

FINAL

Record of Decision
Interim Action Ranges Munitions Response Area
Former Fort Ord, California

December 12, 2016

United States Department of the Army
Base Realignment and Closure (BRAC)
Former Fort Ord, California

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1. DECLARATION

1.1. Site Name and Location

The former Fort Ord is located in northwestern Monterey County, California, approximately 80 miles south of San Francisco (Figure 1). The U.S. Environmental Protection Agency (EPA) identification number for Fort Ord is CA7210020676. This Record of Decision (ROD) addresses Munitions and Explosives of Concern (MEC), specifically unexploded ordnance (UXO) and discarded military munitions (DMM), that potentially remain in the Interim Action Ranges Munitions Response Area (MRA).

Since 1917, military units (e.g., cavalry, field artillery, and infantry) used portions of the former Fort Ord for training (e.g., maneuvers, live-fire target ranges) and other purposes. Because the military conducted munitions-related activities (e.g., live-fire training) on the facility, military munitions (e.g., UXO and DMM) may be present on parts of the former Fort Ord. The types of military munitions used at the former Fort Ord included: artillery and mortar projectiles, rockets, guided missiles, rifle and hand grenades, practice land mines, pyrotechnics, bombs, and demolition materials. For the Fort Ord Military Munitions Response Program (MMRP) being conducted and this ROD, MEC does not include small arms ammunition (.50 caliber and below). A Glossary of Military Munitions Response Program Terms is provided in Appendix A.

In March 2007, the United States Department of the Army (Army) and Fort Ord Reuse Authority (FORA) entered into an Environmental Services Cooperative Agreement (ESCA) to provide funding for MEC remediation services. In accordance with the ESCA and an Administrative Order on Consent (AOC), FORA is responsible for completion of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) response actions, except for those responsibilities retained by the Army, on approximately 3,300 acres of the former Fort Ord with funding provided by the Army. The AOC was entered into voluntarily by FORA, EPA, California Environmental Protection Agency Department of Toxic Substances Control (DTSC), and the United States Department of Justice Environment and Natural Resources Division in December 2006 (EPA Region 9 CERCLA Docket No. R9-2007-03). The underlying property was transferred to FORA in May 2009. The Interim Action Ranges MRA is included in the ESCA between the Army and FORA.

The Interim Action Ranges MRA is a site where MEC were found and munitions response (MEC removal) actions were conducted. The Interim Action Ranges MRA is located within the munitions response site (MRS) Ranges 43-48 (Figure 2, Table 1). The *Record of Decision, Interim Action for Ordnance and Explosives at Ranges 43-48, Range 30A, and Site OE-16, Former Fort Ord, California* ("Interim Action ROD") was produced by the Army in August 2002 for Interim Action Sites at the former Fort Ord, including MRS Ranges 43-48 (Army 2002). The remedial action selected for the Interim Action Sites included surface and subsurface MEC removal. Interim remedial action was conducted by the Army on MRS Ranges 43-48 (approximately 500 acres) from November 2003 to December 2005 (Parsons 2007). Interim remedial action was completed by FORA for the remaining portions of MRS Ranges 43-48 within the Interim Action Ranges MRA in March 2013 (ESCA RP Team 2015a).

The portion of MRS Ranges 43-48 within the Interim Action Ranges MRA was investigated, with all identified MEC removed. These munitions response actions included Quality Control and Quality Assurance requirements that evaluated the adequacy of the munitions response actions. Although munitions response actions were conducted, it is possible that some MEC may not have been detected and

remains present. Because a future land user (e.g., recreational user, habitat monitor, maintenance worker, or construction worker) may encounter MEC at the MRA, a Focused Feasibility Study was conducted to evaluate remedial alternatives to address this potential risk to future land users (ESCA RP Team 2015b). The *Focused Feasibility Study, Interim Action Ranges Munitions Response Area, Former Fort Ord, Monterey County, California* (“Final Focused Feasibility Study”; ESCA RP Team 2015b) was developed by FORA under the ESCA and in accordance with the AOC.

1.2. Basis and Purpose

This decision document selects the remedial action for MEC for the Interim Action Ranges MRA. The remedy for the MRA was selected in accordance with CERCLA of 1980, as amended, and to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This decision is based on information and reports contained in the Administrative Record for the former Fort Ord.

This decision is undertaken pursuant to the President's authority under CERCLA Section 104, as delegated to the Army in accordance with Executive Order 12580, and in compliance with the process set out in CERCLA Section 120. The selection of the remedy is authorized pursuant to CERCLA Section 104, and the selected remedy will be carried out in accordance with CERCLA Section 121.

The Army and EPA have jointly selected the remedy. The DTSC has had an opportunity to review and comment on the ROD.

1.3. Site Assessment

This ROD addresses hazardous substances and pollutants or contaminants which may pose a threat to human health and welfare or the environment.

The Army has provided the CERCLA covenant in the deed for the property. Some MEC items found and detonated on the property in the past were a Resource Conservation and Recovery Act (RCRA) reactive waste and thus a CERCLA hazardous substance. Therefore, MEC items discovered on the property in the future will likewise be addressed as such pursuant to the CERCLA covenant unless the Army determines that an item is not a hazardous substance by making a waste specific determination based on testing or knowledge consistent with RCRA.

1.4. Description of the Selected Remedy

The selected remedy addresses risks to human health and the environment from MEC that potentially remains in the Interim Action Ranges MRA. Munitions responses (MEC removals) have been completed at the MRA, significantly reducing the risks to human health and the environment. The selected remedy for the Interim Action Ranges MRA includes Land Use Controls (LUCs) because detection technologies may not detect all MEC present. The LUCs include requirements for: (1) MEC recognition and safety training for those people that conduct ground-disturbing or intrusive activities on the property; (2) construction support by UXO-qualified personnel for ground-disturbing or intrusive activities; (3) restrictions prohibiting residential use; and (4) restrictions against inconsistent uses (applicable to the habitat reserve areas). For the purpose of this decision document, residential use includes, but is not limited to: single family or multi-family residences; childcare facilities; playgrounds; hospitals; nursing homes or assisted living facilities; and any type of educational purpose for children or young adults in grades kindergarten through 12. Any proposal for residential use, as defined in this ROD, in the Interim Action Ranges MRA will be subject to regulatory agency and Army review and approval. The selected

remedy will be implemented by FORA in its capacity as Grantee under the ESCA and as a party to the AOC and not in its capacity as the owner of the real estate or as a government entity. A Remedial Design/Remedial Action (RD/RA) Work Plan and/or Land Use Control Implementation Plan and Operation and Maintenance Plan (LUCIP/OMP) will be developed to: (1) outline the processes for implementing the LUCs selected as part of the remedy; and (2) identify procedures for responding to discoveries of MEC. This plan will be submitted in accordance with the deadline established in this ROD. The Army will evaluate the Interim Action Ranges MRA as part of the installation-wide CERCLA five-year review. The selected LUCs may be modified in the future based on the five-year review process. The next five-year review will occur in 2017.

As part of the LUC implementation strategy, long term management measures comprised of a deed notice and restrictions, annual monitoring and reporting, and five-year review reporting will be included for the land use areas within the Interim Action Ranges MRA. As part of the early transfer of the subject property, the Army has entered into State Covenant to Restrict the Use of Property (CRUP) with the DTSC that document land use restrictions. The existing deeds to FORA for the Interim Action Ranges MRA parcels include the following land use restrictions: 1) residential use restriction; and 2) excavation restrictions (unless construction support and MEC recognition and safety training are provided). The Army will modify the existing land use restrictions in the federal deeds, as necessary, to reflect the selected remedy. FORA, or its successor under the ESCA and the AOC, will prepare and submit annual letter reports to the EPA and the DTSC summarizing any MEC found and changes in site conditions that could increase the possibility of encountering MEC. Copies of the annual monitoring reports will also be provided to the Army for inclusion in the five-year reviews.

While the Army does not consider California laws and regulations concerning CRUPs to be potential applicable or relevant and appropriate requirements (ARARs), the Army entered into a CRUP with the DTSC at the time the property was transferred to FORA (Army/DTSC 2009). The DTSC will modify the existing CRUP, as appropriate, to reflect the land use restrictions included in the selected remedy. Although the DTSC and the EPA Region IX disagree with the Army's determination that California laws and regulations concerning CRUPs are not potential ARARs, they will agree-to-disagree on this issue since the Army executed the CRUP and the DTSC will modify the CRUP, as appropriate, to be consistent with the identified remedy.

1.5. Statutory Determination

The selected remedy is protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant and appropriate to this remedial action, and is cost effective. Munitions responses to address the principal threat by removing all identified MEC items have already been completed. This meets the intent of using permanent solutions and alternative treatment (or resource recovery) technologies to the maximum extent practicable, and satisfies the statutory preference for treatment as a principal element (i.e., reducing the toxicity, mobility, or volume of hazardous substances, pollutants, or contaminants as a principal element through treatment).

Because the selected remedy may not result in removal of all MEC potentially present within the Interim Action Ranges MRA, a statutory review will be conducted by the Army within five years after initiation of the remedial action to ensure the remedy is, or will be, protective of human health and the environment. The next five-year review will occur in 2017.

1.6. ROD Data Certification Checklist

The following information is included in the Decision Summary section of this ROD. Additional information can be found in the Administrative Record file for this site.

- Types of MEC identified during previous removal actions (Section 2.8.).
- Current and reasonably anticipated future land use assumptions used in the Risk Assessment and ROD (Section 2.9. and Table 2).
- Current after-action “Overall MEC Risk Scores” estimated in the Risk Assessment based upon the current site conditions (Section 2.10.).
- Remedial action objectives for addressing the current after-action “Overall MEC Risk Scores” estimated in the Risk Assessment (Section 2.11.).
- How source materials constituting principal threats are addressed (Sections 2.13. and 2.14.).
- Potential land use that will be available at the site as a result of the selected remedy (Section 2.14. and Table 2).
- Estimated capital, annual operations and maintenance (O&M), and total present worth costs, discount rate, and the number of years over which the remedy cost estimates are projected (Section 2.14.4).
- Key factor(s) that led to selection of the remedy (Sections 2.14.1 and 2.15. and Table 3).

1.7. Authorizing Signatures and Support Agency Acceptance of Remedy

**Record of Decision
Interim Action Ranges Munitions Response Area
Former Fort Ord, California**

Signature Sheet for the foregoing Record of Decision for Interim Action Ranges Munitions Response Area, Former Fort Ord, California, among the United States Army, the United States Environmental Protection Agency, and the California Environmental Protection Agency, Department of Toxic Substances Control.



Thomas E. Lederle
Chief
Base Realignment and Closure Division
U.S. Department of the Army

11 JAN 2017

Date

**Record of Decision
Interim Action Ranges Munitions Response Area
Former Fort Ord, California**

Signature Sheet for the foregoing Record of Decision for Interim Action Ranges Munitions Response Area, Former Fort Ord, California, among the United States Army, the United States Environmental Protection Agency, and the California Environmental Protection Agency, Department of Toxic Substances Control.



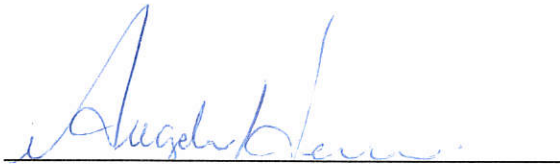
William K. Collins
William K. Collins
BRAC Environmental Coordinator
Fort Ord BRAC Office
U.S. Department of the Army

12-12-2016

Date

**Record of Decision
Interim Action Ranges Munitions Response Area
Former Fort Ord, California**

Signature Sheet for the foregoing Record of Decision for Interim Action Ranges Munitions Response Area, Former Fort Ord, California, among the United States Army, the United States Environmental Protection Agency, and the California Environmental Protection Agency, Department of Toxic Substances Control.



Angeles Herrera
Assistant Director, Superfund Division
Federal Facilities and Site Cleanup Branch
U.S. Environmental Protection Agency, Region IX

1/18/2017
Date

**Record of Decision
Interim Action Ranges Munitions Response Area
Former Fort Ord, California**

Signature Sheet for the foregoing Record of Decision for Interim Action Ranges Munitions Response Area, Former Fort Ord, California, among the United States Army, the United States Environmental Protection Agency, and the California Environmental Protection Agency, Department of Toxic Substances Control.

The State of California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) had an opportunity to review and comment on the Record of Decision (ROD) and our concerns were addressed.



Charlie Ridenour, P.E.
Branch Chief
Cleanup Program - Sacramento Office
California Environmental Protection Agency
Department of Toxic Substances Control

11/9/17
Date

2. DECISION SUMMARY

2.1. Site Description

The former Fort Ord is located near Monterey Bay in northwestern Monterey County, California, approximately 80 miles south of San Francisco (Figure 1). The former Army post consists of approximately 28,000 acres adjacent to Monterey Bay and the cities of Seaside, Sand City, Monterey, and Del Rey Oaks to the south and Marina to the north. State Route 1 passes through the western portion of former Fort Ord, separating the beachfront from the rest of the base. Laguna Seca Recreation Area and Toro Regional Park border former Fort Ord to the south and southeast, respectively, as well as several small communities, such as Toro Park Estates and San Benancio. Additional information about the site:

- EPA Identification Number: CA7210020676;
- Lead Agency: Army;
- Lead Oversight Agency: EPA;
- Support Agency: DTSC;
- Source of Cleanup Monies: Army;
- Site Type: Former Military Installation.

2.2. Site History

Since 1917, portions of the former Fort Ord were used by cavalry, field artillery, and infantry units for maneuvers, target ranges, and other purposes. From 1947 to 1974, Fort Ord was a basic training center. The 7th Infantry Division was activated at Fort Ord in October 1974, and occupied Fort Ord until base closure in 1994. Fort Ord was selected in 1991 for decommissioning, but troop reallocation was not completed until 1993 and the base was not officially closed until September 1994. The property remaining in the Army's possession was designated as the Presidio of Monterey Annex on October 1, 1994, and subsequently renamed the Ord Military Community (OMC). Although Army personnel still operate parts of the base, no active Army division is stationed at the former Fort Ord. Since the base was selected in 1991 for Base Realignment and Closure (BRAC), site visits, historical and archival investigations, military munitions sampling, and removal actions have been performed and documented in preparation for transfer and reuse of the former Fort Ord property. The Army will continue to retain the OMC and the U.S. Army Reserve Center located at the former Fort Ord. The remainder of former Fort Ord was identified for transfer to Federal, State, and local government agencies and other organizations and, since base closure in September 1994, has been subjected to the reuse process. Portions of the property on the installation have been transferred. A large portion of the Inland Training Ranges was assigned to the U.S. Department of the Interior, Bureau of Land Management (BLM). Other areas on the installation have been, or will be, transferred through economic development conveyance, public benefit conveyance, negotiated sale, or other means.

