Proposed Plan Sites 32 and 33 Military Ocean Terminal Concord

Concord, California ***August 2011***

DEPARTMENT OF THE ARMY ANNOUNCES A PROPOSED PLAN FOR MOTCO SITES 32 AND 33 AND REQUESTS PUBLIC COMMENT

INTRODUCTION

The ***Department of the Army (Army)*** invites you to comment (see page 13, comment process) on the Proposed Plan for Sites 32 (Mosquito Ditches) and Site 33 (Lost Slough) in the ***Litigation Area*** at ***Military Ocean Terminal Concord*** (MOTCO) in Concord, California (see Figure 1). The Army is the lead agency for environmental cleanup at these sites and has worked extensively with the following regulatory agencies to evaluate remediation alternatives and recommend the preferred remediation alternative: ***U.S. Environmental Protection Agency (EPA), the California EPA Department of Toxic Substances Control (DTSC), the California Department of Fish and Game (CDFG), and the San Francisco Bay Regional Water Quality Control Board (Water Board).***

The Army's preferred remedial alternative for contaminated sediment in Site 32 and Site 33, where metal concentrations exceed acceptable levels for plant and animal life**,** is an active or passive ***in-situ*** (in place) cap. The selection and design of an active or passive in-situ cap will be determined following a treatability study of cap material effectiveness, currently underway. The preferred remedial alternative was selected because of overall protection to human health and the environment. The regulatory agencies participated in the Army's evaluation of the remedial alternatives using EPA's Nine Evaluation Criteria presented in Figure 2.

In 2009, the Army presented a previous Proposed Plan for Sites 32 and 33 that recommended excavation and off-site disposal as the preferred alternative for the metal impacted sediments. During a preliminary review process, the Army and regulatory agencies recognized the negative environmental impact that excavation and off-site disposal would cause to sensitive plants and animals at Sites 32 and 33. Therefore, the Army prepared an addendum to the 2008 supplemental feasibility study that focused on physical/chemical barriers (passive/active caps) and this action changed the 2009 proposed preferred alternative. Information that supports the revised preferred alternative summarized in this Proposed Plan can be found in greater detail in the final Supplemental Feasibility Study Addendum (SFSA) for Sites 32 and 33, dated May 20, 2011.

The proposed remediation of the sites is part of the Army's ***Installation Restoration (IR)*** Program. The purpose of the IR Program is to identify, evaluate, and clean up Army sites where hazardous substances have been released to the environment. The main purpose of the Proposed Plan

For more information on how the public can comment, see page 12.

—NOTICE—

Public Comment Period

August 22, 2011 through September 21, 2011

Public Meeting

Wednesday, September 7, 2011

Clyde Community Center
109 Wellington Avenue
Clyde, CA 94530
6:00 p.m. to 7:30 p.m.

All words in ***bold italic*** print are defined in the Glossary of Terms starting on page 13.

