

**U.S. Army Corps
of Engineers**
Los Angeles District

Draft Action Memorandum

for Formerly-Used Defense Site Camp Elliott (East Elliott), San Diego, California

PURPOSE

The purpose of this Action Memorandum is to document the U.S. Army Corps of Engineers (USACE) decision selecting a removal action to reduce the potential human exposure to ordnance and explosives (OE) at East Elliott, California (Figure 1). The USACE will implement the removal actions selected in the Engineering Evaluation/Cost Analysis (EE/CA) and Responsiveness Summary (Montgomery Watson, 1999; Montgomery Watson, 2001a). The selected removal action is surface clearance and residual risk management measures for all sectors, and subsurface clearance to depth for Sectors 2 and 4, and other sectors as dictated by future land use. *The California State Department of Toxic Substances Control (DTSC) concurs/does not concur with this Action Memorandum.*

The USACE published the EE/CA for evaluating potential actions at East Elliott (Montgomery Watson, 1999). After receiving public comments on the EE/CA, the Responsiveness Summary was published to respond to the comments and to document changes to the recommendations in the EE/CA (Montgomery Watson, 2001a).

This Action Memorandum serves as the primary decision document substantiat-

ing the need for a removal action, identifying the proposed action, and explaining the rationale for the proposed action (Environmental Protection Agency [EPA], 1990). The proposed action described in the Action Memorandum is based on the analysis performed in the EE/CA, as well as comments received from stakeholders during the public comment period as documented in the Responsiveness Summary. As the primary decision document, the Action Memorandum becomes a critical component of the administrative record, required by Section 113(k) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (EPA, 1990).

SITE CONDITIONS AND BACKGROUND

Site Setting and Land Use

East Elliott is an approximately 3,200-acre (5-square-mile) roughly rectangular area that lies within the boundaries of the City of San Diego, California, approximately 12 miles northeast of downtown San Diego (Figure 1). The site is bordered by Marine

Table of Contents	
Purpose	1
Site Conditions and Background	1
Threats to Public Health or Welfare, or the Environment	5
Endangerment Determination	6
Proposed Action and Estimated Cost	6
Expected Change in the Situation Should Action Be Delayed or Not Taken	8
Recommendation and Approval	8
References	8

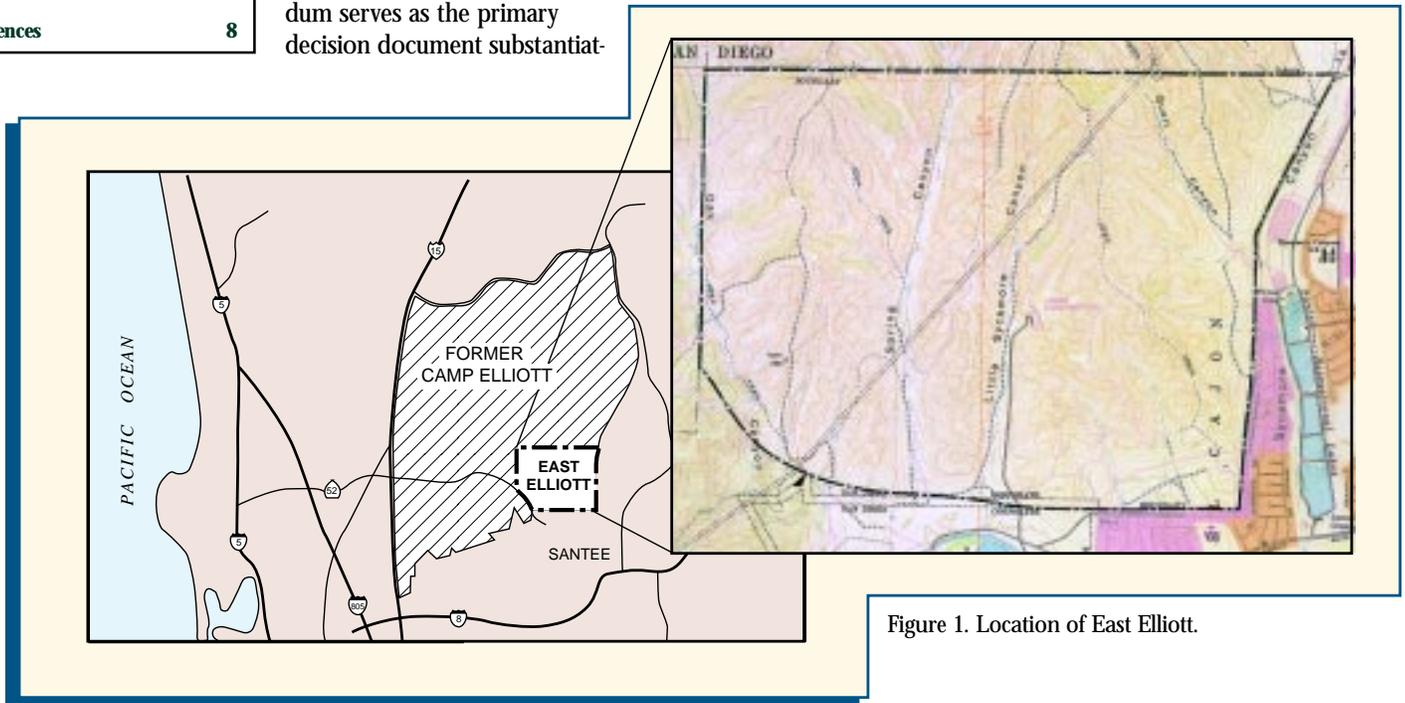


Figure 1. Location of East Elliott.