Munitions-related activities (e.g., live-fire training, demilitarization) involving different types of conventional military munitions (e.g., artillery and mortar projectiles, rockets and guided missiles, rifle and hand grenades, practice land mines, pyrotechnics, bombs, and demolition materials) were conducted at Fort Ord. Because of these activities, MEC, specifically UXO and DMM, have been encountered and are known or suspected to remain present at sites throughout the former Fort Ord. A Glossary of Military Munitions Response Program Terms is provided in Appendix A.

2.3. Enforcement and Regulatory History

The Army is the responsible party and lead agency for investigating, reporting, making cleanup decisions, and taking cleanup actions at the former Fort Ord under CERCLA. To address the possibility of the public being exposed to explosive hazards, MEC investigations and removal actions began following BRAC listing and closure of Fort Ord. In November 1998, the Army agreed to evaluate military munitions at former Fort Ord in an Ordnance and Explosives Remedial Investigation/Feasibility Study (basewide OE RI/FS) — now termed the basewide Munitions Response Remedial Investigation/Feasibility Study (basewide MR RI/FS) — consistent with CERCLA. A Federal Facility Agreement (FFA) was signed in 1990 by the Army, EPA, DTSC (formerly the Department of Health Services or DHS), and the California Regional Water Quality Control Board (RWQCB). The FFA established schedules for performing remedial investigations and feasibility studies and requires that remedial actions be completed as expeditiously as possible. In April 2000, an agreement was signed between the Army, EPA, and DTSC to evaluate military munitions and perform military munitions response activities at the former Fort Ord subject to the provisions of the Fort Ord FFA.

The basewide MR RI/FS program reviews and evaluates past investigative and removal actions, as well as recommends future response actions deemed necessary to protect human health and the environment regarding explosive safety risks posed by MEC on the basis of designated reuses. These reuses are specified in the Base Reuse Plan (FORA 1997) and its updates. The basewide MR RI/FS documents are being prepared in accordance with the FFA, as amended. These documents are made available for public review and comment, and placed in the Administrative Record.

The Army has been conducting military munitions response actions (e.g., investigation, removal) at identified MRSs and will continue these actions to mitigate imminent MEC-related hazards to the public, while gathering data about the type of military munitions and level of hazard at each of the MRSs for use in the basewide MR RI/FS. The Army is performing its activities pursuant to the President's authority under CERCLA Section 104, as delegated to the Army in accordance with Executive Order 12580 and in compliance with the process set out in CERCLA Section 120. Regulatory agencies (EPA and DTSC) have been and will continue to provide oversight of the munitions response activities pursuant to the FFA.

The Army conducts ongoing and future responses to MEC at the former Fort Ord that are components of the Army's basewide efforts to promote explosive safety because of Fort Ord's history as a military base. These efforts include: (1) five-year reviews and reporting; (2) notices and restrictions in deeds and property transfer documentations (e.g., letter of transfer); (3) MEC incident reporting; (4) MEC recognition and safety training; (5) school education; and (6) community involvement.

In March 2007, the Army and FORA entered into an ESCA to provide funding for MEC remediation services. In accordance with the ESCA, the AOC, and the FFA Amendment No. 1, FORA is responsible for completion of the CERCLA remedial activities, except for those responsibilities retained by the Army, on approximately 3,300 acres of the former Fort Ord with funding provided by the Army. The AOC was entered into voluntarily by FORA, EPA, DTSC, and the United States Department of Justice Environment and Natural Resources Division in December 2006 (EPA Region 9 CERCLA Docket No. R9-2007-03). The underlying property was transferred to FORA in May 2009.

As part of the early transfer of the subject property, the Army has entered into a State CRUP with the DTSC that documents land use restrictions. The DTSC has agreed to modify the existing CRUP to document the land use restrictions included in the identified remedy. After the signature of this ROD, DTSC will modify the existing CRUP to be consistent with the final remedy. The applicability of and

requirements for CRUPs are described in California Code of Regulations Section 67391.1 and California Civil Code Section 1471.

As described in the *Final Summary of Existing Data Report, Former Fort Ord, Monterey County, California* (ESCA RP Team 2008), the ESCA areas were combined into nine MRAs, and they were further consolidated into four groups according to similar pathway-to-closure characteristics. Group 1 consists of the Parker Flats and Seaside MRAs. Group 2 consists of the CSUMB Off-Campus and County North MRAs. Group 3 consists of Del Rey Oaks/Monterey, Laguna Seca Parking, and Military Operations in Urban Terrain Site MRAs. Group 4 consists of the Future East Garrison MRA. The County North MRA was subsequently removed from Group 2 following completion of the *Track 1 Plug-In Approval Memorandum County North Munitions Response Area, Former Fort Ord, California* (Army 2010). The Interim Action Ranges MRA had been removed from Group 3 for independent evaluation as agreed upon by FORA, the EPA, DTSC, and the Army. This ROD addresses the Interim Action Ranges MRA.

2.4. Community Participation

The Final Focused Feasibility Study for the Interim Action Ranges MRA was published on October 23, 2015, and the Interim Action Ranges MRA Proposed Plan was made available to the public on March 14, 2016. The Proposed Plan presented the preferred alternative of Land Use Controls (Alternative 2). The Land Use Control alternative is being selected as the final remedy in this ROD. The Proposed Plan also summarized the information in the Final Focused Feasibility Study and other supporting documents in the Administrative Record. These documents were made available to the public at the Administrative Record and www.fortordcleanup.com. The Administrative Record and Information Repositories are located at:

- Fort Ord Administrative Record, Building 4463, Gigling Road, Room 101, Ord Military Community, California (www.fortordcleanup.com).
- Seaside Branch Library, 550 Harcourt Avenue, Seaside, California.
- California State University Monterey Bay Tanimura & Antle Family Memorial Library, Divarty Street, CSUMB Campus, Seaside, California.

The notice of the availability of the Proposed Plan was published in the Monterey County Herald and the Salinas Californian on March 16, 2016. A 30-day public comment period was held from March 16, 2016, to April 14, 2016. In addition, a public meeting was held on March 30, 2016, to present the Proposed Plan to a broader community audience than those that had already been involved at the site. At this meeting, representatives from the Army, EPA, and DTSC were present, and the public had the opportunity to submit written and oral comments about the Proposed Plan. Representatives from FORA were also present to answer questions. The Army's response to the comments received during this period is included in the Responsiveness Summary, which is part of this ROD (Section 3.0).

2.5. Scope and Role of Response Action

This ROD addresses the planned response action for managing the potential risk to future land users from MEC that potentially remains in the Interim Action Ranges MRA, where munitions response activities have been completed as described in Section 2.7 below and detailed in the Final Focused Feasibility Study (ESCA RP Team 2015b).

The Interim Action Ranges MRA comprises a 227-acre portion of MRS Ranges 43-48 where an interim remedial action was conducted under the Interim Action ROD (Army 2002). The Interim Action ROD

selected interim remedial actions for the three areas, consisting of vegetation clearance by prescribed burning, surface and subsurface MEC removal, and detonation of MEC using engineering controls. Subsurface removal depths were to be determined in the site-specific work plans based on the military munitions used, the depth to which these types of munitions would penetrate or be found, the planned reuse of the specific areas within the Interim Action site, and the capabilities of the geophysical detection equipment selected by the site geophysicist. Interim remedial action was conducted by the Army on MRS Ranges 43-48 (Parsons 2007). Additional work was conducted by FORA within the northern portion of the site that comprises the Interim Action Ranges MRA (ESCA RP Team 2015a). The Interim Action Ranges MRA was subsequently evaluated in the Final Focused Feasibility Study (ESCA RP Team 2015b).

The remedy that is selected in this ROD serves as the final remedy for the 227-acre portion of MRS-Ranges 43-48 Interim Action site. The southern portion of MRS-Ranges 43-48 was included in the *Record of Decision, Impact Area MRA, Track 3 Munitions Response Site, Former Fort Ord, California* ("Track 3 ROD"; Army 2008) (Figure 2).

The planned response action for the Interim Action Ranges MRA will be the final remedy for protection of human health and the environment. Remedial Alternative 2, which was identified as the preferred remedial alternative for the Interim Action Ranges MRA, is summarized as follows:

- **Remedial Alternative 2 - Land Use Controls (LUCs):** MEC recognition and safety training for people that will conduct ground-disturbing or intrusive activities; construction support during ground-disturbing or intrusive activities; restrictions prohibiting residential use (as defined in this ROD); and restrictions against inconsistent uses (applicable to the habitat reserve areas).

The selected remedy will be implemented by FORA under the ESCA and in accordance with the AOC. An RD/RA Work Plan and/or LUCIP/OMP will be developed to: (1) outline the processes for implementing land use restrictions; and (2) identify procedures for responding to discoveries of MEC, including coordinating a response to a discovery of a significant amount of MEC in the Interim Action Ranges MRA. The selected LUCs may be modified in the future based on the five-year review process.

In addition, long term management measures comprised of a deed restriction, annual monitoring and reporting, and five-year review reporting will be implemented for the reuse areas within the Interim Action Ranges MRA.

The potential presence of hazardous and toxic waste chemicals of concern in soil is being addressed under the Army Basewide Range Assessment Program (Shaw 2012) and the *Record of Decision Amendment, Site 39 Inland Ranges, Former Fort Ord, California* ("Site 39 ROD Amendment"; Army 2009). As presented in the *Final Remedial Action Completion Report, Site 39 Inland Ranges Habitat Reserve, Former Fort Ord, California*, soil remedial actions have been completed by the Army at the Site 39 Inland Ranges and results of the remedial actions meet the remedial action objectives (RAOs) established for the Site 39 Inland Ranges for removal of soil contaminated with lead and/or explosives constituents (ITSI Gilbane 2014).

2.6. Site Characteristics

The Interim Action Ranges MRA is located in the north-central portion of the former Fort Ord. The Interim Action Ranges MRA encompasses approximately 227 acres within the MRS Ranges 43-48 (Figure 2).

Historical records and recovered MEC and munitions debris (MD) indicate that the Interim Action Ranges MRA was used for military training since the initial 1917 government purchase and designation of the land as an artillery range. Cavalry and artillery troops conducted training activities within the historical impact area. The Interim Action Ranges MRA contains all or portions of five firing ranges used for a variety of training purposes from the 1950s through the 1990s. The usage of each range included: mortar training and subsequently platoon live fire course at the time of base closure (Range 43); antitank weapons range at the time of base closure (Range 44); grenade launcher range at the time of base closure (Range 45); small arms range from the late 1950s to the time of base closure (Range 46); and 40mm grenade range in the 1960s (Range 47) (Figure 2).

2.7. Interim Action Ranges MRA Remedial Investigation Summary

The Interim Action Ranges MRA comprises a 227-acre-portion of MRS Ranges 43-48 where an interim remedial action was conducted. The Final Focused Feasibility Study for the Interim Action Ranges MRA is based on the evaluation of previous work conducted for the MRA in accordance with the *Final Group 3 Remedial Investigation/Feasibility Study Work Plan, Former Fort Ord, Monterey, California* (“Group 3 RI/FS Work Plan”; ESCA RP Team 2009) and described in the *Final Interim Remedial Action Completion Report, Interim Action Ranges Munitions Response Area, Phase II, Former Fort Ord, Monterey, California* (“Phase II Interim RACR”; ESCA RP Team 2015a).

This section provides background information on the munitions responses completed by the Army and FORA at the Interim Action Ranges MRA and review (site evaluations) conducted for the MRA. Table 1 summarizes the site-specific interim remedial actions, and Section 2.8 presents a summary of the site evaluations for the Interim Action Ranges MRA as presented in the Final Focused Feasibility Study (ESCA RP Team 2015b).

Scope of Removal Actions – Several munitions response actions were completed prior to interim remedial action at the Interim Action Ranges MRA. These munitions response actions included grid sampling, visual surface MEC removal in accessible areas, and subsurface MEC removal on roads and fuel breaks. As the remedial action selected in the Interim Action ROD, surface removal and subsurface removal operations were conducted by the Army on MRS Ranges 43–48. The interim remedial action in MRS Ranges 43-48 was started in 2002 and completed in 2005 and encompassed the Interim Action Ranges MRA. Approximately 235 acres within MRS Ranges 43-48 where subsurface MEC removal was not completed were designated as Special Case Areas (SCAs) or Non-completed Areas (NCAs). Approximately 35.9 acres of the SCAs and approximately 9.2 acres of NCAs within MRS Ranges 43-48 are located within the boundaries of the Interim Action Ranges MRA. An additional surface MEC removal was conducted in a portion of the Range 44 SCA in 2007.

Under the ESCA, FORA completed interim remedial action in the SCAs and NCAs located within the Interim Action Ranges MRA. To determine areas where interim remedial action was warranted, a design study was conducted in the Range 44 SCA, Range 47 SCA, and Central Area NCAs (Figure 3). Based on the results of the design study, a remedial action was conducted by FORA in the Range 47 SCA.

Two additional SCAs (Range 45 Trench SCA [approximately 1.2 acres; subsurface removal to a 2-ft depth across the top of the SCA conducted by the Army] and a small portion of the Fenceline SCA [one partial 100-ft by 100-ft grid]) are also located within the Interim Action Ranges MRA; however, these areas were not included in the interim remedial action completed by FORA.

All detected MEC items were removed and destroyed during the removal actions. A summary of the removal actions is provided in Section 2.8.

The investigations and removal actions conducted within the Interim Action Ranges MRA were focused on addressing explosive hazards.

Site Evaluation – The evaluation process was documented by completion of a series of checklists for the Interim Action Ranges MRA in accordance with the Group 3 RI/FS Work Plan (ESCA RP Team 2009) and the *Phase II Interim Action Work Plan, Interim Action Ranges Munitions Response Area, Former Fort Ord, Monterey County, California* (“Phase II Interim Action Work Plan”; ESCA RP Team 2011). Checklists prepared for the MRA were provided as Appendix D of the Final Focused Feasibility Study (ESCA RP Team 2015b).

The Interim Action Ranges MRA is located within MRS Ranges 43-48 within the historical impact area (Figure 2). The MRS was identified when the Army evaluated three sites for interim remedial actions in the *Final Interim Action OE Remedial Investigation/Feasibility Study for Ranges 43-48, Range 30A, Site OE-16, Former Fort Ord, California* (Harding 2002). The MRA boundaries encompass five United States Army Corps of Engineers (USACE) property transfer parcels: E38, E39, E40, E41, and E42 (Table 2 and Figure 3). The Interim Action Ranges MRA contains all or portions of five firing ranges (Ranges 43, 44, 45, 46, and 47) used for a variety of training purposes from the 1950s through the 1990s. Based on the results of the literature review, investigations, and removal actions, the usage of each range included: mortar training and subsequently platoon live fire course at the time of base closure (Range 43); antitank weapons range at the time of base closure (Range 44); grenade launcher range at the time of base closure (Range 45); small arms range from the late 1950s to the time of base closure (Range 46); and 40mm grenade range in the 1960s (Range 47).

