowlands to the north. In the coastal lowlands, these younger sediments commonly interfinger with marine deposits. • The former Fort Ord and the adjacent areas are underlain, from depth to ground surface, by one or more of the following older, consolidated units: Mesozoic granite and metamorphic rocks; Miocene marine sedimentary rocks of the Monterey Formation; and upper Miocene to lower Pliocene marine sandstone of the Santa Margarita Formation (and possibly the Pancho Rico and/or Purisima Formations). • Locally, these units are overlain and obscured by geologically younger sediments, including: Pliocene-Pleistocene alluvial fan, lake, and fluvial deposits of the Paso Robles Formation; Pleistocene eolian and fluvial sands of the Aromas Sand; Pleistocene to Holocene valley fill deposits consisting of poorly consolidated gravel, sand, silt, and clay; Pleistocene and Holocene dune sands; recent beach sand and alluvium. • Depth to groundwater is likely to be more than 100 feet bgs. Layers of perched groundwater may be present.
Topography and Soils	• Terrain consists of rolling hills with moderate to steep slopes. • Elevation ranges from approximately 280 to 490 feet msl with 2 to 15 percent slopes. • The surface soils are characterized as eolian (sand dune) and terrace (river deposits), which consist of unconsolidated materials of the Aromas and Old Dune Sand formations. • The primary soil type present in the MRA is Oceano Loamy Sand with 2 to 15 percent slopes with smaller areas of Arnold-Santa Ynez Complex and Baywood Sand.

References: EA 1991, HLA 1995, and the Fort Ord MMRP Database

Table 5.2-2
Parker Flats MRA – Vegetation

USACE Parcel Number	MRS Identifier	Vegetation
E18.1.1	MRS-44 EDC, MRS-50	Coastal coast live oak woodland, coastal scrub, and maritime chaparral
E18.1.2	MRS-40, MRS-44 EDC, MRS-50	Coastal coast live oak woodland and maritime chaparral
E18.1.3	MRS-4A	Coastal coast live oak woodland and coastal scrub
E18.4	MRS-4A	Coastal coast live oak woodland and coastal scrub
E19a.1	MRS-4A, MRS-50, MRS-53	Coastal coast live oak woodland, coastal scrub, and maritime chaparral
E19a.2	MRS-27A, MRS-27B	Coastal coast live oak woodland
E19a.3	MRS-13B, MRS-27A, MRS-4B, MRS-53, MRS-55	Coastal coast live oak woodland, maritime chaparral, and grassland
E19a.4	MRS-27B, MRS-27C, MRS-3, MRS-37, MRS-52, MRS-53, MRS-54, MRS-55	Coastal coast live oak woodland and maritime chaparral
E19a.5	MRS-50, MRS-53, MRS-27G	Coastal coast live oak woodland, maritime chaparral, and grassland
E20c.2	MRS-44 EDC	Maritime chaparral
E21b.3	MRS-15MOCO.2	Maritime chaparral
L20.18	MRS-44	Maritime chaparral
L23.2	MRS-44 PBC	Maritime chaparral
L32.1	MRS-13B	Coastal coast live oak woodland

Reference: USACE/Jones & Stokes 1992

Please note: As part of the Army's removal actions for MEC on the Parker Flats MRA, vegetation was cut to make the surface safe and accessible for MEC removal crews. In 2005, FORA, under the supervision of the Army, performed a prescribed burn on 147 acres of the Parker Flats MRA.

Table 5.3-1
Parker Flats MRA Phase II – Investigation and Sampling Activities

Activity	Summary
MRS-4A	• Sampling Investigation - Between 1993 and 1994, six grids were sampled in the vicinity of MRS-4A and no MEC were found (HFA 1994). • SS/GS Sampling and Removal - In November 1997, SS/GS sampling was used to investigate six 100-foot by 200-foot grids (USA 2000b).
MRS-27A, B, C	• PA/SI - In 1996, a USACE UXO Safety Specialist conducted a munitions response (site walk) that included MRS-27A, B, and C as part of a PA/SI (USACE 1997a).
MRS-44EDC	• SS/GS Sampling - Between May and July 1998, SS/GS sampling was performed on 12 100-foot by 200-foot grids in the EDC parcel (USA 2001o).
MRS-44EDC/44PBC	• 100 Percent Grid Sampling - In 1999, 100 percent grid sampling was conducted in the EDC and PBC parcels. Thirteen 100-foot by 100-foot sampling grids were placed throughout the PBC parcel. In the EDC parcel, 22 100-foot by 100-foot sampling grids were placed to the west of the PBC boundary (USA 2001o).
MRS-15MOCO.2	• 100 Percent Grid Sampling - In 1999, 20 100-foot by 100-foot sample grids were investigated in MRS-15MOCO.2 to determine the need and scope of future removal actions. The sample grids were located along the perimeter of the former impact area in areas behind firing ranges or between range fans (USA 2001m).

Table 5.3-2
Parker Flats MRA Phase II – Removal Activities

Activity	Summary
MRS-4A and Expansion Grids	• 100 Percent 4-foot MEC Removal Action - In February 1998, a 100 percent removal action was conducted to a depth of 4 feet in 38 100-foot by 100-foot grids and partial grids. A few of the grids contained several rat's nests. Trash pits were excavated using a backhoe (USA 2000b). • 100 Percent 4-foot MEC Removal Action - In August 2000, a 100 percent removal action was conducted to a depth of 4 feet in several 100-foot by 100-foot expansion grids and partial expansion grids. MEC were encountered in some of these expansion grids and consisted primarily of hand grenades, rifle grenades, and grenade fuzes (Fort Ord MMRP Database).
MRS-44PBC	• 100 Percent 4-foot MEC Removal Action - Between September 1998 and December 2000, a 4-foot MEC removal action was conducted in 83 complete and partial grids (USA 2001o).
MRS-15MOCO.2	• Fuel Break Maintenance - In 2001, the fuel breaks system in the former impact area was reestablished as part of the fire safety and control program in the area. Vegetation and surface removal work was performed on 150 contiguous 15-foot by 100-foot grids along the southern side of Eucalyptus Road. Thirty-five of the grids were in MRS-15MOCO.2. No MEC items were found during the fuel break work (USA 2001p). • Ranges 43-48 Surface TCRA - Between August and December 2001, a surface TCRA was performed over the former Ranges 43-48 area (which included a portion of MRS-MOCO.2) to remove MEC, MD, and RRD from the surface of the site's open and accessible areas (Parsons 2002b). • Ranges 43-48 Prescribed Burn Preparatory Action - Between August and October 2002, fire prevention and control work were accomplished in preparation for the Ranges 43-48 prescribed burn. This preparatory action entailed moving tires; cutting vegetation around structures, removing utility poles; clearing brush; removing/pruning trees and performing fire prevention work. During the preparatory work, no MEC were encountered (Parsons 2004a). • NTCRA (Phases I) - Between July and November 2003, an NTCRA was conducted in MRS-15MOCO.2. Ninety-eight 100-foot by 100-foot grids and 97 partial grids were selected for analog removal to depth. The majority of the MEC found were hand grenade fuzes recovered from burial pits discovered 30 and 60 inches bgs. Digital geophysical surveys were conducted over all accessible portions of the MRS-MOCO.2 NOI removal areas to map and document the post-analog removal site conditions and accurately locate and identify any geophysical anomalies potentially representing MEC in the subsurface. This operation identified areas of obstructions/interferences such as asphalt, and material from the Range 45 pad, or telephone poles as SCA (Parsons 2004b). • MRS Ranges 43-48 and MRS-MOCO.2 – Removal of selected RRD between October and December 2004 to facilitate ongoing or future munitions responses on portions of the site made inaccessible by RRD. No MEC were found in MRS-MOCO.2 (Parsons 2005). • NTCRA (Phase II) - Between January and December 2005, a Phase II removal action was conducted in SCAs identified during the Phase I Removal Action. The SCAs were the focus of Phase II activities for those portions of the site that compromised instrument performance or technician safety during the Phase I field activities. Phase II activities included analog removal, digital geophysical mapping, and MEC removal to depth (Parsons 2006d).

Table 5.3-2
Parker Flats MRA Phase II – Removal Activities

Activity	Summary
Northern Portions of MRS-27A, B, and C, and 'No Data' Areas	• Between December 2001 and February 2002, a TCRA was conducted in accessible areas of the Parker Flats MRA Phase II including MRS-27A, B, C, and MRS-4A. Also included were the "No Data" areas north of MRS-44EDC and the large "No Data" area north of the largest Parker Flats MRA Phase I area (Figure 5.3-1). The areas having undergone previous removal actions were not included in this removal action. Field crews walked open areas and trails, visually searching for MEC and MD. MEC and MD encountered were removed or destroyed (Parsons 2002a).

Table 5.3-3
Parker Flats MRA Phase II – Types of MEC Removed and Hazard Classification

MEC ITEMS	UXO	DMM	ISD	Hazard Classification
Cap, blasting, electric, M6	3	1	0	1
Cartridge case, 40mm (projectile removed/case in tact)	0	1	0	1
Cartridge, 40mm, practice, M781	0	4	0	1
Cartridge, grenade, auxiliary, M7	8	0	0	1
Charge, 0.25lbs, demolition, TNT	0	1	0	2
Charge, nitrostarch, 0.25lb *	0	0	0	2
Cord, detonating	1	1	0	NS
Flare, aircraft, parachute, M9A1	1	0	0	2
Flare, surface, trip, M49 series	3	0	0	1
Fuze, grenade, hand, M10 series	0	443	0	1
Fuze, grenade, hand, M204 series	0	2	0	1
Fuze, grenade, hand, practice, M205 series	228	104	0	1
Fuze, grenade, hand, practice, M228	17	10	0	1
Fuze, projectile, combination, M1907	1	0	0	1
Fuze, projectile, point detonating, M48 series	1	0	0	2
Grenade, hand, fragmentation, MK II	1	0	0	3
Grenade, hand, Illumination, MK I	8	0	0	1
Grenade, hand, practice, M69	1	0	0	1
Grenade, hand, practice, MK II	12	0	0	1
Grenade, hand, smoke, M18 series	12	0	0	1
Grenade, rifle, antitank, M9 series	1	0	0	3
Grenade, rifle, smoke, M22 series	0	2	0	1
Pot, 2.5lb, smoke, HC, screening, M1	1	0	0	1
Primer, ignition, percussion, M82	8	0	0	1
Projectile, 22mm, subcaliber, practice, M744	10	0	0	1
Projectile, 40mm, cluster, white star, M585	1	0	0	1
Projectile, 40mm, high explosive, M406	2	0	0	3
Projectile, 40mm, parachute, illumination, M583 series	1	0	0	1
Projectile, 57mm, high explosive, M306 series	1	0	0	3
Projectile, 60mm, mortar, illumination, M83 series	1	0	0	2
Projectile, 75mm, high explosive, MK I	2	0	0	3

Table 5.3-3
Parker Flats MRA Phase II – Types of MEC Removed and Hazard Classification

MEC ITEMS	UXO	DMM	ISD	Hazard Classification
Projectile, 75mm, Shrapnel, MK I	3	0	0	3
Propellant, 60mm, wafers, mortar	2	0	0	1
Pyrotechnic mixture, illumination	7	0	0	1
Rocket, 35mm, subcaliber, practice, M73	7	0	0	1
Signal, ground, rifle, parachute, M17 series	1	0	0	1
Signal, illumination, aircraft, AN-M37 series	3	0	0	1
Signal, illumination, ground, M125 series	7	0	0	2
Simulator, projectile, airburst, M74 series	4	0	0	1
Simulator, projectile, ground burst, M115A2	6	0	0	2
HE, 40mm (Model Unknown)	0	0	1	NS
MRA TOTAL	**365**	**569**	**1**	

Notes: NS – Not Specified
* - MMRP database identified items as UXO with a quantity of zero.
Reference: Fort Ord MMRP Database

Please note: Munitions descriptions have been taken directly from the Army's MMRP Database and/or other historical documents. Any errors in terminology, filler type, and/or discrepancies between model number and caliber/size are a result of misinformation from the data sources.

Table 5.3-4
Parker Flats MRA Phase II – Summary of Recovered MEC and MD

Type	Summary
UXO	365 items
DMM	569 items
ISD	1 item (MPPEH that could not be classified as UXO, DMM, or MD)
MD	11,734 pounds (includes MD-E and MD-F items if weights were documented)
Aerial Extent	• Significant amounts of MEC and MD were encountered during previous investigations throughout the Parker Flats MRA Phase I. The largest concentrations of MEC were located in the central and southern portions of the Phase I area and in MRS-15MOCO.2. A significant amount of MEC was also recovered from the north-central portion of MRS-13B. • The majority of the grids along the boundaries of previous investigations and removal actions contained less than 10 pounds of MD per grid. Many of those boundary grids contained no MD. A portion of the MD identified includes SAS but not SAA.
Vertical Extent	• The MMRP database indicates that the majority of the MEC items recovered from the Parker Flats MRA were located between 0 and 24 inches bgs, or in the many burial pits found in the Phase I areas.

Table 5.3-5
Parker Flats MRA – HTW History and Conditions

Type	Summary
HA-92 (MRS-3)	• The evaluation of HA-92 (MRS-3) included site reconnaissance and site investigation soil sampling. Soil sample results indicated that low levels of metals, motor oil, diesel, and one semivolatile compound were detected. No explosive compounds were detected. Because sample results were below cleanup levels, no further action related to chemical contamination was recommended for HA-92 under the BRA.
HA-93 (MRS-4A)	• The evaluation of HA-93 (MRS-4A) included a literature search, review of the information gathered during the munitions response, and reconnaissance of the site. No targets, spent ammunition, or other MEC-related items were observed, and no further action related to chemical contamination was recommended for HA-93 under the BRA.
HA-94 (MRS-4B)	• The evaluation of HA-94 (MRS-4B) included a literature search, review of the information gathered during the munitions response, and reconnaissance of the site. No evidence of a range, MEC-related items, concentrations of spent SAA, or soil contamination was observed, and no further action related to chemical contamination was recommended for HA-94 under the BRA.
HA-103 (MRS-13B)	• The evaluation of HA-103 (MRS-13B) included a literature search, review of the information gathered during the munitions response, and reconnaissance of the site. No targets, fighting positions, or other MEC-related items were observed. The site does contain RRD including trash pits.
HA-133 (MRS-27A)	• The evaluation of HA-133 (MRS-27A) included a literature search and reconnaissance of the site. No targets, spent ammunition, or other MEC-related items were observed. Several fighting positions were mapped. Because no evidence of a range or stained soil was observed, no further action related to chemical contamination was recommended for HA-133 under the BRA.
HA-134 (MRS-27B)	• The evaluation of HA-134 (MRS-27B) included a literature search and reconnaissance of the site. No targets, spent ammunition, or other MEC-related items were observed. Several fighting positions were mapped. Because no evidence of a range or stained soil was observed, no further action related to chemical contamination was recommended for HA-134 under the BRA.
HA-135 (MRS-27C)	• The evaluation of HA-135 (MRS-27C) included a literature search and reconnaissance of the site. No targets or range features were observed. Several fighting positions were mapped. An expended smoke grenade (MD) was found in one of the fighting positions. Because no evidence of a range or stained soil was observed, no further action related to chemical contamination was recommended for HA-135 under the BRA.
HA-139 (MRS-27G)	• The evaluation of HA-139 (MRS-27G) included a literature search and reconnaissance of the site. An expended signal flare was found within the portion of HA-139 that lies within the parcel. One fighting position was also observed. No targets, spent ammunition, or range features were observed. Because no evidence of a range or stained soil was observed, no further action related to chemical contamination was recommended for HA-139 under the BRA.
HA-168 (MRS-37)	• The evaluation of HA-168 (MRS-37) included site reconnaissance, review of the information gathered during the munitions response, and site investigation soil sampling. No explosive compounds were detected. Based on these results, no further action related to chemical contamination was recommended for HA-168 under the BRA.

Table 5.3-5
Parker Flats MRA – HTW History and Conditions

Type	Summary
HA-170 (MRS-40)	• The assessment of HA-170 (MRS-40) included site reconnaissance and evaluation of soil samples collected at adjacent HA-180. Soil samples were collected to evaluate whether explosive residue was present in an area where high numbers of military munitions were found. Based on the results of the reconnaissance and results of sampling at HA-180, no further action related to chemical contamination was recommended for HA-170 under the BRA.
HA-174 (MRS-44 EDC and MRS-44 PBC)	• The evaluation of HA-174 (MRS-44PBC and MRS-44EDC) included a literature search, review of the information gathered during the munitions response, site reconnaissance, and sampling for MC. Several blank SAA casings and one expended 75mm projectile casing were found. Surface soil samples were collected to evaluate whether MC were present in areas where high numbers of military munitions were found. Because no explosive-related compounds were detected and metals concentrations were below Fort Ord background levels, no further action related to chemical contamination was recommended under the BRA.
HA-180 (MRS-50 and MRS-50 EXP)	• The evaluation of HA-180 (MRS-50 and MRS-50EXP) included a literature search, review of the information gathered during the munitions response, site reconnaissance, and site investigation sampling. Surface soil samples were collected to evaluate whether explosive residue was present in an area where high numbers of military munitions were found. Because no explosive-related compounds were detected and metals concentrations were below Fort Ord background levels, no further action related to chemical contamination was recommended under the BRA.
HA-182 (MRS-52)	• The evaluation of HA-182 (MRS-52) included a literature search and reconnaissance of the site. Based on the site reconnaissance and sample results from adjacent areas where a high number of military munitions items were removed, no further action related to chemical contamination was recommended for HA-185 under the BRA.
HA-183 (MRS-53)	• The evaluation of HA-183 (MRS-53) included a literature search, review of the information gathered during the munitions response, site reconnaissance, and site investigation sampling. Soil sample results indicated that low levels of metals, motor oil, and diesel were detected. No explosive compounds were detected. Because sample results were below cleanup levels, no further action related to chemical contamination was recommended for HA-183 under the BRA.
HA-184 (MRS-54EDC)	• The evaluation of HA-184 (MRS-54EDC) included a literature search, review of the information gathered during the munitions response, and reconnaissance of the site. No evidence of targets or range features was found; however, 21 fighting positions were observed. Because no evidence of a range or concentrated areas of military munitions were found at this site, no further action related to chemical contamination was recommended for HA-184 under the BRA.
HA-185 (MRS-55)	• The evaluation of HA-185 (MRS-55) included site reconnaissance, review of the information gathered during the munitions response, and site investigation soil sampling. No explosive compounds were detected. Based on these results, no further action related to chemical contamination was recommended for HA-185 under the BRA

Table 5.3-5
Parker Flats MRA – HTW History and Conditions

Type	Summary
Miscellaneous	• There is no evidence that non-munitions-related hazardous substances were stored, released, or disposed of on parcels in Parker Flats that include all or portions of MRS-4A, MRS-13B, MRS-27A, MRS-27B, MRS-27G, MRS-37, MRS-40, MRS-44EDC, MRS-44PBC, MRS-50, MRS-50EXP, MRS-53, MRS-53EXP, and MRS-55. • Hazardous substances were stored for one year or more, released or disposed of on parcels in Parker Flats that include all or portions of MRS-3, MRS-37, MRS-52, MRS-53EXP, MRS-54EDC, MRS-27B, and MRS-27C in excess of reportable quantities specified in 40 CFR Part 373. All hazardous substance storage operations have been terminated on these parcels.

Reference: Army 2007

Table 5.4-1
Parker Flats MRA - Future Land Use by Parcel

USACE Parcel Number	MRS Number	Land Use Category	Description	Acreage
E18.1.1	MRS-50	Development	Cemetery	40
	MRS-50	Development	Residential	23
	MRS-44 EDC	Development	Cemetery	5
	No related MRS	Development	Cemetery	23.6
	No related MRS	Development	Residential and Cemetery Uses	8.4
E18.1.2	MRS-40, MRS-50	Development	Cemetery	61
	MRS-44 EDC	Development	Cemetery	12
	No related MRS	Development	Cemetery	3
	No related MRS	Development	Residential	2
E18.1.3	MRS-4A	Development	Residential – Single Family	1
	No related MRS	Development	Residential – Single Family	39
E18.4	MRS-4A	Development	Residential – Single Family	2
E19a.1	MRS-4A, MRS-50, MRS-53	Development	Residential – Single Family	6
	No related MRS	Development	Residential – Single Family	66
E19a.2	MRS-27A, MRS-27B	Habitat	Reserve – Horse Park Footprint. Equestrian Trails Required. Oak Woodland Habitat.	72
	MRS-13B	Habitat	Reserve – Horse Park Footprint. Equestrian Trails Required. Oak Woodland Habitat.	1
E19a.3	MRS-13B	Development	Commercial – Horse Park – Structures, Parking, Arena	98
	MRS-27A	Development	Commercial – Horse Park – Structures, Parking, Arena	75
	MRS-4B, MRS-27A, MRS-53, MRS-55	Development	Commercial – Horse Park – Structures, Parking, Arena	90
E19a.4	MRS-27B, MRS-27C	Habitat	Reserve – Equestrian Access	94
	MRS-3, MRS-37, MRS-52, MRS-53, MRS-54, MRS-55	Habitat	Reserve – Equestrian Access	144
E19a.5	MRS-50, MRS-53	Development	Institutional – MPC Education Use – Driving Track, Structures, Parking	215
	MRS-27G	Development	Institutional – MPC Educational Uses – Driving Track, Structures, Parking	6

Table 5.4-1
Parker Flats MRA - Future Land Use by Parcel

USACE Parcel Number	MRS Number	Land Use Category	Description	Acreage
	MRS-50, MRS-53	Development	Residential	6
E20c.2	MRS-44 EDC	Development	Residential – Single Family	34
E21b.3	MRS-15MOCO.2	Development	MPC – Educational Use, Structures, Parking	32
L20.18	MRS-44	Development	Roadway	7
L23.2	MRS-44 PBC	Development	Institutional – MPC Education Use – Structures, Parking	11
L32.1	MRS-13B	Development	Light Industrial/Office – Infill Development	3
MRA - TOTAL				**1,180**

Table 5.5-1
Parker Flats MRA – Ecological Information

Type	Summary

Biological	• Dominant vegetation in the area is coastal coast live oak woodland with smaller areas of maritime chaparral and grassland. These biological communities are described below:
	  • Coast Live Oak Woodland and Savanna - The live oak woodland is an open-canopied to nearly closed-canopied community with a grass or sparsely scattered shrub understory. Oaks provide nesting sites and cover for birds and cover for many mammals. Common wildlife species in coast live oak woodlands include black-tailed deer, California mouse, raccoon, California quail, scrub jay, and Nuttall's woodpecker. Red-tailed hawks and great-horned owls nest and roost in the inland coast live oaks, but probably make little use of the coastal oaks because the tightly spaced branches discourage them from entering the tree canopies.
	  • Maritime chaparral is one of the dominant vegetation type within Fort Ord, 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. Other species found in the shrub layer include chamise, toro manzanita, sandmat manzanita, toyon, blue blossom ceanothus, and Monterey ceanothus. The greatest diversity of wildlife species at former Fort Ord occurs in the chaparral. Birds such as orange-crowned warbler, rufous-sided towhee, and California quail nest in the chaparral. Small mammals such as California mouse and brush rabbit forage in this habitat and serve as prey for gray fox, bobcat, spotted skunk, and western rattlesnake.
	  • Grasslands - Annual grasslands dominated by introduced species such as slender wild oats, soft chess, and ripgut brome are the most common grassland community within the Plan Area. Perennial grasslands are of two types at former Fort Ord: valley needlegrass grassland and blue wildrye. Common wildlife species include California ground squirrel, Heerman's kangaroo rat, narrow-faced kangaroo rat, western meadowlark, and kestrel.

Habitat Management Plan / Biological Opinions	• The USFWS BO required that an HMP be developed and implemented to reduce the incidental take of listed species and loss of habitat that supports these species. The HMP for former Fort Ord complies with the BO and establishes the guidelines for the conservation and management of wildlife and plant species and habitats that largely depend on former Fort Ord land for survival. The HMP incorporated conservation measures pursuant to BOs dated prior to issuance of the HMP in April 1997. • To maintain compliance with habitat management and monitoring requirements presented in the HMP, biological resources are monitored after MEC removal activities have been completed. The HMP specifies mitigation measures to monitor the successful regeneration of species and habitat following removal of MEC. Monitoring includes conducting follow-up monitoring for a period of 5 years after MEC removal to document habitat conditions. Since the inception of the MEC removal program, the Army had elected to augment the monitoring program, where feasible, to include the collection of baseline data prior to MEC removal. Baseline data have been collected to provide additional information on preexisting species composition and distribution of herbaceous annual sensitive species. Both baseline and follow-up data are used to compare community regeneration to HMP success criteria. • The HMP identifies the area as development (including residential) and habitat reserve with borderland development areas adjacent to the NRMA interface. The NRMA separates the development category land from the adjacent habitat reserve area. The NRMA and habitat reserve areas support plant and animal species that require implementation of mitigation measures identified in the HMP to ensure compliance with the ESA and to

Table 5.5-1
Parker Flats MRA – Ecological Information

Type	Summary

	minimize impacts to listed species.
	• The HMP identified principal management categories. The MRA is identified as development (including residential) with borderlands interface and habitat reserve. These principal management categories are defined as:
	  • Development - lands in which no management restrictions are contained under the HMP. Some plans for salvage of biological resources for these parcels may be specified.
	  • Habitat Reserve – land in which no development is allowed. Management goals for the area are conservation and enhancement of threatened and endangered species.
	  • Borderland Development Area – land abutting the NRMA that is slated for development. Management of these lands includes no restrictions except along the development/reserve interface.
	• FORA will implement the mitigation requirements during MEC activities identified in the HMP in accordance with the BO developed during formal consultation between the Army and the USFWS under Section 7 of the ESA. For habitat areas, these measures include conducting habitat monitoring in compliance with Chapter 3 of the HMP (USACE 1997b).
	• Since April 1997, three additional BOs have been issued that are relevant to the MEC remediation activities (USFWS 1999, 2002, and 2005). Future MEC remediation is required to be consistent with the applicable conservation measures.

