

## 1.0 INTRODUCTION

This Basewide Remedial Investigation/Feasibility Study (RI/FS) for Fort Ord (Plate 1) was prepared by Harding Lawson Associates (HLA) for the Army Corps of Engineers (COE), Sacramento District, under contract DACA 05-86-C-0241. The RI/FS is a requirement of the Federal Facilities Agreement (FFA) that was signed in July 1990 by representatives of Fort Ord, the U.S. Army (Army), the U.S. Environmental Protection Agency, Region IX (EPA), the California Department of Health Services, now the California Environmental Protection Agency (Cal/EPA), Department of Toxic Substances Control (DTSC), and the California Regional Water Quality Control Board, Central Coast Region (RWQCB). The FFA was signed after Fort Ord was added to the National Priorities List (NPL) of Hazardous Waste Sites on February 21, 1990.

This RI/FS consists of six volumes: Volume I presents an overview and background information on Fort Ord and summarizes the results of the Basewide RI/FS; Volume II presents the Remedial Investigations (RI); Volume III presents the Baseline Human Health Risk Assessment (BRA); Volume IV presents the Baseline Ecological Risk Assessment (ERA); Volume V presents the Feasibility Study (FS); and Volume VI presents the response to agency comments received on the draft final version of the RI/FS.

### 1.1 Chronology of the RI/FS Program

This section presents the chronology of the RI/FS program. Documents that were produced during the various phases of the RI/FS program are mentioned but not specifically referenced. These documents are discussed in detail elsewhere in the RI/FS.

Prior to Fort Ord being placed on the NPL, investigations were conducted at several sites at the installation. Investigations began at the Fritzsche Army Airfield (FAAF) Fire Drill Area (now called OU 1) in 1984 and at the Fort Ord

Landfills (now called OU 2) in 1986. After Fort Ord was placed on the NPL in February 1990 and the FFA was signed in July 1990, preliminary assessment/site investigation (PA/SI) reports were produced for a number of other sites that had been identified by the Army. These PA/SI reports are discussed in Sections 4 and 5.

In 1990 and 1991, the Army prepared the initial planning documents for the RI/FS (*EA Engineering Science and Technology [EA], 1990, 1991a-d*). Included in these documents were a work plan, sampling and analysis plan, data management plan, and safety and health plan. After review and comment on the draft versions of these documents by the regulatory agencies that signed the FFA, the responsibility for management of the RI/FS project was transferred from the Omaha District COE to the Sacramento District COE. HLA was contracted in 1991 by the Sacramento COE to prepare and implement draft final and final versions or addenda, as appropriate, to the planning documents EA had prepared.

During the period when the planning documents were being finalized, Fort Ord was placed on the Base Realignment and Closure (BRAC) List (July 1991). In December 1991, legislation (Public Law 102-190, commonly known as the Panetta Legislation) was passed; this legislation required that RI/FSs at closing military facilities that are on the NPL be completed within 36 months of passage of the legislation. Therefore, Fort Ord's NPL and BRAC listing and passage of the Panetta Legislation required an accelerated approach to the CERCLA process. This accelerated approach was originally outlined in an Acceleration Action Plan for Fort Ord (*Action Plan, Environmental Restoration Acceleration, Fort Ord, California*, dated March 12, 1993). The acceleration was also incorporated into the approach to the RI/FS and into the following project planning documents:

- Draft final and final versions of the Work Plan (HLA, 1991c) and the Sampling and Analysis Plan (HLA, 1991b)
- Sampling and Analysis Plan, consisting of the Field Sampling Plan and the Quality Assurance Project Plan
- Addenda to EA's Data Management Plan (HLA, 1992d) and Site Safety and Health Plan (HLA, 1992b)
- Investigation-Derived Waste Management Plan (*Waste Management Plan, Investigation-Derived Waste Remedial Investigative/Feasibility Study, Fort Ord, California*, dated March 10, 1993)
- Community Relations Plan (HLA, 1991a).