Interim remedial action was conducted by the Army on MRS Ranges 43-48 from November 2003 to December 2005 (Parsons 2007). Interim remedial action was completed by FORA for the remaining portions of MRS Ranges 43-48 within the Interim Action Ranges MRA in March 2013 (ESCA RP Team 2015a). Two SCAs (Range 45 Trench SCA [approximately 1.2 acres; subsurface removal to a 2-ft depth across the top of the SCA conducted by the Army] and a small portion of the Fenceline SCA [one partial 100-ft by 100-ft grid]) are also located within the Interim Action Ranges MRA; however, these areas were not included in the interim remedial action completed by FORA.

2.8. Interim Action Ranges MRA Munitions Response Site Summary

MRS Ranges 43-48

The interim action in MRS Ranges 43-48 began in 2002 with site preparation followed by a prescribed burn in October 2003. Interim remedial actions were conducted from November 2003 to December 2005 and consisted of the following activities:

- Visual surface removal conducted from November 2003 to February 2004
- Subsurface removal to depth at 1,251 100-ft by 100-ft grids using Schonstedt magnetometers (approximately 272 acres) from December 2003 to July 2005 and at ten 100-ft by 100-ft grids (approximately 2.3 acres) from May 2005 to October 2005
- Excavation and sifting, followed by analog subsurface removal and digital geophysical mapping (DGM)-based subsurface removal in a 14-acre area of Range 45 (May to October 2005). Target box trenches (i.e., the Range 45 Trench SCA) were left in place below the 2-ft scraped surface within 5 grids (approximately 1.2 acres) of Range 45.

- Deconstruction of the Range 45 pad (1.75 acres in 8 grids) followed by analog subsurface removal and DGM-based subsurface removal in the pad footprint (October and November 2005)
- DGM and subsurface removal in accessible areas, which included 1,249 100-ft by 100-ft grids from April 2004 to November 2005 (Parsons 2007)

After completing the above activities, approximately 235 acres within MRS Ranges 43-48 where the interim remedial action was not completed were designated as SCAs or NCAs. Subsurface MEC remediation was not completed within the SCAs due to high concentrations of anomalies caused by metallic debris and various other reasons (Parsons 2007). Approximately 35.9 acres of the SCAs and approximately 9.2 acres of NCAs within MRS Ranges 43-48 are located within the boundaries of the Interim Action Ranges MRA. An additional surface removal was conducted in a portion of the Range 44 SCA in 2007 (Shaw 2007).

In 2010, approximately 150 cubic yards of soil from historical area 43 (HA-43) and approximately 4,070 cubic yards of soil from HA-44 were excavated as part of soil remedial action under the Site 39 ROD Amendment. The soil remedial actions included performance of subsurface MEC removal in the excavated footprints. Soil remedial actions that have been completed by the Army in the Interim Action Ranges MRA are documented in the *Final Remedial Action Completion Report, Site 39 Inland Ranges Habitat Reserve, Former Fort Ord, California* (ITSI Gilbane 2014).

Under the ESCA, FORA completed interim remedial action in the SCAs and NCAs located within the Interim Action Ranges MRA from February 2011 to March 2013. To determine areas where interim remedial action was warranted, a design study was conducted in the Range 44 SCA (approximately 18.9 acres), Range 47 SCA (approximately 15.2 acres), and Central Area NCAs (approximately 9.2 acres). Based on the results of the design study, interim remedial action was continued in Range 47 SCA (approximately 15.2 acres; Figure 3). Activities were performed in accordance with the Phase II Interim Action Work Plan (ESCA RP Team 2011) and the approved Field Variance Forms associated with the Phase II Interim Action Work Plan. Results of the design study and interim action completed by FORA are reported in detail in the Final Interim RACR (ESCA RP Team 2015a). Two additional SCAs (Range 45 Trench SCA [approximately 1.2 acres; subsurface removal to a 2-ft depth across the top of the SCA conducted by the Army] and a small portion of the Fenceline SCA [one partial 100-ft by 100-ft grid]) are also located within the Interim Action Ranges MRA; however, these areas were not included in the interim action completed by FORA.

To facilitate completion of the design study, the Range 44 SCA and Central Area NCAs were divided into northern and southern portions referred to by FORA as “Range 44 SCA (North)” and “Range 44 SCA (South) and Central Area NCAs” (Figure 3). Additionally, one grid of the Central Area NCAs located adjacent to Range 47 SCA was combined with the Range 47 SCA (Figure 3).

The design study was conducted to determine the areas where continuing the interim remedial action was warranted and to refine the technical approach for the additional interim remedial actions. The design study focused on delineating areas potentially containing high density of subsurface MEC of the type containing sensitive fuzes (e.g., 40mm grenades, 66mm high explosive anti-tank [HEAT] rockets, and 90mm HEAT projectiles). The study involved investigations in select transects and grids, and activities included soil excavation and sifting, analog investigation, DGM surveys, and investigation and removal

of selected target anomalies, to evaluate the presence of MEC of the types that contain sensitive fuzes. Based on the results of the design study:

- completion of the interim remedial action was not warranted within the Range 44 SCA (South) and Central Area NCA due to the lack of evidence of sensitive fuze-type MEC;
- completion of the interim remedial action was not warranted within the Range 44 SCA (North) as the potential for residual intact MEC of types containing sensitive fuzes was not evident; and
- completion of the interim remedial action is warranted in the Range 47 SCA.

The interim action at the Range 47 SCA included excavation and sifting of approximately 37,000 cubic yards of soil, DGM surveys and target investigation in approximately 15.4 acres, and analog investigation in select areas. The MEC removal was concluded with the finding that the potential for residual intact MEC of types containing sensitive fuzes was not evident (ESCA RP Team, 2015a).

The MEC and MD encountered within the Interim Action Ranges MRA were consistent with the documented historical uses. The types of MEC and MD removed from the MRA included: blasting caps, bulk explosives, bombs, hand grenades and hand grenade fuzes, rifle grenades, mines and mine fuzes, flares and signals, smoke generating items, firing devices, missiles, rockets and rocket motors, mortars, various projectiles and projectile fuzes, and simulators.

FORA performed habitat restoration activities in the habitat parcels affected by interim action activities between October 2012 and December 2015. The *Final Phase II Interim Action Work Plan Addendum, Habitat Restoration Plan, Interim Action Ranges Munitions Response Area, Former Fort Ord, California* (“Habitat Restoration Plan”; ESCA RP Team 2013) was prepared to describe the activities to be undertaken to restore the natural resources in habitat parcels that were affected by the MEC remedial activities. The Habitat Restoration Plan includes restoration requirements outlined in the *Installation-Wide Multispecies Habitat Management Plan (HMP) for Former Fort Ord, California* (“the HMP”; USACE 1997b) and in Biological Opinions (USFWS 1999, 2002, 2005, 2007, and 2015) issued by U.S. Fish and Wildlife Service.

Construction and implementation of the restoration areas has been completed and restoration systems are in place, operational and functioning. Operation and maintenance to support the long-term success of restoration at the site is being implemented through a post-installation adaptive management process to evaluate and manage the restoration areas as described in the Habitat Restoration Plan (ESCA RP Team 2013). The initiated restoration activities are currently on track to achieve the prescribed performance criteria in the Interim Action Ranges MRA restoration areas (ESCA RP Team 2016).

2.9. Current and Potential Future Land and Resource Uses

The future land uses for the Interim Action Ranges MRA, summarized below, are based upon the Fort Ord Base Reuse Plan (FORA 1997). Future land use information is also included in the HMP (USACE 1997b) and modifications to the HMP provided in *Assessment, East Garrison – Parker Flats Land Use Modifications, Fort Ord, California* (Zander 2002), and *Memorandum of Understanding Concerning the Proposed East Garrison/Parker Flats Land-Use Modification* (Army 2004).

The Interim Action Ranges MRA is designated for non-residential development with borderland interface and habitat reserve. The reasonably foreseeable reuses being considered for the Interim Action Ranges MRA include:

- Non-Residential Development, Parcel E40 — Approximately 25 acres in the north-central portion of the MRA are designated for development by Monterey Peninsula College. A 100-foot buffer from the borderland interface along the Natural Resources Management Area (NRMA), designated as habitat reserve, was identified in the ESCA (USACE/FORA 2007); however, the buffer width is subject to change based on future fire-wise planning by FORA. The borderland development area along the NRMA interface, designated as habitat reserve, was established in the HMP (USACE 1997b). Construction and maintenance of buildings and roads, installation of utilities, as well as the activities associated with Monterey Peninsula College are expected within this reuse area.
- Habitat Reserve, Parcels E38, E39, E41, and E42 — Approximately 202 acres of the MRA are designated for habitat reserve.

2.10. Summary of Site Risks

Munitions response actions have been completed at the Interim Action Ranges MRA, significantly reducing the potential risks to human health and the environment from explosive hazards associated with MEC. Because detection technologies may not detect all MEC present, a future land user (i.e., receptors) may encounter MEC. The risk was evaluated in a MEC Risk Assessment as part of the Final Focused Feasibility Study (Appendix C of ESCA RP Team 2015b).

The Fort Ord Ordnance and Explosives Risk Assessment Protocol (Malcolm Pirnie 2002) was developed to qualitatively estimate the risk to future land users of the property from potentially remaining MEC in terms of an “Overall MEC Risk Score” for each receptor expected to be present during area development and reuse.

The MEC Risk Assessment Protocol results are based on three key factors (MEC Hazard Type, Accessibility, and Exposure) that are assigned use-specific values and are weighted in importance. These factors were used to develop an Overall MEC Risk Score for each receptor at a given reuse area. The Overall MEC Risk Scores are expressed in letters A through E, with A being the lowest risk and E being the highest risk.

The qualitative Overall MEC Risk Scores were used in the Final Focused Feasibility Study (ESCA RP Team 2015b) to guide the development and evaluation of response alternatives for the Interim Action Ranges MRA during development and for reasonably anticipated future uses. The future land users of the property identified for analysis in the MEC Risk Assessment and a summary of the Overall MEC Risk Scores for each receptor for the reuse areas within the Interim Action Ranges MRA are provided below. It is recognized that although all identified MEC have been removed during the previous removal actions conducted on the Interim Action Ranges MRA, the potential exists that MEC may remain in the subsurface at the MRA. Therefore, the risks associated with subsurface (intrusive) receptors (e.g., maintenance workers and construction workers) are assumed to remain at the Interim Action Ranges MRA at a level that requires mitigation and remedial alternatives were evaluated in a Final Focused Feasibility Study.

The response actions selected in this ROD are necessary to protect the public health or welfare from the possible presence of subsurface MEC.

The receptors identified for analysis in the MEC Risk Assessment for the Interim Action Ranges MRA included: law enforcement personnel, habitat monitors, maintenance workers, construction workers, and trespassers. The Risk Assessment (Appendix C of ESCA RP Team 2015b) focused on four sectors in the Interim Action Ranges MRA:

- Range 45 Trench SCA (totaling approximately 1.2 acre) located within Parcel E40 in the non-residential development area;
- the remaining approximately 23.9-acre portion of Parcel E40 within the non-residential development area;
- Range 44 SCA and Central Area NCAs (totaling approximately 28.1 acres) within the habitat reserve area; and
- the remaining habitat reuse area totaling approximately 173.9 acres.

The Risk Assessment for the Interim Action Ranges MRA (Appendix C of ESCA RP Team 2015b) estimated the post-interim remedial action Overall MEC Risk Scores of “A” (lowest risk) for both surface and subsurface receptors (e.g., habitat monitors, law enforcement personnel, maintenance workers, construction workers, and trespassers) in the non-residential development area and the majority of the habitat reuse area. Calculated Overall MEC Risk Scores are higher for receptors in Range 44 SCA and Central Area NCAs, ranging from “B” (low risk) to “C” (medium risk) for surface receptors (e.g., habitat monitors) and from “D” (high risk) to “E” (highest risk) for subsurface receptors (e.g., maintenance workers and trespassers). The overall MEC risk scores for the Trench SCA ranged from “A” (lowest risk) to “B” (low risk) for surface receptors (e.g., law enforcement personnel and trespassers) and from “B” (low risk) and “E” (highest risk) for subsurface receptors (e.g., maintenance workers and construction workers). A summary of the overall MEC risk scores for each receptor for the two reuse areas within the Interim Action Ranges MRA is provided below.

Reuse Area	Receptor	Overall MEC Risk Score				
		A Lowest	B Low	C Medium	D High	E Highest
Non-Residential Development	Maintenance Worker	✓	✓	✓		
	Construction Worker	✓			✓	✓
	Law Enforcement Personnel	✓	✓			
	Trespasser	✓	✓			
Habitat Reserve	Maintenance Worker	✓			✓	✓
	Habitat Monitor	✓	✓	✓		
	Trespasser	✓			✓	✓

2.11. Remedial Action Objectives

The RAO for the Interim Action Ranges MRA is based on the MEC Risk Assessment results and on EPA’s Remedial Investigation/Feasibility Study Guidance (EPA 1988) to achieve the EPA’s threshold criteria of “Overall Protection of Human Health and the Environment” and “Compliance with ARARs.” The RAO developed for the protection of human health and the environment for Interim Action Ranges MRA is to prevent or reduce the potential for the Interim Action Ranges MRA reuse receptors to come in direct contact with MEC items potentially remaining in subsurface soil and minimize potential impacts from such exposures.

As described in EPA’s Land Use in the CERCLA Remedy Selection Process (EPA 1995), “Remedial action objectives provide the foundation upon which remedial cleanup alternatives are developed. In general, remedial action objectives should be developed in order to develop alternatives that would

achieve cleanup levels associated with the reasonably anticipated future land use over as much of the site as possible. EPA's remedy selection expectations described in section 300.430(a)(1)(iii) of the NCP should also be considered when developing remedial action objectives. Where practicable, EPA expects to treat principal threats, to use engineering controls such as containment for low-level threats, to use institutional controls to supplement engineering controls....”

For the purpose of this ROD, the contaminant of concern within the Interim Action Ranges MRA is MEC. The potential presence of hazardous and toxic waste chemicals of concern in soil is being addressed under the Army Basewide Range Assessment Program (Shaw 2012) and the Site 39 ROD Amendment (Army 2009).

Consistent with EPA’s guidance, (1) the principal threats at the Interim Action Ranges MRA have already been treated (i.e., MEC removal actions have been completed), and (2) institutional controls (herein referred to as land use controls or LUCs) are considered appropriate remedial alternatives.