Threatened and Endangered Species	• Special-status biological resources are those resources, including plant, wildlife and native biological communities, that receive various levels of protection under local, state, or federal laws, regulations, or policies. The closure and disposal of former Fort Ord is considered a major federal action that could affect several species proposed for listing or listed as threatened or endangered under the federal ESA. • Threatened or endangered plant species identified as having possible occurrence in the Parker Flats MRA include sand gilia (endangered) and Monterey spineflower (threatened). • In 2004, the CTS was identified as a threatened species. CTS may be found as far as 2 km from aquatic breeding habitats. Most of the Parker Flats MRA is located within 2 km of an aquatic feature in which CTS may be present.

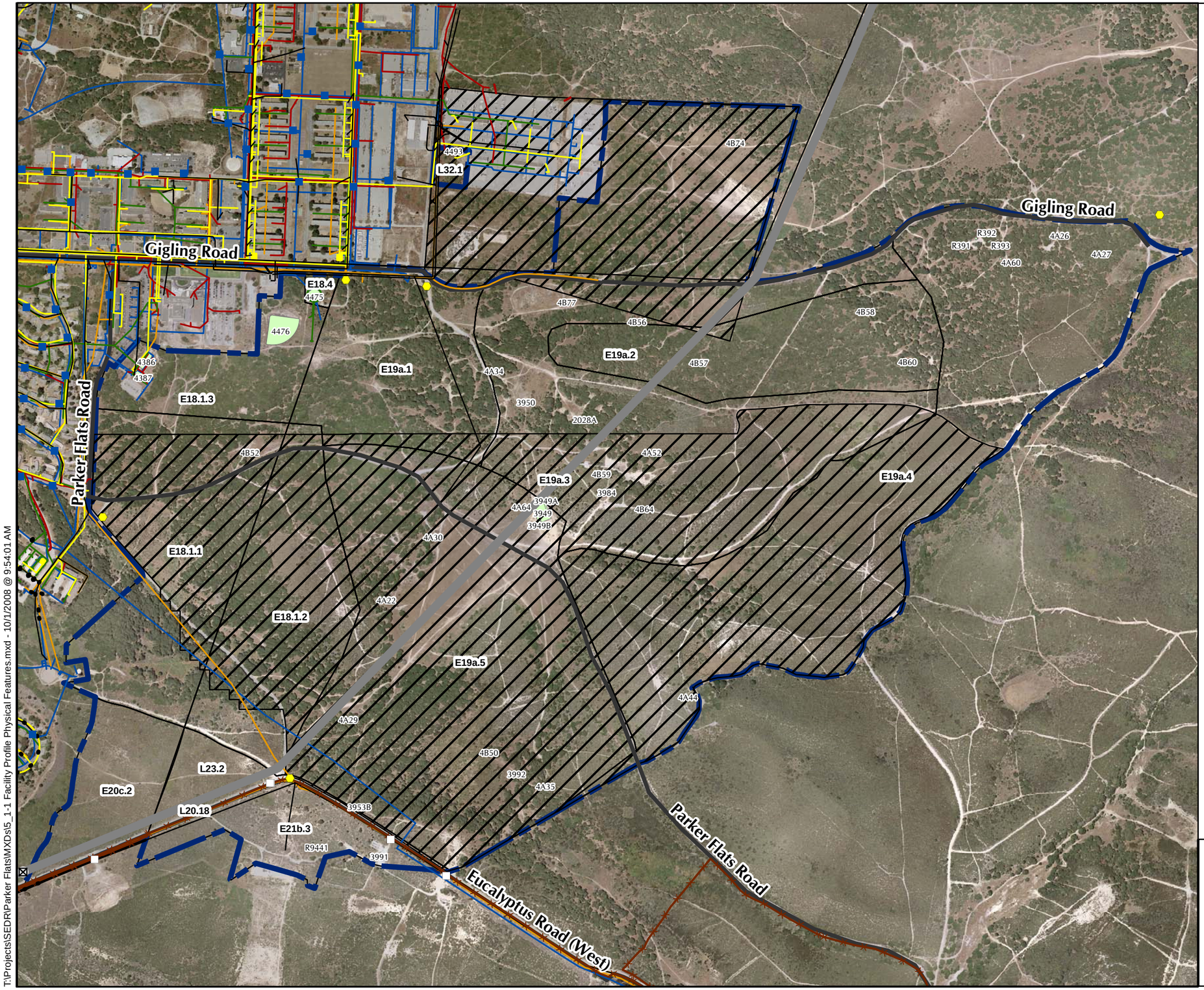
Table 5.5-2
Parker Flats MRA – HMP Category by Parcel and Possible Occurrence of HMP Species

USACE Parcel Number	HMP Designated Use	HMP Species
E18.1.1	Development	Monterey spineflower, sandmat manzanita, Monterey ceanothus, Eastwood's ericameria, California black legless lizard, Monterey ornate shrew
E18.1.2	Development	Monterey spineflower, sandmat manzanita, Monterey ceanothus, Eastwood's ericameria, California black legless lizard, Monterey ornate shrew
E18.1.3	Development	Monterey spineflower, Monterey ceanothus, California black legless lizard, Monterey ornate shrew
E18.4	Development	Monterey spineflower, Monterey ornate shrew
E19a.1	Development	Monterey spineflower, toro manzanita, sandmat manzanita, Monterey ceanothus, Hooker's manzanita, California black legless lizard, Monterey ornate shrew, California tiger salamander
E19a.2	Habitat Reserve	Monterey spineflower, toro manzanita, sandmat manzanita, Monterey ceanothus, Hooker's manzanita, California black legless lizard, Monterey ornate shrew, California tiger salamander
E19a.3	Development (includes a borderland buffer along the NRMA Interface)	Monterey spineflower, toro manzanita, sandmat manzanita, Monterey ceanothus, Hooker's manzanita, California black legless lizard, Monterey ornate shrew, California tiger salamander
E19a.4	Habitat Reserve	Monterey spineflower, toro manzanita, sandmat manzanita, Monterey ceanothus, Eastwood's ericameria, Hooker's manzanita, California black legless lizard, Monterey ornate shrew, California tiger salamander
E19a.5	Development (includes a borderland buffer along the NRMA Interface)	Sand gilia, Monterey spineflower, toro manzanita, sandmat manzanita, Monterey ceanothus, Eastwood's ericameria, Hooker's manzanita, California black legless lizard, Monterey ornate shrew, California tiger salamander
E20c.2	Development	Monterey spineflower, sandmat manzanita, Monterey ceanothus, Eastwood's ericameria, California black legless lizard, Monterey ornate shrew
E21b.3	Development (includes a borderland buffer along the NRMA Interface)	Monterey spineflower, Seaside bird's beak, sandmat manzanita, Monterey ceanothus, Eastwood's ericameria, California black legless lizard, California tiger salamander
L20.18	Development	Monterey spineflower, Seaside bird's beak, sandmat manzanita, Monterey ceanothus, Eastwood's ericameria, California black legless lizard, Monterey ornate shrew
L23.2	Development	Monterey spineflower, sandmat manzanita, Monterey ceanothus
L32.1	Development	Monterey spineflower, sandmat manzanita, Monterey ornate shrew

Reference: USACE 1997b

Table 5.6-1
Parker Flats MRA – Potential Receptors and Exposure Media

Potential Receptor	Exposure Media			Exposure Media		
	Current	Ground Surface	Below Grade	Future	Ground Surface	Below Grade
Construction Workers	✓	✓	✓	✓	✓	✓
Utility Workers	✓	✓	✓	✓	✓	✓
Trespassers	✓	✓		✓	✓	
Firefighters	✓	✓	✓	✓	✓	✓
Emergency Response Workers	✓	✓		✓	✓	
Ancillary Workers	✓	✓	✓	✓	✓	✓
Residents				✓	✓	✓
Recreational Users				✓	✓	✓



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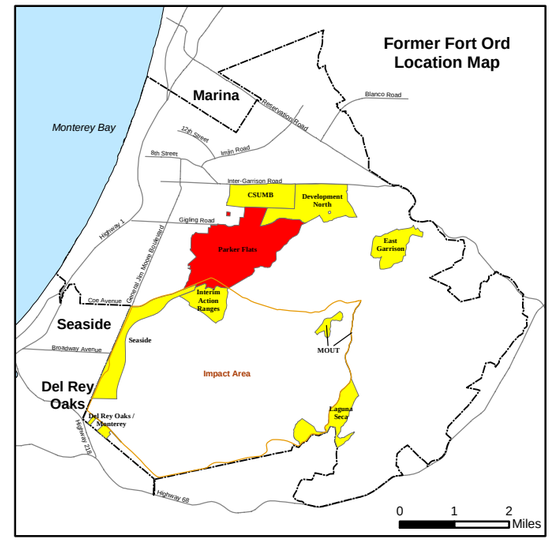
Legend

- School
- Fire Station
- Gate
- Entry Forbidden Sign
- Sign
- Hydrant
- High-Power Transmission Line Tower
- Electrical Line Pole
- Munitions Response Area
- Major Road
- Electrical Line
- Fence
- Gas Line
- Storm Line
- Telephone Line
- Water Line
- Sewer Line
- High-Power Transmission Line and Right of Way
- R9211 — Structure
- E23.1 — USACE Parcel
- Phase I Parker Flats RI/FS



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Parker Flats MRA Facility Profile Physical Features

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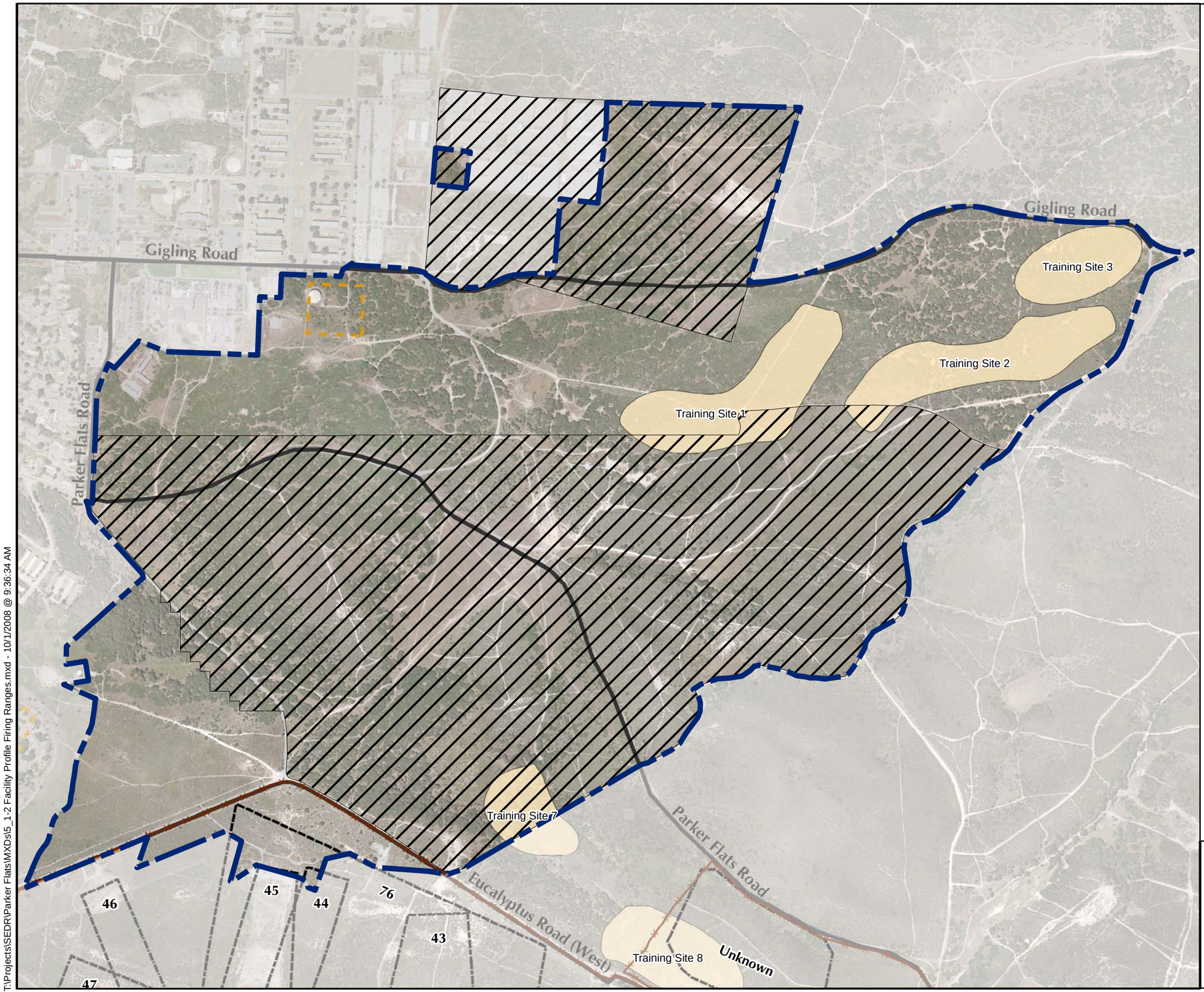
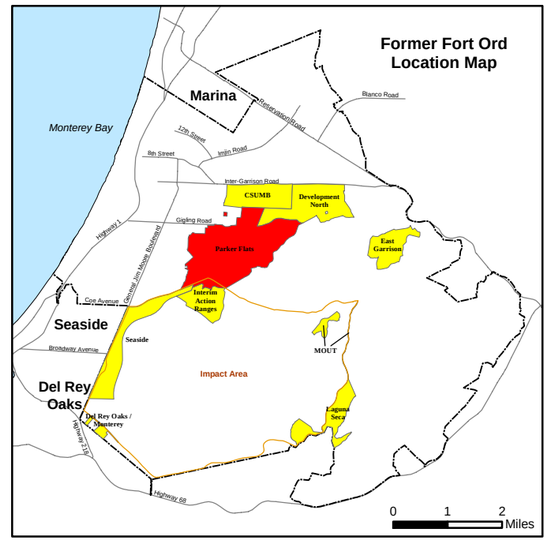
Monterey County, California

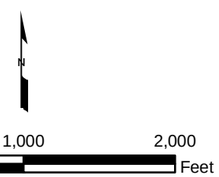
Figure 5.1-1



Legend

- Training Sites
- Munitions Response Area
- 42 Firing Range
- Historical Range
- Major Road
- Fence
- Phase I Parker Flats RI/FS





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Parker Flats MRA Facility Profile Ranges and Training Sites

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Figure 5.1-2

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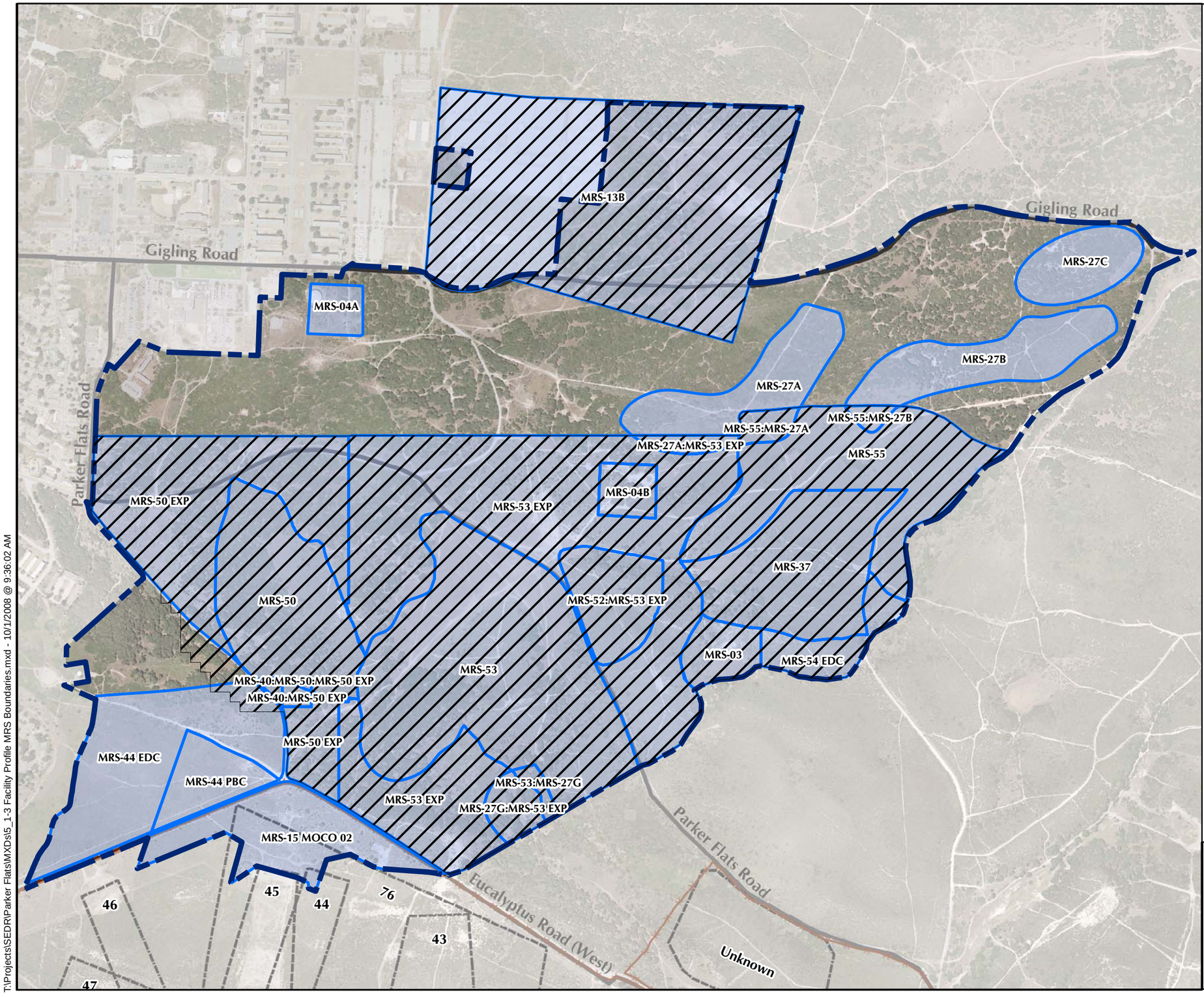
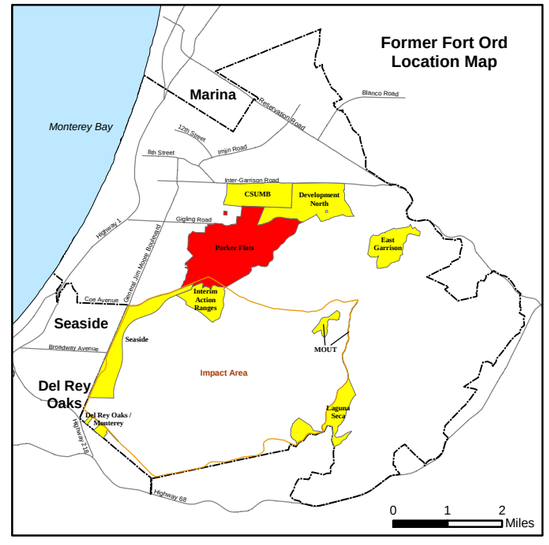
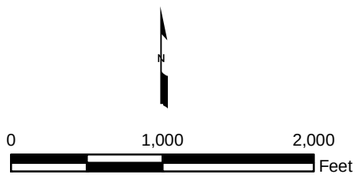


Legend

- Munitions Response Area
- Major Road
- Fence
- 86 Firing Range
- MRS-53 Munitions Response Site
- Phase I Parker Flats RI/FS





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Parker Flats MRA Facility Profile Munitions Response Site Boundaries

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Figure 5.1-3

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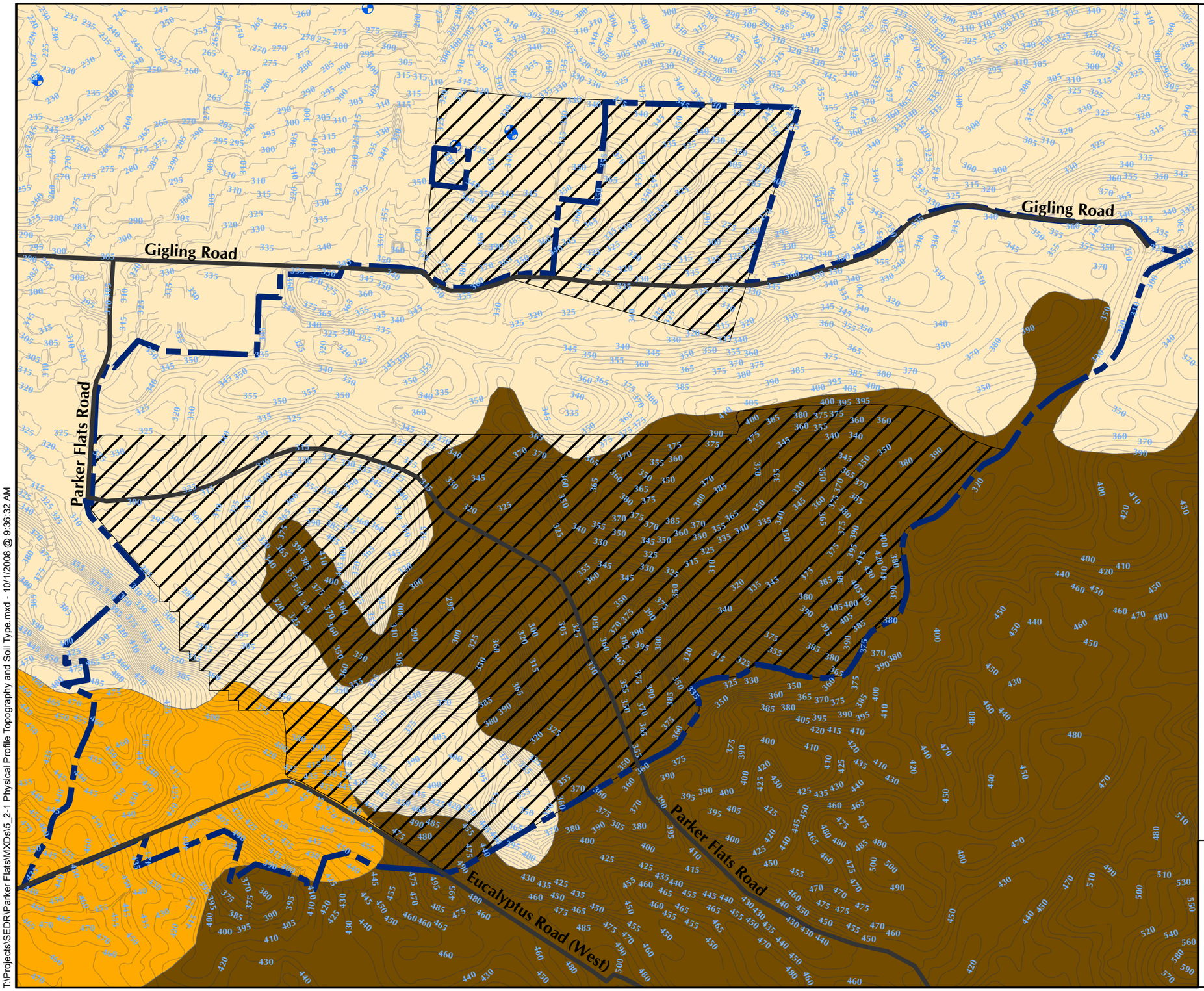
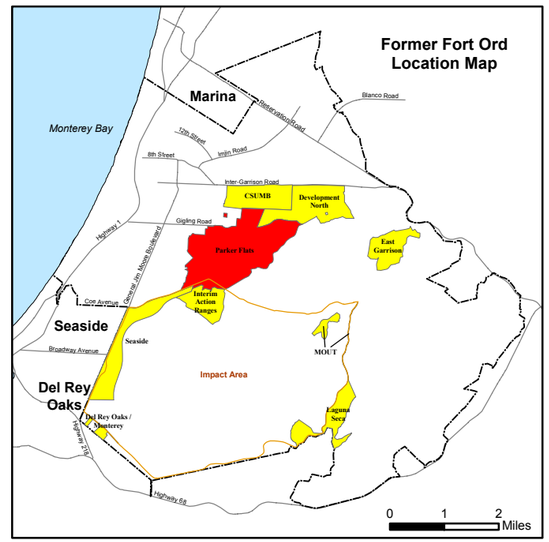


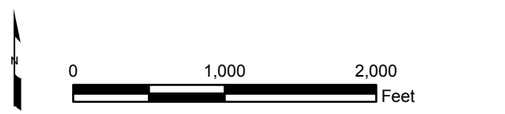
Legend

- Environmental Well
- Abandoned Well
- Water Supply Well
- 540 Topography 5ft
- Munitions Response Area
- Major Road
- Phase I Parker Flats RI/FS

Soil Type

- Arnold-Santa Ynez Complex
- Baywood Sand, 2 to 15 Percent Slopes
- Oceano Loamy Sand, 2 to 15 Percent Slopes





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Parker Flats MRA Physical Profile Topography and Soil Type

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Figure 5.2-1

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Gigling Road

Gigling Road

Parker Flats Road

L32.1

E18.4

E19a.1

E18.1.3

E19a.2

E19a.3

E19a.4

E18.1.1

E18.1.2

E19a.5

L23.2

E20c.2

L20.18

E21b.3

Parker Flats Road

Eucalyptus Road (West)

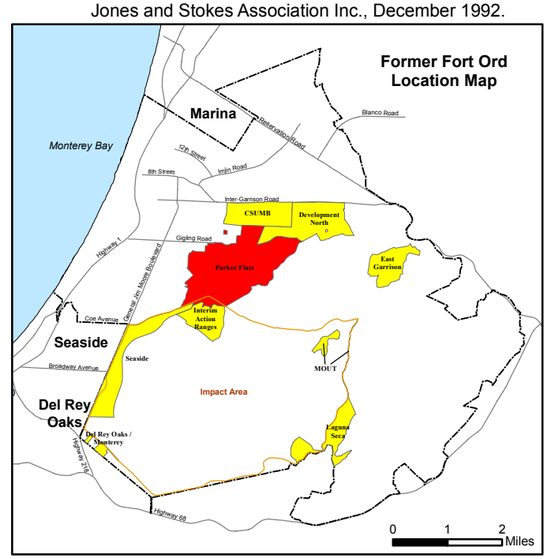
Legend

- Munitions Response Area
- Major Road
- E19a.2 — USACE Parcel
- Phase I Parker Flats RI/FS

Vegetation Type

- Grassland
- Maritime Chaparral
- Coastal Coast Live Oak Woodland
- Coastal Scrub
- Ice Plant Mats
- Aquatic Feature
- Developed / Disturbed

Source: Flora and Fauna Baseline Study of Fort Ord, California, Jones and Stokes Association Inc., December 1992.