Corps Air Station (MCAS) Miramar to the north and west, the City of Santee to the east and south, and State Highway 52 and Mission Trails Regional Park to the southwest (Figure 1).

East Elliott is in the southeast corner of the former Camp Elliott, a military training facility that once occupied 30,500 acres. Today, East Elliott consists of 165 individual parcels, owned by more than 85 private individuals, the cities of Santee and San Diego, two school districts, several land development companies, and a public utility company. The majority of East Elliott is undeveloped at present. Although the site consists of mostly privately-owned parcels, unrestricted access along its southern boundary makes it attractive for a variety of recreational uses, including hiking, mountain biking, jogging, motorcycling, horseback riding, and off-road vehicle use. Rock climbers also use several clusters of large boulders on the site. Several dirt roads and trails are located along the ridges and canyons providing access to East Elliott for recreational users (Montgomery Watson, 1999).

According to the Elliott Community Plan (City of San Diego, 1971), future land uses at East Elliott include

landfill expansion, elementary schools, neighborhood parks, open space, and low-density residential development.

Site History and Previous Investigations

The area encompassing the former Camp Elliott was in use by the military from 1917 to 1960, when it was shut down and sold off in small parcels to the public. Live-fire training and artillery has resulted in the presence of OE, including unexploded ordnance (UXO), within East Elliott. The definitions of OE and UXO are as follows:

Ordnance and Explosives (OE): OE is an umbrella term to include anything related to munitions designed to cause damage to personnel or material through explosive force, incendiary action, or toxic effects, such as bombs and guided and ballistic missiles; artillery, mortar, and rocket ammunition; small arms ammunition; antipersonnel and antitank land mines; demolition charges; pyrotechnics; grenades, torpedoes, and depth charges; containerized and uncontainerized high explosives and propellants; depleted uranium projectiles; toxic military chemical agents; and all items or components similar or related in nature or oth-