2.12. Description of Alternatives

Four remedial alternatives were evaluated for the Interim Action Ranges MRA in the Final Focused Feasibility Study (ESCA RP Team 2015b). The alternatives were summarized in the Interim Action Ranges MRA Proposed Plan (Army 2016).

Long-term management measures (deed notice and restrictions, annual monitoring, and five-year review reporting) are implementation and management measures for Alternatives 2 and 3. Long-term management measures are described further in Section 2.14.3. The cost associated with implementing these measures over a period of 30 years is approximately \$281,000.

The Risk Assessment for the Interim Action Ranges MRA (Appendix C of ESCA RP Team 2015b) estimated the post-interim remedial action Overall MEC Risk Scores as described in Section 2.10. Although previous removal actions have been conducted on the MRA, the potential exists for MEC to remain in the subsurface. Therefore, the risks associated with intrusive receptors (e.g., maintenance workers, construction workers, and trespassers) are assumed to remain at a level that requires mitigation. The four remedial alternatives developed to mitigate this risk are summarized below:

Alternative 1 – No Further Action

This alternative assumes no further action would be taken at the Interim Action Ranges MRA to address potential MEC risks for those receptors identified in the Risk Assessment. This alternative is provided as a baseline for comparison to the other remedial alternatives, as required under CERCLA and the NCP. There are minimal costs associated with implementation of this alternative.

Alternative 2 – Land Use Controls

This alternative assumes that LUCs, without additional MEC remediation on any portion of the Interim Action Ranges MRA, would be implemented to address potential MEC risks for intrusive or ground-disturbing reuse. The LUCs alternative consists of MEC recognition and safety training, construction support, continuation of the existing residential use restriction, and restrictions against inconsistent uses (applicable to the habitat reserve areas). The components of the alternative are described below:

MEC Recognition and Safety Training - People involved in intrusive operations during the designated reuses and development at the Interim Action Ranges MRA would be required to attend the MEC

recognition and safety training to increase their awareness of and ability to recognize MEC items. Prior to planned intrusive activities, the property owner would be required to notify FORA or its successor to provide MEC recognition and safety training for all workers performing intrusive activities.

Construction Support - Construction support would be performed by UXO-qualified personnel during any intrusive or ground-disturbing activities at Interim Action Ranges MRA reuse areas to address potential MEC risks to those involved in such activities. Construction support would be arranged during the planning stages of the project prior to the start of any intrusive activities. The level of construction support will be determined on a case-by-case basis depending on the type and location of planned intrusive activities. Two levels of construction support have been identified: on-call construction support and on-site construction support.

For on-call construction support, UXO-qualified personnel must be contacted prior to the start of intrusive activities to ensure their availability, advised about the project, and placed “on call” to assist if suspected MEC are encountered. If evidence of MEC is found during construction support activities, the intrusive and ground-disturbing work will immediately cease; no attempt will be made to disturb, remove, or destroy the MEC, and the local police department will be immediately notified so that appropriate explosive ordnance disposal personnel can be dispatched to address the MEC, as required under applicable laws and regulations.

For on-site support, UXO-qualified personnel must attempt to identify and remove any explosive hazards in the construction footprint prior to any intrusive construction activities.

Construction support may be applicable in the short term during development of the reuse area, and/or in the long term during established reuse. Based on the site information, on-call construction support is generally expected to be sufficient to support the anticipated future reuse of the property.

Residential Use Restriction - Residential use restriction placed on the Interim Action Ranges MRA property at the time of property transfer to FORA would be maintained. For the purpose of this decision document, residential use includes, but is not limited to: single family or multi-family residences; childcare facilities; playgrounds; hospitals; nursing homes or assisted living facilities; and any type of educational purpose for children or young adults in grades kindergarten through 12.

Restrictions Against Inconsistent Uses - For the habitat reserve, Parcels E38, E39, E41, and E42, uses that are inconsistent with the HMP would be prohibited, including but not limited to residential, school, and commercial/industrial development.

The LUCs included in this alternative are based on the planned reuse of the Interim Action Ranges MRA. The specific details of LUCs would be presented in the RD/RA Work Plan and/or LUCIP/OMP. The cost associated with implementing this alternative is estimated to be \$542,000. In addition, a long-term management cost of \$281,000 applies to this alternative.

Alternative 3 – Additional Subsurface MEC Remediation

This alternative assumes that subsurface MEC remediation would be conducted throughout the entire footprint of the Interim Action Ranges MRA, including excavation and sifting in the Range 44 SCA and the Central Area NCA. This alternative includes implementing the appropriate type of vegetation

clearance, if necessary, and the implementation of additional MEC remediation. For the habitat reserve areas in the Interim Action Ranges MRA, vegetation clearance would be conducted via prescribed burning, to the extent feasible. Additional subsurface MEC remediation would involve detection and removal of subsurface MEC to the depth of detection using best available and appropriate detection technology and Department of Defense Explosives Safety Board (DDESB)-approved MEC detonation procedures in areas where explosive MEC items are identified during remedial activities and require disposal. The specific details of the vegetation clearance methods and the MEC detection equipment would be presented in the RD/RA Work Plan, or similar document. Post-remediation habitat restoration and monitoring would be required within the habitat reserve area. The cost associated with implementing this alternative is estimated to be \$14.7 million. In addition, a long-term management cost of \$281,000 applies to this alternative.

Alternative 4 – Additional Subsurface MEC Remediation in Selected Areas of the MRA and Land Use Controls

This alternative assumes that subsurface MEC remediation would be conducted throughout selected portions of the Interim Action Ranges MRA. This alternative includes implementation of the LUCs described in Alternative 2 and the implementation of additional MEC remediation within the Range 44 SCA and the Central Area NCA (approximately 28.1 acres), to address specific risk and/or reuse needs. Additional MEC remediation in the selected area would include sifting the top 2-ft layer of soil followed by additional subsurface MEC remediation in the excavated footprints. Additional subsurface MEC remediation would involve detection and removal of subsurface MEC to the depth of detection using best available and appropriate detection technology and procedures and DDESB-approved MEC detonation procedures in areas where explosive MEC items are identified during remedial activities and require disposal. Vegetation clearance would be accomplished by mechanical methods. The specific details of the vegetation clearance methods and the MEC detection equipment would be presented in the RD/RA Work Plan, or similar document. Post-remediation habitat restoration and monitoring would be required within the excavated areas. The residential use restriction would continue to apply. Intrusive activities would be conducted with construction support by UXO-qualified personnel, and MEC recognition and safety training would be provided for workers conducting intrusive activities. This alternative solution will cost approximately \$7.7 million plus \$281,000 for long-term management.

2.13. Principal Threat Wastes

Munitions responses have been completed at the Interim Action Ranges MRA. All MEC items which would meet the principal threat waste criteria identified as part of the investigation have already been addressed. The selected remedy includes LUCs because detection technologies may not detect all MEC present. The source material constituting the principal threats at the Interim Action Ranges MRA are MEC that potentially remain below the ground surface (in the subsurface).

The selected remedy will address the residual threats through implementing the following LUCs:

- MEC recognition and safety training for people that will conduct ground-disturbing or intrusive activities;
- Construction support for ground-disturbing or intrusive activities to address the possibility that MEC remains in the subsurface;
- Restrictions prohibiting residential use (as defined in this ROD); and

- Restrictions against inconsistent uses (applicable to the habitat reserve areas).

2.14. Selected Remedy

2.14.1. Summary of the Rationale for the Selected Remedy

Each alternative developed for the Interim Action Ranges MRA was assessed against the nine EPA evaluation criteria described in Table 3. Using the results of this assessment, the alternatives were compared and a remedy selected for the MRA. The remedy that best meets the nine evaluation criteria is Alternative 2 (Land Use Controls). This remedy was selected because LUCs will be protective of human health for future land users, and would be effective in the short- and long-term at mitigating the risk to workers conducting ground-disturbing or intrusive activities from MEC that is potentially present. This remedy will require a low level of effort to implement, a moderate level of effort to administer over time, and would be cost effective. The remedy can be implemented in a manner consistent with Federal and State guidance.

The Army and EPA have jointly selected the remedy. The DTSC has had an opportunity to review and comment on the ROD.

Community acceptance is discussed in the Responsiveness Summary (Section 3.0). The selected remedy is further described below.

2.14.2. Description of the Selected Remedy

The selected remedial alternative for the Interim Action Ranges MRA is Alternative 2 (Land Use Controls). LUCs and their implementation strategy are described below.

Land Use Controls

The LUCs that will be implemented at the Interim Action Ranges MRA include requirements for: (1) MEC recognition and safety training for people that will conduct ground-disturbing or intrusive activities, (2) construction support for ground-disturbing or intrusive activities to address MEC that potentially remains in the subsurface, (3) restrictions prohibiting residential use (as defined in this ROD), and (4) restrictions against inconsistent uses (applicable to the habitat reserve areas).

- **MEC recognition and safety training** - For the areas addressed in this ROD, ground-disturbing or intrusive activities are expected to occur. Personnel involved in ground-disturbing or intrusive operations at these areas will be required to attend the MEC recognition and safety training to increase their awareness of and ability to recognize MEC items. Prior to conducting ground-disturbing or intrusive activities, the property owner will be required to notify FORA or its successor to provide MEC recognition and safety training for all persons performing ground-disturbing or intrusive activities.

MEC recognition and safety training will be evaluated as part of the five-year review process to determine if the training program should continue. If further evaluation indicates that this LUC is no longer necessary, the program may be discontinued with regulatory approval.

- **Construction support** - Construction support performed by UXO-qualified personnel is required during any intrusive or ground-disturbing activities at the Interim Action Ranges MRA reuse areas to address potential MEC risks to those involved in such activities. Construction support will be arranged during the planning stages of the project prior to the start of any intrusive or ground-

disturbing activities. The level of construction support will be determined on a case-by-case basis depending on the type and location of planned intrusive activities. Two levels of construction support have been identified: on-call construction support and on-site construction support.

For on-call construction support, UXO-qualified personnel must be contacted prior to the start of intrusive activities to ensure their availability, advised about the project, and placed “on call” to assist if suspected MEC are encountered during intrusive activities. If evidence of MEC is found during construction support activities, the intrusive and ground-disturbing work will immediately cease; no attempt will be made to disturb, remove, or destroy the MEC, and the local police department will be immediately notified so that appropriate explosive ordnance disposal personnel can be dispatched to address the MEC, as required under applicable laws and regulations.

For on-site support, UXO-qualified personnel must attempt to identify and remove any explosive hazards in the construction footprint prior to any intrusive construction activities.

Construction support may be applicable in the short term during development of the reuse area, and/or in the long term during established reuse. Based on the site information, on-call construction support is generally expected to be sufficient to support the anticipated future reuse of the property.

Construction support will be evaluated as part of the five-year review process to determine if the LUC should continue. If the MEC-related data collected during the development of the reuse areas indicates that this LUC is no longer necessary, construction support may be discontinued with regulatory approval.

- **Restrictions prohibiting residential use** - Residential use restriction placed on the Interim Action Ranges MRA property at the time the property was transferred will be maintained. For the purposes of this document, residential reuse includes, but is not limited to: single family or multi-family residences; childcare facilities; playgrounds; hospitals; nursing homes or assisted living facilities; and any type of educational purpose for children or young adults in grades kindergarten through 12.
- **Restrictions against inconsistent uses** - For the habitat reserve, Parcels E38, E39, E41, and E42, uses that are inconsistent with the HMP are prohibited, including but not limited to residential, school, and commercial/industrial development.

2.14.3 Land Use Control Implementation Strategy

The performance objectives for the LUCs that are part of the remedy are the following:

- **MEC recognition and safety training:** (1) to ensure that land users involved in ground-disturbing or intrusive activities are educated about the possibility of encountering MEC, and (2) to ensure that land users involved in ground-disturbing or intrusive activities stop the activity when encountering MEC and report to the appropriate authority.
- **Construction support:** to ensure projects involving ground-disturbing or intrusive activities are coordinated with UXO-qualified personnel so discoveries of potential MEC items will be handled appropriately. Mechanisms for implementing the requirement for construction support may include local ordinance(s), and details of implementation will be described in the RD/RA Work Plan and/or LUCIP/OMP for the LUCs.
- **Restrictions prohibiting residential use:** to ensure that any proposals to allow residential use (as defined in this ROD) or modifications to residential restrictions are approved by EPA and Army in coordination with DTSC.

- **Restrictions against inconsistent uses (applicable to the habitat reserve):** to maintain the integrity of the habitat management and conservation systems that are in place until EPA and the Army determine that they are no longer necessary.

The LUCs restricting land use and requiring construction support and MEC recognition/safety training for any intrusive or ground-disturbing activities shall remain in place until EPA and DTSC concur that the site is protective of human health and the environment. This concurrence may be based on: 1) new information (e.g., limited geophysical mapping, site development); or 2) where the depth of soil disturbance related to ground-disturbing or intrusive activities is sufficient to address the uncertainty of MEC remaining in the subsurface and any MEC encountered during such activities is removed.

Prior to seeking approval from EPA and DTSC, the recipient of the property must notify and obtain approval from the Army of any proposals for a land use change at a site inconsistent with the use restrictions and assumptions described in this ROD. The land use restrictions and notices set forth in the federal deed and provisions set forth in the CRUPs run with the land and are binding upon all future owners and occupants of the property.

The LUCs and the implementation actions will be explained in more detail in the RD/RA Work Plan and/or LUCIP/OMP. In accordance with the ESCA, the AOC, and the FFA Amendment No.1, FORA will prepare a LUC remedial design which shall contain implementation, monitoring and maintenance actions, including periodic inspections and reports. Within 90 days of the signature of the ROD, FORA shall provide a LUC remedial design to EPA and DTSC for review and approval.

As part of the implementation, the RD/RA Work Plan and/or LUCIP/OMP will also describe the following long-term management measures:

- **Land use restrictions:** The deed to FORA for the Interim Action Ranges MRA parcels restricts residential use. Residential use includes, but is not limited to: single family or multi-family residences; childcare facilities; playgrounds; hospitals; nursing homes or assisted living facilities; and any type of educational purpose for children or young adults in grades kindergarten through 12. It should be noted that the CRUPs for the Interim Action Ranges MRA parcels restrict residential use. For the habitat reserve, Parcels E38, E39, E41, and E42, uses that are inconsistent with the HMP are prohibited, including but not limited to residential, school, and commercial/industrial development.
- **Annual monitoring and reporting:** After this ROD is signed, FORA, or its successor entity under the ESCA and the AOC, will perform annual monitoring and reporting. FORA or its successor entity will notify the regulatory agencies, as soon as practicable, of any MEC-related data identified during use of the property, and report the results of monitoring activities annually.
- **Five-year review reporting:** Five-year reviews will be conducted by the Army in accordance with CERCLA Section 121(c) and the Fort Ord FFA. The five-year review will evaluate the protectiveness of the selected remedy. Based on the evaluation, the selected LUCs may be modified or discontinued, with the approval of the EPA and DTSC.