N

0 1,000 2,000 Feet

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Parker Flats MRA Physical Profile
Generalized Vegetation Communities

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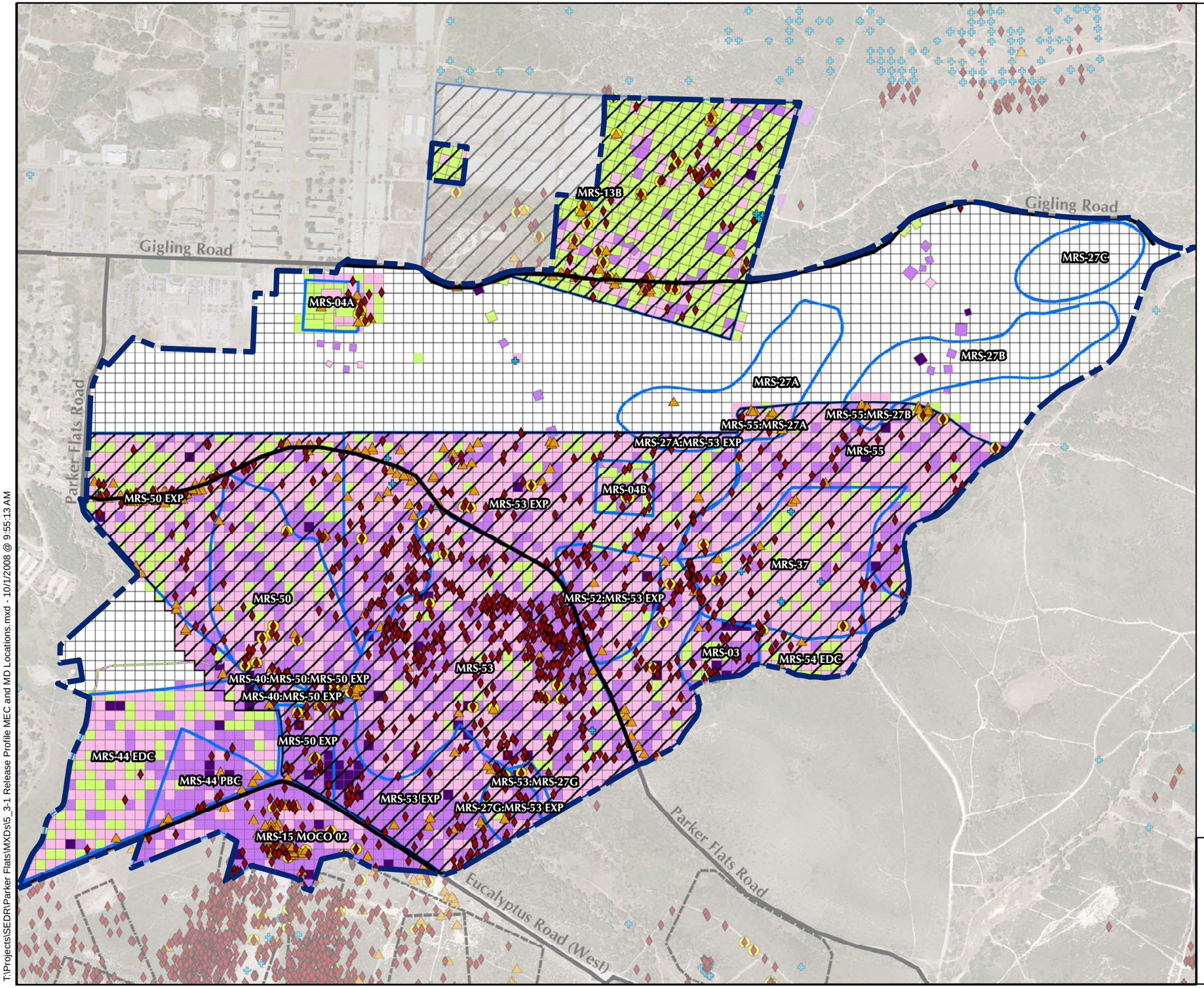
Monterey County, California

Figure 5.2-2



Legend

- Munitions Response Area
- MRS-55 — Munitions Response Site
- Major Road
- Phase I Parker Flats RI/FS

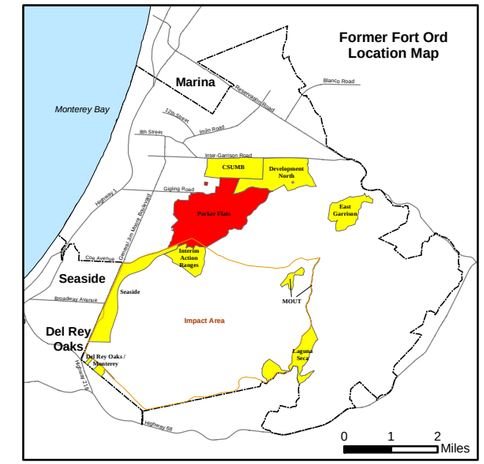
MEC Type

- Unexploded Ordnance (UXO)
- Discarded Military Munition (DMM)
- Insufficient Data (ISD)
- Burial Pit Containing MEC

Munitions Debris (MD) by Weight (total pounds per grid)

- No Data
- 0
- < 10
- 10 to 100
- > 100

Note: Munitions Debris (MD) includes scrap related to small arms ammunition.



N

0 1,000 2,000 Feet

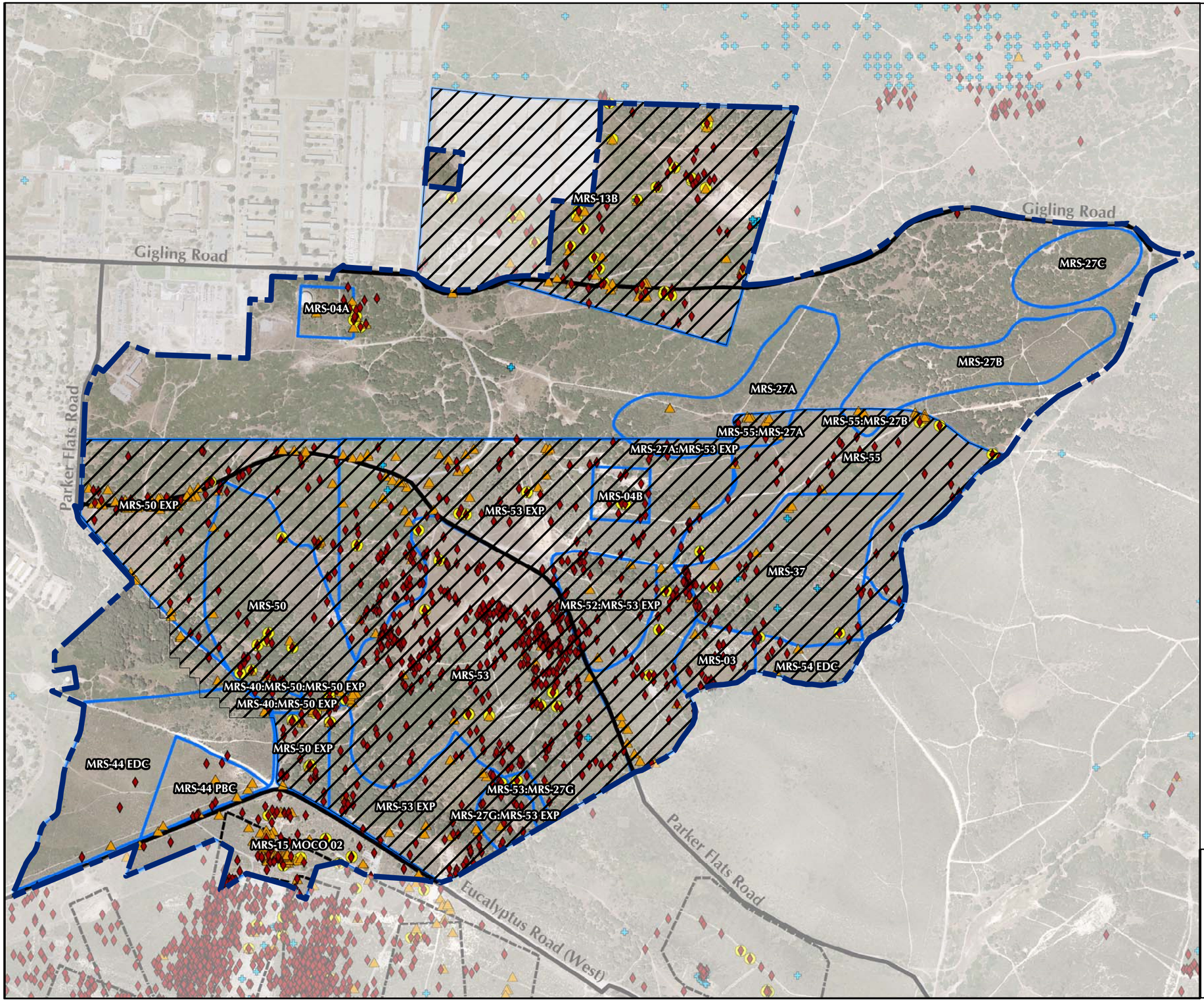
LFR
WESTON SOLUTIONS
Westcliffe Engineers, Inc.

Parker Flats MRA Release Profile MEC and MD Locations

FORA ESCA RP
Monterey County, California

Figure 5.3-1

T:\Projects\SEDR\Parker Flats\MXDs\5_3-1 Release Profile MEC and MD Locations.mxd - 10/1/2008 @ 9:55:13 AM



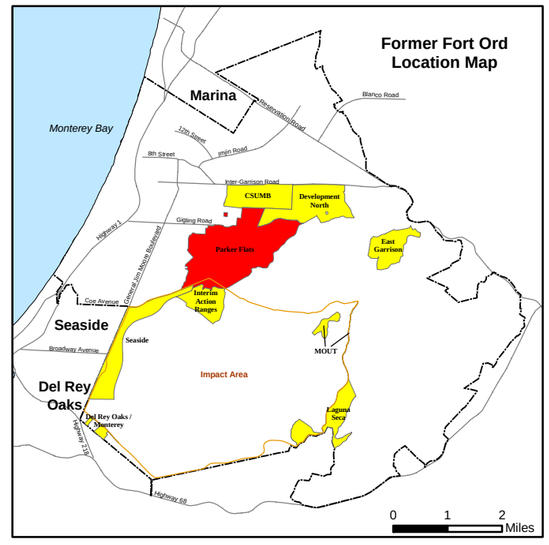
Legend

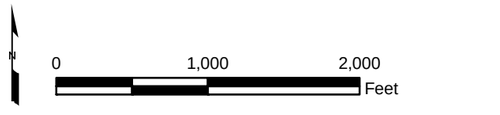
- Munitions Response Area
- Munitions Response Site
- MRS-27A
- Firing Range
- Major Road
- Phase I Parker Flats RI/FS

MEC Type

- Unexploded Ordnance (UXO)
- Discarded Military Munition (DMM)
- Insufficient Data (ISD)
- Burial Pit Containing MEC

Note: MEC locations may include more than one item.





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Parker Flats MRA Release Profile MEC Locations

FORA ESCA RP
Monterey County, California

Figure 5.3-2

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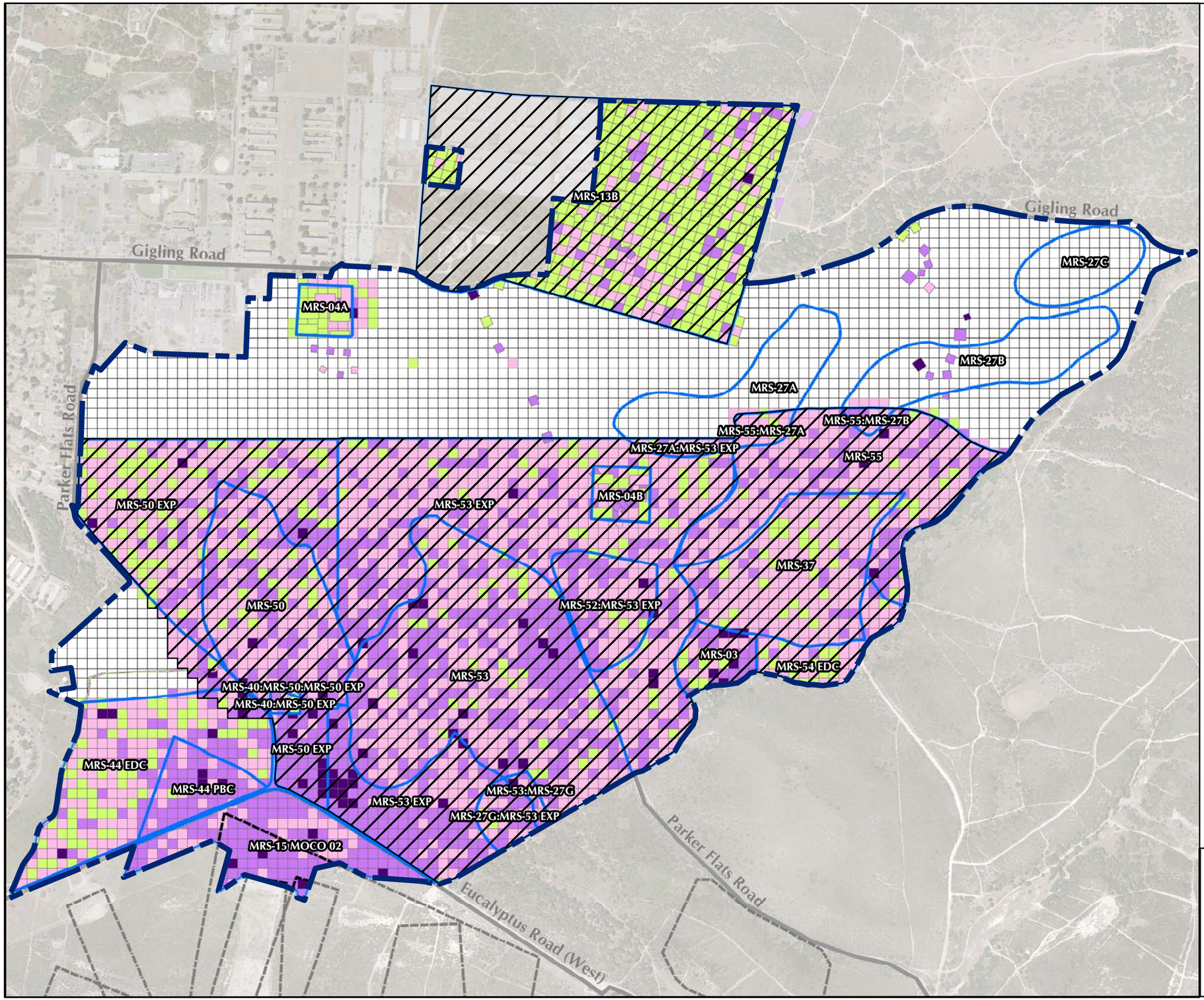


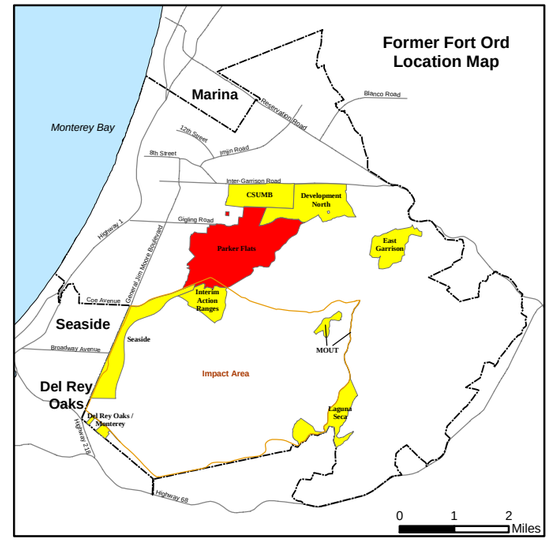
Legend

- Munitions Response Area
- MRS-27A — Munitions Response Site
- Firing Range
- Major Road
- Phase I Parker Flats RI/FS

Munitions Debris (MD) by Weight (total pounds per grid)

- No Data
- 0
- < 10
- 10 to 100
- > 100

Note: Munitions Debris (MD) includes scrap related to small arms ammunition.



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Parker Flats MRA Release Profile MD Locations

FORA ESCA RP
Monterey County, California

Figure 5.3-3

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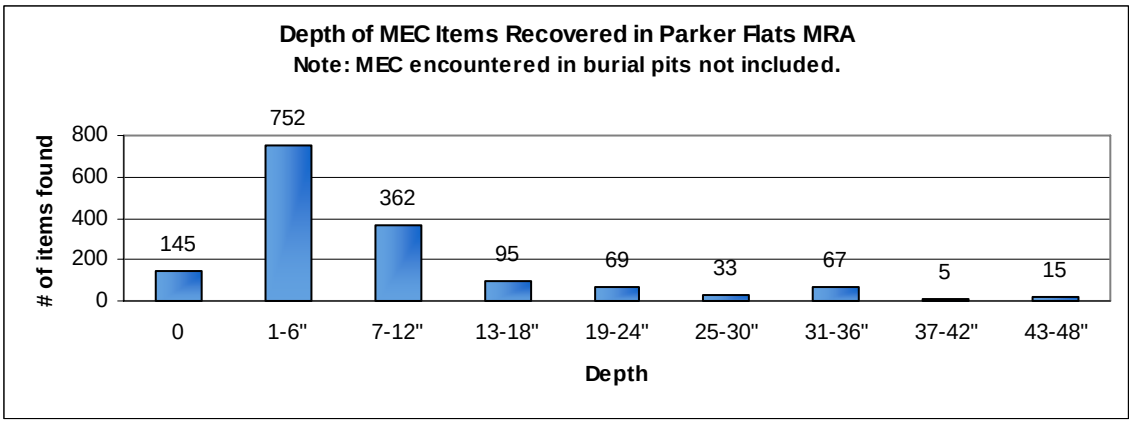

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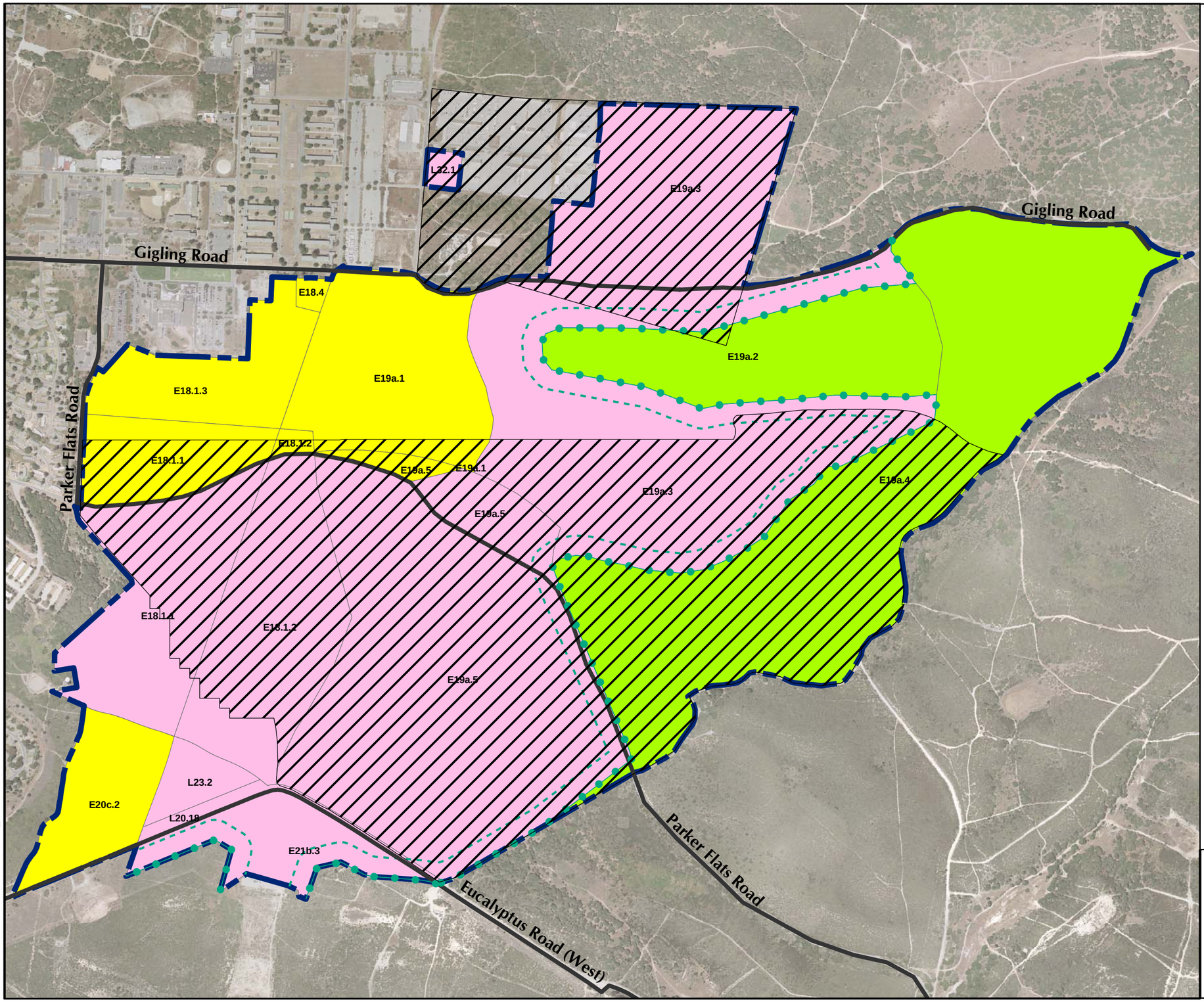
Parker Flats MRA
Distribution of MEC
Recovered by Depth Interval

FORA ESCA RP
Monterey County, California

Figure 5.3-4

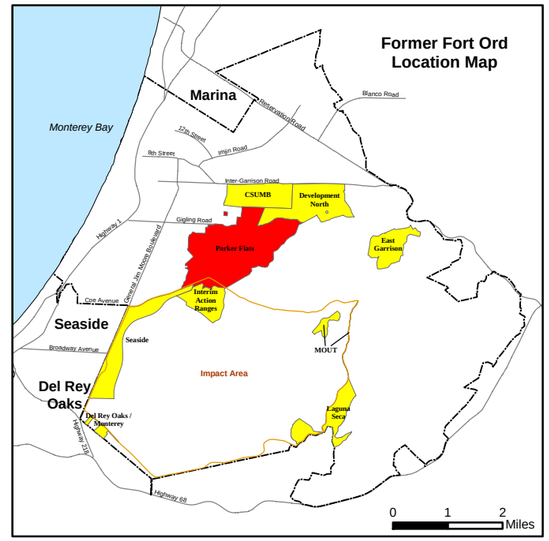


Legend

- Munitions Response Area
- Major Road
- E19a.1 USACE Parcel
- Phase I Parker Flats RI/FS

Future Land Use

- Residential
- Non-Residential
- Habitat Reserve
- Borderland Interface
- 200-Foot Buffer from Borderland Interface