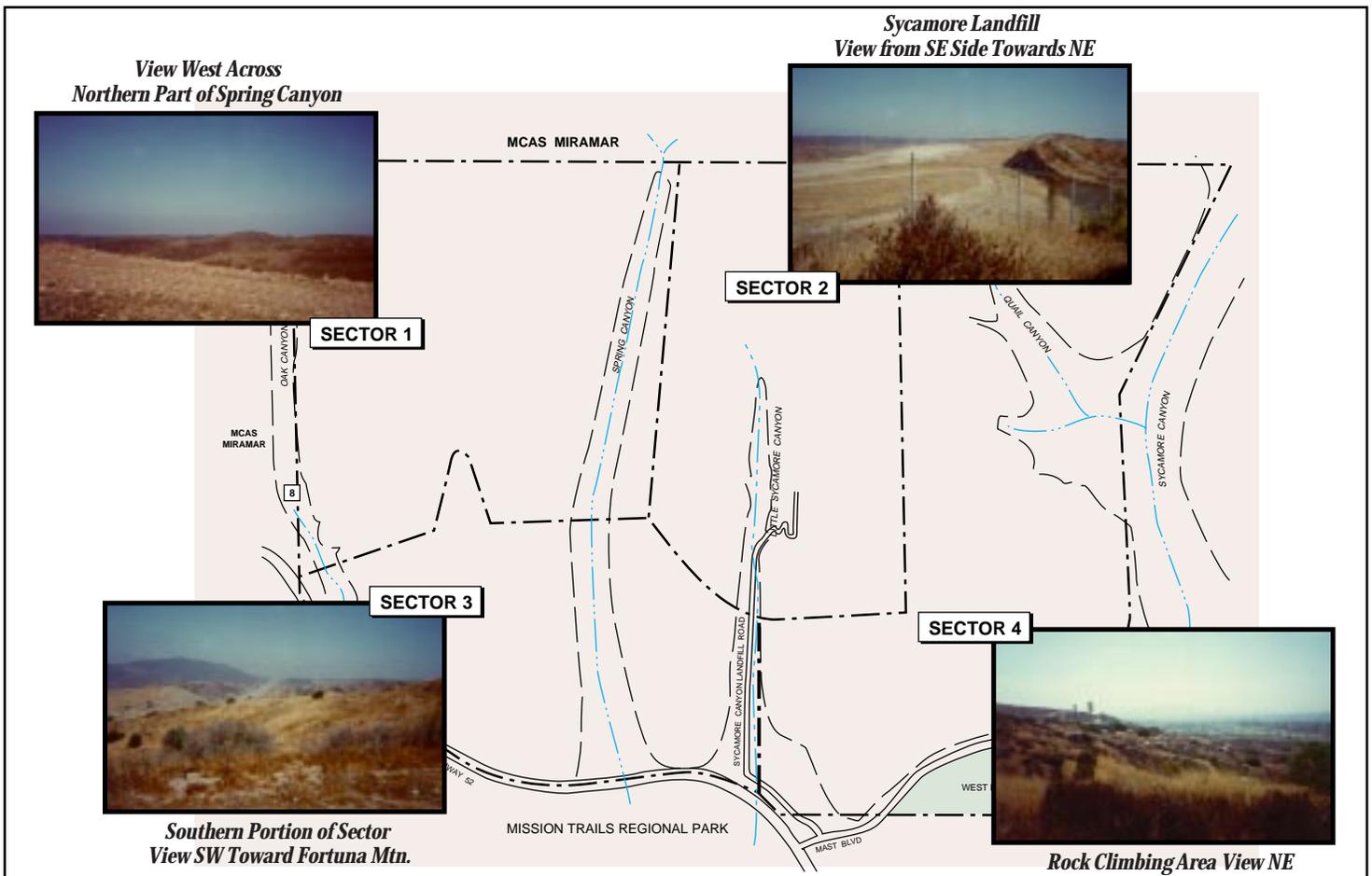
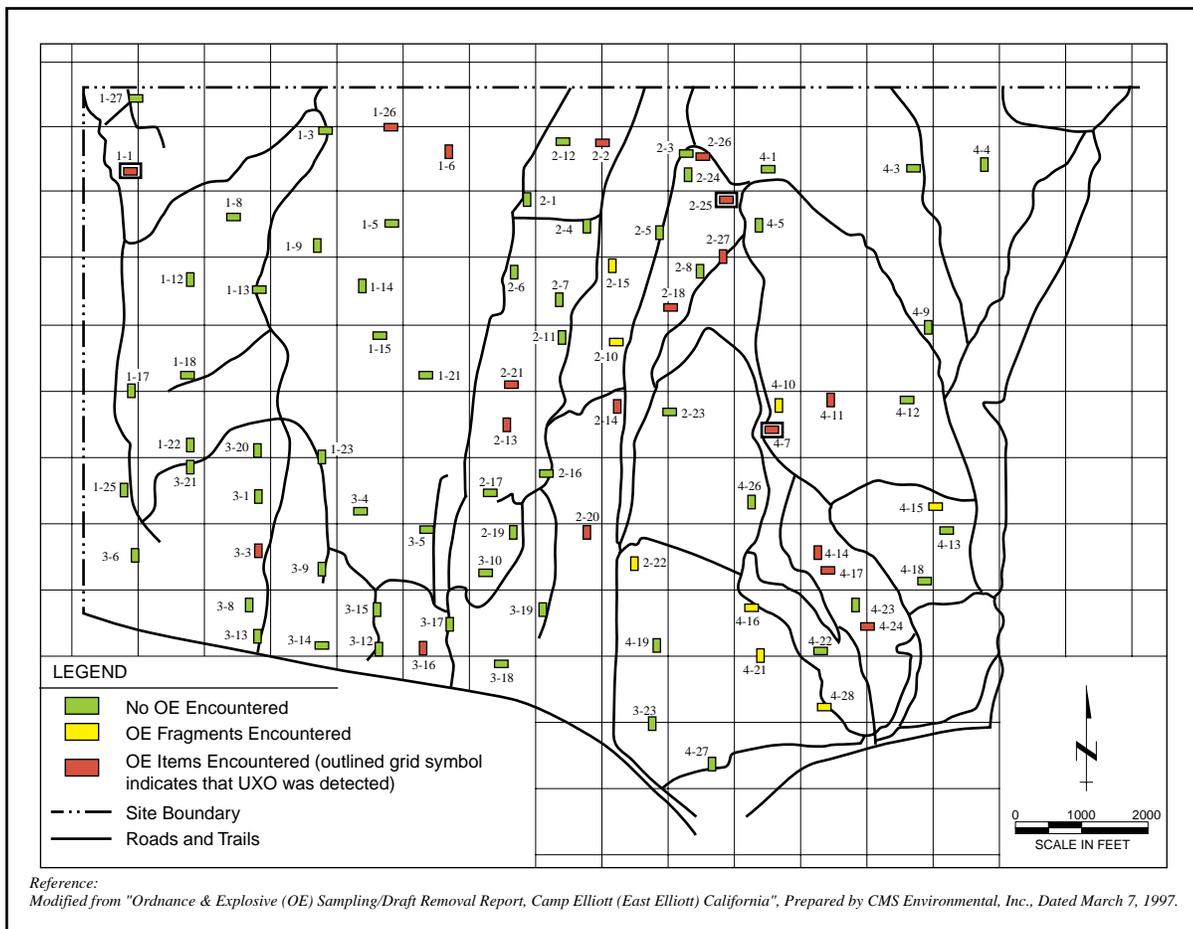


Figure 2. Map showing the division of East Elliott into sectors and characteristic terrain.

Figure 3. The results of the 1996 investigation to determine the extent and density of ordnance at East Elliott.



erwise designed to cause damage to personnel or material (Montgomery Watson, 1999).

Unexploded Ordnance (UXO): OE that have been primed, fused, armed, or otherwise prepared for action, and have been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard to operations, installation, personnel, or material, and remain unexploded by either malfunction, design, or other cause (Montgomery Watson, 1999).