## 1.2 Fort Ord Superfund Process

The accelerated Superfund process at Fort Ord was based, in part, on a risk-based strategy for the RI, which was intended to address potential contaminant transport mechanisms and identify and evaluate areas suspected of being potential sources of contaminants. As a result, the RI, which began in October 1991, consisted of two primary components: (1) basewide studies and (2) site investigations (Plate 1A). The purpose of the basewide studies program was to obtain pertinent physical and chemical information so that potential contaminant transport pathways could be assessed. Five basewide studies were identified:

- Hydrogeologic Characterization
- Background Soil Investigation
- Storm Drain and Sanitary Sewer Investigation
- Surface Water Outfall Investigation
- Biological Inventory.

The purpose of the site investigations was to investigate the nature and extent of contamination, if any, at specifically identified potential source areas. Currently, the site investigation component of the RI program

includes 43 potential contaminant source areas or sites. Initially, the work plan identified 39 potential source areas and the FFA identified two operable units that required investigation (HLA, 1991c). As the RI investigation program progressed, four additional sites were added to the program.

### 1.2.1 Site Categorization

After completion of the first phase of RI/FS field work, it was evident that the sites could be categorized based on: (1) whether a release was identified at a site and (2) if a release had occurred, the nature and extent of the release. Therefore, using the initial site characterization information and existing pre-RI/FS data, the 43 sites were categorized as: (1) RI sites, (2) Interim Action (IA) sites, or (3) No Action (NoA) sites (Plate 1A). These three categories are defined as follows and Table 1 presents a list of the individual RI, IA, and NoA sites:

- NoA Sites: NoA sites do not warrant remedial action under CERCLA
- IA Sites: IA sites have limited volume and extent of contaminated soil and, as a result, are easily excavated, as an interim action
- RI Sites: RI sites have sufficient contamination to warrant a full RI, BRA, ERA, and FS.

To accelerate the cleanup process, IA and NoA site categories are supported by records of decision (RODs) as described below. These RODs provide a process for accelerated cleanup of IA sites and transfer of NoA sites under BRAC, rather than delaying cleanup or transfer actions until a basewide ROD for Fort Ord is signed.

### 1.2.2 No Action Sites

A No Action Record of Decision (NoA ROD) was signed in February 1995 and is based on the U.S. Army's No Action Proposed Plan (*No Action Proposed Plan for Selected Areas at Fort Ord, California, August 30, 1994*). The NoA ROD defines the criteria that a site must meet to qualify as an NoA site and describes the approval process. NoA sites at Fort Ord are either:

- Category 1 sites: already in a protective state and pose no current or potential threat to human health or the environment.
- Category 2 sites: where CERCLA does not provide authority to take any remedial action. These sites may be regulated by state or local agencies and follow their requirements.

The criteria and approach for these sites are conservative and consistent with those presented for the operable units and RI sites. A copy of the No Action ROD is included as Appendix B.

For each proposed NoA site, the evaluation process begins with a site characterization investigation and report. The regulatory agencies review the report and approve it after their comments have been addressed. If the site meets the criteria, a No Action approval memorandum is submitted for public comment and regulatory agency approval. If the approval memorandum is approved, the site is included in the NoA ROD process. If approval is not granted, the site is transferred to the interim action category and follows that flowpath to an IAROD (Plate 1A).

### 1.2.3 Interim Action Sites

An Interim Action Record of Decision (IAROD) was signed in February 1994. The IAROD was based on the interim action FS and proposed plan (HLA, 1993c; HLA, 1993d). The IAROD defines criteria that a site must meet to qualify as an IA site and describes an approval process for implementing the interim action. The primary criteria include (1) the maximum depth of affected soil is 25 feet and (2) the volume of affected soil is limited typically to between 500 and 5,500 cubic yards. The cleanup goals and approach for these sites are conservative and consistent with those presented for the operable units and RI sites. A copy of the Interim Action ROD is included as Appendix A.