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0 1,000 2,000 Feet

LFR

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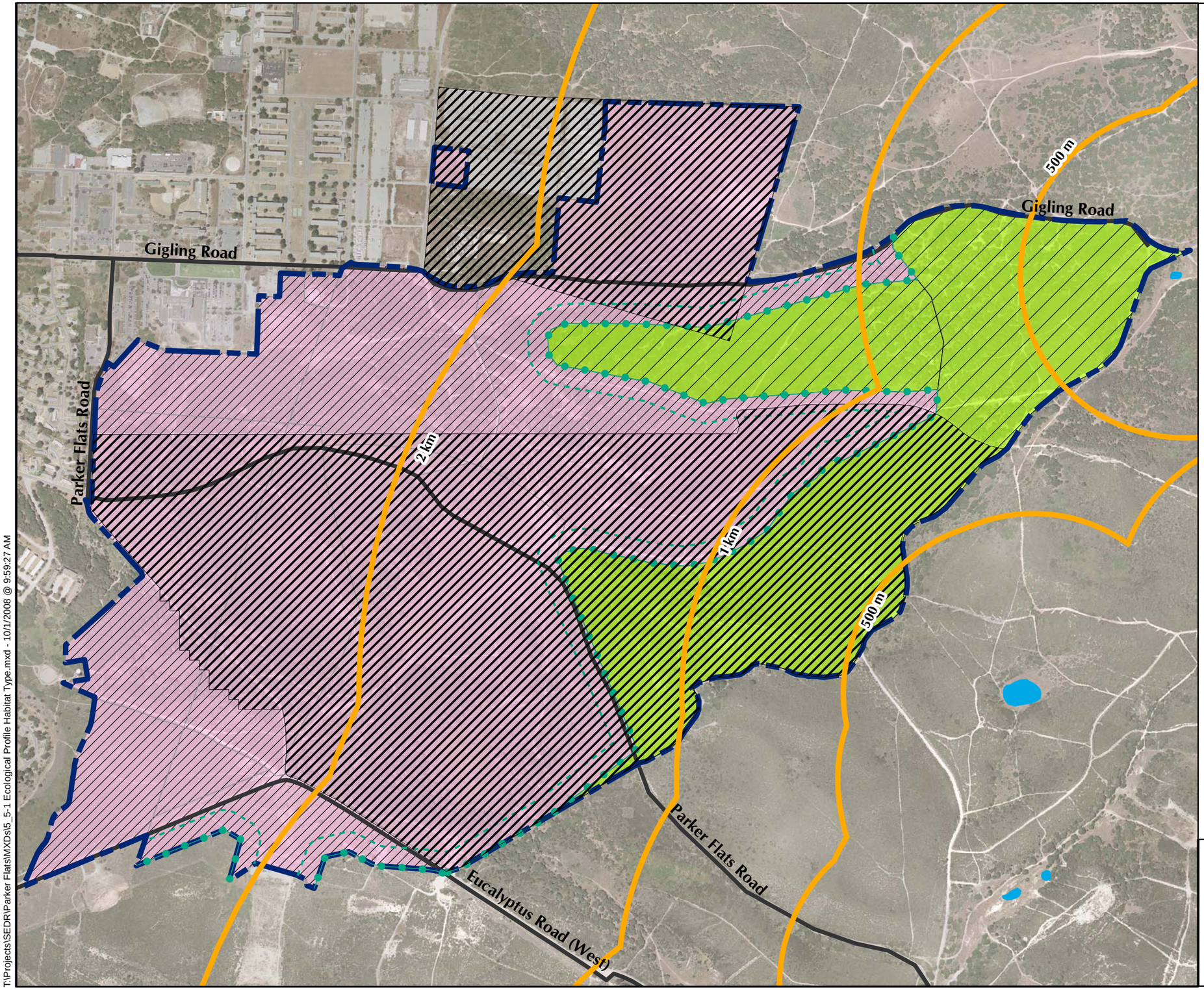
Parker Flats MRA
Land Use Profile
Reuse Plan

FORA ESCA RP
Monterey County, California

Figure 5.4-1

T:\Projects\SEDR\Parker Flats\MXDs\5_4-1 Land Use Profile Reuse Plan.mxd - 10/1/2008 @ 9:59:25 AM

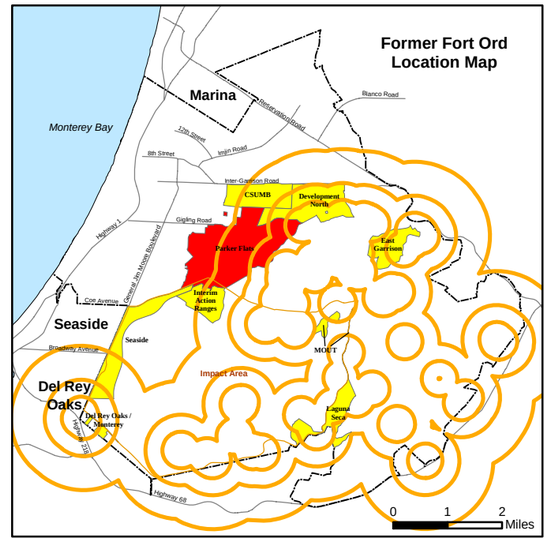


Legend

- Munitions Response Area
- California Tiger Salamander Buffer
- Major Road
- Borderland Interface
- 200-Foot Buffer from Borderland Interface
- Aquatic Features
- Phase I Parker Flats RI/FS

Habitat Management Plan Category

- Development (includes future Residential and Non-Residential areas)
- Development with Reserve or Restrictions
- Habitat Corridor
- Habitat Corridor with Development
- Habitat Reserve



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0 1,000 2,000 Feet

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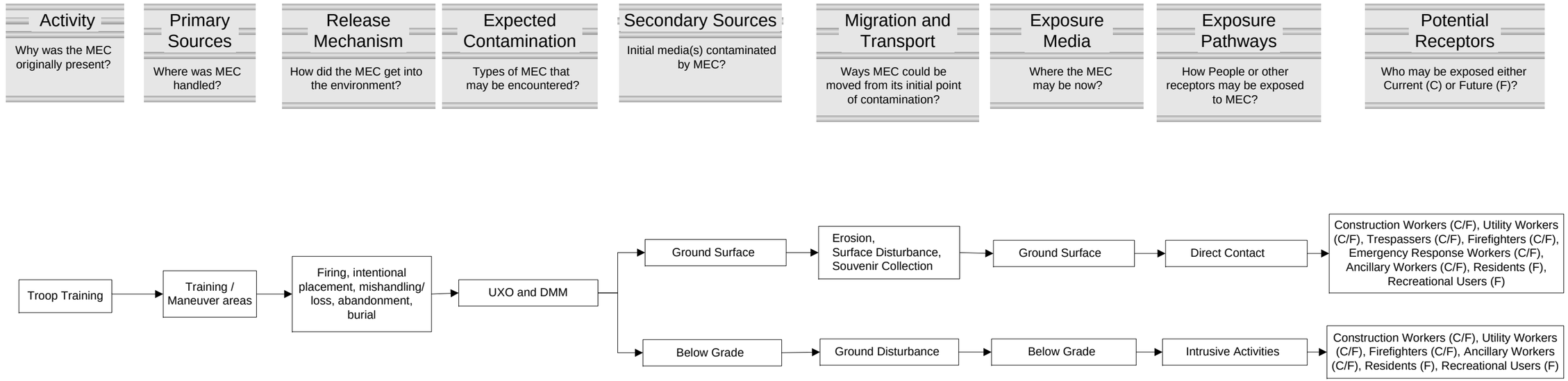
Parker Flats MRA
Ecological Profile
Habitat Type
FORA ESCA RP
Monterey County, California

Figure 5.5-1

T:\Projects\SEDR\Parker Flats\MXDs\5_5-1 Ecological Profile Habitat Type.mxd - 10/1/2008 @ 9:59:27 AM



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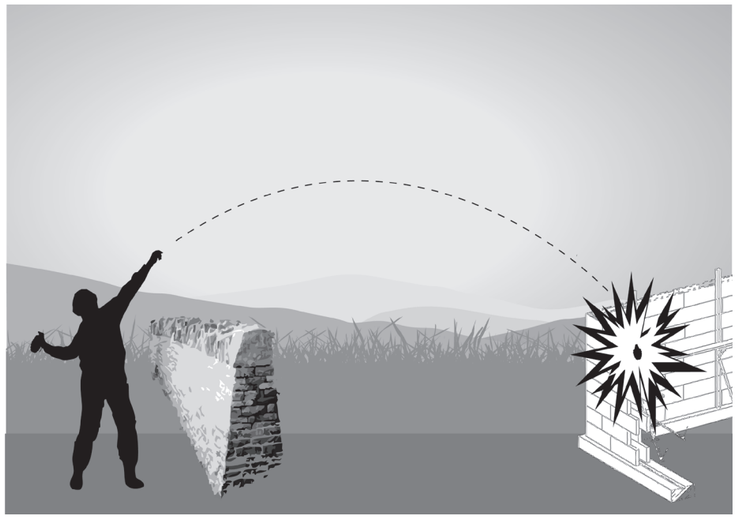
Parker Flats MRA
Pathway Analysis
Flowchart

FORA ESCA RP
Monterey County, California

Figure 5.6-1



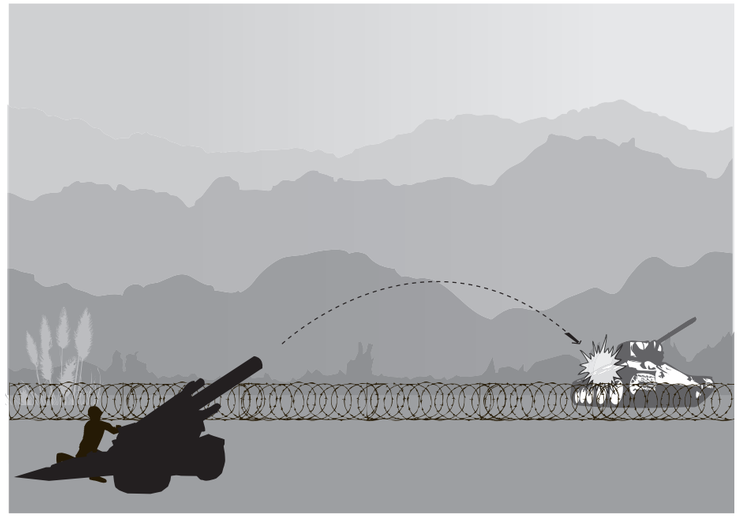
Thrown Ordnance

Burial / Mishandling / Loss

Firing

Direct Fire

Indirect Fire



Indirect Fire

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Parker Flats MRA
Release Mechanism Illustrations

FORA ESCA RP
Monterey County, California

Figure 5.6-2

APPENDIX C

Munitions Response Activity Evaluation Checklists

Appendix C
Munitions Response Activity Evaluation Checklists
Part 1: Literature Review

	Yes	No	Inconclusive
TYPE OF TRAINING AND MILITARY MUNITIONS EXPECTED			
1. Is there evidence that the site was used as an impact area (i.e., fired military munitions such as mortars, projectiles, rifle grenades, or other launched ordnance)?			
Sources reviewed and comments:			
2. Is there historical evidence that training involved use of High Explosive (HE) or Low Explosive (LE) items?			
Sources reviewed and comments:			
3. Is there historical evidence that training involved use of pyrotechnic and/or smoke-producing items (e.g., simulators, flares, smoke grenades) but not explosives?			
Sources reviewed and comments:			
DEVELOPMENT AND USE OF SURROUNDING AREA			
4. Does subsequent development or use of the area indicate that military munitions would have been used at the site?			
Sources reviewed and comments:			
5. Does use of area surrounding the site indicate that military munitions would have been used at the site?			
Sources reviewed and comments:			

Appendix C
Munitions Response Activity Evaluation Checklists
Part 1: Literature Review

	Yes	No	Inconclusive
ESTABLISHMENT OF SITE BOUNDARIES			
6. Is there evidence of training areas on aerial photographs that could be used to establish site boundaries?			
Sources reviewed and comments:			
7. Is there evidence of training on historical training maps that could be used to establish boundaries?			
Sources reviewed and comments:			
8. Should current boundaries be revised?			
Sources reviewed and comments:			
RESULTS OF LITERATURE EVALUATION			
9. Does the literature review provide sufficient evidence to warrant further investigation?			
Sources reviewed and comments:			

Appendix C
Munitions Response Activity Evaluation Checklists
Part 2: Removal Evaluation

	Yes	No	Inconclusive
HISTORICAL INFORMATION			
1. Is there evidence that the site was used as an impact area (i.e., fired military munitions such as mortars, projectiles, rifle grenades, or other launched ordnance)?			
Sources reviewed and comments:			
References:			
2. Is there evidence that training involved use of explosive items?			
Sources reviewed and comments:			
References:			
3. Is there evidence that training involved use of pyrotechnic and/or smoke-producing items (e.g., simulators, flares, smoke grenades) but not explosives?			
Sources reviewed and comments:			
References:			
REMOVAL RESULTS			
4. Was removal performed within the appropriate area?			
Sources reviewed and comments:			
References:			

Appendix C
Munitions Response Activity Evaluation Checklists
Part 2: Removal Evaluation

	Yes	No	Inconclusive
5. Were the type(s) of items found consistent with the type of training identified for the site?			

Sources reviewed and comments:

References:

6. Were the type(s) of items found consistent with the era(s) in which training was identified?			

Sources reviewed and comments:

References:

7. Was High Explosive (HE) fragmentation found?			

Sources reviewed and comments:

References:

8. Were HEs found?			

Sources reviewed and comments:

References:

Appendix C
Munitions Response Activity Evaluation Checklists
Part 2: Removal Evaluation

	Yes	No	Inconclusive
9. Were Low Explosives (LEs) found?			

Sources reviewed and comments:

References:

10. Were pyrotechnics found?			

Sources reviewed and comments:

References:

11. Were smoke-producing items found?			

Sources reviewed and comments:

References:

12. Were explosive items found (e.g., rocket motors with explosive components, fuzes with explosive components)?			

Sources reviewed and comments:

References:

Appendix C
Munitions Response Activity Evaluation Checklists
Part 2: Removal Evaluation

	Yes	No	Inconclusive
13. Do items found in the area indicate training would have included use of training items with other energetic components?			

Sources reviewed and comments:

References:

14. Were items found in a localized area (possibly the remnants of a cleanup action)?			

Sources reviewed and comments:

References:

SITE INVESTIGATION DESIGN

15. Was the site divided into subareas to focus on areas of common usage, similar topography and vegetation, and/or other unique site features?			

Sources reviewed and comments:

References:

16. Should the site be divided into subareas based on the above features?			

Sources reviewed and comments:

References:

Appendix C
Munitions Response Activity Evaluation Checklists
Part 2: Removal Evaluation

	Yes	No	Inconclusive
17. Should current site boundaries be revised based on sampling results?			

Sources reviewed and comments:

References:

EQUIPMENT REVIEW

18. Was equipment used capable of detecting items suspected at the site at the maximum expected depth?			

Sources reviewed and comments:

References:

19. Was equipment used capable of detecting the types of items (e.g., non-ferrous) suspected at the site?			

Sources reviewed and comments:

References:

20. Do the results of the Ordnance Detection and Discrimination Study (ODDS) indicate that items suspected at the site would have been detected by the instrument used at the time of investigation?			

Sources reviewed and comments:

References:

Appendix C
Munitions Response Activity Evaluation Checklists
Part 2: Removal Evaluation

	Yes	No	Inconclusive
21. Do results of the investigation indicate that suspected items could be detected with a high level of confidence at observed and expected depth ranges?			

Sources reviewed and comments:

References:

22. Were all the instruments used to evaluate the site maintained and calibrated in accordance with associated work plan and manufacturers' specifications?			

Sources reviewed and comments:

References:

DATA PROCESSING AND DATA MANAGEMENT

23. Was the appropriate data processing scheme used for the site, and how were the data processed?			

Sources reviewed and comments:

References:

24. Have the field data been collected and managed in accordance with quality control standards established for the project?			

Sources reviewed and comments:

References:

Appendix C
Munitions Response Activity Evaluation Checklists
Part 2: Removal Evaluation

	Yes	No	Inconclusive
RESULTS OF REMOVAL EVALUATION			
A. Can the data be used to perform a risk assessment?			

Comments:

References:

B. Can the data be used to perform a feasability study?			

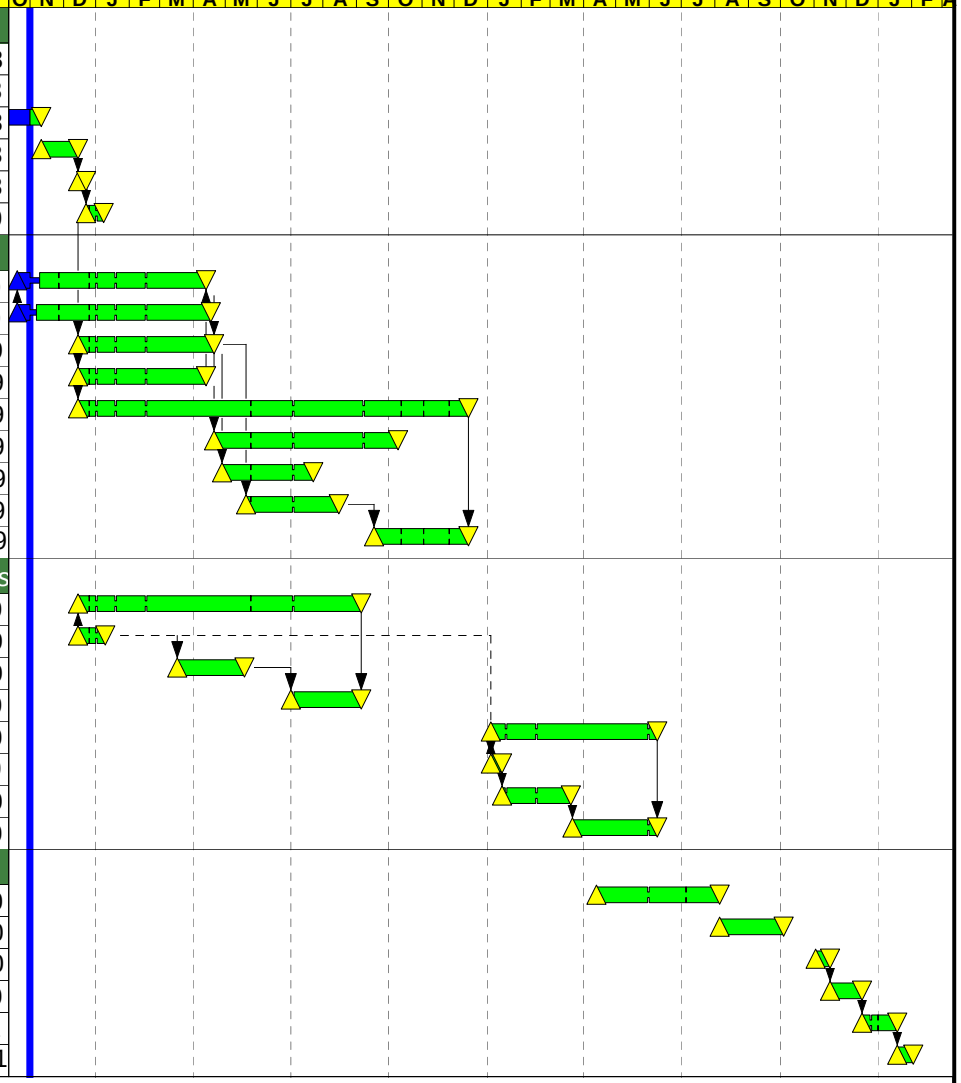
Comments:

References:

APPENDIX D

Anticipated Project Schedule

Activity Description	Duration	Early Start	Early Finish
RI/FS Work Plan - Group 1 (Seaside MRA and Parker Flats MRA Phase II)			
Draft Group 1 RI/FS Work Plan Preparation	144	05NOV07	29MAY08
Regulatory Review	60	29MAY08	28JUL08
Draft Final Group 1 RI/FS Work Plan Preparation	73	29JUL08	10NOV08
Regulatory Review	34	11NOV08	14DEC08
Final Group 1 RI/FS Work Plan Preparation	6	15DEC08	22DEC08
Regulatory Review and Approval	14	23DEC08	07JAN09
MEC Clearance Activities - Parker Flats MRA Phase II			
Boundary and Grid Surveys	116	20OCT08	13APR09
Vegetation Cutting and Removal	121	20OCT08	17APR09
Surface MEC Removal	87	15DEC08	20APR09
Demolition Activities	82	15DEC08	13APR09
Quality Control - Analog	251	15DEC08	14DEC09
Quality Control - Digital	120	21APR09	08OCT09
DGM and Data Analysis	60	28APR09	22JUL09
Subsurface MEC Removal; Reacquisition & Identification	60	21MAY09	14AUG09
Subsurface MEC Removal; Mag and Dig	60	17SEP09	14DEC09
Residential Quality Assurance (RQA) Activities - Seaside and CSUMB Off-Campus MRAs			
RQA - Seaside MRA	184	15DEC08	04SEP09
Pilot Test (RQA-SEA.4)	18	15DEC08	09JAN09
Agency Consultation	45	18MAR09	19MAY09
Remaining RQA, if required	47	01JUL09	04SEP09
RQA - CSUMB Off-Campus MRA	109	04JAN10	08JUN10
Pilot Test (RQA-CSUMB)	8	04JAN10	13JAN10
Agency Consultation	45	14JAN10	19MAR10
Remaining RQA, if required	56	22MAR10	08JUN10
RI/FS Report - Group 1 (Seaside MRA and Parker Flats MRA Phase II)			
Draft Group 1 RI/FS Report Preparation	80	13APR10	04AUG10
Regulatory Review	60	05AUG10	03OCT10
Draft Final RI/FS Report Preparation	10	03NOV10	16NOV10
Regulatory Review	30	17NOV10	16DEC10
Final Group 1 RI/FS Report Preparation	20	17DEC10	18JAN11
Regulatory Review and Approval	15	19JAN11	02FEB11



Start Date	01APR07
Finish Date	14JUL14
Data Date	31OCT08
Run Date	10NOV08 12:02

Early Bar
Progress Bar
Critical Activity

1031

Sheet 1 of 1

FORA ESCA Remediation Program
Anticipated Project Schedule

Date	Revision	Checked	Approved

APPENDIX E

Response to Comments

Response to Comments
DRAFT Group 1 Remedial Investigation/Feasibility Study Work Plan, dated May 23, 2008
Review Comments provided by Judy Huang of EPA, dated July 9, 2008

No.	Comment Type / Report Section	Comment/Response
1	EPA General Comment	**Comment**: The Draft Group 1 Remedial Investigation/Feasibility Study Work Plan, Seaside Munitions Response Area and Parker Flats Munitions Response Area Phase II, dated May 23, 2008, (hereinafter referred to as the Dft GP 1 RI/FS WP, Seaside & Parker Flats MRAs, Phase II), presents the Quality Control (QC) process to be used during the execution of the RI/FS in a fragmented manner. It is understood that some of this fragmentation is due to the format of the document that is prescribed by the RI/FS requirements. However, there is no identifiable portion of the document or its appendices that contains a listing of all of the activities to be evaluated by QC, the evaluation criteria for each activity evaluated, and the associated pass/fail criteria. A listing of this information would be very valuable for use during the execution of the work plan and would assist those evaluating the quality of these processes in their efforts. Please provide a table/chart that provides this information in an appropriate location in the body of the Dft GP 1 RI/FS WP, Seaside & Parker Flats MRAs, Phase II. **Response**: Quality control (QC) operations for Geophysics and Unexploded Ordnance (UXO) operations are defined in Section 5, Section 11, and Appendix E (Quality Assurance Project Plan) of Volume 2 of the Group 1 Remedial Investigation/Feasibility Study (RI/FS) Work Plan. The QC components in the Group 1 RI/FS Work Plan related to Geophysics and UXO operations have been consolidated into Appendix E, leaving Section 11 as the overarching Quality Control Plan. The QC components in Section 5 have been maintained, but now reference Appendix E. A table has also been incorporated into Appendix E that presents a quick reference for UXO and Geophysics QC operations.
2	EPA General Comment	**Comment:** The Draft GP 1 RI/FS WP, Seaside & Parker Flats MRAs, Phase II, refers to a number of teams throughout the document and its appendices. In most instances, the makeup of these teams is not provided. Some of the teams listed include: Excavation Team, UXO Team, UXO Intrusive Team, Brush Cutting Team, Geophysical Team, Chipper Team, Reacquisition Team, Dig Team, Field Team, Mechanical Vegetation Cutting Team, and ESCA RP Team. Some of these teams are defined by function and makeup in the document, but most are not. Please review the teams listed in the Dft GP 1 RI/FS WP, Seaside & Parker Flats MRAs, Phase II, and define the function and make up of each team when first introduced in the text or at another appropriate location that may be referenced at the first introduction of the team in the text.