OE has been found at several locations in East Elliott between 1978 and 1999. UXO was found by workers involved in landfill construction and biological assessments. Also, there are anecdotal reports of detonations during brush fires in the area. Investigations at East Elliott were conducted by military Explosive Ordnance Disposal (EOD) teams in 1984 and 1994. OE found during these investigations primarily consisted of loose fragments of 37-millimeter (mm) and 75-mm high explosive shells; no UXO was found by the EOD teams during these investigations (Montgomery Watson, 1999).

In 1996, a USACE ordnance contractor, CMS Environmental, Inc, conducted a statistically-based OE

survey at East Elliott to predict the ordnance density for different portions of the site (Montgomery Watson, 1999). This investigation consisted of dividing East Elliott into four sectors as shown on Figure 2 for the purpose of evaluating risk and developing recommendations for each sector. An overview of the results of the 1996 investigation is shown on Figure 3. As a result of the 1996 investigation, OE was detected and removed from all areas of East Elliott. Four UXO items, all high explosive shells, were among the OE removed from the site. No UXO was found deeper than 8 inches below ground surface (bgs). The greatest density of OE was in Sector 4, which is the area closest and most accessible to populated areas and schools. In all, 27 identifiable OE items were encountered during the 1996 investigation.

In 1998, Human Factors Applications, Inc. (HFA) conducted OE removal operations as construction support during the expansion of the Sycamore Canyon Landfill. During this operation, 24 UXO items and 64 pounds of OE scrap were found and removed from a 53-acre area in Sector 2 as shown on Figure 4 (HFA, 1999). In late 1998 and early 1999, HFA conducted a surface clearance as a Time-Critical Removal Action in Sector 4 to reduce the imminent risk to site users and local residents.

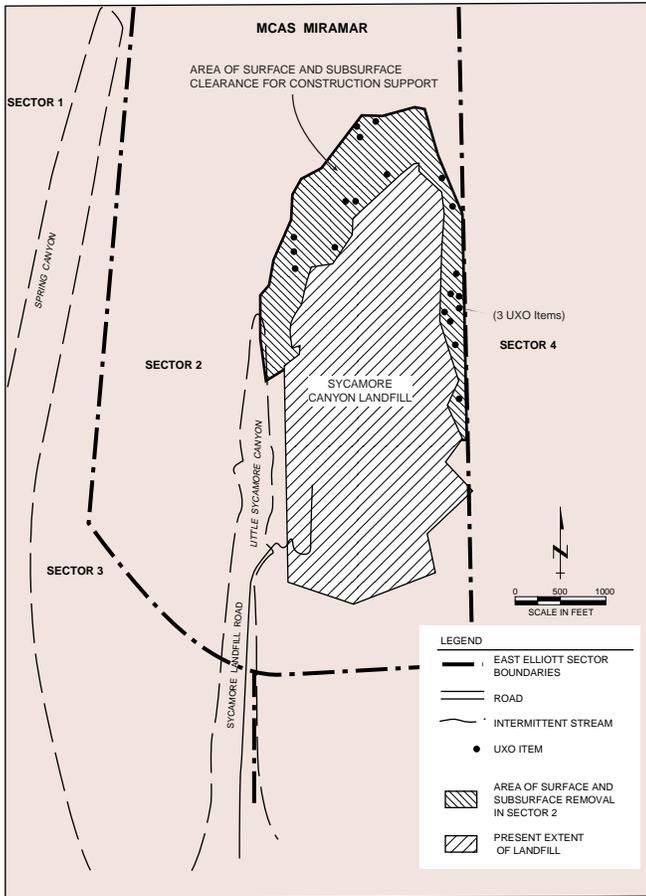


Figure 4. Locations of UXO encountered during 1998 construction support at the Sycamore Canyon Landfill.