For each proposed Interim Action (IA) site, the process (Plate 1A) begins with a site characterization investigation and report. The regulatory agencies review the report and approve it after their comments have been addressed. If the site meets the criteria, an Interim Action approval memorandum is

submitted for regulatory agency approval. The public is notified that an approval memorandum has been submitted. If the approval memorandum is approved, public notice of the proposed action is provided two weeks before work is started. The interim action is then implemented and a Confirmation Report is prepared. If the report is approved, the site is included in the Interim Action ROD process. If the confirmation report is not approved, it may be resubmitted after additional action is taken to address agency concerns. If it is determined that the contamination is too extensive to be remediated under the IAROD, the site is transferred to the RI category. An RI/FS report will then be prepared for the site and it will be included in the Basewide ROD.

Soil excavated during cleanup will be taken to the Fort Ord Soil Treatment Area (FOSTA) located at the 519th Motor Pool. The FOSTA will serve several purposes:

- As an area to store excavated IA soil pending waste classification as well as for storage of soil until sufficient quantities are obtained for treatment or recycling
- As a treatment area for nonhazardous soil containing petroleum hydrocarbons and solvents.

### 1.2.4 Time-Critical Removal Actions

Time-Critical Removal Actions are initiated when a site presents a threat to human health or the environment. For these sites, an action memorandum is submitted to the regulatory agencies. Upon approval of the action, the public is notified of the proposed action. The proposed action is then implemented and a Removal Action Report is prepared. If it is determined that no additional action is necessary, the site then follows the No Action process. If additional action is necessary, the site follows the Interim Action process (Plate 1A). If the site does not meet the criteria for interim action, it could become an RI site.

Three Time-Critical Removal Actions were conducted at Fort Ord. Two included the

removal of buried containers and contaminated soil and are described in Sections 8.2.10 and 8.2.16 of this volume. One included removal of UXO outside the Impact Area and is described in the *Fort Ord Ordnance and Explosive Waste Time Critical Removal Memorandum*, dated April 20, 1995.

### 1.2.5 Operable Units

The two operable units at Fort Ord (OU 1, the FAAF Fire Drill Area and OU 2, the Fort Ord Landfills) follow individual paths to the Basewide ROD. A proposed plan was submitted for OU 1 on November 18, 1995. The public comment period has been completed. A ROD is under review. OU 2 has completed the ROD process and the ROD was signed in August 1994.

### 1.2.6 RI Sites

Once it is determined that the site does not meet the criteria for either the No Action or Interim Action RODs, the site is categorized as an RI site. For each proposed RI site, the process (Plate 1A) begins with a site characterization investigation and report. Then a complete RI, BRA, ERA, and FS are prepared for each RI site. Results of these studies are discussed in this RI/FS. Upon approval of the RI/FS, a proposed plan will be prepared for each site. Public comments will be collected during a public meeting and a 30-day review period for each site. These sites will then be included in the Basewide ROD. The Basewide ROD will incorporate the existing NoA and IA RODs.

### 1.3 Report Organization

The RI/FS consists of the following six volumes:

- Volume I - Background and Executive Summary
- Volume II - Remedial Investigation
- Volume III - Baseline Human Health Risk Assessment
- Volume IV - Ecological Risk Assessment
- Volume V - Feasibility Study
- Volume VI - Response to Comments.

Each volume is contained in one or more binders that hold the components of that volume. A table of contents listing the contents of each volume by binder is inside the front cover of each binder of the RI/FS.

Volume I presents background information about Fort Ord, a summary of the RI/FS program, and summaries of closely related programs (e.g., BRAC). Volume I is intended to (1) serve as an overview of the RI/FS and (2) provide a guide to the remainder of the document for those readers with specific objectives. Volume II includes the basewide studies and the remedial investigations for the RI sites (Sites 2 and 12, 16 and 17, 3, 31, and 39). Volume III presents the Baseline Human Health Risk Assessment for Fort Ord and Volume IV presents the Ecological Risk Assessment. Volume V presents the feasibility studies for the RI sites. Volume VI presents the responses to agency comments received on the draft final version of the RI/FS. A single master reference list and an acronym list have been prepared for the RI/FS report and are included in each volume.

Responses to agency comments on the Draft RI/FS are included as appendixes to each volume or each site, as appropriate. Responses to comments relating to Volume I are included as Appendix C to this volume.