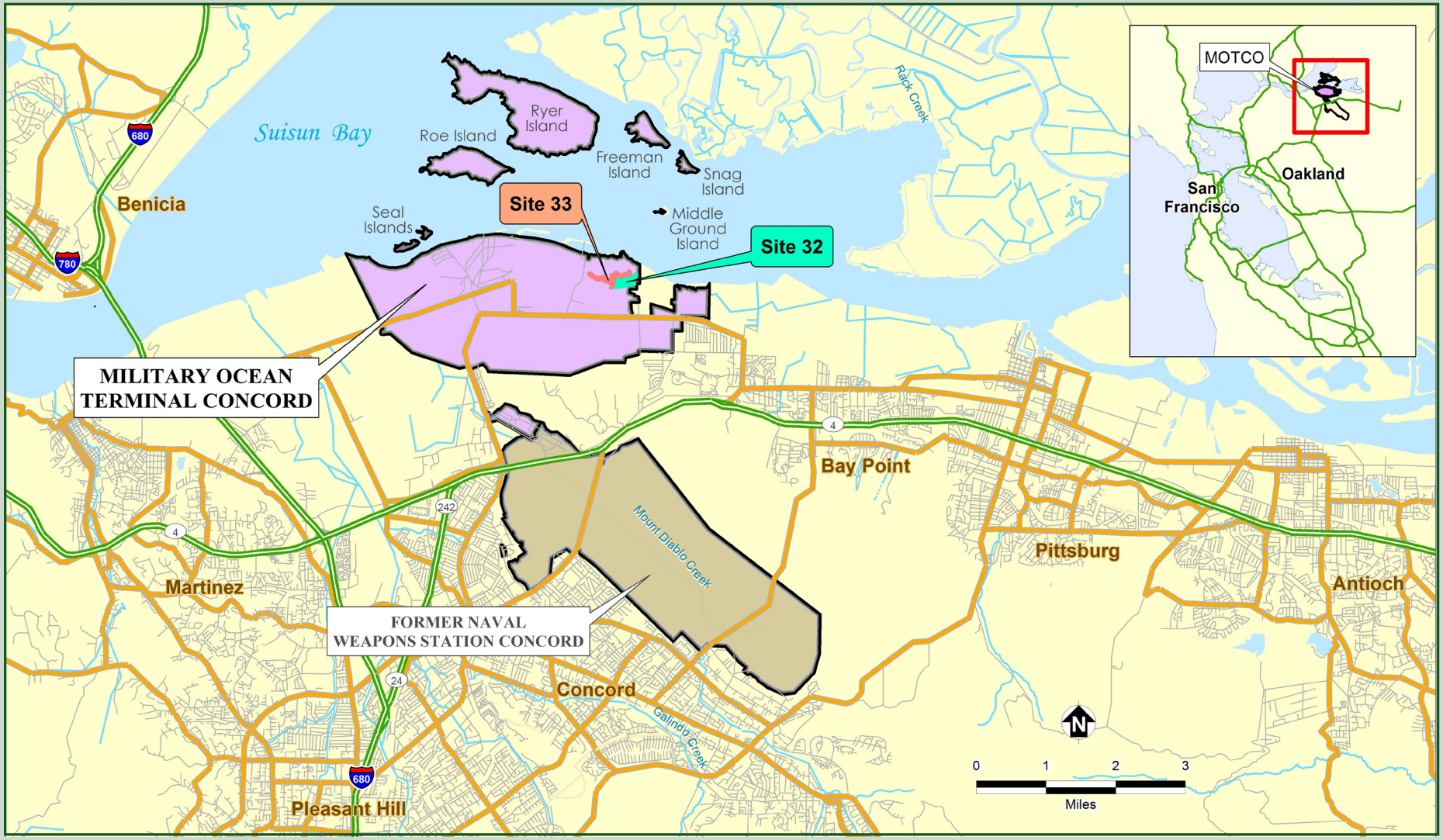

Figure 1. Location of MOTCO and Sites 32 and 33

All words in ***bold italic*** print are defined in the Glossary of Terms starting on page 13.

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is to encourage public participation in the remedy selection process. This Proposed Plan summarizes the site history, the environmental investigations, and the remedial alternatives evaluated in accordance with the ***Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)***, as amended by the ***Superfund Amendments and Reauthorization Act***, and explains the basis for the identification of the preferred alternative.

A document called the ***Record of Decision (ROD)*** will memorialize the Army's final decisions and provide a responsiveness summary to public comments received verbally at the public meeting and in writing during the comment period. All site-related documents are available for review in the information repository, as described on page 12, Commuity Participation.

The CERCLA Process

The Army is issuing this Proposed Plan as part of its public participation responsibilities under Section (§) 117(a) of CERCLA and § 300.430(f) (2) of the ***National Oil and Hazardous Substances Pollution Contingency Plan (NCP)***. In 1989, the Navy conducted environmental investigations and cleanup for the Litigation Area following the CERCLA process shown in Figure 3 from Step 1 through Step 6. The first Five-Year Review, which was completed in 2003, was based on post-remediation monitoring data. It concluded that Sites 32 and 33 were not protective of the environment and recommended a Supplemental Feasibility Study (SFS) for the areas of concern. In 2008 the SFS was prepared for Sites 32 and 33, followed by a Proposed Plan in 2009 recommending excavation and off-site disposal as the preferred alternative. However, it was recognized that the preferred alternative would have negative impacts to the sensitive habitat of the area and the Army reevaluated the remedial alternatives, and the SFSA changed the preferred remedy to an in-situ cap. The current stage in the process is Step 3 on Figure 3, the Proposed Plan and remedy selection for the revised alternative. Remaining activities include the ROD, remedial design, remedial action, long-term monitoring, and site closure.