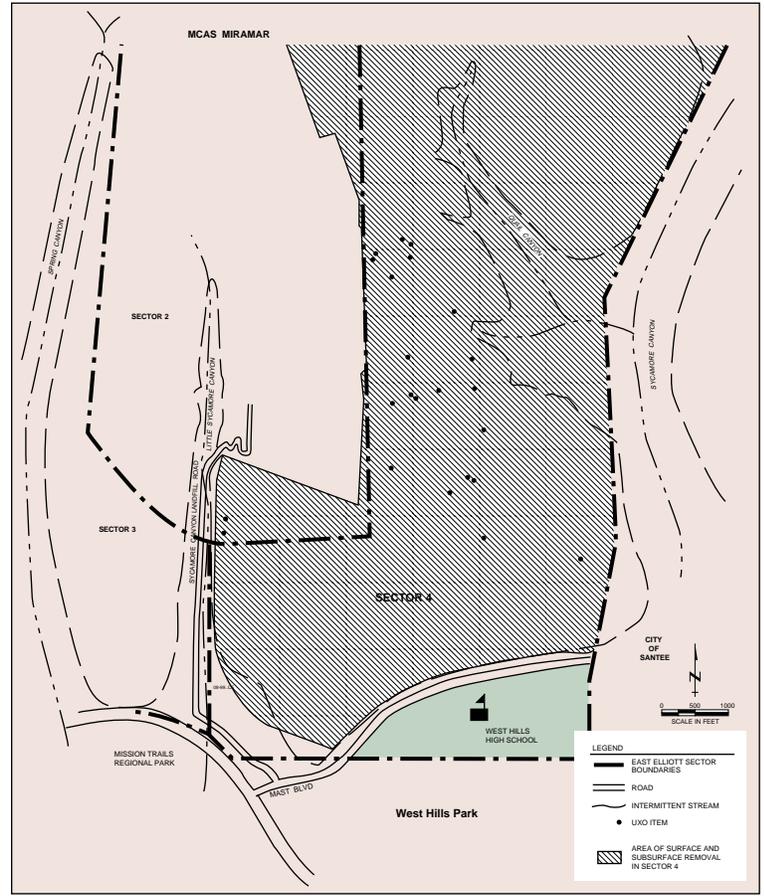


Figure 5. Locations of UXO encountered during 1998-1999 Time-Critical Removal Action in Sector 4.

Twenty-four UXO items and approximately 1,250 pounds of OE scrap were discovered during this removal action (Montgomery Watson, 1999) (Figure 5).

Roles and Responsibilities

The Department of Defense (DOD) is the lead authority for the East Elliott project. Within the DOD, the U.S. Army Corps of Engineers, Huntsville Engineering and Support Center (USAESCH) is the mandatory center of expertise for OE. USAESCH also provides technical expertise and contractor support as needed for the proposed OE removal actions. The U.S. Army Corps of Engineers, Los Angeles District (CESPL) is responsible for providing funding, implementing public involvement activities, producing public statements and media releases, and serving as community point of contact.

Regulatory, Stakeholder, and Community Participation

Regulatory agencies, stakeholders, and community members have participated in the decision-making process that resulted in the selected action described in this document. A 30-day public comment period was held from October 26 to November 25, 2000 to allow for

stakeholder and community input on the proposed actions described in the EE/CA. Two public meetings were held to receive stakeholder and community input on the EE/CA; one in the City of Santee on October 24, 2000, and one in the City of San Diego on October 26, 2000.

A press release announcing the public comment period and public meetings was sent to 12 local radio stations, 4 television stations, and 2 newspapers. This information was also published in the San Diego Union-Tribune as a 7-day public notice and as a 1-day advertisement in the local news section, and posted on the USAESCH project website for East Elliott. Flyers announcing the public meetings were sent to community leaders and stakeholders, including the Santee City Council, West Hills High School, Sycamore Canyon Landfill, Mission Trails Regional Park, the San Diego City Council, and the Santee Chamber of Commerce. Notices of the public comment period and public meetings were also sent as inserts into Community Update newsletters to the approximately 550 people on the East Elliott mailing list presented in the Public Involvement Plan (PIP) (Montgomery Watson, 2001b). This mailing list includes residents within ½ mile from East Elliott, East Elliott

property owners, local officials, and other stakeholders. Future informational notices and community updates will also be distributed using the East Elliott mailing list.

The dates and locations of the two public meetings were set with input from the Cities of San Diego and Santee, and were attended by the DTSC. Comments received from stakeholders and community members during the public meetings and the 30-day public comment period are presented in the Responsiveness Summary to the EE/CA (Montgomery Watson, 2001a).

The PIP (Montgomery Watson, 2001b) comprises another component of the efforts to involve stakeholders and community members in the actions at East Elliott. The PIP describes activities that will encourage two-way communication with interested parties, serve the informational needs of stakeholders and community members, and promote safety among people who may enter East Elliott, such as recreational users and students at the West Hills High School (which borders East Elliott).

The California Environmental Protection Agency (Cal-EPA), DTSC is the primary stakeholder from the State of California, and provides input to the OE project at East Elliott. The DTSC participated in the public meetings and provided input into the EE/CA, PIP, and this Action Memorandum.

Following the publication of this Action Memorandum the USACE will hold another 30-day public comment period to allow stakeholder and community comments on the selected actions at East Elliott. This second public comment period is being held because the selected actions described in this Action Memorandum differ from the proposed actions in the EE/CA.

NPL Status

East Elliott is not listed on the National Priority List (NPL). This site has not been proposed for the NPL, nor is it expected to receive a Hazard Ranking System (HRS) rating.

THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT

Threats to Public Health or Welfare

An explosive threat is posed by the potential of UXO at East Elliott. The objective of the proposed removal action is to reduce human health risk from potential exposure to UXO. Human health risk can be reduced by interrupting the UXO exposure pathway. The UXO exposure pathway consists of:

- The presence of UXO,
- Public access to UXO, and
- Human behavior in the presence of UXO

Human health risk associated with UXO can be reduced by eliminating or modifying any of these three elements of the exposure pathway (Figure 6).