The standard procedure for reporting any encounter with a known or suspected MEC item in the transferred former Fort Ord property is to immediately report the encounter to the local law enforcement agency having jurisdiction on the property so that appropriate explosive ordnance disposal personnel can be dispatched to address the MEC, as required under applicable laws and regulations. After the response, the probability of encountering MEC will be reassessed. If the probability of encountering MEC is low, construction may resume with construction support. If the probability of encountering MEC is moderate

to high, UXO-qualified personnel will attempt to identify and remove any explosive hazard in the construction footprint prior to any intrusive construction activities.

FORA or its successor will notify the regulatory agencies, as soon as practicable, of any MEC-related data identified during use of the property, and report the results of monitoring activities annually. The Army will conduct five-year reviews. If additional evaluation or work or modification of the selected remedy is proposed based on such review, it will be implemented in accordance with Paragraph 34 of the AOC, and/or Section C.4.1.7 of the ESCA.

Pursuant to the ESCA, the AOC and the FFA Amendment No.1, FORA assumes full responsibility for completion of necessary CERCLA response actions (except Army Obligations) which include implementing, maintaining, reporting, and enforcing the land use controls. Although the Army has already transferred the responsibilities to implement, maintain, monitor, report on, and enforce LUCs to another party by contract, property transfer agreement, or through other means, the Army retains the ultimate responsibility for remedy integrity. Future property owners will also have responsibilities to act in accordance with the LUCs as specified in the deed(s).

2.14.4. Summary of the Estimated Remedy Costs

For those alternatives whose life-cycle is indeterminate or exceeds 30 years, for the purposes of evaluating and comparing alternatives as specified in EPA's Remedial Investigation/Feasibility Study Guidance (EPA 1988), a period of 30 years is used for estimating long term O&M costs. For the Interim Action Ranges MRA, the life-cycle is indeterminate; therefore, long term O&M costs were estimated over a period of 30 years. Capital and long term O&M costs for implementing and maintaining LUCs under Alternative 2 are estimated at a total of approximately \$542,000 for the reuse areas within the Interim Action Ranges MRA. Capital and long term O&M costs for implementing and maintaining Long Term Management Measures are estimated at approximately \$281,000 for the reuse areas within the MRA. Therefore, the total estimated 30-year Net Present Value cost of the remedy is approximately \$823,000. Long term O&M costs are based on a 1.4 percent real interest rate for Years 1-7 (assumed duration for development and construction), and a 1.4 percent real interest rate for Years 8-30 (established reuse). A detailed, activity-based breakdown of the estimated costs associated with implementing and maintaining the remedy is provided in the Final Focused Feasibility Study (ESCA RP Team 2015b).

2.14.5. Expected Outcomes of Selected Remedy

The expected outcomes of the selected remedy would be protection of human health and the environment through implementation of LUCs.

If residential use, as defined in this ROD, is planned for the designated future non-residential reuse portion of the Interim Action Ranges MRAs included in this ROD, the plans will be subjected to regulatory agency and Army review and approval.

2.15. Statutory Determinations

The selected remedy satisfies the requirements of Section 121 of CERCLA as follows:

- Protection of Human Health and the Environment: The selected remedy provides protection for both human health and the environment through implementation of LUCs to mitigate the risk from potentially remaining MEC.

- Compliance with Applicable or Relevant and Appropriate Requirements: The selected remedy can be implemented in a manner consistent with Federal and State guidance. While the Army does not consider California laws and regulations concerning CRUPs to be potential ARARs, the Army entered into a CRUP with the DTSC at the time the property was transferred to FORA. Although the DTSC and the EPA Region IX disagree with the Army's determination that California laws and regulations concerning CRUPs are not potential ARARs, they will agree-to-disagree on this issue since the Army executed the CRUP and the DTSC will modify the CRUP, as appropriate, to be consistent with the identified remedy.
- Cost Effectiveness: The selected remedy is a cost-effective solution for reducing the risks to human health and the environment. The Net Present Value of the total estimated costs for the reuse areas within the Interim Action Ranges MRA is approximately \$823,000 (including long term management measures costs of \$281,000) for the selected remedy of Land Use Controls (Alternative 2), which is well below the estimate for Additional MEC Remediation (Alternative 3) of approximately \$15 million (including long term management measures costs of \$281,000) and the estimate for Additional MEC Remediation in Selected Areas of the MRA and Land Use Controls (Alternative 4) of approximately \$8 million (including long term management measures costs of \$281,000). In addition, costs for Alternatives 3 and 4 may be higher than estimated because: (1) after additional MEC remediation is completed, these areas would require a re-evaluation of potential risk from MEC; and (2) the areas are likely to continue to require additional risk mitigation measures (e.g., LUCs) to protect human health during development and long-term reuse. There are minimal costs associated with Alternative 1.
- Utilization of Permanent Solutions and Alternative Treatment (or Resource Recovery) Technologies to the Maximum Extent Practicable: The principal threats at the Interim Action Ranges MRA have already been treated (i.e., MEC removal actions have been completed) utilizing permanent solutions and alternative treatment (or resource recovery) technologies to the maximum extent practicable.
- Preference for Treatment as a Principal Element: The principal threats at the Interim Action Ranges MRA have already been addressed (i.e., MEC removal actions have been completed), satisfying the statutory preference for treatment as a principal element (i.e., reducing the toxicity, mobility, or volume of hazardous substances, pollutants, or contaminants as a principal element through treatment).
- Five-Year Review Requirements: Because the selected remedy may result in MEC potentially remaining within the Interim Action Ranges MRA, a statutory review will be conducted by the Army within five years after initiation of the remedial action to ensure the remedy is, or will be, protective of human health and the environment. The purpose of a five-year review is to gather updated information, evaluate the condition of the site, and determine if the site remains safe from contamination that might be left at the site. The next five-year review will occur in 2017.

2.16. Documentation of Significant Changes from Preferred Alternative of Proposed Plan

As described in Section 2.4., the Proposed Plan for the Interim Action Ranges MRA was released for public comment on March 14, 2016, and a public meeting was held on March 30, 2016. This Proposed Plan identified the preferred remedial alternative for the Interim Action Ranges MRA. Comments collected over the 30-day public comment period between March 16, 2016, and April 14, 2016, did not necessitate any significant changes to the conclusions or procedures outlined in the Final Focused Feasibility Study and Interim Action Ranges MRA Proposed Plan.

3. RESPONSIVENESS SUMMARY

3.1. Proposed Plan Overview

Based on the Final Focused Feasibility Study for the Interim Action Ranges MRA, the Army identified a preferred remedial alternative of LUCs. The preferred remedial alternative presented in the Interim Action Ranges MRA Proposed Plan includes the following LUCs:

- MEC recognition and safety training (for people that will conduct ground-disturbing or intrusive activities, such as construction workers and maintenance workers)
- Construction support by UXO-qualified personnel (for ground-disturbing or intrusive activities)
- Restrictions prohibiting residential use.

3.2. Background on Community Involvement

Focused community involvement for the Interim Action Ranges MRA Proposed Plan involved a notice of availability of the Proposed Plan for review, a 30-day public comment period, a public meeting, and a responsiveness summary to address comments received on the Interim Action Ranges MRA Proposed Plan.

The Interim Action Ranges MRA Proposed Plan notice of availability was published in the Monterey County Herald and the Salinas Californian newspapers on March 16, 2016. The 30-day public comment period began on March 16, 2016, and closed on April 14, 2016.

The public meeting was held on March 30, 2016, to present the Interim Action Ranges MRA Proposed Plan to a broader community audience. At this meeting, representatives from the Army, EPA, and DTSC were present, and the public had the opportunity to submit written and oral comments about the Proposed Plan. Representatives from FORA were also present at the public meeting to answer questions on the Interim Action Ranges MRA Proposed Plan. Copies of the comments received on the Proposed Plan and a transcript of the public comments are available at the former Fort Ord Administrative Record and on the former Fort Ord website at www.fortordcleanup.com.

The responsiveness summary responds to written comments received during the Interim Action Ranges MRA Proposed Plan public comment period as well as oral comments expressed during the Proposed Plan public meeting. A summary of public comments submitted during the Proposed Plan public comment period and the Army's responses to the comments are provided in the following section.

3.3. Summary of Comments Received During the Public Comment Period and Department of the Army Responses

Public comments received during the Interim Action Ranges MRA Proposed Plan public comment period and the Army's responses are summarized below.

Comments were received from the public: (1) at the public meeting held on March 30, 2016; and (2) in written comments received during the 30-day public comment period from March 16, 2016, to April 14, 2016.

Comment summaries are provided below and have been categorized based on the focus of each comment. The three categories are:

- A. Preferred Alternative and Supporting Information
- B. Future Land Use and Land Use Controls
- C. Other Comments

A. Preferred Alternative and Supporting Information

A1: A commenter expressed appreciation for the opportunity to comment on the proposed remedial action for the Interim Action Ranges MRA and support for the preferred alternative described in the Proposed Plan as adequately addressing the risks associated with this portion of the former Fort Ord.

Response: The comment is acknowledged.

A2: A commenter expressed concern that information provided in handouts at the Proposed Plan public meeting regarding dates during which the Army and FORA conducted interim remedial action in the Interim Action Ranges MRA was not consistent with the information presented during the public meeting.

Response: The dates presented in the handouts and presentation provided during the Proposed Plan public meeting and in the Proposed Plan are consistent; however, some dates may appear to vary depending on the specific information being provided. The interim action conducted by the Army in MRS Ranges 43-48, which encompassed the Interim Action Ranges MRA, began in 2002 with site preparation followed by a prescribed burn in October 2003. Interim remedial actions were conducted by the Army from November 2003 to December 2005. Additionally, the Army conducted additional surface removal at the Range 44 SCA in March 2007. FORA conducted interim remedial action in the SCAs and NCAs located within the Interim Action Ranges MRA starting in February 2011 and completed work in March 2013. A summary of the munitions response actions completed at the MRA is presented in Section 2.8 of this ROD. A detailed discussion of previous munitions response actions conducted at the MRA, including dates and references to applicable documents, can be found in the Final Focused Feasibility Study (ESCA RP Team 2015b).

A3: A commenter expressed concern regarding the potential for MEC to remain present at the Interim Action Ranges MRA. The commenter cited concerns regarding target box trenches remaining below ground within the Trench SCA, the potential for below ground ammunition bunkers to remain, and adequacy of detection equipment used during munitions removal actions.

Response: The capabilities of the detection equipment used during interim remedial action in the Interim Action Ranges MRA are presented in the Phase II Interim RACR (ESCA RP Team 2015a). The adequacy of the interim remedial action was evaluated in the Final Focused Feasibility Study. As presented in the Final Focused Feasibility Study (ESCA RP Team 2015b), interim remedial action was conducted in the Interim Action Ranges MRA, with all detected MEC removed. The interim remedial action also included quality control and quality assurance requirements that validated the adequacy of the munitions response actions. Given the extent of MEC removal actions conducted, MEC is not expected to be encountered within the Interim Action Ranges MRA.

Regarding concerns related to the Trench SCA, a Risk Assessment was conducted for the Trench SCA and is presented in the Final Focused Feasibility Study (Appendix C of ESCA RP Team 2015b). The

Trench SCA, which comprises approximately 1.2 acres of the Interim Action Ranges MRA, encompasses locations where concrete target box trenches with pop-up targets lie below the scraped surface. The Overall MEC Risk Scores for the Trench SCA ranged from “A” (lowest risk) to “B” (low risk) for surface receptors (e.g., law enforcement personnel and trespassers) and from “B” (low risk) and “E” (highest risk) for subsurface receptors (e.g., maintenance workers and construction workers). These scores were used during the development and evaluation of the response alternatives for the Interim Action Ranges MRA, as presented in Sections 4 and 5 of the Final Focused Feasibility Study.

No evidence has been observed to suggest that belowground ammunition bunkers remain at the Interim Action Ranges MRA.

Although MEC is not expected to be encountered within the Interim Action Ranges MRA, it is possible that some MEC may not have been detected and remain present in the subsurface; therefore, a post-interim remedial action risk assessment and feasibility study were conducted and documented in the Final Focused Feasibility Study. Remedial action alternatives were evaluated using the nine CERCLA evaluation criteria to manage the risk to future land users from MEC that potentially remains in the properties. The LUC remedy (Alternative 2) was determined to best meet the CERCLA evaluation criteria and will be protective of human health by requiring safety training and construction support for intrusive activities and restricting the property from residential use (i.e., sensitive uses, as defined in this ROD). The LUCs are appropriate to address risks from MEC that may potentially remain at the site during reuse.

In the event that potential MEC is discovered by a future land user, the discovery should be immediately reported to the local law enforcement agency. The Army has included a notice in the property transfer deed (which will be carried through subsequent property transfers in perpetuity) describing that, should any MEC item be discovered in the future, it should immediately be reported to local law enforcement agency. Appropriate UXO-qualified personnel (e.g., explosive ordnance disposal unit) will address the discovered MEC. As required by the selected remedy, planned ground-intrusive activities will be supported with the appropriate level of construction support. A RD/RA Work Plan or LUCIP/OMP will be developed by FORA for the Interim Action Ranges MRA and will include procedures for responding to discoveries of MEC.

A4: One commenter expressed concern regarding the residual MEC risks that may remain in the property and the mitigation actions that may affect future construction activities at Parcel E40, with regard to expense, possible disruption of construction activities, and potential delays during non-residential development due to potential discovery of residual munitions. The commenter stated a preference for Alternative 3 being employed because the alternative includes subsurface MEC remediation.

Response: The Army is committed to the goal of selecting and implementing environmental cleanup actions that support the reuse of the former Fort Ord as described in the Fort Ord Reuse Plan -- in this case, non-residential development in Parcel E40 and habitat reserve in Parcels E38, E39, E41, and E42. As described in the Focused Feasibility Study and Proposed Plan, MEC removals in the Interim Action Ranges MRA included surface and subsurface removals in the non-residential development area (Parcel E40) and in the habitat reserve area (Parcels E38, E39, E41, and E42), with the exception of the Range 44 SCA and Central Area NCAs in Parcel E39, which received a surface removal and a subsurface removal in areas where munitions containing sensitive fuzes were encountered. Reflecting the results of the MEC removals, the risk assessment and the feasibility study were developed based on the assumption that MEC may potentially remain in the subsurface of the Interim Action Ranges MRA. The Focused Feasibility Study was developed by FORA under the ESCA.