Response to Comments
DRAFT Group 1 Remedial Investigation/Feasibility Study Work Plan, dated May 23, 2008
Review Comments provided by Judy Huang of EPA, dated July 9, 2008

No.	Comment Type / Report Section	Comment/Response
		Response: The definitions or identifications of the members that make up the teams mentioned throughout the report have been added to the document. In addition, the text has been revised to ensure consistent use of the various team names throughout the Group 1 RI/FS Work Plan - Volumes 1 and 2 (including the appendices).
1	EPA Specific Comment – Executive Summary, Sampling and Analysis Plan (Volume 2), Page xv	**Comment:** The next-to-last sentence in the third paragraph of this section on page xv, in referring to the results of the surface sweep, states that, "If significant subsurface MEC (either in high concentration or high risk unexploded ordnance) are discovered during the investigation, the immediate vicinity may be intrusively investigated to ascertain the limits of the condition." The use of the word "may" in this sentence raises a concern as to the criteria that will make this further investigation obligatory. Please revise the cited section of the Executive Summary to state the specific criteria that will be used to determine whether the noted intrusive investigation will be initiated, or reference where this information may be found elsewhere in the document or its appendices. **Response:** This work plan does not contain specific criteria that will be used to determine whether intrusive investigation will be initiated. Therefore, the Executive Summary (as well as corresponding text in Section 4.5.2 of Volume 1 and Sections 2.2.1 and 2.3.7 of Volume 2) has been revised as follows to clarify the approach: "The purpose of the surface sweep in the accessible habitat reserve areas will be to identify and remove anomalies that are on or near the surface (within 3 inches). ***Surface and near-surface finds (MEC and MD) will be fully documented and reviewed by the ESCA RP Team in consultation with the regulatory agencies during the investigation.*** If ***the ESCA RP Team in consultation with the regulatory agencies determine that*** significant ***near-*** ~~sub~~surface MEC (either high concentration or high-risk unexploded ordnance) ***has been*** discovered during the investigation, ***a field variance will be developed to change the investigation approach to include a focused intrusive investigation*** ~~the immediate vicinity may be intrusively investigated~~ to ascertain the limits of the condition."
2	EPA Specific Comment – Volume 1, Work Plan, Section 4.7, Explosives	**Comment**: The last sentence of the first paragraph of this section states that, "Rather, it relies on an assumption that any encounter with MEC will result in an adverse effect, and provides a qualitative description of the explosives safety risk, based on the likelihood of encountering a MEC item combined with the potential of the item to cause a serious injury if detonated." While many of

Response to Comments
DRAFT Group 1 Remedial Investigation/Feasibility Study Work Plan, dated May 23, 2008
Review Comments provided by Judy Huang of EPA, dated July 9, 2008

No.	Comment Type / Report Section	Comment/Response
	Safety Risk Assessment, Page 4-7	the munitions items that may be found on the sites of concern can detonate, some are items that do not detonate, but burn or eject pyrotechnic cargoes that burn when they function. Based on this differing results of a munitions item functioning due to stimulus from a personal encounter, a better description of the results would be achieved if the words "it functions" replaced the word "detonated" in the cited sentence. Please make this correction here and elsewhere as appropriate in the Dft GP 1 RI/FS WP, Seaside & Parker Flats MRAs, Phase II. **Response**: The sentence has been revised as follows: "Rather, it relies on an assumption that any encounter with MEC will result in an adverse effect, and provides a qualitative description of the explosives safety risk, based on the likelihood of encountering an MEC item combined with the potential of the item to cause a serious injury if ~~detonated~~ ***it functions****."*
3	EPA Specific Comment – Volume 1, Work Plan, Appendix A, Seaside MRA Conceptual Site Model, Section 4.1.3, Historical Military Use, Page 4-2	**Comment**: The last sentence in this section notes that, "It is expected that munitions activity associated with these ranges would have occurred within the firing points." This statement may not be accurate, depending on the definition applied to the term "munitions activity." Please revise this section to include a description of what constitutes "munitions activity," or expand it to better explain the intent of the cited sentence. **Response**: The last sentence of this section has been revised as follows: "According to the known configuration of the ranges, weapons were fired to the east and southeast from these firing points toward the center of the impact area (Figure 4.1-2). It is expected that munitions activity associated with these ranges would have occurred within ***the range fans associated with*** the firing points. ***A munitions activity is intended to include military training activities at or near the range that involve the use or handling of military munitions.***"
4	EPA Specific Comment – Volume 1, Work Plan, Appendix A, Seaside MRA Conceptual Site Model,	**Comment**: This section presents a general discussion of the potential exposure pathways from munitions items that may currently be present on the Seaside MRA. The results of this analysis are referenced as presented in Table 4.6-1, Seaside MRA – Potential Receptors and Exposure Media. The potential receptors listed include Construction Worker, Utility Workers, Trespassers, Firefighters, Emergency Response Workers, Ancillary Workers, Residents, and Recreational Users. The table divides these receptors into two categories,

Response to Comments
DRAFT Group 1 Remedial Investigation/Feasibility Study Work Plan, dated May 23, 2008
Review Comments provided by Judy Huang of EPA, dated July 9, 2008

No.	Comment Type / Report Section	Comment/Response
	Section 4.6, Seaside MRA Pathway Analysis, Page 4-11	which are Current and Future. The Exposure Media listed is Ground Surface and Below Grade. None of the potential receptors are listed as being potentially exposed to MEC present on the ground surface either in the Current or Future periods. Also, only the Construction Workers, Utility Workers, Firefighters, and Residents are identified as being potentially exposed to MEC present in the subsurface. The Trespassers, Emergency Response Workers, Ancillary Workers, and Recreational Users are listed as having no potential exposure to MEC present on the Ground Surface or in the Subsurface during either time period. No details as to how these determinations were made are provided in the cited section. No MEC removal action short of complete excavation and removal (or screening) of the soil to the potential penetration depths of the munitions used will provide a complete assurance that no MEC remains on the site so treated. Based on this fact, the presence of MEC on and beneath the surface of the Seaside MRA cannot be ruled out, both before and after surface and subsurface removals have been conducted. Therefore, any person entering the site has the potential to contact MEC on the surface, and any person conducting any intrusive activity on the site has the potential to contact subsurface MEC, both prior to and after the removal actions have been completed. Please review the cited section and table and revise them as necessary to present the correct exposure potential for the listed receptors. **Response**: Table 4.6-1 has been revised to include a complete analysis of receptors and potential exposure media/scenarios.
5	EPA Specific Comment – Volume 1, Work Plan, Appendix A, Seaside MRA Conceptual Site Model, Table 4.1-4, Seaside MRA – Historical Military Use, Page 4-17	**Comment**: In the row entitled “Range 23M,” the second bullet in the Description column lists “Dragon Rounds” as having been found on this range. As “Dragon rounds” would be an unfired missile, this is highly unlikely. Please review the cited table and correct it as necessary. **Response**: Although it is agreed that the term Dragon “rounds” may be misleading or incorrect, the statement that they were used or found on Range 23M comes from the Archives Search Report prepared by the USACE in October 1993. The Archives Search Report presents information obtained through historical research at various archives and records holding facilities, interviews with individuals associated with the site or operations, and personal visits to the site. The Archives Search Report indicates that Ordnance Items Found or

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		Utilized on Range 23M were "Dragon missiles (practice and HEAT), 4.2" Mortar." The report does not differentiate between items that were found and items that were used. The term "round" has been revised to include the full nomenclature as reported in the Archive Search Report, but no other changes have been made to the tables.
6	EPA Specific Comment – Volume 1, Work Plan, Appendix A, Seaside MRA Conceptual Site Model, Figure 4.6-1, Seaside MRA Pathway Analysis Flowchart	**Comment**: In the column entitled "Expected MEC Contamination," some of the boxes in the column list "MD" as a possible component. As MD is not a subcomponent of MEC, this is technically an incorrect usage. Either the column heading should be revised to replace the term "MEC" or the MD should be removed from the noted boxes in the column. Please correct this as needed. In addition, the column entitled "Secondary Sources" lists both Ground Surface and Below Grade as the initial media contaminated by MEC. However, the Ground Surface source is not continued to completion on the flowchart, as is the case with the Below Grade category. Please complete the evaluation of this source in the flowchart. **Response**: MD has been removed from the boxes in the analyses. In addition, the figure has been updated to reflect a completed pathway analysis through the four remaining columns for the Ground Surface category.
7	EPA Specific Comment – Volume 1, Work Plan, Appendix B, Parker Flats MRA Conceptual Site Model, Section 5.6, Parker Flats MRA Pathway Analysis, Page 5-10	**Comment**: This section presents a general discussion of the potential exposure pathways from munitions items that may currently be present on the Parker Flats MRA. The results of this analysis are referenced as presented in Table 5.6-1, Parker Flats MRA – Potential Receptors and Exposure Media. The potential receptors listed include Construction Worker, Utility Workers, Trespassers, Firefighters, Emergency Response Workers, Ancillary Workers, Residents, and Recreational Users. The table divides these receptors into two categories, which are Current and Future. The Exposure Media listed is Ground Surface and Below Grade. With the exception of Emergency Response Workers and Residents, all of the potential receptors are listed as being potentially exposed to MEC present on the ground surface, either in the Current or Future periods. An exception is the Recreational User, who is not listed for the Current period. Also, the Trespassers, Emergency Response Workers, Ancillary Workers, and Recreational Users are identified as not being potentially exposed to MEC present in the subsurface. Only the Emergency Response Workers are listed as having no potential exposure to MEC present on the Ground Surface or in the Subsurface during either time period. No details as to how these

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		determinations were made are provided in the cited section. As has previously been noted, no MEC removal action short of complete excavation and removal (or screening) of the soil to the potential penetration depths of the munitions used will provide a complete assurance that no MEC remains on the site so treated. Based on this fact, the presence of MEC on and beneath the surface of the Seaside MRA cannot be ruled out, both before and after surface and subsurface removals have been conducted. Therefore, any person entering the site has the potential to contact MEC on the surface, and any person conducting any intrusive activity on the site has the potential to contact subsurface MEC, both prior to and after the removal actions have been completed. Please review the cited section and table and revise them as necessary to present the correct exposure potential for the listed receptors. **Response**: Table 5.6-1 has been revised to include a complete analysis of receptors and potential exposure media/scenarios.
8	EPA Specific Comment – Volume 1, Work Plan, Appendix B, Parker Flats MRA Conceptual Site Model, Table 5.3-2, Parker Flats MRA Phase II – Removal Activities, Page 5-22	**Comment**: In the row entitled "MRS-15MOCO.2," the fourth bullet in the Summary column has a sentence that states, "This operation identified areas [or an area? Areas is correct] of obstructions/interferences such as asphalt, and material from the Range 45 pad, or telephone poles as SCA (Parsons 2004b)." Either this sentence is very poorly constructed or editorial comments have not been expunged from the table. Please review this table and correct it as necessary. **Response**: The table has been revised and the editorial comment removed.
9	EPA Specific Comment – Volume 1, Work Plan, Appendix B, Parker Flats MRA Conceptual Site Model,	**Comment**: In the column entitled "Expected MEC Contamination," the box in the column list "MD" as a possible component. As MD is not a subcomponent of MEC, this is technically an incorrect usage. Either the column heading should be revised to replace the term MEC or the MD should be removed from the noted box in the column. Please correct this as needed. In addition, the column entitled "Secondary Sources" only lists Below Grade as the initial media contaminated by MEC. However, the Ground Surface

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	Figure 5.6-1, Parker Flats MRA Pathway Analysis Flowchart	source is discussed in Section 5.6.1, Exposure Pathways, and is also referenced in Table 5.6-1, Parker Flats MRA – Potential Receptors and Exposure Media. Please provide an evaluation of this source in the flowchart. **Response**: MD has been removed from the boxes in the analysis. In addition, the figure has been updated to reflect a completed pathway analysis for the Ground Surface category.
10	EPA Specific Comment – Volume 2, Sampling and Analysis Plan, Section 2.2.1, Parker Flats MRA – Phase II Remedial Investigation, Page 2-2	**Comment**: The last sentence in the third paragraph of this section, in referring to the results of the surface sweep, states that, "If significant subsurface MEC (either high concentration or high risk unexploded ordnance [UXO]) are discovered during the investigation, the immediate vicinity may be intrusively investigated to ascertain the limits of the condition." The use of the word "may" in this sentence raises a concern as to the criteria that will make this further investigation obligatory. Please revise the cited section to state the specific criteria that will be used to determine whether the noted intrusive investigation will be initiated, or reference where this information may be found elsewhere in the document or its appendices. **Response**: This work plan does not contain specific criteria that will be used to determine whether intrusive investigation will be initiated. Therefore, Sections 2.2.1 and 2.3.7 of Volume 2 have been revised as follows to clarify the approach: <u>Section 2.2.1</u> "The purpose of the surface sweep in the accessible habitat reserve areas will be to identify and remove anomalies that are on or near the surface (within 3 inches). ***Surface and near-surface finds (MEC and MD) will be fully documented and reviewed by the ESCA RP Team in consultation with the regulatory agencies during the investigation.*** If ***the ESCA RP Team in consultation with the regulatory agencies determine that*** significant ***near-*** ~~sub~~surface MEC (either high concentration or high-risk unexploded ordnance [UXO]) ***has been*** discovered during the investigation, ***a field variance will be developed to change the investigation approach to include a focused intrusive investigation*** ~~the immediate vicinity may be intrusively investigated~~ to ascertain the limits of the condition." <u>Section 2.3.7</u> "Any MEC items encountered on the surface will be immediately reported to the SUXOS, surveyed with a GPS unit for documentation purposes, and handled in accordance with the proper handling procedures. If an anomaly is

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		detected using analog instruments, the UXO Technician will investigate the anomaly to a depth of 3 inches. ~~If MEC items are recovered during this task this information will be noted and additional investigation will be proposed for this area.~~ If the anomaly cannot be located within the top 3 inches of soil surface, the soil will be replaced and the location will be flagged and surveyed using a GPS instrument***, if coverage is available. In the event that GPS coverage is not available, the anomaly will be marked on the grid map and the coordinates will be manually entered***. The SUXOS will summarize a list of anomalies that could not be fully investigated and/or areas where MEC was found that require additional investigation. ***Surface and near-surface finds (MEC and MD) will be fully documented and reviewed by the ESCA RP Team in consultation with the regulatory agencies during the investigation. If the ESCA RP Team in consultation with the regulatory agencies determine that significant near-surface MEC (either high concentration or high-risk UXO) has been discovered during the investigation, a field variance will be developed to change the investigation approach to include a focused intrusive investigation to ascertain the limits of the condition.***"
11	EPA Specific Comment – Volume 2, Sampling and Analysis Plan, Section 2.3.5.1, Excavation of Digitally Reacquired Anomalies, Page 2-9	**Comment**: The last sentence in this section states, "If MEC are encountered that are suspected of containing unknown filler, MEC extinction will be conducted in accordance with the SOP for MEC with Unknown Filler presented in Appendix D of this G1 SAP." Please explain the reason for the use of the word "extinction" in this sentence and what it entails. **Response**: The word extinction has been replaced with ***disposition*** in the text. The activities associated with disposition of the MEC items suspected of containing unknown fillers are described in Appendix D (the SOP for MEC with Unknown Filler), as described in the text.
12	EPA Specific Comment – Volume 2, Sampling and Analysis Plan, Section 5.25, Geophysical QC Surveys, Page 5-19	**Comment**: In the three sub-elements (QC-1, QC-2, and QC-3) of the first paragraph of this section, the basic concepts of these three QC steps are identified. However, no specific resurvey percentage (or reference as to where this may be found elsewhere in the document or its appendices) is provided for QC-2 and QC-3. Please provide the percentages to be resurveyed, a discussion of how they will be resurveyed, a discussion of how they will be determined, or a reference as to where these may be found elsewhere in the Dft GP 1 RI/FS WP, Seaside & Parker Flats MRAs, Phase II, or its appendices. **Response**: The three introductory bullets in Section 5.25 identifying the three sub-

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		elements were revised to identify the percentages for QC: QC-1: ***Analog*** verification of anomaly removal at ***100% of the anomalies*** ~~each anomaly~~ selected for excavation. QC-2: Digital resurveying of ***an area greater than or equal to 16% of the DGM*** ~~a percentage of the~~ investigation areas. QC-3: Analog resurveying of ***at least*** 10% ~~a percentage~~ of each ***100-ft by 100-ft*** grid. The three unnumbered subsections immediately following these bullets in Section 5.25 describe each of the sub-elements. These subsections have been updated to clarify percentages and area determination.
13	EPA Specific Comment – Volume 2, Sampling and Analysis Plan, Appendix B, Parker Flats MRA Phase II – Types of MEC Removed and Hazard Classification, Page B-2	**Comment**: The table lists an item as follows: "High explosive, 40 mm (model unknown)." It is unclear as to whether this is a cartridge or projectile. Please revise the entry to provide this information, if available. **Response**: This information was obtained from the Army's database. Based on a similar comment provided by the EPA on the Draft SEDR, the following footnote has been added to the table: "***Munitions descriptions have been taken directly from the Army's MMRP Database and/or other historical documents. Any errors in terminology, filler type, and/or discrepancies between model number and caliber/size are a result of misinformation from the data sources.***"

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1	Army Specific Comment, P.1-3, Section 1.3.1, last paragraph	**Comment**: The last sentence should be revised to clarify that the consultations resulted in biological opinions (BOs) that allow impacts to and incidental take of listed species during MEC remedial activities but require mitigation measures to be implemented during the munitions response activities to reduce and minimize impacts to the protected species and their habitats. **Response**: A sentence has been added to the end of the paragraph to provide clarification: "To remain consistent with the federal Endangered Species Act (ESA), the Army has completed consultations with the United States Fish and Wildlife Service (FWS) on the Army's predisposal actions, including cleanup of MEC. These consultations have resulted in biological opinions (BOs) that include endangered species incidental take permits. ***These permits allow impacts to and incidental take of listed species during MEC cleanup activities, but require mitigation measures to be implemented during the MEC cleanup activities to reduce and minimize impacts to the protected species and their habitats."***
2	Army Specific Comment, p.2-5, Section 2.3.2 Future Land Use	**Comment**: In addition to the 1997 Fort Ord Base Reuse Plan, the 2002 *Assessment East Garrison – Parker Flats Land Use Modifications* is applicable and should be introduced in this section. **Response**: The following text has been added to Section 2.3.2 regarding the future land use for the Seaside and Parker Flats MRAs: ***"The future land uses are primarily based upon the Fort Ord Base Reuse Plan, adopted by FORA on June 13, 1997 (FORA 1997). Other sources of future land use information include public benefit conveyance, negotiated sale requests, transfer documents, the Installation-Wide Multispecies Habitat Management Plan (HMP; USACE 1997), and the Assessment East Garrison – Parker Flats Land Use Modifications, Fort Ord, California (Zander 2002)."***
3	Army Specific Comment, p.3-1, Section 3.2 Parker Flats MRA Phase II Evaluation	**Comment**: There is a 1.1-acre portion of MRS-13B that overlaps parcel E19a.2. This area was called "MRS-13B Habitat Reserve" in the Final Track 2 Munitions Response RI/FS for the Parker Flats MRA (Phase I). No MEC item was recovered from the MRS-13B Habitat Reserve during the subsurface MEC removal that was previously conducted. Remedial investigation and risk assessment for this area are complete and documented in the final Track 2 RI/FS report. However, as described in the feasibility study (FS), Section 2.1.1 Assessment of Reuse Areas for FS Analysis, this area was not included in the FS (therefore the subsequent Proposed Plan) due to its small size. A

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		decision was made that an evaluation of remedial alternatives (if response is required) for the MRS-13B Habitat Reserve should be conducted when the rest of the habitat reserve property (E19a.2) is evaluated in an RI/FS and ROD. Please reflect this information and include the MRS-13B Habitat Reserve Reuse Area in the Group 1 FS. **Response**: The 1.1-acre portion of MRS-13B that extends into the Habitat Reserve area of the Parker Flats MRA Phase II will be included in the FS analysis conducted as part of the Group 1 RI/FS.
4	Army Specific Comment, p.4-5, Section 4.4 RQA Pilot Study	**Comment**: Please state whether this pilot study is intended to satisfy the requirement of the ESCA for a RQA pilot study. **Response**: The text has been revised as follows: "In an effort to satisfy regulatory concerns, ~~a QA process~~ ***the RQA process*** was developed ~~that will~~ to allow the regulators to gain comfort with the acceptability of a parcel, where MEC removal was conducted, for residential use (and other sensitive uses). ***As specified in the ESCA, FORA and their response contractor were tasked to develop an RQA Pilot Study, which includes recommending areas for inclusion in the study and developing success criteria to be used by EPA and DTSC to determine if and when the RQA process will be applied to other designated residential parcels covered by the ESCA. This effort is also intended to satisfy the requirements of the ESCA for an RQA pilot study.*** The relevance and usefulness of the RQA process will be tested in the RQA Pilot Study. The results of the Pilot Study will be considered in developing and evaluating remedial alternatives in the FS."
5	Army Specific Comment, p.4-6, Section 4.5.2 Parker Flats MRA Phase II	**Comment**: To reduce potential confusion, please clarify that "non-residential" means non-residential development, and does not include habitat reserve. Please also consider "habitat reserve" as a land use category name since "habitat reserve" was used in Volume 2, Section 2.1 and Figure A-1. **Response**: The text has been revised to state "Residential and Non-Residential ***Development*** Areas" and "Habitat ***Reserve*** Areas."

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6	Army Specific Comment, p.4-7, Section 4.5.2 Parker Flats MRA Phase II, last paragraph	**Comment**: This section describes that the surface sweep will involve investigation of shallow anomalies within 3 inches. Please describe if deeper anomalies that are not completely investigated will be documented. Same comment applies to Volume 2, p.2-2, Section 2.2.1. **Response**: This work plan does not contain specific criteria that will be used to determine whether intrusive investigation will be initiated. Therefore, Section 4.5.2 of Volume 1 has been revised as follows to clarify the approach: "The purpose of the surface sweep in the habitat ***reserve*** areas will be to identify and remove anomalies that are on or near the surface (within 3 inches). ***Surface and near-surface finds (MEC and MD) will be fully documented and reviewed by the ESCA RP Team in consultation with the regulatory agencies during the investigation.*** If ***the ESCA RP Team in consultation with the regulatory agencies feel that*** significant ***near-*** ~~sub~~surface MEC (either high concentration or high-risk unexploded ordnance) ***has been*** discovered during the investigation, ***a field variance will be developed to change the investigation approach to include a focused intrusive investigation*** ~~the immediate vicinity may be intrusively investigated~~ to ascertain the limits of the condition."
7	Army Specific Comment, p.4-11, Section 4.10 Community Relations, first paragraph	**Comment**: The Community Involvement and Outreach Program (CIOP) Plan does not amend the Fort Ord Community Relations Plan; however, it is an enhancement to this existing plan. Please revise the sentence as follows: "The CIOP Plan is an addendum to the Army's former Fort Ord Community Relations Plan." Please also see the Army's comments to similar text that appeared in Draft CIOP Plan. **Response**: The text has been revised to state that the CIOP Plan is an ***addendum*** to the Army's former Fort Ord Community Relations Plan.
8	Army Specific Comment, p.4-12, Section 4.10.3	**Comment:** **a.** Bullet 1. It is indicated "all CSUMB faculty, staff, and students residing in campus housing will receive a copy of the newsletter while school is in session." should be re-evaluated. Suggestion to instead describe the actions that FORA and/or the ESCA RP Team will take to reach out to the CSUMB. **b.** Bullet 1. It is indicated that the FORA newsletters will be posted on the Army's Fort Ord cleanup website. It would be more accurate to state that FORA newsletters that are posted on FORA's website are available by hyperlink to FORA's website from

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		www.fortordcleanup.com/community/factsheets.asp. **c.** Bullet 5. It is indicated that FORA factsheets will be included into the Information Repositories. Information Repositories are maintained by the Army and typically does not include factsheets. Please revise the text to the effect. **d.** Bullet 8. The text as written can be mis-interpreted as suggesting that FORA and/or the ESCA RP Team is maintaining the Fort Ord Administrative Record and the Information Repositories. Please revise the text to the effect that FORA and/or the ESCA RP Team will submit RI-related documents to the Army for inclusion in the Administrative Record. **Response:** **a and b.** The text in the first bullet has been revised as follows to address comments a and b: • Publish articles in the quarterly newsletter. Newsletters will be mailed to all interested parties in adjacent communities. Additional interested parties on the FORA ESCA RP mailing list will also receive the newsletters. The newsletters will also be posted on the FORA ESCA RP website (http://www.fora.org) and ***a link to newsletters will be provided on*** the Army's Fort Ord Cleanup website (~~www.fortordcleanup.com~~ ***www.fortordcleanup.com/community/factsheets.asp***). ***FORA will work with representatives of CSUMB to ensure they are kept apprised of all ESCA-related cleanup activities and have access to relevant information about the ESCA RP. Information about the FORA ESCA RP website will be made available to representatives of CSUMB allowing them to notify their students, staff, and faculty, as appropriate. Special emphasis will be placed on coordinating with the university concerning when field construction work will affect access routes, CSUMB cross country trails, and other campus sponsored activities. FORA will also participate in CSUMB outreach activities as appropriate.*** **c.** The fifth bullet has been revised as follows: • Publish a fact sheet distributed by direct mail to local residents, community leaders, minority community organizations, and those who have requested to be on the CIOP mailing list. Fact sheets will also be posted on the FORA ESCA RP website, on the Fort Ord Cleanup website, ~~in the Information repositories,~~ and at community involvement activities. **d.** The last bullet has been revised as follows: • ~~Maintain~~ ***Provide copies of RI-related documents to the Army for inclusion in*** the ***Army-maintained*** Information Repositories and

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		Administrative Record ~~to include RI-related documents~~.
9	Army Specific Comment, p.5-1. Section 5.2 Task 2 Community Relations	**Comment:** The last two sentences indicate that the Army's previous versions of Community Relations Plans (CRPs) have been superseded by the current CIOP Plan and the CRP Update Number 3. To clarify, please revise the text to read "The MEC-related community relations programs implemented at the former Fort Ord have been described in the CRP (Army 1998), the CRP Update Number 1 (Army 2000), the CRP Update Number 2 (Army 2001) and the CRP Update Number 3 (Army, 2006). The CIOP Plan is an addendum to the Army's former Fort Ord CRP." **Response:** The paragraph has been revised as follows: "Task 2 includes the efforts related to the preparation and implementation of the CIOP Plan (ESCA RP Team 2008b). Community relations activities serve to keep stakeholders informed of activities at the former Fort Ord and help the supporting agencies respond to community concerns. ~~The previous MEC-related community relations programs implemented at the former Fort Ord were described in the CRP (Army 1998), the CRP Update Number 1 (Army 2000), and the CRP Update Number 2 (Army 2001). These plans have been superseded by the current CIOP Plan and the CRP Update Number 3 (Army 2006).~~ ***The MEC-related community relations programs implemented at the former Fort Ord have been described in the CRP (Army 1998), the CRP Update Number 1 (Army 2000), the CRP Update Number 2 (Army 2001), and the CRP Update Number 3 (Army 2006). The CIOP Plan is an addendum to the Army's former Fort Ord CRP.***"
10	Army Specific Comment, p.5-2, Section 5.5 Task 5 Data Evaluation	**Comment:** This section indicates that the results of this task will be presented to stakeholders prior to proceeding to the risk assessment. Please describe how this coordination will be accomplished. **Response**: The section has been revised as follows: "Task 5 includes refining and updating the CSMs for Group 1 to document additional site characterization results, including physical characteristics, MEC source characteristics, and the nature and extent of contamination in accordance with Task 4.1 of the AOC. The results of this task will be presented to ***state and federal regulators and the Army during regularly scheduled monthly meetings prior to proceeding to the risk assessment. Community stakeholders will be apprised of any changes to the CSM and their potential impacts by way of the most appropriate and timely method***