Potential risk associated with OE at East Elliott was evaluated using the Ordnance and Explosives Cost-Effectiveness Risk Tool (OECert). OECert provides a means of estimating the number of exposures at a site given different levels of removal action or no action for various land uses. An OE exposure is defined as a person coming into contact with or being in immediate proximity to UXO. It does not imply that the UXO item detonates. Land uses evaluated include both current and future recreational use, current and future landfills, and future residential construction. Based on risk assessment and information collected during the 1996 investigation, baseline UXO risks are present in Sectors 1, 2, and 4 (Montgomery Watson, 1999). No exposures were predicted in the risk assessment for Sector 3 because no UXO was found in this area. However, after further

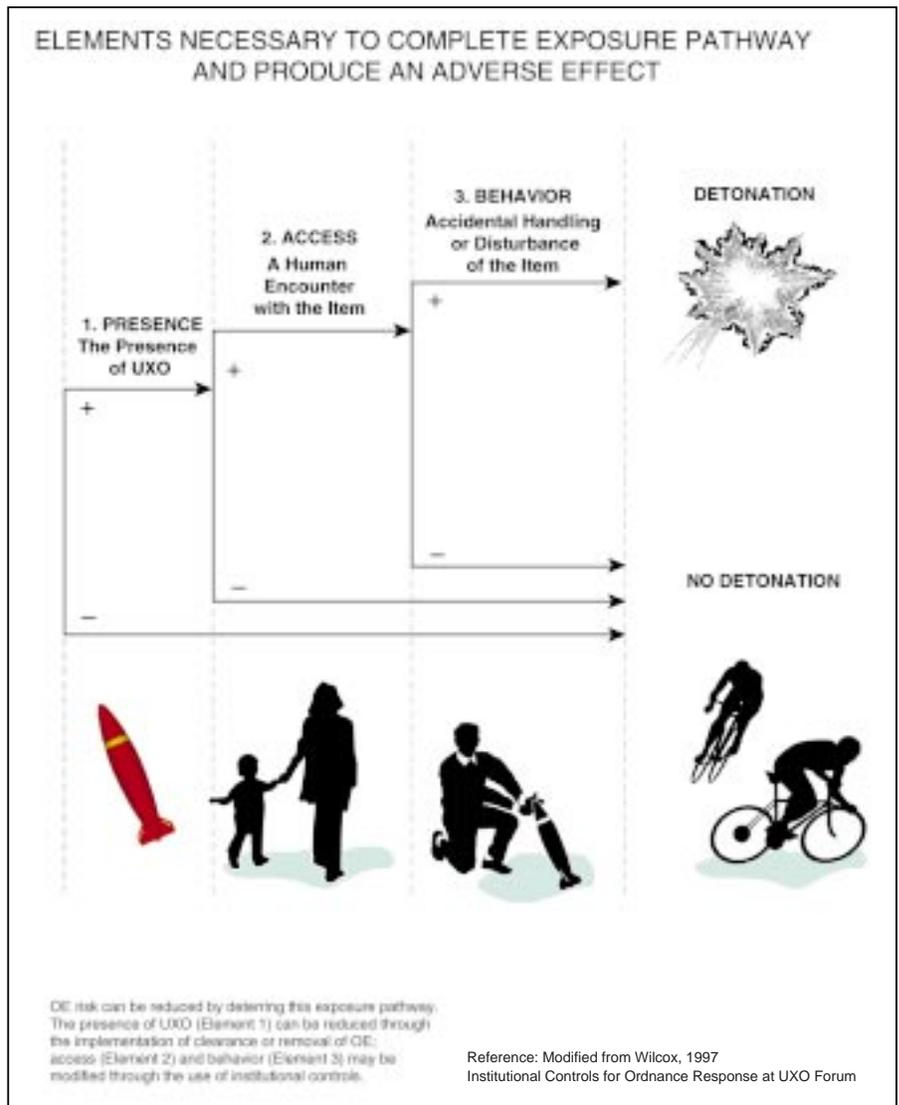


Figure 6. Exposure pathways for unexploded ordnance.

review of the EE/CA OE survey results for Sector 3, which included the identification of two OE items, baseline UXO risks for Sector 3 are currently assumed to be similar to those for Sector 1.

Threats to the Environment

The goal of the proposed action is to reduce the explosive threat to the public, while incurring the least damage possible to the environment. Since UXO is generally only a threat when handled by humans, the explosive threat of UXO to the environment was not considered at this site (Montgomery Watson, 1999).

The East Elliott site contains a variety of sensitive plant and animal species. The sensitive bird species of



Figure 7. The coastal gnatcatcher is one of the sensitive species of East Elliott.

greatest potential concern in East Elliott are the least Bell's vireo (*Vireo bellii pusillus*, federal and state endangered status) and the California gnatcatcher (*Poliptala californica californica*, federal threatened status and California species of special concern) as shown on Figure 7. The California gnatcatcher resides in sage scrub habitat in the western half of East Elliott. This sage scrub habitat is regarded as one of the rarest and most endangered habitats in the State of California.

Disruption to the environment may occur as a result of the proposed action at East Elliott. To minimize this disruption, the action will be scheduled to avoid the nesting season of the California gnatcatcher. Methods used during the proposed action will be those which cause the least amount of disruption to the endangered sage scrub habitat. In addition, a biologist will be consulted prior to and during the removal actions to help minimize the ecological impact to the site.

ENDANGERMENT DETERMINATION

The potential exposure to OE at East Elliott, if not addressed by implementing the removal action proposed in this Action Memorandum, may present a continued and substantial endangerment to public health or welfare.