With regard to the concern that the expense, possible disruption of construction, and potential delays to development plans to address potential risk associated with construction activities in the area of the non-residential development area, MEC recognition and safety training for future land users conducting ground disturbing or intrusive activities and construction support for ground disturbing or intrusive activities are appropriate means to address residual risks concerning ground-intrusive activities at the Interim Action Ranges MRA. These measures are included in Alternative 2 so that appropriate safety measures are incorporated into planned construction projects. While the requirements for such measures could result in additional cost or schedule impacts to future landowners as compared to a project located outside of a former military installation, they are appropriate mitigation measures that should be taken when conducting ground-disturbing activities in areas with potential presence of MEC. Section 5.2.1 of the Focused Feasibility Study describes that, because even current MEC-detection technologies do not have a 100% detection efficiency, Alternative 3 (additional MEC remediation) is not expected to provide a significant increase in protection of human health, and therefore additional mitigation measures such as land use controls may still be necessary.

The Army acknowledges the concerns associated with potentially remaining MEC at the Interim Action Ranges MRA during reuse. Residual risks were carefully considered during the risk assessment process and a set of land use controls, specifically designed to address the residual risks, was selected as the remedy for the Interim Action Ranges MRA.

A5: One commenter expressed concern regarding liability associated with trespassers in the habitat reserve portion of the Interim Action Ranges MRA located adjacent to the Fort Ord National Monument.

Response: As described in the Focused Feasibility Study and Proposed Plan, MEC removals in the Interim Action Ranges MRA included surface and subsurface removals in the habitat reserve areas (Parcels E38, E39, E41, and E42), with the exception of the Range 44 SCA and Central Area NCAs in Parcel E39, which received a surface removal and a subsurface removal in areas where munitions containing sensitive fuzes were encountered. The potential risk for trespassers was assessed as "A" (lowest risk) for the majority of the habitat reserve area, with the exception of Range 44 SCA and Central Area NCAs where the potential risk for trespassers was assessed as ranging from "D" (high risk) to "E" (highest risk). Since the planned reuse for the area is for continued use as habitat reserve, the potential for MEC to become present on the surface in the future is low. In addition, while the adjacent property that is planned for eventual conveyance to the Bureau of Land Management is a part of the Fort Ord National Monument, public access will be not be unrestricted. Public access management is a component of the selected remedy for the Impact Area MRA. The Army will work with BLM and adjacent landowners in developing and implementing specific safety and access measures for the Impact Area MRA.

The LUC remedy will be protective of human health by providing MEC recognition and safety training, construction support for intrusive activities, restricting the property from residential use (i.e. sensitive uses, as defined in this ROD), and restrictions against inconsistent use (applicable to the habitat reserve areas). The selected LUCs are appropriate to address risks from MEC that may potentially remain at the site during reuse.

A6: A commenter expressed concern with the selection of a remedy for the Interim Action Ranges MRA, citing concerns with scheduled prescribed burns and post-burn cleanup on adjacent parcels, potentially remaining deeply buried munitions, uncertainty of future land use, the sunset of FORA, and the ability of jurisdictions to perform enforcement duties.

Response: The selected remedy supports the reasonably anticipated future land uses, which are: non-residential development in approximately 25 acres; and habitat reserve in approximately 202 acres

(described in Section 2.9 of this ROD). The selected remedy places land use controls (constraints) on future land uses, but does not designate or approve any specific development projects.

With regard to the concern for scheduled prescribed burns and post-burn cleanup on parcels adjacent to the Interim Action Ranges MRA, those response actions are based on detailed, site-specific RI/FSs and decision documents. The Final Focused Feasibility Study and Proposed Plan for the Interim Action Ranges MRA only address the areas included within the Interim Action Ranges MRA. The areas of the prescribed burns and post-burn cleanup planned by the Army are located outside of the Interim Action Ranges MRA and are beyond the scope of the Final Focused Feasibility Study and Proposed Plan.

Regarding concerns related to enforcement of LUCs by jurisdictions, a RD/RA Work Plan or LUCIP/OMP will be prepared outlining the plan for implementation of the selected remedy. The property underlying the Interim Action Ranges MRA will be transferred from FORA to Monterey Peninsula College after EPA certifies the completion of the remedial action. Monterey Peninsula College will conduct monitoring and reporting of applicable land use controls based on a 2008 agreement with FORA and DTSC (DTSC 2008). The final remedy selected for the Interim Action Ranges MRA will be implemented by FORA, and its successor under the ESCA. However, the Army is ultimately responsible for the integrity of the remedy.

As described in the Proposed Plan, community acceptance, along with State acceptance, is one of the two modifying criteria amongst the nine CERCLA evaluation criteria. Community acceptance is gauged using available public input and reactions to the information presented within the Proposed Plan as summarized in this Responsiveness Summary. The Army acknowledges some members of the community may not accept the Proposed Plan; however, many members of the public accept it and recognize the need for the proposed remedy.

Please see response to comment A3 above for information on potentially remaining munitions at the Interim Action Ranges MRA.

B. Future Land Use and Land Use Controls

B1: Comments were received regarding future land use in the Interim Action Ranges MRA after the property has been transferred from FORA. One commenter asked what reuses are being proposed for MRS Ranges 43-48. The commenter also asked if property can be used by or sold by future land owners for purposes other than currently designated reuses. Another commenter asked what activities will be allowed in habitat reserve areas when restrictions imposed at the time of transfer are no longer required.

Response: Approximately 25 acres of the Interim Action Ranges MRA are designated for non-residential development with a borderland development area along the NRMA interface. The remaining approximately 202 acres of the MRA are designated for habitat reserve. The property can be used or sold by future property owners for other reuses; however, future property owners will have responsibilities to use the property in a manner consistent with the LUCs as specified in the deed(s). As described in Section 2.14.3 of this ROD, LUCs restricting land use and requiring construction support and MEC recognition and safety training for any intrusive or ground-disturbing activities are included in the selected remedy. These LUCs will be included in the deed(s) for the property. They will remain in place until EPA and DTSC concur that the site is protective of human health and the environment. Use restrictions for the parcels designated for habitat reserve are identified in the HMP (USACE 1997b) and generally limited to habitat management activities.

B2: Comments were received regarding clarification of land use controls. One commenter expressed concern that the Proposed Plan did not include existing LUCs (e.g., the State Covenant to Restrict the Use of Property, the restrictions in the federal deed, and local ordinances). The commenter cited the importance of describing these mechanisms because the final remedy must integrate multiple institutional controls to be effective and implementable. The commenter also suggested that the Record of Decision should identify all elements of the selected remedy for the Interim Action Ranges MRA and that an integrated process be created to satisfy federal, state, and local reporting requirements. Another commenter expressed concern with how land use controls will be defined for the habitat reserve area and the feasibility, efficacy, and expense of implementation.

Response: Current land use restrictions are described in the Focused Feasibility Study, and the information was considered in developing and evaluating the remedial alternatives. A RD/RA Work Plan or LUCIP/OMP will be prepared for the Interim Action Ranges MRA and will include detailed explanation of existing LUCs, plans and procedures for LUC implementation and LUC operation and maintenance, and long-term management measures (deed notice and restrictions, annual monitoring, and five-year review reporting). Discussion of expenses associated with remedy implementation, operation, and maintenance are beyond the scope of the Final Focused Feasibility Study, Proposed Plan, and Record of Decision.

Please also see response to comment A6 above regarding enforcement of LUCs by jurisdictions.

B3: A commenter recommended that the entire Interim Action Ranges MRA be designated as habitat reserve, citing concerns with unknown risks in the area.

Response: The designated future land uses for the Interim Action Ranges MRA as a development parcel with a borderland development area along the NRMA interface, and as habitat reserve, are based upon the 1997 Fort Ord Base Reuse Plan (FORA 1997). Future land use information is also included in the HMP (USACE 1997b) and modifications to the HMP provided in the *Assessment, East Garrison – Parker Flats Land Use Modifications, Fort Ord, California* (Zander 2002), and *Memorandum of Understanding Concerning the Proposed East Garrison/Parker Flats Land-Use Modification* (Army 2004), as described in Section 2.9 of this ROD. The reasonably anticipated future uses for the MRA were established based on input from the underlying land use jurisdictions. With respect to the concern for remaining risks in the area, the Risk Assessment completed for the Interim Action Ranges MRA is based on both the field conditions and on the designated future land reuse. The results of the Risk Assessment were considered in developing and evaluating the remedial alternatives. The four remedial alternatives developed for the Interim Action Ranges MRA were evaluated to determine the effectiveness of each to provide mitigation of potentially remaining MEC risks for potential reusers given the anticipated future land use. As described in the Proposed Plan, LUCs and MEC removals were evaluated as remedial alternatives using the nine CERCLA evaluation criteria. The LUC remedy meets the protectiveness criteria by providing for safety training and support for intrusive activities, and by restricting the property from residential use (i.e., sensitive uses, as defined in this ROD). The selected LUCs are appropriate to address risks from MEC that may potentially remain at the site during reuse.

B4: Comments were received regarding on-site construction support. Concern was expressed regarding the consistency of the requirements associated with on-site construction support stated throughout the Proposed Plan. The commenter also stated that the requirements in the Proposed Plan are inconsistent with the federal deed and provisions of the AOC and the ESCA. Additionally, the commenter expressed that areas or activities that would require on-site construction support are not adequately identified in the Proposed Plan. The commenter stated that it should be noted that the appropriate level of construction support may change as development activity progresses and that site conditions may provide the basis for

modifying certain requirements. The commenter suggested that the remedy should include a mechanism to allow the construction support requirements to be modified prior to the next five-year review.

Response: The Army and EPA have determined that the Proposed Plan is consistent with the AOC process and ESCA requirements. Construction support is a component of the selected remedy that will be implemented by FORA or its successor under the ESCA and AOC. An RD/RA Work Plan or LUCIP/OMP will be prepared for the Interim Action Ranges MRA and will include detailed implementation strategies for on-call and on-site construction support, process for determining the appropriate level of construction support, and construction support monitoring and reporting requirements. The RD/RA Work Plan or LUCIP/OMP will also provide guidance for modification of the requirements for construction support, or other components of the remedy, when determined appropriate.

C. Other Comments

C1: A commenter asked about the purpose of the Proposed Plan public meeting held on March 30, 2016.

Response: The purpose of the Proposed Plan meeting was to present information on the remedial action proposed for the Interim Action Ranges MRA and to accept public comments on the Interim Action Ranges MRA Proposed Plan (Army 2016).

C2: A commenter expressed concern that chemical contamination of the soil from munitions had not been sufficiently addressed at the Interim Action Ranges MRA.

Response: The purpose of the Final Focused Feasibility Study, Proposed Plan, and this ROD, is to address the potential risk to future land users from MEC that potentially remain in the Interim Action Ranges MRA. The potential presence of hazardous and toxic waste chemicals of concern in soil is being addressed under the Army Basewide Range Assessment Program (Shaw 2012) and the *Record of Decision Amendment, Site 39 Inland Ranges, Former Fort Ord, California* (Army 2009). As presented in the *Final Remedial Action Completion Report, Site 39 Inland Ranges Habitat Reserve, Former Fort Ord, California* (ITSI Gilbane 2014), soil remedial actions have been completed by the Army at the Site 39 Inland Ranges and results of the remedial actions meet the remedial action objectives established for the Site 39 Inland Ranges for removal of soil contaminated with lead and/or explosives constituents.

C3: A commenter stated that, during the Proposed Plan public meeting, a court reporter was present to record public comments made only during the comment session. The commenter stated that the transcript produced for decision-making purposes should only be considered a partial record of discussions held during the meeting.

Response: Under CERCLA and the National Contingency Plan, the Army follows the public participation and community involvement requirements, and encourages members of the local community and other interested parties to make comments on the Proposed Plan. The Army, in conjunction with the regulatory agencies, takes all comments into consideration prior to the selection of a final remedy. Community acceptance of the Proposed Plan is gauged using available public input and reactions to the information presented within the Proposed Plan as summarized in this Responsiveness Summary.

C4: A comment was received regarding prescribed burns planned for an area north of Eucalyptus Road and areas south of Eucalyptus Road in the historical impact area. Concern was expressed that the area remains dangerous and that the cleanup effort is being performed piecemeal, despite the chosen CERCLA processes.

Response: Please see response to comment A6 above for information on scheduled prescribed burns on parcels adjacent to the Interim Action Ranges MRA.

C5: One commenter expressed interest in supporting the cleanup project at the former Fort Ord with technologies offered by a local association.

Response: The comment is acknowledged.

4. REFERENCES

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TABLES

Table 1. Summary of Munitions Response Site (MRS) Investigations
Record of Decision, Interim Action Ranges Munitions Response Area,
Former Fort Ord, California

MRS Site Number	Site Acreage	Site Name	Past Use	Site Investigation Status **
MRS Ranges 43-48	227*	North-central portion of Historical Impact Area	Mortar training and subsequently platoon live fire course at the time of base closure (Range 43); antitank weapons range at the time of base closure (Range 44); grenade launcher range at the time of base closure (Range 45); small arms range from the late 1950s to the time of base closure (Range 46); and 40mm grenade range in the 1960s (Range 47)	Surface MEC removal completed across the site. Subsurface MEC removal completed in a majority of the site. Areas where subsurface removal was not completed are: the Fenceline SCA; the Trench SCA (removal to 2-ft depth conducted); the Range 44 SCA and the Central Area NCA (subsurface removal conducted in portions of the areas).

Acronyms

MRS = munitions response site
MEC = munitions and explosives of concern
NCA = Non-Completed Area
SCA = Special Case Area
bgs = below ground surface

Footnotes

* Acreage stated is the portion of the MRS contained within the Interim Action Ranges MRA.
** All identified MEC were removed during MEC removal actions.

Table 2. Summary of Transfer Parcels Record of Decision, Interim Action Ranges Munitions Response Area, Former Fort Ord, California

Transfer Parcel No.	Approx. Acreage	Planned Reuse *
E38	17.7	Habitat reserve
E39	161.7	Habitat reserve
E40	25.3	Non-residential development
E41	9.1	Habitat reserve
E42	12.8	Habitat reserve

Footnote

* Planned use information obtained from the *FORA Fort Ord Reuse Plan* (FORA 1997), *Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord, California* (HMP; USACE 1997b) and modifications to the HMP provided in *Assessment, East Garrison – Parker Flats Land Use Modifications, Fort Ord, California* (Zander 2002), and *Memorandum of Understanding Concerning the Proposed East Garrison/Parker Flats Land-Use Modification* (Army 2004).