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		(e.g., Community Involvement Workshop meeting, ESCA Community meeting, ESCA newsletter, and/or ESCA Fact Sheet). ~~stakeholders prior to proceeding to the risk assessment.~~"
11	Army Specific Comment, p.5-2, Section 5.6 Task 6 Risk Assessment	**Comment**: This section indicates that the results of this task will be presented to stakeholders prior to proceeding to the development of alternatives. Please describe how this coordination will be accomplished. **Response**: The last paragraph of this section has been revised as follows: "The main purpose of the risk evaluation portion of the Group 1 RI/FS is to provide an estimate of the risks posed by site conditions (i.e., MEC) and to assess whether a past (or planned) removal or remedial action at a site was (or will be) effective in reducing those risks. The results of this task will be presented to ~~stakeholders~~ ***community stakeholders at a community meeting on the Draft RI/FS report***."
12	Army Specific Comment, Table 1 Potential Applicable or Relevant and Appropriate Requirements (ARARs)	**Comment**: Please review the "remarks" column so that they address the planned/anticipated CERCLA actions for the Group 1 MRAs. **Response**: The ARARs table was provided to show the list of potential ARARs considered for the Group 1 RI/FS. These potential ARARs will be further evaluated and refined during Task 10, Remedial Alternatives Evaluation. At this time the "Remarks" column has been revised to replace references to the Army.
13		**Comment**: Please include an acknowledgement of sponsorship pursuant to ESCA Section D.11. **Response:** The following statement has been added to the end of Section 1.0: *"**This effort was sponsored by the Army, Assistant Chief of Staff Installation Management. The content of the information does not necessarily reflect the position or policy of the Government and no official endorsement should be inferred.**"*

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14	Army Specific Comment	**Comment**: Please coordinate any outreach activities targeting the Department of Defense (DoD) communities that may be affected by the planned field investigation (Fitch and Marshall housing areas, DoD Center) and associated possible road closures with the BRAC Fort Ord Field Office. Our Point of Contact for this matter is Melissa Broadston at 831-393-1284. **Response**: Outreach activities targeting the DoD communities will be coordinated with Melissa Broadston (or other appropriate BRAC representative). No revisions have been made to the text in response to this comment.
15	Army Specific Comment, p.1-1, Section 1.0. First paragraph	**Comment**: Please replace the phrase "ordnance and explosives" with the more recent term "military munitions." **Response**: The term "ordnance and explosives" has been replaced with the term "military munitions."
16	Army Specific Comment, p.1-2, Section 1.3.1	**Comment**: Please see the Army's comments to similar text that appeared in Draft Summary of Existing Data Report (SEDR), Section 2.2. **Response**: The text has been revised to reflect comments received on the Draft SEDR and incorporated into the Draft Final SEDR submitted in June 2008.
17	Army Specific Comment, p.2-2, Section 2.2.1 Parker Flats MRA Phase II Remedial Investigation	**Comment**: This section discusses that the investigation of residential and non-residential development areas will entail 100% digital geophysical investigation to the depth of detection. While the plan for structure removal was clarified in Appendix C: Building Demolition and Removal Plan, it is not clear how paved areas such as roads will be handled during the investigation. Please provide additional text to clarify. **Response**: Section 2.2.1 was revised as follows: "The investigation areas include property designated for future residential, nonresidential, or habitat reserve. ***Improved roads will not be intrusively investigated.*** Digital geophysical mapping (DGM) investigations, using the Best Available and Appropriate Detection Technology (BADT) will be performed in residential and nonresidential development areas. The investigation of residential and nonresidential development areas will entail 100 percent DGM investigations to the depth of detection. Areas that are not suitable for DGM (e.g., dense oak woodland where data collection is not

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		possible) will be investigated using analog detection."
18	Army Specific Comment, p.2-8, Section 2.3.5.1 Excavation of Digitally Reacquired Anomalies	**Comment**: Fourth paragraph discusses inspecting discovered MEC items to confirm that it is MEC, MD or other scrap, and that MD and scrap will be transported offsite for disposal or recycling. Please also discuss whether MD will be inspected and certified free of explosives hazard before it is shipped offsite. **Response**: The following revisions have been made to the paragraph: "The MEC items located will be initially classified as materials potentially presenting an explosive hazard (MPPEH) until the items are fully inspected and can be identified as MEC, MD, or metal scrap. MD and metal scrap will be transported from the investigation area and stored until it can be disposed of by a foundry and/or recycler, where it will be processed through a smelter, shredder, or furnace prior to resale or release. ***Prior to leaving the MRA, the MD and metal scrap will be inspected by a SUXOS and a UXOQCS to verify that it is free from explosives (FFE).*** The MD will be shredded and recycled at an authorized recycler."
19	Army Specific Comment, p.5-21, Section 5.25 Geophysical QC Surveys, QC-2 Geophysical Resurveying	**Comment**: The second paragraph discusses failure criteria of a discovery of an MEC or MEC-like item, or five re-acquirable anomalies. Please clarify whether this QC criteria is applied to each 100' x 100' grid, or to the entire footprint of geophysical investigation. **Response:** The second paragraph has been revised to clarify that the failure criteria is applied to each 100-ft by 100-ft grid or partial grid.
20	Army Specific Comment, Section 7.0 Location Surveys and Mapping Plan	**Comment**: It is our understanding that the ESCA RP Team is in the process of developing a procedure for migrating the munitions response data into the Army's MMRP database, and that you have been coordinating this effort with our MMRP database manager. Please include this procedure into the final version of the Group 1 RI/FS Work Plan to ensure that necessary data is collected throughout the project and available for submission at the end of the project. **Response**: The following information has been added to Section 7.1: *"**The Army has requested that FORA provide final MEC and MD finds, geophysical operations, and MEC demolition activity data. FORA and the Army are working together to identify the data needs to be provided in an agreed upon format. Data transfer from FORA to the Army will occur following the release of the associated final report.**"*

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DRAFT Group 1 Remedial Investigation/Feasibility Study Work Plan, dated May 23, 2008
Review Comments provided by Gail Youngblood of the Army, dated June 30, 2008

No.	Comment Type / Report Section	Comment/Response
21	Army Specific Comment	**Comment**: Please include a procedure for handling a situation in which possible Army obligations, as defined in the ESCA, are discovered during the remedial investigation. **Response**: A discussion of Army-retained conditions and an outline for the notification procedures to be followed has been added as Section 2.7 of Volume 2 of the Group 1 RI/FS Work Plan. The text reads as follows: ***The ESCA and the AOC identify certain Army-retained conditions for which the Army assumes responsibility. If these conditions are encountered during field operations, FORA is required to notify the Army of their presence in accordance with the guidelines set forth in the ESCA and the Army assumes responsibility. Included in the Army-retained conditions are:*** • ***Radiological material*** • ***Chemical or biological warfare agents*** • ***Natural resource injuries or damages occurring as a result of contamination releases that have occurred due to Army ownership or activities on the MRA except to the extent such injuries are a direct result of FORA's activities on the MRA*** • ***Unknown uninsured conditions, which include the management and cleanup of non-MEC-related hazardous and toxic wastes above insurance parameters*** • ***Perchlorate contamination in soil or groundwater*** ***Recognition of these types of conditions in the field 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.,***

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Review Comments provided by Gail Youngblood of the Army, dated June 30, 2008

No.	Comment Type / Report Section	Comment/Response
		buried refuse, asbestos-containing pipes, and Transite™) • ***other conditions that vary materially from those documented during previous investigations*** • ***discovery of areas containing high concentrations of spent ammunition*** • ***discovery of bulk explosives*** ***The field personnel involved in fieldwork activities will be briefed on the recognition of these types of conditions in the field and will be instructed to be on the alert for these conditions and to promptly report such conditions to the site manager, if encountered.*** ***If a suspected Army-retained condition is encountered during the field investigation activities, the following procedures will be followed:*** *1.* ***All MEC field activities that may potentially disturb the "suspected" condition will be immediately stopped.*** *2.* ***If there is no immediate danger to personnel, an appropriate exclusion zone will be designated with a marker and/or a barricade will be erected around the suspect area to prevent further soil disturbance in this area.*** *3.* ***If an emergency situation requiring medical attention, containment assistance, or other emergency assistance arises, the emergency procedures specified in the Site Safety and Health Plan (SSHP) provided as Appendix J will be followed.*** 4. ***The site manager for the contractor or subcontractor will immediately notify the appropriate ESCA RP Team representative. The ESCA RP Team representative will notify the Army immediately, and FORA and the appropriate regulatory agencies within 24 hours.***
22	Army Specific Comment, p.12-5, Section 12.3.2.3	**Comment**: **a.** Paragraph #2. The statement that excavated areas will be allowed to revegetate naturally applies to typical mag and dig operations. However, if excavations are larger and disturb more than one acre and more than 100 feet in width, then passive and active restoration with follow-up monitoring will be necessary. This will be evaluated on a case-by-case basis and coordinated with the Army BRAC Office. **b.** Last paragraph. The paragraph states that restoration monitoring will occur in accordance with Chapter 4 of the HMP. However, the requirement

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Review Comments provided by Gail Youngblood of the Army, dated June 30, 2008

No.	Comment Type / Report Section	Comment/Response
		to monitor vegetation in Habitat Reserve areas is described in Chapter 3 of the HMP. **Response**: **a.** The ESCA RP Team agrees with the Army that natural revegetation applies to typical mag and dig operations as well as digital mapping operations (DGM) operations, which are both being conducted at the Parker Flats MRA Phase II under the Group 1 RI/FS Work Plan. Although the ESCA RP Team does not anticipate conducting excavations that will disturb an area more than one acre and more than 100 feet in width, passive and active restoration with follow-up monitoring will be conducted in accordance with the procedures described in the Habitat Restoration Plan prepared for the Site 39 Inland Ranges. The text has been revised as follows: "Per the HMP, excavated areas will be allowed to revegetate naturally. ***If the excavation disturbs an area more than one acre and more than 100 feet in width, passive and active restoration with follow-up monitoring will be conducted in accordance with the procedures described in the Habitat Restoration Plan prepared for the Site 39 Inland Ranges (Denise Duffy & Associates 2008).*** **b.** The text has been revised to state that vegetation monitoring will occur in accordance with Chapter 3 of the HMP.
23	Army Specific Comment, Appendix D: Standard Operating Procedures	**Comment**: Standard Operating Procedure for MEC with Unknown Filler. Section 5.1 General. Bullet 7 indicates that the standard reporting procedure is for FORA to contact the Presidio of Monterey Police Department (POMPD) who will notify the Technical Escort Unit (TEU). After the property is transferred to FORA, the standard procedure for such notification should be from FORA to local law enforcement agency to the EOD unit assigned to the region. If the EOD unit determines that a response by TEU is needed, it would complete such notification. In addition, FORA should notify the POMPD and the BRAC Fort Ord Field Office when it notifies the local law enforcement agency. **Response**: The SOP has been revised to reflect the notification procedure to be followed after land transfer in the event MEC with unknown filler is found.
24	Army Specific Comment, Appendix F: Residential Quality	**Comment**: Section F-2.1 RQA Pilot Study Test Areas. It is our understanding that the test area RQA-2 contains a portion that may not be developed for residential use (a portion of Parcel E18.1.1, a part of the veterans cemetery project). Please re-assess the suitability of this site for RQA pilot study

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DRAFT Group 1 Remedial Investigation/Feasibility Study Work Plan, dated May 23, 2008
Review Comments provided by Gail Youngblood of the Army, dated June 30, 2008

No.	Comment Type / Report Section	Comment/Response
	Assurance Pilot Study Work Plan	implementation given the uncertainty in the future use. **Response**: The RQA-2 area and the RQA-1 area have been removed from the work plan as these areas may not be developed for residential use. The area planned for residential use in the CSUMB MRA has been added to the work plan to replace the RQA-1 and RQA-2 areas in the RQA Pilot Study. The Executive Summary presented in Volume 1, applicable sections of Volume 2, and Appendix F of Volume 2 have been revised to reflect this change in scope.
25	Army Specific Comment, Appendix F: Residential Quality Assurance Pilot Study Work Plan	**Comment**: The Army will provide additional review comments on the Residential Quality Assurance Pilot Study Work Plan after regulatory agencies provide their inputs. **Response**: No additional comments have been received to date.
26	Army Specific Comment, Table 5-1, Recovery and Penetration Depths of MEC Previously Encountered in Parker Flats MRA Phase II	**Comment**: One of the footnotes describes MRA as "Munitions Response Site." Please correct this to "Munitions Response Area." **Response**: The footnote description has been changed to "***Munitions Response Area***".
27	Army Specific Comment, Appendix B: MEC Data	**Comment**: The Hazard Classification table describes hazard classification 0 as "Inert MEC that will cause no injury." By definition MEC is explosive in nature, therefore category 0 or "inert" classification is not possible for a MEC item. Classification 0 should be described as "inert munitions item that will cause no injury" instead. **Response**: The description for hazard classification 0 has been revised to read "***inert munitions item that will cause no injury.***"
28	Army Specific Comment, Appendix F: Residential Quality	**Comment**: The legend describes hazard classification 0 as "Inert MEC that will cause no injury." By definition MEC is explosive in nature, therefore "inert" classification is not possible for a MEC item. Classification 0 should be described as "inert munitions item that will cause no injury" instead.

Response to Comments
DRAFT Group 1 Remedial Investigation/Feasibility Study Work Plan, dated May 23, 2008
Review Comments provided by Gail Youngblood of the Army, dated June 30, 2008

No.	Comment Type / Report Section	Comment/Response
	Assurance Pilot Study Work Plan. Figure F-2	**Response**: The figure has been revised to read "***inert munitions item that will cause no injury.***"
29	Army Specific Comment, Appendix I: Explosives Siting Plan. Section 1.6.1	**Comment**: Detonation Site Blow-In Place. The second to the last bullet discusses that after property transfer, fire risk assessment for planned detonations will be conducted by the City of Seaside Fire Department. Please verify if this is the case since the majority of the investigation area is within the jurisdiction of the Monterey County. **Response:** The second to the last bullet in Section 1.6.1 of Appendix I has been revised as follows: • "Request Presidio of Monterey Fire Department (POM FD) to perform an on-site fire risk assessment. For planned detonations, risk assessments require a 3-day notification and demolition shots require a 5-day notification. POM FD will expedite risk assessments for demolition shots that cannot be delayed. Following property transfer, requirements for risk assessments will be determined by the City of Seaside Fire Department, ***if the detonation is being conducted within the jurisdiction of the City of Seaside, or by the Salinas Rural Fire District, if the detonation is being conducted within the jurisdiction of Monterey County***."
30	Army Specific Comment, Appendix J: Site Safety and Health Plan. Section J-12.4	**Comment**: Offsite Emergency Response Services. Table J-6 Emergency Contacts lists City of Seaside police and fire agencies. Please verify whether Monterey County law enforcement and fire agencies need to be identified, since the majority of the investigation area is within the jurisdiction of the Monterey County. **Response**: The following contact information has been added to Table J-6: Emergency Contacts: ***Salinas Rural Fire District (831) 455-1828*** ***Monterey County Sheriff (831) 755-3801***

Response to Comments
DRAFT Group 1 Remedial Investigation/Feasibility Study Work Plan, dated May 23, 2008
Review Comments provided by Gail Youngblood of the Army, dated June 30, 2008

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Response to Comments
DRAFT Group 1 Remedial Investigation / Feasibility Study Work Plan, dated May 23, 2008
Review Comments provided by Marina Equestrian Association, dated September 24, 2008

No.	Comment Type / Report Section	Comment/Response
a.	Specific Comment	**Comment**: We ask that FORA consider opening the Parker Flats MRA as soon as field work is completed and dangers have been removed. Opening the site while paperwork is completed would reduce the time and burden of lost access and continue our present public uses more quickly. **Response**: FORA will work with the regulatory agencies with respect to the Marina Equestrian Association's request to gain access to the Parker Flats MRA as soon as possible following the completion of the fieldwork effort and regulatory documentation and approval.
b.	Specific Comment	**Comment:** Equestrian use should be added to paragraph 2.3.1 as a daily recreational user. **Response:** Equestrian use has been added to paragraph 2.3.1.
c.	Specific Comment	**Comment:** Equestrian use should be included in paragraphs 2.3.1 and 2.3.2 for past, current and future land use. **Response:** Equestrian use has been added to paragraphs 2.3.1 and 2.3.2 as past, current and future land users.
d.	Specific Comment	**Comment**: We wish to provide testimony that current recreational uses of the Parker Flats MRA are not conflicting and all should be accommodated after remediation. These daily recreational users are hikers, joggers, bikers, dog walkers and horse riders. **Response**: FORA will work with the regulatory agencies with respect to the Marina Equestrian Association's request to gain access to the Parker Flats MRA as soon as possible following the completion of the fieldwork effort and

Response to Comments
DRAFT Group 1 Remedial Investigation / Feasibility Study Work Plan, dated May 23, 2008
Review Comments provided by Marina Equestrian Association, dated September 24, 2008

No.	Comment Type / Report Section	Comment/Response
		regulatory documentation and approval. In addition, joggers, dog walkers and horse riders have been added to the list of daily recreational users in the Parker Flats MRA
e.	Specific Comment	**Comment**: We ask to have the Marina Equestrian Center acknowledged, where appropriate, as an historic and future source of users to this area due to its close proximity to Parker Flats and its unique connection to the National Park Service. **Response**: The Marina Equestrian Center will be referenced as a historic and future source of users to the area in the Remedial Investigation/Feasibility Study report to be prepared following the completion of the fieldwork efforts.

Response to Comments
DRAFT Group 1 Remedial Investigation / Feasibility Study Work Plan, dated May 23, 2008
Review Comments provided by the Bureau of Land Management, dated November 20, 2008

No.	Comment Type / Report Section	Comment/Response
1	Specific Comment	**Comment:** Draft Group 1 Work Plan, Volume 1, Section 4.5.2-Residential and Non-Residential Parcels and Volume 2, Section 2.3.1.3 (Vegetation Cutting and Removal) These two sections state vegetation will be cut to the extent possible while preserving the trees, however, the limbs of trees will be trimmed to maximize digital geophysical mapping surveys. We suggest defining "tree". Does "tree" mean coast live oaks with a diameter at breast height greater than a certain size or also ceanothus "trees", large tree-like coffee berry plants, or small oak trees? There are also a few unusual and very large tree-like flannel bush (Fremontodendron) colonies that could be protected if they were mapped, flagged, and their removal not essential for implementing development of property for future land uses. These are the only Fremontodendron in this size category known on Fort Ord. **Response:** The FORA ESCA Remediation Program (RP) Team is implementing environmental requirements in accordance with guidance documents and with particular regard to sensitive species. The primary guidance documents include three biological opinions (BOs) issued by the U.S. Fish and Wildlife Service to the U.S. Department of the Army and the Fort Ord Reuse Habitat Management Plan (HMP). It is the goal of the FORA ESCA RP Team to minimize impacts to the natural environment; however, vegetative removal will be required in support of the munitions and explosives of concern (MEC) remedial investigation activities as outlined in the Group 1 Remedial Investigation/Feasibility (RI/FS) Work Plan. For purposes of the Group 1 RI/FS Work Plan, there are three types of land uses that will guide the site preparation and subsequent remediation activities – habitat reserve, development (including roads, parks, and open space), and residential (including the Residential Quality Assurance [RQA] Pilot Study areas). The remedial investigation approach and associated vegetation removal requirements vary between the different land uses and have been generally described below: • Habitat Reserve – trees and bushes with trunks of approximately 5 inches or greater in diameter at breast height will be limbed up and the underlying grasses mowed. • Development – trees and bushes with trunks of approximately 5 to 6 inches or greater in diameter at breast height will be limbed up and the

Response to Comments
DRAFT Group 1 Remedial Investigation / Feasibility Study Work Plan, dated May 23, 2008
Review Comments provided by the Bureau of Land Management, dated November 20, 2008

No.	Comment Type / Report Section	Comment/Response
		underlying grasses mowed. • Residential – all vegetation, including trees, will be removed. In residential and non-residential development areas, a tree that may be preserved during the remedial investigation activities would generally have a diameter of approximately 5 to 6 inches or larger at breast height and have to be located in an area relatively free of MEC. In the Parker Flats Phase II area, preservation of trees may not be possible based on the military history, but the objective is to preserve trees, where possible, as long as the remedial investigation activities are not compromised with respect to the protection of human health. This work plan is designed to facilitate the MEC investigation (not for implementing development of property for future land uses), and Fremontodendron is not a HMP species. It is also our understanding that populations of this species occur elsewhere on the former Fort Ord. The removal of these bushes and similar bushes will likely be necessary to facilitate MEC removal. Again it is the FORA ESCA RP Team goal to minimize vegetation removal to the extent possible while supporting the remedial investigation activities. To this end, larger bushes with trunks of approximately 5 to 6 inches or greater in diameter at breast height will be limbed up where possible in development areas. No changes have been incorporated into the document based on this comment.
2	Specific Comment	**Comment:** Draft Group 1 Work Plan, Volume 1, Work Plan Section 4.8 – Location-Specific Applicable or Relevant and Appropriate Requirements (ARARs) such as wetlands. Consider adding rare or unusual plant assemblages to the above description of ARARs. **Response:** This section of the work plan provided the definitions for three types of ARARs that will be considered in the Group 1 RI/FS. The definition for the location-specific ARARs provided a short list of examples of "environmentally sensitive areas" such as wetlands. As indicated in the work plan, the identification of ARARs can be an iterative process; therefore, ARARs may be updated throughout the Group 1 RI/FS process, as necessary,

Response to Comments
DRAFT Group 1 Remedial Investigation / Feasibility Study Work Plan, dated May 23, 2008
Review Comments provided by the Bureau of Land Management, dated November 20, 2008

No.	Comment Type / Report Section	Comment/Response
		and will become final only when the ROD is signed. The FORA ESCA RP Team has completed the required baseline vegetation surveys in the Habitat Reserve parcels and will be conducting the fieldwork activities in accordance with the BOs. In addition, the FORA ESCA RP Team will monitor recovery of the vegetation in the Habitat Reserve parcels as required in accordance with the monitoring protocol following the MEC investigation. Therefore, additional environmentally sensitive areas, such as "rare or unusual plant assemblages", have been considered during the Group 1 RI/FS process, but do not necessarily need to be identified as an example of an environmentally sensitive area in the work plan. No changes have been incorporated into the document based on this comment.
3	Specific Comment	**Comment:** Volume 1, Section 5.2 Habitat Areas "Trails and open areas adjacent to trails will be digital geophysical mapped (DGM) similar to residential areas". What is the definition of "open area"? Is it where no woody plants need to be removed for DGM or where minimal brush clearing is needed? Consider including other off-trail areas if historic aerial photos show them as open areas near existing trails that have recently been colonized by dense brush. Consider also reviewing the existing trail network and deciding which major trails are likely to be needed in the future and which aren't. This suggestion is in case there are many trials and it is difficult to decide which are enough of an existing trail to warrant DGM on the trail and adjacent open areas. **Response:** An "open area" has informally been characterized as areas immediately adjacent to trails that can be easily accessed and/or traveled by the general public. These areas will generally require minimal vegetation clearance activities, such as mowing of the grass, to facilitate MEC investigation activities (i.e., DGM). As part of the Summary of Existing Data Report (SEDR) and initial evaluation of the Parker Flats Phase II Munitions Response Area presented in Section 3.0 of this work plan, historical reports, documents, military training

Response to Comments
DRAFT Group 1 Remedial Investigation / Feasibility Study Work Plan, dated May 23, 2008
Review Comments provided by the Bureau of Land Management, dated November 20, 2008

No.	Comment Type / Report Section	Comment/Response
		maps, and aerial photographs were reviewed to identify possible off-trail areas previously used for military training. These military training areas were identified in the SEDR and MEC investigation activities will include these areas, as necessary. FORA has also conducted a site walk in the Parker Flats Phase II area to identify the existing trail network. The trail network has been identified in the work plan as Figure 2-6. FORA welcomes any additional input that the Bureau of Land Management (BLM) may have on the anticipated use of and future need for the selected network of trails presented on Figure 2-6. No changes have been incorporated into the document based on this comment.
4	Specific Comment	**Comment**: Appendix B, Parker Flats Munitions Response Area, Conceptual Site Model Section 5.5 (Parker Flats MRA Ecological Profile) states that impacts to listed species would be minimized. Consider changing this to state that impacts to species covered by the HMP (including listed and other rare species) would be minimized. **Response**: Appendix B of the work plan was extracted directly from the SEDR, which has been completed and approved by the regulatory agencies as a final document. Therefore, changes to Appendix B are not possible. Section 12.3 "Protection and Conservation of Natural Resources" of Volume 2 of the Group 1 RI/FS Work Plan provides specific information on efforts to minimize impacts to species covered by the HMP. No changes have been incorporated into the document based on this comment.
5	Specific Comment	**Comment**: Appendix B, Parker Flats Munitions Response Area, Conceptual Site Model Section 5.5 (Parker Flats MRA Ecological Profile) states for borderlands FORA will follow BMPs for prevention of spread of exotic species, limiting erosion, and limiting access to NRMA lands. Consider drafting list of specific BMP's to implement the intent of Section 5.5, such as mapping/marking hi-priority weed locations (e.g. Klamath weed south of Parker Flats/8th Ave Extension) and planning on minimal disturbance

Response to Comments
DRAFT Group 1 Remedial Investigation / Feasibility Study Work Plan, dated May 23, 2008
Review Comments provided by the Bureau of Land Management, dated November 20, 2008

No.	Comment Type / Report Section	Comment/Response
		in these areas to reduce chance of spreading weed seed. **Response**: Appendix B of the work plan was extracted directly from the SEDR, which has been completed and approved by the regulatory agencies as a final document. Therefore, changes to Appendix B are not possible. FORA will work with the BLM on the appropriate course of action, such as the development of Best Management Practices (BMPs) for weed abatement and minimizing soil disturbance, and consider incorporating the proposed language in future documents, as appropriate. It should also be noted that Section 12.3.2 "Avoidance and Mitigation of Environmental Impacts During Removal Activity" of Volume 2 of the Group 1 RI/FS Work Plan provides specific management practices and site closure, restoration, and monitoring (SCRM) measures to be implemented in Parker Flats during and after the investigation. No changes have been incorporated into the document based on this comment.