PROPOSED ACTION AND ESTIMATED COSTS

Alternatives Considered

The EE/CA for East Elliott evaluated five alternatives as possible courses of action for the protection of the public from the exposure to OE. The five alternatives are:

- Alternative 1 – No Further Action;
- Alternative 2 – Institutional Controls;
- Alternative 3 – Surface Clearance;
- Alternative 4 – Surface and Subsurface Clearance to Depth;
- Alternative 5 – Construction Support.

Each of the alternatives was evaluated in terms of their effectiveness, implementability, and cost. This evaluation can be found in the EE/CA (Montgomery Watson, 1999).

The EE/CA, which describes the evaluation of the alternatives listed above, was published and made available to the public in August 1999. A 30-day public comment period for the EE/CA started in October 2000, during which the USACE hosted two public meetings in the cities of Santee and San Diego to receive public comments and discuss the evaluation contained in the EE/CA. Comments received during the public comment period and responses to them are contained in the Responsiveness Summary (Montgomery Watson, 2001a).

Proposed Actions and Rationale

The proposed action described below for each sector of East Elliott will be implemented in accordance with the guidelines documented in the EE/CA and with a Work Plan that will be developed for the action. The proposed action is based upon the recommendations presented in the EE/CA, some of which are modified based on comments received during the public comment period. The modifications to the EE/CA are documented in the Responsiveness Summary and described herein. For all proposed removal actions, clearance activities will be performed in open areas not covered by dense brush unless land uses or accessibility change. The proposed removal action for each sector is as follows:

- Sector 1: Surface Clearance
- Sector 2: Surface and Subsurface Clearance to Depth
- Sector 3: Surface Clearance
- Sector 4: Surface and Subsurface Clearance to Depth

The proposed action for Sector 1 is Surface Clearance. In this sector, the most likely exposure scenario is that of a recreational user encountering UXO on the site. Surface Clearance of this sector significantly reduces risk for recreational users. The alternatives of No Further Action and Institutional Controls were eliminated because neither alternative removes UXO from the site,

and since UXO was encountered at this site during the 1996 investigation, the risk remaining to both recreational users (day use only) and potential future construction workers is unacceptably high. Subsurface clearance to depth and construction support will be considered to mitigate additional risks in the future if the land use in the sector changes.

The proposed action for Sector 2 is Surface and Subsurface Clearance to Depth. In this sector, the action is intended to reduce risk of UXO exposure to workers at the Sycamore Canyon Landfill and recreational users of the site. The selected action represents a change from the action proposed in the EE/CA of Surface Clearance only and is based on the expectation that the Sycamore Canyon Landfill will continue to expand to cover most of this sector. The alternatives of No Further Action and Institutional Controls were eliminated because neither alternative removes UXO from the site, and since UXO was encountered during the 1996 investigation, the remaining risk to landfill workers is unacceptably high. The Surface Clearance in Sector 2 will be conducted in areas where previous OE removal operations have not already been conducted. Subsurface clearance and construction support will be provided as the landfill expands beyond its current boundaries. OE removal operations have already been conducted in the area currently occupied by the landfill, and a Time-Critical Removal Action for Sector 4 included approximately 53 acres of Sector 2 to the south and northeast of the landfill.

The proposed action for Sector 3 is Surface Clearance. This represents a change in the proposed action from the recommendation in the EE/CA of Institutional Controls. Two OE items were found in Sector 3 near the border of Mission Trails Regional Park, which indicate that UXO may be present. In light of this evidence and with consideration of stakeholder concerns, the USACE decided to conduct the more protective alternative of Surface Clearance rather than Institutional Controls. Subsurface clearance and construction support will be considered to mitigate additional risks in the future if land use in this sector changes.

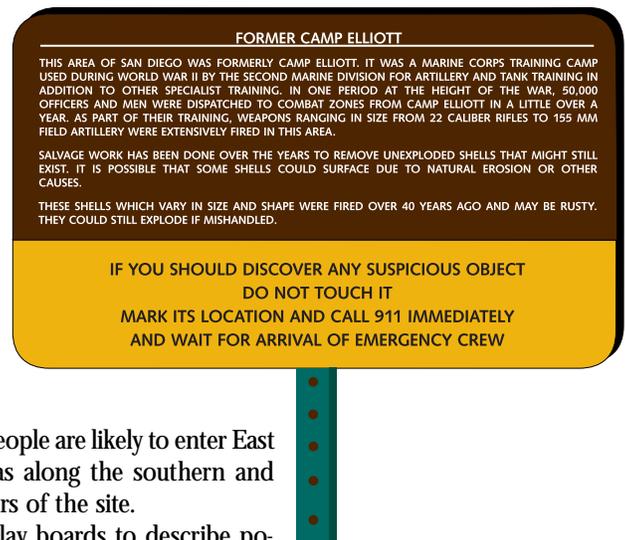
The proposed action for Sector 4 is Surface and Subsurface Clearance to Depth. Surface Clearance has already been performed on approximately 600 acres of Sector 4 during a Time-Critical Removal Action in open areas, roads, and trails. This action will reduce risk to UXO exposure in Sector 4, an area that was determined to pose the highest risk to the general public of all four sectors. This risk determination is based on the relatively high number of UXO items found during the 1996 investigation, the high level of recreational use of the site, and the proximity of this sector to residential neighborhoods in Santee and the West Hills High School (Figure 1). In addition, numerous magnetic anomalies observed during the Time-Critical Removal Action at this site may indicate the presence of subsurface OE (Montgomery

Watson, 1999). The alternatives of No Further Action and Institutional Controls were eliminated because these actions would result in an unacceptable level of risk at the site. The alternative of Construction Support was eliminated because this alternative would not provide risk reduction for recreational users.