Table 3. Summary of Remedial Alternatives Evaluation and Comparison
Record of Decision, Interim Action Ranges Munitions Response Area, Former Fort Ord, California

Remedial Alternative	EPA's 9 CERCLA EVALUATION CRITERIA								
	Threshold Criteria		Balancing Criteria					Modifying Criteria	
	Overall Protectiveness of Human Health and the Environment	Compliance with ARARs	Short-Term Effectiveness	Long-Term Effectiveness & Permanence	Reduction of Toxicity, Mobility, or Volume Through Treatment ¹	Implementability	Cost ²	State Acceptance	Community Acceptance
Alternative 1 - No Further Action	Not protective; does not mitigate potentially remaining MEC risks to intrusive workers	No potential ARARs identified for this alternative	Not effective in the short-term; no MEC risk mitigation	Not effective in the long-term; no MEC risk mitigation	No reduction in volume because no further MEC removals would be conducted	Not administratively feasible	Minimal	Not acceptable	Not acceptable
Alternative 2 - Land Use Controls	Protective to construction and maintenance workers (intrusive workers); prohibits use for residential reuse	No potential ARARs identified for this alternative	Effective in the short-term; required training and construction support would mitigate risks to construction and maintenance workers (intrusive workers)	Required training and construction support would mitigate risks to construction and maintenance workers (intrusive workers) until evaluation determines LUCs no longer necessary	No reduction in volume because no further MEC removals would be conducted	Technically and administratively feasible to implement	\$542,000	Accepted as the preferred alternative	Acceptable to some community members
Alternative 3 - Additional MEC Remediation	May be protective of human health and the environment	Implementation would require compliance with potential ARARs identified in Appendix E of Final Focused Feasibility Study	May be effective in the short-term; although additional mitigation measures (such as land use controls) may be required	May or may not be effective in the long-term; additional risk mitigation may be needed after additional MEC remediation	May result in MEC reduction if additional MEC is discovered and removed during remediation	Technically and administratively feasible to implement	\$14,700,000	Not selected	Acceptable to some community members
Alternative 4 - Additional Subsurface MEC Remediation in Selected Areas of the MRA and Land Use Controls	Protective to construction and maintenance workers (intrusive workers); may be protective of human health and the environment	Implementation would require compliance with potential ARARs identified in Appendix E of Final Focused Feasibility Study	Effective in the short-term; required training and construction support would mitigate risks to construction and maintenance workers (intrusive workers)	Effective in the long-term; required training and construction support would mitigate risks to construction and maintenance workers (intrusive workers); may reduce MEC risks	May result in MEC reduction if additional MEC is discovered and removed during remediation	Technically and administratively feasible to implement	\$7,650,000	Not selected	Acceptable to some community members

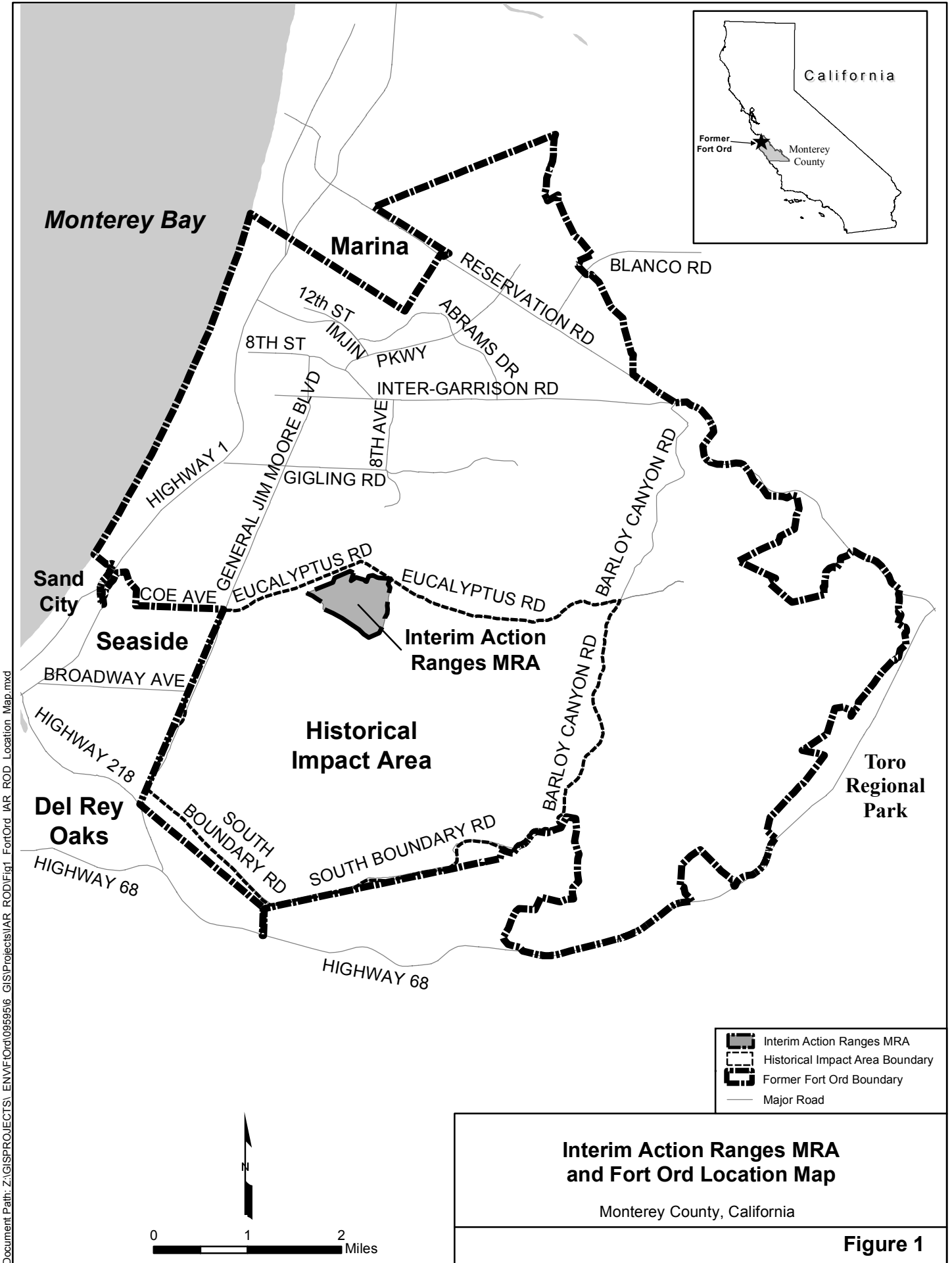
Acronyms





ARARs = applicable or relevant and appropriate requirements
 CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act
 EPA = U.S. Environmental Protection Agency
 LUC = Land Use Controls
 MEC = munitions and explosives of concern
 MRA = munitions response area

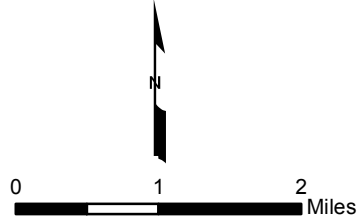
Footnotes

¹ = Completed MEC removal actions already provide for reduction of volume.
² = Costs do not include long-term management costs for each alternative.

FIGURES



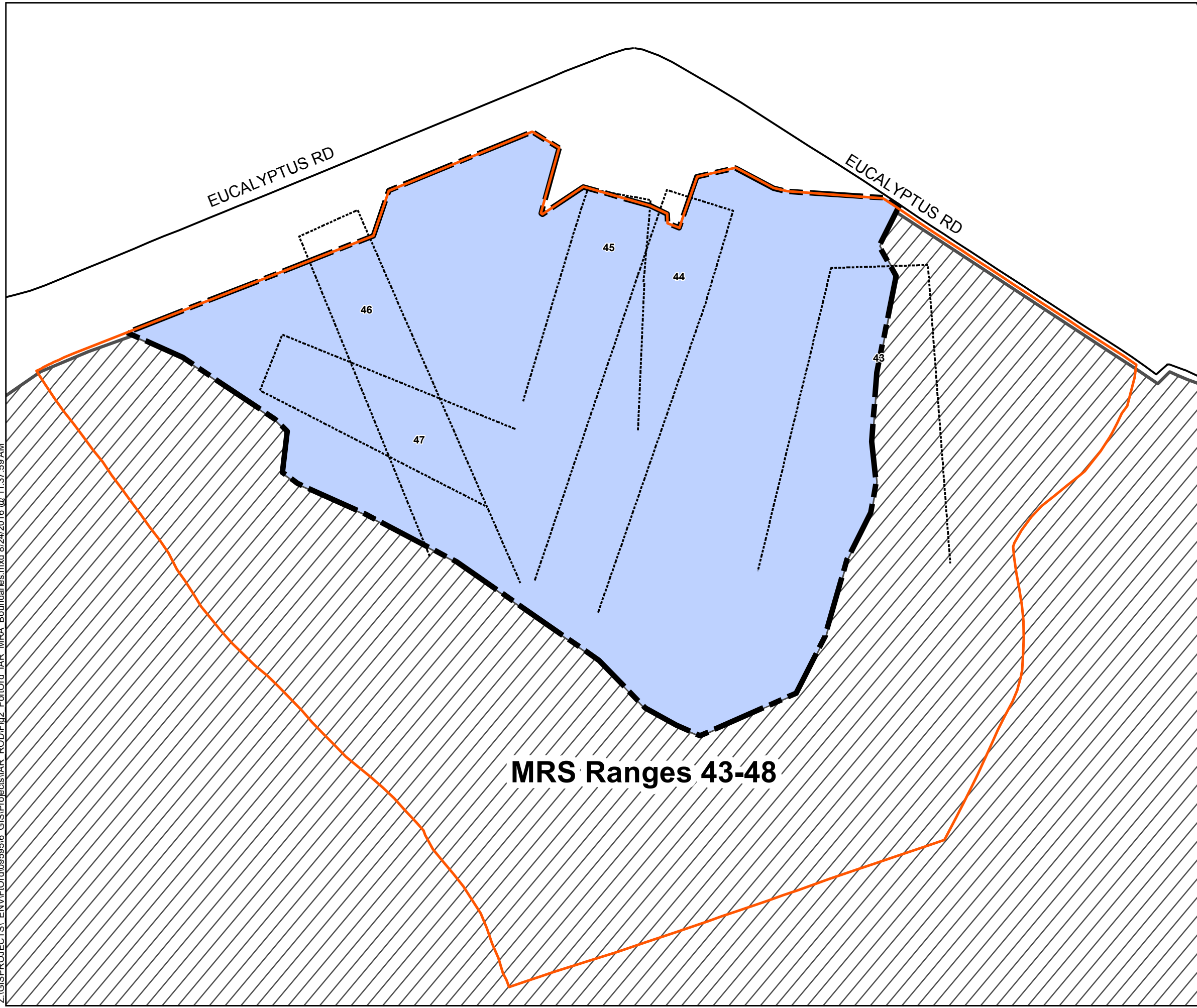
-  Interim Action Ranges MRA
-  Historical Impact Area Boundary
-  Former Fort Ord Boundary
-  Major Road



Interim Action Ranges MRA and Fort Ord Location Map
 Monterey County, California



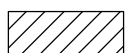



Figure 1

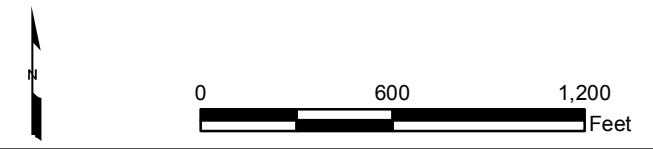
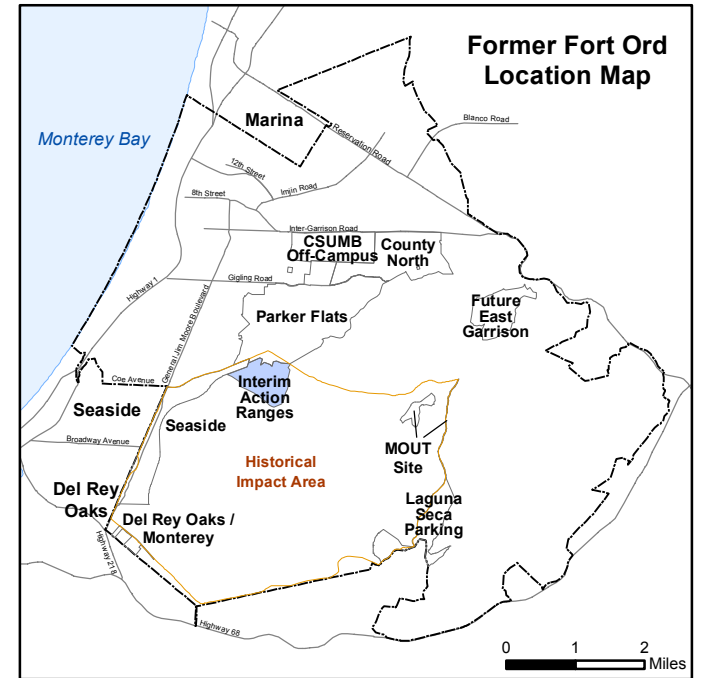
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MRS Ranges 43-48

Legend

-  Munitions Response Area
-  Interim Action Ranges MRA
-  Impact Area MRA
-  Munitions Response Site
-  Firing Range
-  Major Road