Response to Comments
DRAFT Group 1 Remedial Investigation / Feasibility Study Work Plan, dated May 23, 2008
Review Comments provided by the Bureau of Land Management, dated November 20, 2008

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Response to Comments
DRAFT FINAL Group 1 Remedial Investigation / Feasibility Study Work Plan,
dated November 13, 2008
Review Comments provided by Gail Youngblood of the Army, dated December 1, 2008

No.	Comment Type / Report Section	Comment/Response
1	Specific Comment	**Comment**: Please provide additional details with regard to the final footprint of this test area prior to beginning the RQA Pilot Test activities in the CSUMB Off-Campus Munitions Response Area (MRA). **Response**: Additional details on the footprint of the RQA Pilot Test area in the CSUMB Off-Campus MRA have been provided to the regulatory agencies and the Army. The final footprint of the RQA Pilot Test area was determined and approved in consultation with CSUMB representatives.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

July 09, 2008

Mr. Stan Cook
Fort Ord Reuse Authority
100 12th Street, Building 2880
Marina, CA 93933

Re: EPA comments on the Draft Group 1 Remedial Investigation/Feasibility Study Work Plan, Seaside Munitions Response Area and Parker Flats Munitions Response Area Phase II, dated May 23, 2008

Dear Stan:

Attached are EPA's comments on the *Draft Group 1 Remedial Investigation/Feasibility Study Work Plan, Seaside Munitions Response Area and Parker Flats Munitions Response Area Phase II*, dated May 23, 2008

If you have any questions, please do not hesitate to call me at (415) 972-3681 or e-mail me at huang.judy@epa.gov.

Sincerely,

Judy C. Huang, P.E.
Remedial Project Manager

cc:

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Mr. Thomas Hall (via E-mail)

REVIEW OF THE
DRAFT GROUP 1
REMEDIAL INVESTIGATION/FEASIBILITY STUDY WORK PLAN
SEASIDE MUNITIONS RESPONSE AREA
AND
PARKER FLATS MUNITIONS RESPONSE AREA
PHASE II
FORMER FORT ORD, CALIFORNIA
MAY 23, 2008

GENERAL COMMENTS

1. The Draft Group 1 Remedial Investigation/Feasibility Study Work Plan, Seaside Munitions Response Area and Parker Flats Munitions Response Area Phase II, dated May 23, 2008, (hereinafter referred to as the Dft GP 1 RI/FS WP, Seaside & Parker Flats MRAs, Phase II), presents the Quality Control (QC) process to be used during the execution of the RI/FS in a fragmented manner. It is understood that some of this fragmentation is due to the format of the document that is prescribed by the RI/FS requirements. However, there is no identifiable portion of the document or its appendices that contains a listing of all of the activities to be evaluated by QC, the evaluation criteria for each activity evaluated, and the associated pass/fail criteria. A listing of this information would be very valuable for use during the execution of the work plan and would assist those evaluating the quality of these processes in their efforts. Please provide a table/chart that provides this information in an appropriate location in the body of the Dft GP 1 RI/FS WP, Seaside & Parker Flats MRAs, Phase II.

2. The Dft GP 1 RI/FS WP, Seaside & Parker Flats MRAs, Phase II, refers to a number of teams throughout the document and its appendices. In most instances, the makeup of these teams is not provided. Some of the teams listed include: Excavation Team, UXO Team, UXO Intrusive Team, Brush Cutting Team, Geophysical Team, Chipper Team, Reacquisition Team, Dig Team, Field Team, Mechanical Vegetation Cutting Team, and ESCA RP Team. Some of these teams are defined by function and makeup in the document, but most are not. Please review the teams listed in the Dft GP 1 RI/FS WP, Seaside & Parker Flats MRAs, Phase II, and define the function and makeup of each team when first introduced in the text or at another appropriate location that may be referenced at the first introduction of the team in the text.

SPECIFIC COMMENTS

EXECUTIVE SUMMARY

1. **Sampling and Analysis Plan (Volume 2), Page xv:** The next-to-last sentence in the third paragraph of this section on page xv, in referring to the results of the surface sweep, states that, "If significant subsurface MEC (either high concentration or high risk unexploded ordnance) are discovered during the investigation, the immediate vicinity may be intrusively investigated to ascertain the limits of the condition." The use of the

word "may" in this sentence raises a concern as to the criteria that will make this further investigation obligatory. Please revise the cited section of the Executive Summary to state the specific criteria that will be used to determine whether the noted intrusive investigation will be initiated, or reference where this information may be found elsewhere in the document or its appendices.

VOLUME 1 – WORK PLAN

2. **Section 4.7, Explosives Safety Risk Assessment, Page 4-7:** The last sentence of the first paragraph of this section states that, "Rather, it relies on an assumption that any encounter with MEC will result in an adverse effect, and provides a qualitative description of the explosives safety risk, based on the likelihood of encountering a MEC item combined with the potential of the item to cause a serious injury if detonated." While many of the munitions items that may be found on the sites of concern can detonate, some are items that do not detonate, but burn or eject pyrotechnic cargoes that burn when they function. Based on this differing results of a munitions item functioning due to stimulus from a personal encounter, a better description of the results would be achieved if the words "it functions" replaced the word "detonated" in the cited sentence. Please make this correction here and elsewhere as appropriate in the Dft GP 1 RI/FS WP, Seaside & Parker Flats MRAs, Phase II.

3. **Appendix A, Seaside MRA Conceptual Site Model, Section 4.1.3, Historical Military Use, Page 4-2:** The last sentence in this section notes that, "It is expected that munitions activity associated with these ranges would have occurred within the firing points." This statement may not be accurate, depending on the definition applied to the term "munitions activity." Please revise this section to include a description of what constitutes "munitions activity," or expand it to better explain the intent of the cited sentence.

4. **Appendix A, Seaside MRA Conceptual Site Model, Section 4.6, Seaside MRA Pathway Analysis, Page 4-11:** This section presents a general discussion of the potential exposure pathways from munitions items that may currently be present on the Seaside MRA. The results of this analysis are referenced as presented in Table 4.6-1, Seaside MRA – Potential Receptors and Exposure Media. The potential receptors listed include Construction Workers, Utility Workers, Trespassers, Firefighters, Emergency Response Workers, Ancillary Workers, Residents, and Recreational Users. The table divides these receptors into two categories, which are Current and Future. The Exposure Media listed is Ground Surface and Below Grade.

   None of the potential receptors are listed as being potentially exposed to MEC present on the ground surface, either in the Current or Future periods. Also, only the Construction Workers, Utility Workers, Firefighters, and Residents are identified as being potentially exposed to MEC present in the subsurface. The Trespassers, Emergency Response Workers, Ancillary Workers, and Recreational Users are listed as having no potential exposure to MEC present on the Ground Surface or in the Subsurface during either time

period. No details as to how these determinations were made are provided in the cited section.

No MEC removal action short of complete excavation and removal (or screening) of the soil to the potential penetration depths of the munitions used will provide a complete assurance that no MEC remains on the site so treated. Based on this fact, the presence of MEC on and beneath the surface of the Seaside MRA cannot be ruled out, both before and after surface and subsurface removals have been conducted. Therefore, any person entering the site has the potential to contact MEC on the surface, and any person conducting any intrusive activity on the site has the potential to contact subsurface MEC, both prior to and after the removal actions have been completed.

Please review the cited section and table and revise them as necessary to present the correct exposure potential for the listed receptors.

5. **Appendix A, Seaside MRA Conceptual Site Model, Table 4.1-4, Seaside MRA – Historical Military Use, Page 4-17:** In the row entitled "Range 23M," the second bullet in the Description column lists "Dragon rounds" as having been found on this range. As "Dragon rounds" would be an unfired missile, this is highly unlikely. Please review the cited table and correct it as necessary.

6. **Appendix A, Seaside MRA Conceptual Site Model, Figure 4.6-1, Seaside MRA Pathway Analysis Flowchart:** In the column entitled "Expected MEC Contamination," some of the boxes in the column list "MD" as a possible component. As MD is not a subcomponent of MEC, this is technically an incorrect usage. Either the column heading should be revised to replace the term "MEC" or the MD should be removed from the noted boxes in the column. Please correct this as needed.

   In addition, the column entitled 'Secondary Sources" lists both Ground Surface and Below Grade as the initial media contaminated by MEC. However, the Ground Surface source is not continued to completion on the flowchart, as is the case with the Below Grade category. Please complete the evaluation of this source in the flowchart.

7. **Appendix B, Parker Flats MRA Conceptual Site Model, Section 5.6, Parker Flats MRA Pathway Analysis, Page 5-10:** This section presents a general discussion of the potential exposure pathways from munitions items that may currently be present on the Parker Flats MRA. The results of this analysis are referenced as presented in Table 5.6-1, Parker Flats MRA – Potential Receptors and Exposure Media. The potential receptors listed include Construction Workers, Utility Workers, Trespassers, Firefighters, Emergency Response Workers, Ancillary Workers, Residents, and Recreational Users. The table divides these receptors into two categories, which are Current and Future. The Exposure Media listed is Ground Surface and Below Grade.

With the exception of Emergency Response Workers and Residents, all of the potential receptors are listed as being potentially exposed to MEC present on the ground surface, either in the Current or Future periods. An exception is the Recreational User, who is not listed for the Current period. Also, the Trespassers, Emergency Response Workers, Ancillary Workers, and Recreational Users are identified as not being potentially exposed to MEC present in the subsurface. Only the Emergency Response Workers are listed as having no potential exposure to MEC present on the Ground Surface or in the Subsurface during either time period. No details as to how these determinations were made are provided in the cited section.

As has previously been noted, no MEC removal action short of complete excavation and removal (or screening) of the soil to the potential penetration depths of the munitions used will provide a complete assurance that no MEC remains on the site so treated. Based on this fact, the presence of MEC on and beneath the surface of the Seaside MRA cannot be ruled out, both before and after surface and subsurface removals have been conducted. Therefore, any person entering the site has the potential to contact MEC on the surface, and any person conducting any intrusive activity on the site has the potential to contact subsurface MEC, both prior to and after the removal actions have been completed.

Please review the cited section and table and revise them as necessary to present the correct exposure potential for the listed receptors.

8. **Appendix B, Parker Flats MRA Conceptual Site Model, Table 5.3-2, Parker Flats MRA Phase II – Removal Activities, Page 5-22:** In the row entitled "MRS-15MOCO.2," the fourth bullet in the Summary column has a sentence that states, "This operation identified areas [or an area? areas is correct] of obstructions/interferences such as asphalt, and material from the Range 45 pad, or telephone poles as SCA (Parsons 2004b)." Either this sentence is very poorly constructed or editorial comments have not been expunged from the table. Please review this table and correct it as necessary.

9. **Appendix B, Parker Flats MRA Conceptual Site Model, Figure 5.6-1, Parker Flats MRA Pathway Analysis Flowchart:** In the column entitled "Expected MEC Contamination," the box in the column list "MD" as a possible component. As MD is not a subcomponent of MEC, this is technically an incorrect usage. Either the column heading should be revised to replace the term "MEC" or the MD should be removed from the noted box in the column. Please correct this as needed.

   In addition, the column entitled "Secondary Sources" only lists Below Grade as the initial media contaminated by MEC. However, the Ground Surface source is discussed in Section 5.6.1, Exposure Pathways, and is also referenced in Table 5.6-1, Parker Flats MRA – Potential Receptors and Exposure Media. Please provide an evaluation of this source in the flowchart.

10. **Section 2.2.1, Parker Flats MRA-Phase II Remedial Investigation, Page 2-2:** The last sentence in the third paragraph of this section, in referring to the results of the surface sweep, states that, "If significant subsurface MEC (either high concentration or high risk unexploded ordnance [UXO]) are discovered during the investigation, the immediate vicinity may be intrusively investigated to ascertain the limits of the condition." The use of the word "may" in this sentence raises a concern as to the criteria that will make this further investigation obligatory. Please revise the cited section to state the specific criteria that will be used to determine whether the noted intrusive investigation will be initiated, or reference where this information may be found elsewhere in the document or its appendices.

11. **Section 2.3.5.1, Excavation of Digitally Reacquired Anomalies, Page 2-9:** The last sentence in this section states, "If MEC are encountered that are suspected of containing unknown filler, MEC extinction will be conducted in accordance with the SOP for MEC with Unknown Filler presented in Appendix D of this G1SAP." Please explain the reason for the use of the word "extinction" in this sentence and what it entails.

12. **Section 5.25, Geophysical QC Surveys, Page 5-19:** In the three sub-elements (QC-1, QC-2, and QC-3) of the first paragraph of the section, the basic concepts of these three QC steps are identified. However, no specific resurvey percentage (or reference as to where this may be found elsewhere in the document or its appendices) is provided for QC-2 and QC-3. Please provide the percentages to be resurveyed, a discussion of how they will be determined, or a reference as to where these may be found elsewhere in the Dft GP 1 RI/FS WP, Seaside & Parker Flats MRAs, Phase II, or its appendices.

13. **Appendix B, Parker Flats MRA Phase II – Types of MEC Removed and Hazard Classification, Page B-2:** The table lists an item as follows: "High explosive, 40mm (model unknown)." It is unclear as to whether this is a cartridge or a projectile. Please revise the entry to provide this information, if available.

DEPARTMENT OF THE ARMY
FORT ORD OFFICE, ARMY BASE REALIGNMENT AND CLOSURE
P.O. BOX 5008, BUILDING #4463 GIGLING ROAD
MONTEREY, CALIFORNIA 93944-5008

REPLY TO
ATTENTION OF

JUN 30 2008

Base Realignment and Closure

Stan Cook
ESCA Remediation Program Manager
Fort Ord Reuse Authority
100 12th Street
Marina, CA 93933

Subject: *Draft Group 1 Remedial Investigation/Feasibility Study (RI/FS) Work Plan, Volume 1-Work Plan* and *Volume 2-Sampling and Analysis Plan*, dated May 23, 2008, received on May 29, 2008.

Dear Mr. Cook:

Thank you for an opportunity to review and comment on the subject document. The Army's comments are enclosed. Please note our comments are focused on "big picture" issues such as the consistency with documents previously produced under the Army's cleanup program. A copy of this letter will be furnished to U.S. Environmental Protection Agency (Judy Huang) and California Department of Toxic Substances Control (Roman Racca).

Sincerely,

Gail Youngblood
BRAC Environmental Coordinator
Fort Ord Field Office

Enclosure

DRAFT Group 1 Remedial Investigation/Feasibility Study (RI/FS) Work Plan, Seaside Munitions Response Area (MRA) and Parker Flats MRA Phase II, Volume 1

Army Comments:

1. P.1-3, Section 1.3.1, last paragraph. The last sentence should be revised to clarify that the consultations resulted in biological opinions (BOs) that allow impacts to and incidental take of listed species during MEC remedial activities but require mitigation measures to be implemented during the munitions response activities to reduce and minimize impacts to the protected species and their habitats.

2. p.2-5, Section 2.3.2 Future Land Use. In addition to the 1997 Fort Ord Base Reuse Plan, the 2002 *Assessment East Garrison – Parker Flats Land Use Modifications* is applicable and should be introduced in this section.

3. p.3-1, Section 3.2 Parker Flats MRA Phase II Evaluation. There is a 1.1-acre portion of MRS-13B that overlaps parcel E19a.2. This area was called "MRS-13B Habitat Reserve" in the Final Track 2 Munitions Response RI/FS for the Parker Flats MRA (Phase I). No MEC item was recovered from the MRS-13B Habitat Reserve during the subsurface MEC removal that was previously conducted. Remedial investigation and risk assessment for this area are complete and documented in the final Track 2 RI/FS report. However, as described in the feasibility study (FS), Section 2.1.1 Assessment of Reuse Areas for FS Analysis, this area was not included in the FS (therefore the subsequent Proposed Plan) due to its small size. A decision was made that an evaluation of remedial alternatives (if response is required) for the MRS-13B Habitat Reserve should be conducted when the rest of the habitat reserve property (E19a.2) is evaluated in an RI/FS and ROD. Please reflect this information and include the MRS-13B Habitat Reserve Reuse Area in the Group 1 FS.

4. p.4-5, Section 4.4 RQA Pilot Study. Please state whether this pilot study is intended to satisfy the requirement of the ESCA for a RQA pilot study.

5. p.4-6, Section 4.5.2 Parker Flats MRA Phase II. To reduce potential confusion, please clarify that "non-residential" means non-residential development, and does not include habitat reserve. Please also consider "habitat reserve" as a land use category name since "habitat reserve" was used in Volume 2, Section 2.1 and Figure A-1.

6. p.4-7, Section 4.5.2 Parker Flats MRA Phase II, last paragraph. This section describes that the surface sweep will involve investigation of shallow anomalies within 3 inches. Please describe if deeper anomalies that are not completely investigated will be documented. Same comment applies to Volume 2, p.2-2, Section 2.2.1.

7. p.4-11, Section 4.10 Community Relations. First paragraph. The Community Involvement and Outreach Program (CIOP) Plan does not amend the Fort Ord Community Relations Plan; however, it is an enhancement to this existing plan. Please revise the sentence as follows: "The CIOP Plan is an addendum to the Army's former Fort Ord Community Relations Plan." Please also see the Army's comments to similar text that appeared in Draft CIOP Plan.

8. p.4-12, Section 4.10.3.

a. Bullet 1. It is indicated "all CSUMB faculty, staff, and students residing in campus housing will receive a copy of the newsletter while school is in session." should be re-evaluated. Suggestion to instead describe the actions that FORA and/or the ESCA RP Team will take to reach out to the CSUMB.
b. Bullet 1. It is indicated that the FORA newsletters will be posted on the Army's Fort Ord cleanup website. It would be more accurate to state that FORA newsletters that are posted on FORA's website are available by hyperlink to FORA's website from www.fortordcleanup.com/community/factsheets.asp.
c. Bullet 5. It is indicated that FORA factsheets will be included into the Information Repositories. Information Repositories are maintained by the Army and typically does not include factsheets. Please revise the text to the effect.
d. Bullet 8. The text as written can be mis-interpreted as suggesting that FORA and/or the ESCA RP Team is maintaining the Fort Ord Administrative Record and the Information Repositories. Please revise the text to the effect that FORA and/or the ESCA RP Team will submit RI-related documents to the Army for inclusion in the Administrative Record.

9. p.5-1. Section 5.2 Task 2 Community Relations. The last two sentences indicate that the Army's previous versions of Community Relations Plans (CRPs) have been superseded by the current CIOP Plan and the CRP Update Number 3. To clarify, please revise the text to read "The MEC-related community relations programs implemented at the former Fort Ord have been described in the CRP (Army 1998), the CRP Update Number 1 (Army 2000), the CRP Update Number 2 (Army 2001) and the CRP Update Number 3 (Army, 2006). The CIOP Plan is an addendum to the Army's former Fort Ord CRP."

10. p.5-2, Section 5.5 Task 5 Data Evaluation. This section indicates that the results of this task will be presented to stakeholders prior to proceeding to the risk assessment. Please describe how this coordination will be accomplished.

11. p.5-2, Section 5.6 Task 6 Risk Assessment. This section indicates that the results of this task will be presented to stakeholders prior to proceeding to the development of alternatives. Please describe how this coordination will be accomplished.

12. Table 1 Potential Applicable or Relevant and Appropriate Requirements (ARARs). Please review the "remarks" column so that they address the planned/anticipated CERCLA actions for the Group 1 MRAs.

13. Please include an acknowledgement of sponsorship pursuant to ESCA Section D.11.

14. Please coordinate any outreach activities targeting the Department of Defense (DoD) communities that may be affected by the planned field investigation (Fitch and Marshall housing areas, DoD Center) and associated possible road closures with the BRAC Fort Ord Field Office. Our Point of Contact for this matter is Melissa Broadston at 831-393-1284.

Detail/minor comments:

15. p.1-1, Section 1.0. First paragraph. Please replace the phrase "ordnance and explosives" with the more recent term "military munitions."

16. p.1-2, Section 1.3.1. Please see the Army's comments to similar text that appeared in Draft Summary of Existing Data Report (SEDR), Section 2.2.

Army Comments:

17. p.2-2, Section 2.2.1 Parker Flats MRA Phase II Remedial Investigation. This section discusses that the investigation of residential and non-residential development areas will entail 100% digital geophysical investigation to the depth of detection. While the plan for structure removal was clarified in Appendix C: Building Demolition and Removal Plan, it is not clear how paved areas such as roads will be handled during the investigation. Please provide additional text to clarify.

18. p.2-8, Section 2.3.5.1 Excavation of Digitally Reacquired Anomalies. Fourth paragraph discusses inspecting discovered MEC items to confirm that it is MEC, MD or other scrap, and that MD and scrap will be transported offsite for disposal or recycling. Please also discuss whether MD will be inspected and certified free of explosives hazard before it is shipped offsite.

19. p.5-21, Section 5.25 Geophysical QC Surveys, QC-2 Geophysical Resurveying. The second paragraph discusses failure criteria of a discovery of an MEC or MEC-like item, or five re-acquirable anomalies. Please clarify whether this QC criteria is applied to each 100' x 100' grid, or to the entire footprint of geophysical investigation.

20. Section 7.0 Location Surveys and Mapping Plan. It is our understanding that the ESCA RP Team is in the process of developing a procedure for migrating the munitions response data into the Army's MMRP database, and that you have been coordinating this effort with our MMRP database manager. Please include this procedure into the final version of the Group 1 RI/FS Work Plan to ensure that necessary data is collected throughout the project and available for submission at the end of the project.

21. Please include a procedure for handling a situation in which possible Army obligations, as defined in the ESCA, are discovered during the remedial investigation.

22. p.12-5, Section 12.3.2.3.
    a. Paragraph #2. The statement that excavated areas will be allowed to revegetate naturally applies to typical mag and dig operations. However, if excavations are larger and disturb more than approximately 200 square feet, then passive or active restoration with follow-up monitoring may be necessary. This will be evaluated on a case-by-case basis.
    b. Last paragraph. The paragraph states that restoration monitoring will occur in accordance with Chapter 4 of the HMP. However, the requirement to monitor vegetation in Habitat Reserve areas is described in Chapter 3 of the HMP.

23. Appendix D: Standard Operating Procedures. Standard Operating Procedure for MEC with Unknown Filler. Section 5.1 General. Bullet 7 indicates that the standard reporting procedure is for FORA to contact the Presidio of Monterey Police Department (POMPD) who will notify the Technical Escort Unit (TEU). After the property is transferred to FORA, the standard procedure for such notification should be from FORA to local law enforcement agency to the EOD unit assigned to the region. If the EOD unit determines that a response by TEU is needed, it would complete such notification. In addition, FORA should notify the POMPD and the BRAC Fort Ord Field Office when it notifies the local law enforcement agency.

24. Appendix F: Residential Quality Assurance Pilot Study Work Plan. Section F-2.1 RQA Pilot Study Test Areas. It is our understanding that the test area RQA-2 contains a portion that may not be developed for residential use (a portion of Parcel E18.1.1, a part of the veterans cemetery project). Please re-assess the suitability of this site for RQA pilot study implementation given the uncertainty in the future use.

25. Appendix F: Residential Quality Assurance Pilot Study Work Plan. The Army will provide additional review comments on the Residential Quality Assurance Pilot Study Work Plan after regulatory agencies provide their inputs.

Detail/minor comments:

26. Table 5-1, Recovery and Penetration Depths of MEC Previously Encountered in Parker Flats MRA Phase II. One of the footnotes describes MRA as "Munitions Response Site." Please correct this to "Munitions Response Area."

27. Appendix B: MEC Data. The Hazard Classification table describes hazard classification 0 as "Inert MEC that will cause no injury." By definition MEC is explosive in nature, therefore category 0 or "inert" classification is not possible for a MEC item. Classification 0 should be described as "inert munitions item that will cause no injury" instead.

28. Appendix F: Residential Quality Assurance Pilot Study Work Plan. Figure F-2. The legend describes hazard classification 0 as "Inert MEC that will cause no injury." By definition MEC is explosive in nature, therefore "inert" classification is not possible for a MEC item. Classification 0 should be described as "inert munitions item that will cause no injury" instead.

29. Appendix I: Explosives Siting Plan. Section 1.6.1 Detonation Site Blow-In Place. The second to the last bullet discusses that after property transfer, fire risk assessment for planned detonations will be conducted by the City of Seaside Fire Department. Please verify if this is the case since the majority of the investigation area is within the jurisdiction of the Monterey County.

30. Appendix J: Site Safety and Health Plan. Section J-12.4 Offsite Emergency Response Services. Table J-6 Emergency Contacts lists City of Seaside police and fire agencies. Please verify whether Monterey County law enforcement and fire agencies need to be identified, since the majority of the investigation area is within the jurisdiction of the Monterey County.

SC
LB

Marina Equestrian Association
P.O. Box 1320
Marina CA 93933

Marina Equestrian Association

24 September 2008

FORA
Attn: Mr. Stan Cook
100 12th Street
Building 2880
Marina, CA 93933

Ref: Requests relating to Remediation Program for Parker Flats MRA (Group 1)

Dear Mr. Cook

The Marina Equestrian Association (MEA), which operates the Marina Equestrian Center (MEC), would like to address aspects of the FORA / ESCA Remediation Program contained in the Draft of "Group 1, Remedial Investigation / Feasibility Study Work Plan" relating to The Parker Flats Munitions Response Area. Certain aspects of this plan impact the operation of our organization, the facility we run and visitor-users of our site.