The recommended action for each sector meets the response action goal of minimizing the public's exposure to OE, thereby reducing the risk of injury or death. Because these actions will not completely eliminate the possibility of encountering UXO, residual risk management measures will be implemented to provide additional protection to the public. These additional risk management measures include the following:

- Placement of at least eight informational signs to inform site users of the potential for OE and to provide emergency contact information if UXO is encountered (Figure 8). Informational signs will be placed on public property at loca-

Figure 8. Sample informational sign.



tions where people are likely to enter East Elliott, such as along the southern and eastern borders of the site.

- Use of display boards to describe potential hazards and to provide information on what to do if OE is encountered. If needed, display boards will be installed in public areas.
- Compliance with California Real Estate disclosure laws by establishing deed notification for each parcel at East Elliott.
- Notification about potential subsurface hazards through the building permit system.
- A Public Involvement Program including coordination of public meetings to describe the removal actions taken at the site and what risks may remain. The Public Involvement Program is described in the PIP (Montgomery Watson, 2001b).
- Implementation of public education programs aimed at people who are most likely to use the site, such as landfill employees and high school

students. These educational programs will also serve to explain the hazards associated with UXO, identify procedures to limit potential exposure, and identify actions to be taken in case of discovery of or exposure to UXO.

- Notification of property owners and local residents with regular fact sheets, newsletters, brochures, and an Internet site.

East Elliott will also be included in a long-term monitoring (recurring review) program designed to assess the continued effectiveness of the action proposed for the site. Reviews will be performed every five years after completion of the action or more frequently as circumstances warrant. During the action, a baseline for monitoring erosion will be established to determine if subsurface OE not included in the removal action will become exposed.

Project Schedule

A Surface Clearance action is currently scheduled and funded for Sector 3 in Summer 2001. After this Action Memorandum is signed, the removal actions for East Elliott will be scheduled to address the immediate hazards first. Therefore, clearance actions will be prioritized with input from the stakeholders. All removal action work described in this Action Memorandum will be performed as funding is appropriated.

Cost of Proposed Action

The total initial cost of all proposed actions is approximately \$15,000,000. These costs do not include activities associated with recurring reviews and additional clearance activities associated with changes in land use. The total cost differs from the cost estimated in the EE/CA because the action at Sector 3 was changed from Institutional Controls to Surface Clearance.

EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

If the action outlined in this Action Memorandum is delayed or not taken, the potential exists of continued and substantial endangerment to public health or welfare.

RECOMMENDATION AND APPROVAL

This Action Memorandum decision document represents the proposed action for reducing OE risk at East Elliott. The decision is based upon the administrative record for the site. Approval of the proposed action is included in the signature box below.

REFERENCES

- City of San Diego. 1971. Elliott Community Plan, San Diego City Planning Department. March.
- Environmental Protection Agency (EPA). 1990. Superfund Removal Procedures, Action Memorandum Guidance. December.
- Human Factors Associates, Inc. (HFA). 1999. Draft Removal Report, Ordnance and Explosives Removal Action, East Elliott, San Diego, California. March.
- Montgomery Watson. 1999. Final Engineering Evaluation/Cost Analysis, Formerly-Used Defense Site Camp Elliott (East Elliott), California. August.
- Montgomery Watson. 2001a. Responsiveness Summary, Formerly-Used Defense Site Camp Elliott (East Elliott), California. May.
- Montgomery Watson. 2001b. Public Involvement Plan, Formerly-Used Defense Site Camp Elliott (East Elliott), California. May.

SITE AND LOCATION

East Elliott Formerly-Used Defense Site Camp Elliott
San Diego, California

STATEMENT OF BASIS

The removal action proposed in this Action Memorandum is based on the results of a statistically-based ordnance survey at East Elliott conducted in 1996, and with consideration of other investigations or activities conducted prior to and subsequent to 1996 which provided data relevant to OE at East Elliott.

DESCRIPTION OF THE SELECTED REMEDY

As described in this Action Memorandum, the USACE proposes to conduct OE surface clearance activities in all sectors of East Elliott, and subsurface clearance activities in Sectors 2 and 4. If land uses change, subsurface clearance may also be performed in Sectors 1 and 3. Additional risk management

measures are proposed for East Elliott, including the placement of informational signs and display boards, a public education program, real estate disclosures, and a public involvement program.

DECLARATION

This decision document represents the selected response action for the Formerly-Used Defense Site Camp Elliott (East Elliott), located in San Diego, California. The selected response action was developed in accordance with CERCLA as amended by the Superfund Amendments and Reauthorization Act (SARA), and is consistent with the National Contingency Plan (NCP). This decision is based on the administrative record for this site.

R.L. Van Antwerp, Major General, GS, Assistant Chief of Staff for Installation Management

Date