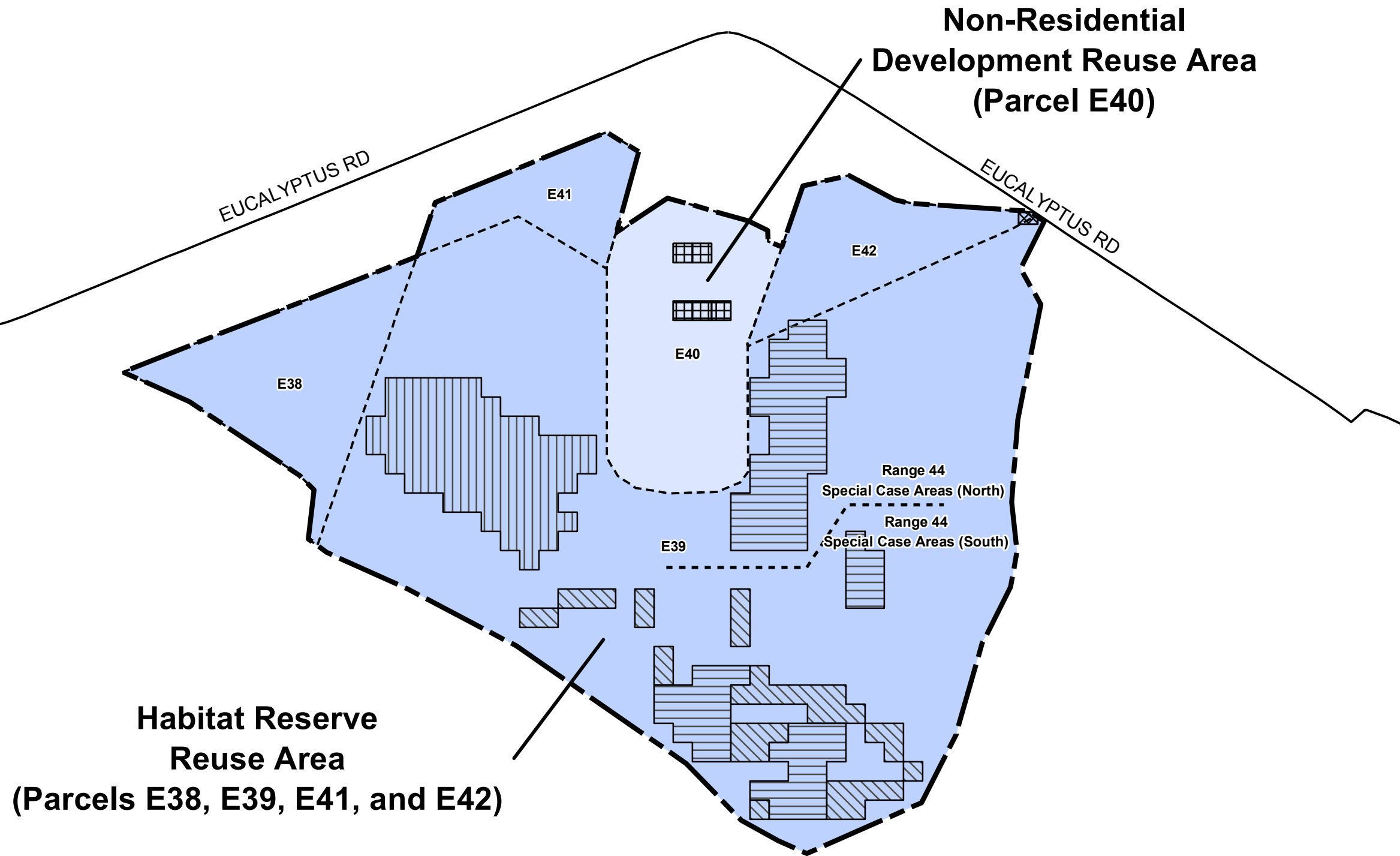


Interim Action Ranges MRA





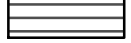





Monterey County, California

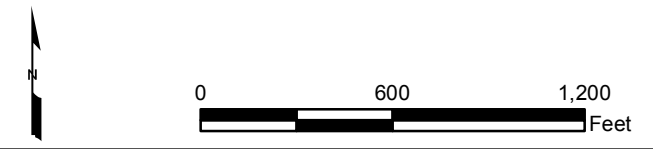
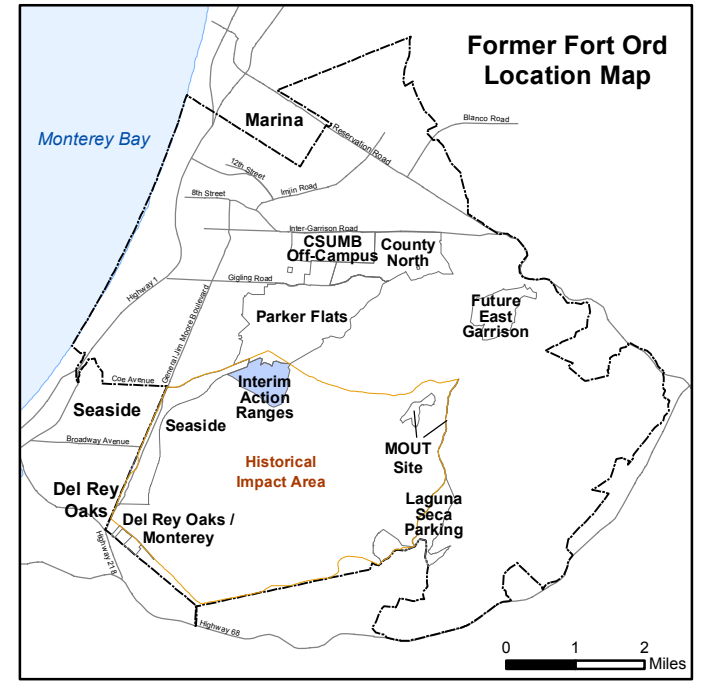
Figure 2

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Legend

-  Habitat Reserve Reuse Area (area subject to Land Use Controls including MEC recognition and safety training, construction support, residential use restriction, and restrictions prohibiting inconsistent use)
-  Non-Residential Development Reuse Area (area subject to Land Use Controls including MEC recognition and safety training, construction support, and residential use restriction)
-  Interim Action Ranges MRA
-  Range 47 Special Case Areas
-  Range 44 Special Case Areas
-  Central Area Non-Completed Areas
-  USACE Parcel
-  Major Road
-  Fenceline Special Case Area
-  Trench Special Case Area



**Interim Action Ranges MRA
Range 47 SCA, Range 44 SCA,
and the Central Area NCAs**

Monterey County, California

Figure 3

APPENDIX A

GLOSSARY OF MILITARY MUNITIONS RESPONSE PROGRAM TERMS

APPENDIX A

Glossary of Military Munitions Response Program Terms

Administrative Record – A compilation of all documents relied upon to select a remedial action pertaining to the investigation and cleanup of the former Fort Ord. *Source:* (1).

After Action Report (AAR) – A report presenting the results of munitions and explosives of concern (MEC) investigation, sampling and/or removal actions conducted at a site pertaining to the investigation and cleanup of the former Fort Ord. *Source:* (1).

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, otherwise known as Superfund) – CERCLA authorizes federal action to respond to the release or threatened release of hazardous substances into the environment or a release or threatened release of a pollutant or contaminant into the environment that may present an imminent or substantial danger to public health or welfare. *Source:* (1).

Construction Support – Assistance provided by the Department of Defense (DOD), explosive ordnance disposal (EOD) or unexploded ordnance (UXO)-qualified personnel and/or by personnel trained and qualified for operations involving chemical agents (CA), regardless of configuration, during intrusive construction activities on property known or suspected to contain UXO, other munitions that may have experienced abnormal environments (e.g., discarded military munitions [DMM]), munitions constituents in high enough concentrations to pose an explosive hazard, or CA, regardless of configuration, to ensure the safety of personnel or resources from any potential explosive or CA hazards. *Source:* (3).

Discarded Military Munitions (DMM) – Military munitions that have been abandoned without proper disposal or removed from storage in a military magazine or other storage area for the purpose of disposal. The term does not include unexploded ordnance (UXO), military munitions that are being held for future use or planned disposal, or military munitions that have been properly disposed of consistent with applicable environmental laws and regulations. (10 U.S.C. 2710(e)(2)).

For the purposes of the basewide Military Munitions Response Program (MMRP) being conducted at the former Fort Ord, DMM does not include small arms ammunition (.50 caliber and below).

Engineering Control (EC) – A variety of engineered remedies to contain and/or reduce contamination, and/or physical barriers intended to limit access to property. Some examples of ECs include fences, signs, guards, landfill caps, soil covers, provision of potable water, slurry walls, sheet pile (vertical caps), pumping and treatment of groundwater, monitoring wells, and vapor extraction systems. *Source:* (5).

Expended – The state of munitions debris (MD) in which the main charge has been expended leaving the inert carrier. *Source:* (1).

Feasibility Study (FS) – An evaluation of potential remedial technologies and treatment options that can be used to clean up a site. *Source:* (1).

Historical Impact Area – The historical impact area consists of approximately 8,000 acres in the southwestern portion of former Fort Ord, bordered by Eucalyptus Road to the north, Barloy Canyon Road to the east, South Boundary Road to the south, and North-South Road (renamed General Jim Moore Boulevard) to the west. *Source:* (1).

Institutional Control (IC) – (a) Non-engineered instruments such as administrative and/or legal controls that minimize the potential for human exposure to contamination by limiting land or resource use; (b) are

generally to be used in conjunction with, rather than in lieu of, engineering measures such as waste treatment or containment; (c) can be used during all stages of the cleanup process to accomplish various cleanup-related objectives; and (d) should be “layered” (i.e., use multiple ICs) or implemented in a series to provide overlapping assurances of protection from contamination. *Source:* (6).

Land Use Controls (LUCs) – LUC are physical, legal, or administrative mechanisms that restrict the use of, or limit access to, real property, to manage risks to human health and the environment. Physical mechanisms encompass a variety of engineering remedies to contain or reduce contamination and/or physical barriers to limit access to real property, such as fences or signs. *Source:* (3).

Magnetometer – An instrument used to detect ferromagnetic (iron-containing) objects. Total field magnetometers measuring the strength of the earth’s natural magnetic field at the magnetic sensor location. Gradient magnetometers, sensitive to smaller near-surface metal objects, use two sensors to measure the difference in magnetic field strength between the two sensor locations. Vertical or horizontal gradients can be measured. *Source:* (4).

Military Munitions – Military munitions means all ammunition products and components produced for or used by the armed forces for national defense and security, including ammunition products or components under the control of the Department of Defense (DOD), the Coast Guard, the Department of Energy, and the National Guard. The term includes confined gaseous, liquid, and solid propellants, explosives, pyrotechnics, chemical and riot control agents, smokes, and incendiaries, including bulk explosives and chemical warfare agents, chemical munitions, rockets, guided and ballistic missiles, bombs, warheads, mortar rounds, artillery ammunition, small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and dispensers, demolition charges, and devices and components of the above.

The term does not include wholly inert items, improvised explosive devices, and nuclear weapons, nuclear devices, and nuclear components, other than non-nuclear components of nuclear devices that are managed under the nuclear weapons program of the Department of Energy after all required sanitization operations under the Atomic Energy Act of 1954 (42 U.S.C. 2011 et seq.) have been completed. (10 U.S.C. 101(e)(4)(A through C)).

Military Munitions Response Program (MMRP) – Department of Defense (DOD)-established program to manage the environmental, health and safety issues presented by munitions and explosives of concern (MEC). *Source:* (1).

Mortar – Mortars typically range from approximately 1 inch to 11 inches in diameter or larger, and can be filled with explosives, toxic chemicals, white phosphorus or illumination flares. Mortars generally have thinner metal casing than projectiles but use the same types of fuzing and stabilization. *Source:* (2).

Munitions Constituents (MC) – Any materials originating from unexploded ordnance (UXO), discarded military munitions (DMM), or other military munitions, including explosive and non-explosive materials, and emission, degradation, or breakdown elements of such ordnance or munitions (10 U.S.C. 2710 (e) (3)).

Munitions Debris (MD) – Remnants of munitions (e.g., fragments, penetrators, projectiles, shell casings, links, fins) remaining after munitions use, demilitarization, or disposal. *Source:* (3).

Munitions and Explosives of Concern (MEC) – Distinguishes specific categories of military munitions that may pose unique explosives safety risks, such as: (A) unexploded ordnance (UXO), as defined in 10 U.S.C. 101(e)(5)(A through C); (B) discarded military munitions (DMM), as defined in 10 U.S.C. 2710 (e) (2); or (C) munitions constituents (e.g., Trinitrotoluene [TNT], Cyclotrimethylene trinitramine

[RDX]), as defined in 10 U.S.C. 2710(e)(3), present in high enough concentrations to pose an explosive hazard. (32 CFR 179.3).

For the purposes of the basewide Military Munitions Response Program (MMRP) being conducted for the former Fort Ord, MEC does not include small arms ammunition (.50 caliber and below).

Munitions Response Area (MRA) – Any area on a defense site that is known or suspected to contain unexploded ordnance (UXO), discarded military munitions (DMM), or munitions constituents (MC). Examples are former ranges and munitions burial areas. A MRA comprises of one or more munitions response sites (MRSs). (32 CFR 179.3).

Munitions Response Site (MRS) – A discrete location within a Munitions Response Area (MRA) that is known to require a munitions response. (32 CFR 179.3).

No Further Action – Determination following a remedial investigation or action that a site does not pose a significant risk and so requires no further activity under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). *Source:* (1).

Projectile – An object projected by an applied force and continuing in motion by its own inertia, as a bullet, bomb, shell, or grenade. Also applied to rockets and to guided missiles. *Source:* (2).

Proposed Plan – A plan that identifies the preferred alternative for a site cleanup, and is made available to the public for comment. *Source:* (1).

Record of Decision (ROD) – A ROD is the document used to record the remedial action decision made at a National Priorities List property. The ROD will be maintained in the project Administrative Record and project file. *Source:* (1).

Remedial Investigation (RI) – The RI is intended to “adequately characterize the site for the purpose of developing and evaluating an effective remedial alternative” (NCP, 40 CFR 300.430[d]). In addition, the RI provides information to assess the risks to human health, safety, and the environment that were identified during risk screening in the site investigation. *Source:* (1).

Superfund – See Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) above.

Unexploded Ordnance (UXO) – Military munitions that: (A) have been primed, fuzed, armed, or otherwise prepared for action; (B) have been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard to operations, installations, personnel, or materials; and (C) remain unexploded, whether by malfunction, design, or any other cause. (10 U.S.C. 101(e)(5)(A through C)).

For the purposes of the basewide Military Munitions Response Program (MMRP) being conducted for the former Fort Ord, UXO does not include small arms ammunition (.50 caliber and below).

UXO-Qualified Personnel – Personnel who have performed successfully in military explosives ordnance disposal (EOD) positions, or are qualified to perform in the following Department of Labor, Service Contract Act, Directory of Occupations, contractor positions: Unexploded Ordnance (UXO) Technician II, UXO Technician III, UXO Safety Officer, UXO Quality Control Specialist or Senior UXO Supervisor. *Source:* (3)

Sources:

(1) Non-standard definition developed to describe Fort Ord-specific items, conditions, procedures,

- principles, etc. as they apply to issues related to the munitions and explosives of concern (MEC) cleanup.
- (2) U.S. Department of Defense Environment, Safety and Occupational Health Network and Information Exchange. 1996. Unexploded Ordnance (UXO): An Overview. October.
 - (3) U.S. Department of Defense Manual Number 6055.09-M, Volume 8, SUBJECT: DoD Ammunition and Explosives Safety Standards: Glossary, Incorporating Change 1. March 12, 2012.
 - (4) Survey of Munitions Response Technologies, June 2006. ITRC with ESTCP (Environmental Security and Technology Certification Program) and SERDP (Strategic Environmental Research and Development Program).
 - (5) Compendium of Department of Defense Acronyms, Terms, and Definitions. The Interstate Technology and Regulatory Council (ITRC) Work Group (Unexploded Ordnance Work Team), December 2000.
 - (6) Institutional Controls: A Site Managers' Guide to Identifying, Evaluating, and Selecting Institutional Controls at Superfund and RCRA Corrective Action Cleanups. US EPA Office of Solid Waste and Emergency Responses (OSWER) 9355.0-74FS-P, EPA 540-F-00-005. September, 2000.