We fully support remediation of these areas. However, as a public access equestrian facility, the MEC needs to be supported in having safe access to the BLM during this time of fieldwork and in gaining access to the Parker Flats area as soon as possible to continue our recreational and public access use of those areas.

Our specific comments for FORA's consideration are:

a. We ask that FORA consider opening the Parker Flats MRA as soon as field work is completed and dangers have been removed. Opening the site while paperwork is completed would reduce the time and burden of lost access and continue our present public uses more quickly.
b. Equestrian use should be added to paragraph 2.3.1 as a daily recreational user.
c. Equestrian use should be included, in paragraphs 2.3.1 and 2.3.2. for past, current and future land use
d. We wish to provide testimony that current recreational uses of the Parker Flats MRA are not conflicting and all should be accommodated after remediation. These daily recreational users are hikers, joggers, bikers, dog walkers and horse riders.
e. We ask to have the Marina Equestrian Center acknowledged, where appropriate, as an historic and future source of users to this area due to its close proximity to Parker Flats and its unique connection to the National Park Service.

3

Background and the specific impact of this closure on our operations are detailed in the following pages. Our suggestions are also detailed there. Lynne Gose, at 831-883-8644 or jrgose@comcast.net, is our point of contact on this issue.

We appreciate the care with which the public is kept informed of FORA and ESCA activities in the former Fort Ord lands and the opportunity to provide input in these important processes.

Sincerely,

The 2008 MEA Board of Directors

1. Introduction

The Marina Equestrian Association (MEA) would like to address aspects of the FORA ESCA Remediation Program contained in the Draft of "Group 1, Remedial Investigation / Feasibility Study Work Plan" relating to Parker Flats Munitions Response Area. Certain aspects of this plan impact the operation of our organization, the facility we run and visitor/users of our facility.

2. Background and History

The Marina Equestrian Association operates the 15 acre Marina Equestrian Center (MEC) at the corner of 5th Street and 9th Avenue in Marina. Equestrian activities have operated in this portion of Fort Ord since about 1905 when the first US Army cavalry units occupied this site and used what is now FORA and BLM land for maneuvers. The renowned 11th Cavalry "Blackhorse" unit was the last military unit to occupy the site before the cavalry was disbanded in 1965. Many of the trails we ride today are those created and traveled by cavalry troupers throughout the last century.

In 1965 the military stables was given a recreational use. Military and civil service employees assigned to Military stations on the Monterey Peninsula created a cooperative organization to run the site as a riding club for military family recreation. Trail use continued with this organization. With the closure of Fort Ord in the 1990s, the survival of the facility was in doubt.

Faced with the loss of their Army sponsor for the land, and the potential loss of the facility for use by military families assigned to the Monterey peninsula, the Marina Equestrian Association (MEA) was founded as a non profit organization to explore the possibility of preserving the facility for public use. MEA approached the City of Marina in April of 1994 to sponsor their application to continue the equestrian activity on the (then) 34 acre property.

At the urging of citizens of the community, The City of Marina requested, under the Federal Lands to Parks Program and FORA, to keep the stables open to provide public recreation and take advantage of the extensive trail systems. The land was transferred to The City of Marina as an Equestrian Center with oversight by the National Parks Service. MEA operated the facility and provided boarding of horses and other programs to citizens of Marina and the Monterey Peninsula.

MEA has operated a successful stable for horse-owning members of the community willing to provide their own labor and skills to offset the normal payroll and commercial costs of operating a stable. This creates a unique recreational opportunity for working-class families to experience horse ownership and make use of easy access to the extensive Fort Ord and BLM Trails.

Over time, MEA provided a variety of public access programs in the community. Most recently, MEA has offered riding lessons, quarterly Kids Days, a community open house, BLM orientation rides for area trailriders, the Marina School Break Riding Camp Programs. Always, the center is available for visits, as a picnic site, for arena rental, for travelers visiting the area with horses (a hotel for horses), riding lessons, or for safe access to BLM trails for area horse owners. CSUMB students also volunteer for public service, ride, or board horses at the MEC.

The Center is active as an emergency evacuation site for livestock and members are registered with local rescue missions to assist with transportation of horses from endangered locations during fire season or other disasters. During the 2008 fire season, the Center hosted eight horses evacuated from Big Sur fire, at no cost to their owners. Members also participate in the Monterey Bay Bicycle and Equestrian Assistance Team (BETA) to provide visitor assistance, emergency response and patrol on the trails of the BLM and MEA participates monthly in the FORA User's Working Group. Other MEC riders provide a service to the governing jurisdictions of FORA and BLM public lands by reporting dangers, illegal use and trail assistance while riding these areas.

3. Location of the Equestrian Center

The center is located less than one mile from the Northwest corner of the CSUMB Off-Campus and County North areas (see map at Figure 1). By our system of trails we are about 3 miles from the access point to the BLM, where it is bordered by Watkins Gate Road or 2 miles from the Gigling Road access at 8th Street and Gigling Road. Our members, visitors and users, if not riding through the CSUMB Off-Campus area, often park at the 8th and Gigling Road parking area access the Parker Flats area.

4. Land Use by MEA (ref paras 2.3.1 and 2.3.2)

Our organization and its membership is the latest in a long line of equestrian, hiker and dog-walking users of the Parker Flats MRA. Before our current day, users were the many military families and the cavalry troupers who used this extensive network of trails. Although members occasionally hike, bike and dog-walk the area, our primary concern for this request is the use of these trails by horseback. These undeveloped areas have soft footing and perfect trails for horses and their use has been passed down among riders for decades. Our members and guests use these areas DAILY for equestrian recreation and to gain access to the adjacent and more extensive BLM lands.

MEA provides public access and a safe trailhead for equestrian users of the Western portion of the Fort Ord BLM. Over the decades, area and regional riders bought their horses to our facility which provided a safe and secure environment to unload horses and a location which could provide restroom facilities and running water for watering and bathing horses after a long ride. Most riders explore the BLM, CSUMB Off-Campus and North County, and Parker Flats trail areas with rides of 2-6 hour durations.

5. General Comments

In MEA's experience, all current users (bike riders, dog walkers, hikers and equestrians) get along well, are courteous and safety minded when on the trail. In our view, these are all compatible activities. All groups are mutually supportive of use of trails by other user groups and support sharing this recreational resource.

MEA fully supports munitions cleanup and has worked to educate our membership and visiting riders of the importance of this remediation. We have worked diligently with the FORA user's Group to stay abreast of the remediation plans and requirements and to educate other users with whom we have contact. This summer we hosted two equestrian trailride events informing area riders of the impending CSUMB Off-Campus, North County and Parker Flats trail closures, and oriented them with the authorized access corridors to the BLM. We also provide modified maps to the trail riding public showing the new access corridors and optional parking areas.

However, as a public access facility, the MEC needs to be supported in having SAFE access to the BLM during this time of fieldwork and in gaining access to the Parker Flats area as soon as possible to continue our recreational and public access use of those areas.

6. Impact of closures on MEC's public access use and outreach

Closure for longer than apbsolutely necessary to make the area safe sevearly limits our ability to perform our BLM access and public equestrian recreation missions. For the past year, MEA has been negotiating with a concessionaire to provide trail rides onto public lands to members of the public who do not own their own horses. This was a use of our facility and equestrian trails were envisioned and mapped out in early FORA planning. Delays of longer than absolutely necessary after fieldwork and remediation are complete will significantly impact the economics of public trail rides and the viability of this and other public access programs.

Closure to public use of this highly desirable Parker Flats area is a frustration to regular users and severely undercuts the access to public recreation our organization provides. Delays not required by safety could even threaten the very existence of the Marina Equestrian Center if public use declines while trails are closed or as equestrian access route become viewed as abandoned. In these times when land has become so valuable, there is enormous pressure on the MEC continue public access activities or face the possibility the City of Marina can justify other uses for the equestrian site.

7. Suggested alternatives to elevate this public access problem

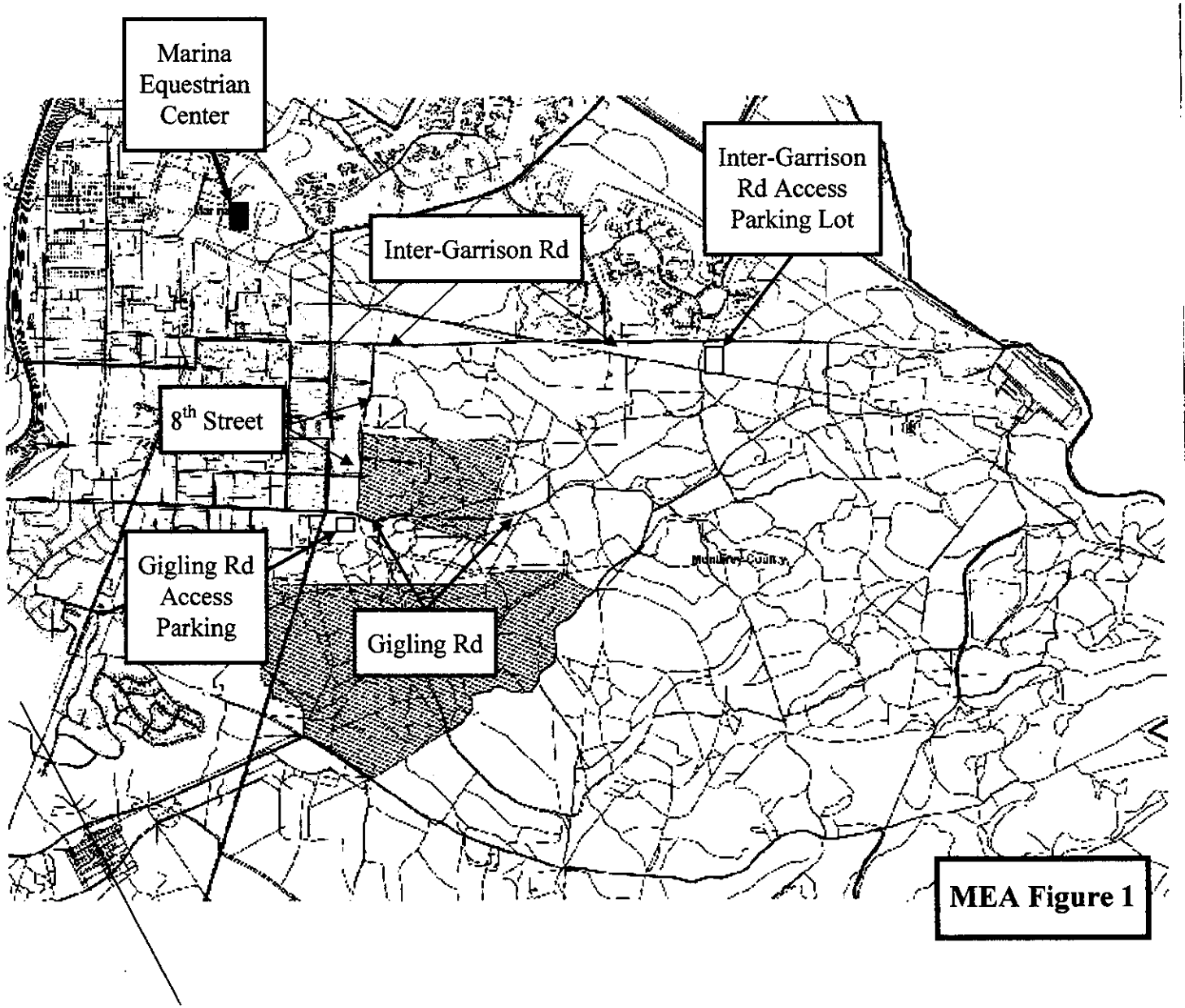
For these reasons we ask that the Parker Flats MRA be opened as soon as field work has been completed and the dangers have been removed. Delays to process paperwork could threaten critical public access programs and there-by the very existence of the Equestrian Center. We have been told that paperwork for site closure can take one-and-a-half to two years to complete once field work has been completed. These extra years with no access are an unnecessary burden in the users of these areas, particularly when there has been a long history of uneventful use. It would be a particularly galling burden to be excluded from using these areas while paperwork is processed after they have been made safe.

By opening the Parker Flats area following field work and munitions removal, there will be an area for public trailriding convenient to the Gigling Road parking lot available while the CSUMB Off-Campus and North County areas are still undergoing field work. Accessing the BLM in a safer and

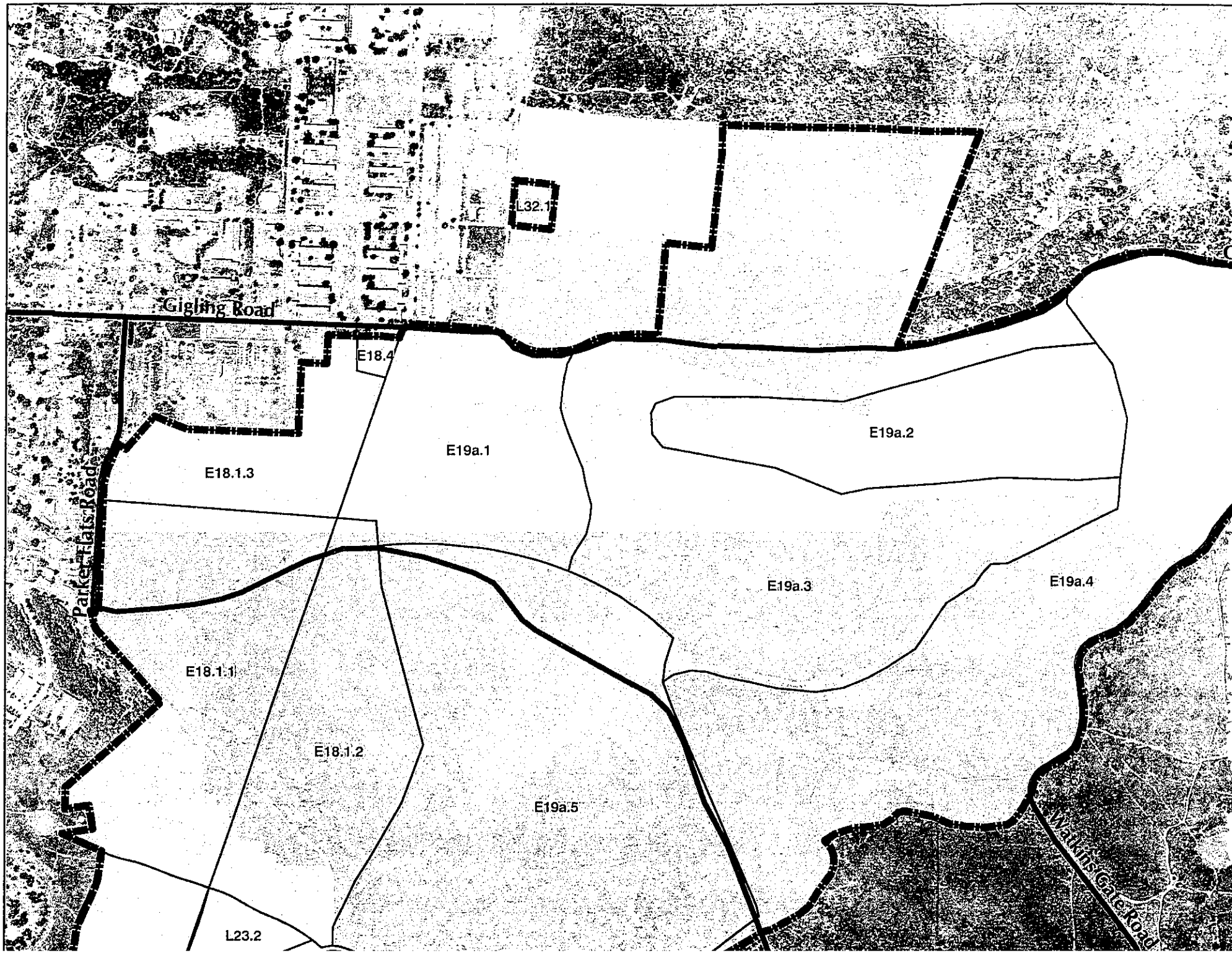
more aesthetically pleasing way for those using Gigling Road trailer parking access would be available months or years earlier. Riding through the Parker Flats area to reach the BLM would avoid a long walk on Gigling Road pavement to reach the BLM entrance. Equestrian users of the MEC and public trail riders will also be able to enjoy closer and more varied recreational alternatives much sooner.

8. In summary, our specific comments for FORA's consideration are:

a. We ask that FORA consider opening the Parker Flats MRA as soon as field work is completed and dangers have been removed. Opening the site while paperwork is completed would reduce the time and burden of lost access and continue our present public access and equestrian recreation missions more quickly. It would benefit other users as well.
b. Equestrian use should be added to paragraph 2.3.1 as a daily recreational user.
c. Equestrian use should be included, in paragraphs 2.3.1 and 2.3.2. for past, current and future land use
d. We wish to provide testimony that current recreational uses of the Parker Flats MRA are not conflicting and all should be accommodated after remediation. These daily recreational users are hikers, joggers, bikers, dog walkers and horse riders.
e. We ask to have the Marina Equestrian Center be acknowledged, where appropriate, as an historic and future source of users to this area due to its close proximity to Parker Flats and its unique connection to the National Park Service.


Marina Equestrian Center
Inter-Garrison Rd Access Parking Lot
Inter-Garrison Rd
8th Street
Gigling Rd Access Parking
Gigling Rd

MEA Figure 1



Vol 1 Parker Flats MRA Phase I and Phase II Areas.mxd - 5/21/2008 ب ظ 43:13 PM

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Hollister Field Office
20 Hamilton Court
Hollister, CA 95023

November 20, 2008

In Reply Refer To:
1703 (CA190.52)P

Stan Cook
ESCA Program Manager
Fort Ord Reuse Authority
100 12th Street, Building 2880
Marina, CA 93933

Dear Mr. Cook:

Thank you for the opportunity to review and comment on the Draft, Group 1 Remedial Investigation / Feasibility Study Work Plan, Seaside Munitions Response Area and Parker Flats Munitions Response Area Phase II Work Plan (Draft Parker Flats Work Plan) dated May 23, 2008. We have focused most of our comments on the Parker Flats area and not the Seaside area. We also appreciate your coordination with the BLM and trail users on access corridors through this area, and we look forward to opportunities to suggest additional routes that may be considered for public use in the Parker Flats area at trail coordination meetings. These issues, however, are not part of the Draft Parker Flats Work Plan, so we will not include our suggestions here.

Here are our comments on the Draft Parker Flats Work Plan.

Comment 1:
Draft Group 1 Work Plan, Volume 1, Section 4.52-Residential and Non-Residential Parcels and Volume 2 Section 2.3.1.3 (Vegetation Cutting and Removal)
These two sections state vegetation will be cut to the extent possible while preserving the trees, however, the limbs of trees will be trimmed to maximize digital geophysical mapping surveys.

We suggest defining "tree". Does "tree" mean coast live oaks with a diameter at breast height greater than a certain size or also ceanothus "trees", large tree-like coffee berry plants, or small oak trees? There are also a few unusual and very large tree-like flannel bush (Fremontodendron) colonies that could be protected if they were mapped, flagged, and their removal not essential for implementing development of property for future land uses. These are the only Fremontodendron in this size category known on Fort Ord.

Comment 2:
Draft Group 1 Work Plan, Volume 1, Work Plan Section 4.8 - Location-Specific Applicable or Relevant and Appropriate Requirements (ARARs) such as wetlands.

Consider adding rare or unusual plant assemblages to the above description of ARARs.

Comment 3:
Draft Group 1 Work Plan, Volume 1, Section 5.2 Habitat Areas
"Trails and open areas adjacent to trails will be digital geophysical mapped (DGM) similar to residential areas".

What is the definition of "open area"? Is it where no woody plants need to be removed for DGM or where minimal brush clearing is needed? Consider including other off-trail areas if historic aerial photos show them as open areas near existing trails that have recently been colonized by dense brush.

Consider also reviewing the existing trail network and deciding which major trails are likely to be needed in the future and which aren't. This suggestion is in case there are many trails and it is difficult to decide which are enough of an existing trail to warrant DGM on the trail and adjacent open areas.

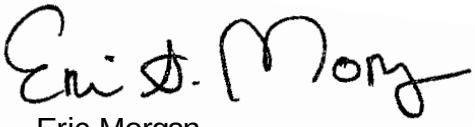
Comment 4:
Appendix B. Parker Flats Munitions Response Area, Conceptual Site Model Section 5.5 (Parker Flats MRA Ecological Profile) states that impacts to listed species would be minimized.
Consider changing this to state that impacts to species covered by the HMP (including listed and other rare species) would be minimized.

Comment 5:
Appendix B. Parker Flats Munitions Response Area, Conceptual Site Model Section 5.5 (Parker Flats MRA Ecological Profile) states for borderlands FORA will follow BMPs for prevention of spread of exotic species, limiting erosion, and limiting access to NRMA lands.

Consider drafting list of specific BMP's to implement the intent of Section 5.5, such as mapping/marking hi-priority weed locations (e.g. Klamath weed south of Parker Flats/8th Ave Extension) and planning on minimal disturbance in these areas to reduce chance of spreading weed seed.

Thanks for your attention to these comments proposal. If you have any questions, feel free to contact me or Bruce Delgado at (831)394-8314.

Sincerely,



Eric Morgan
Fort Ord Manager

DEPARTMENT OF THE ARMY
FORT ORD OFFICE, ARMY BASE REALIGNMENT AND CLOSURE
P.O. BOX 5008, BUILDING #4463 GIGLING ROAD
MONTEREY, CALIFORNIA 93944-5008

REPLY TO
ATTENTION OF

DEC 0 1 2008

Fort Ord Base Realignment and Closure Office

Stan Cook
ESCA Remediation Program Manager
Fort Ord Reuse Authority
100 12th Street
Marina, CA 93933

Subject: Comments to *Draft Final Group 1 Remedial Investigation/Feasibility Study (RI/FS) Work Plan*, dated November 13, 2008 (received November 19, 2008)

Thank you for the opportunity to review the subject document, including responses to our comments on the previous version.

The Environmental Services Cooperative Agreement (ESCA) between the Army and Fort Ord Reuse Authority (FORA) describes a Residential Quality Assurance (RQA) Protocol that has been developed for the project. The ESCA provides that the protocol will be tested on approximately 100 acres of test parcels to be selected in coordination with the regulatory agencies. Upon completion of the RQA test parcels, the results are to be evaluated and presented to the regulatory agencies. The RQA Pilot Study Work Plan, provided in Volume 2, Appendix F of the subject Group 1 RI/FS Work Plan, has been revised to reflect the recent changes in proposed pilot test areas. Our review of the updated RQA Pilot Study Work Plan indicates that the proposed Pilot Study procedures appear to be consistent with the ESCA RQA Protocol, and a success criteria has been developed in coordination with the regulatory agencies, as required by the ESCA. The total RQA Pilot Study areas currently falls short of the "approximately 100 acres" specified in the ESCA, however, we understand that FORA has evaluated all Areas Covered by Environmental Services (ACES) for the test parcel selection criteria in the ESCA and did not find significant additional acreages as suitable candidates for the purpose of the Pilot Study.

In addition, the subject Group 1 RI/FS Work Plan did not include the specific location or the size of the proposed test area RQA-CSUMB. Please provide additional details with regard to the final footprint of this test area prior to beginning the RQA Pilot Test activities in the CSUMB Off-Campus Munitions Response Area (MRA).

We look forward to continued coordination and successful completion of the remedial investigation activities in the Group 1 MRAs. If you have any questions, please contact Ms. Chieko Nguyen of my staff at 831-899-7372. I am available at 831-242-7918.

Sincerely,

Gail Youngblood
BRAC Environmental Coordinator
Fort Ord Field Office

APPENDIX F

Distribution List

Print	CD	Name	Organization	Address	City and State	Zip
1	1	Stan Cook	Fort Ord Reuse Authority	100 12th Street, Bldg. 2880	Marina, CA	93933
1	1	Michael Houlemard	Fort Ord Reuse Authority	100 12th Street, Bldg. 2880	Marina, CA	93933
1	1	Judy Huang	U.S. Environmental Protection Agency	75 Hawthorne Street, Mail SFD-8-3	San Francisco, CA	94105
1	1	Tom Hall	TechLaw, Inc.	7 Shore Point Road	North Little Rock, AR	72116
1	1	Roman Racca	California Department of Toxic Substances Control	8800 California Center Drive	Sacramento, CA	95826
1	1	James Austreng	California Department of Toxic Substances Control	8800 California Center Drive	Sacramento, CA	95826
2	2	Gail Youngblood	Department of the Army	BRAC, Bldg. #4463 Gigling Road	Monterey, CA	93940
1	1	Sandy Reese	MACTEC	Administrative Record BRAC, Bldg. #4463 Gigling Road	Monterey, CA	93940
1	1	Peter deFur	TAG Consultant	1108 Westbriar Drive; Suite F	Richmond, VA	23238
1	1	LeVonne Stone	Executive Director, Environmental Justice Network	P.O. Box 361	Marina, CA	93933
1	1	Mike Weaver	Fort Ord Community Advisory Group	52 Corral de Tierra Road	Salinas, CA	93908
1	1	Richard Bailey	Fort Ord Community Advisory Group	440 Ramona Avenue, Apt 16	Monterey, CA	93940
1	1	Linda Millerick	Save Our Air Resources (SOAR)	751 Montery - Salinas Highway	Salinas, CA	93908
1	1	Nick Nichols	Monterey County, Resources Management Agency Office of Housing & Redevelopment	168 West Alisal Street, Third Floor	Salinas, CA	93901
1	1	Project File	LFR Inc. Attention: Jennifer Johnson	1900 Powell Street, 12th Floor	Emeryville, CA	94608
1	1	Project Library	LFR / Weston Project Office	100 12th Street, Bldg. 2903	Marina, CA	93933

Approved:

Kristie Reimer
ESCA Remediation Program Manager
LFR Inc.