In consultation with the regulatory agencies, the Army may modify the preferred alternative or select another remedial option based on feedback from the community or on new information received. Therefore, the community is strongly encouraged to review and comment on this Proposed Plan.

Figure 2. EPA's Nine Evaluation Criteria

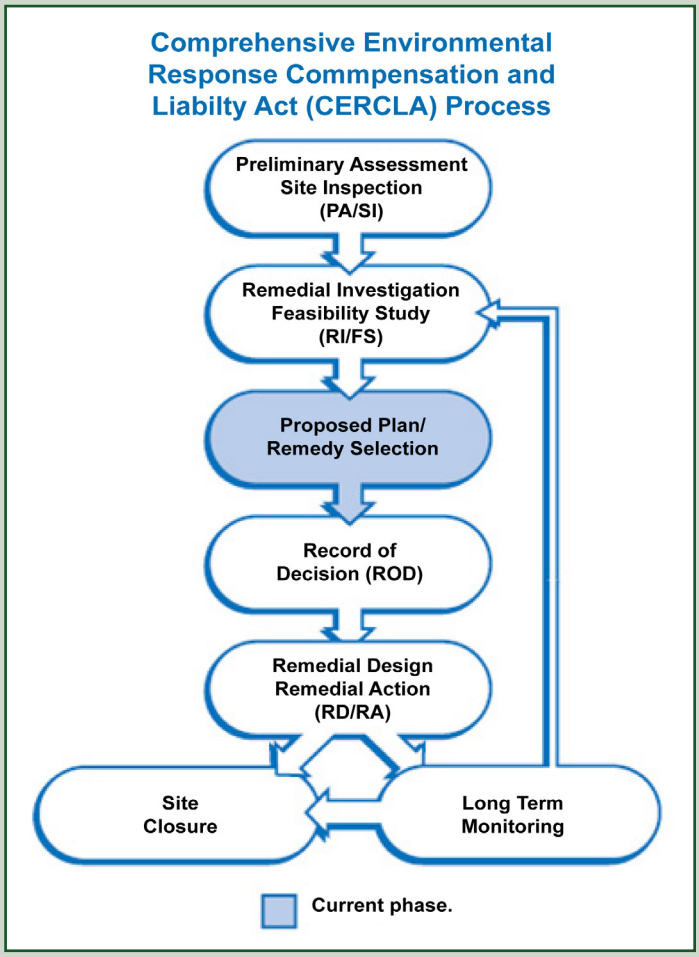

Figure 3. CERCLA Process

Site 32 – Includes a network of drainage ditches and cross connections. The ditches range from 1 to 5 feet deep and 1 to 4 feet wide.

Site 33 – Site 33 consists of the Lost Slough, which is a natural slough that meanders through the marsh into Suisun Bay.

SITE BACKGROUND AND CHARACTERISTICS

MOTCO is in north-central Contra Costa County, approximately 30 miles northeast of San Francisco, California (see Figure 1). MOTCO operates as an ocean shipping terminal to transfer ordnance from trucks or railcars to ships. The property at MOTCO was transferred from the Navy to the Army in 2008. The Navy was the federal agency responsible for administration and enforcement of CERCLA at the installation until the property was transferred, and the Army now bears that responsibility.

The area of Sites 32 and 33 are within brackish wetlands north of Los Medanos Hills and south of Suisun Bay. Site 32 and 33 lie within tidal marshes of the Suisun Bay sub region of San Francisco Bay, and includes some surrounding upland grasslands and riparian areas. The area supports populations of sensitive species, such as the federally and state-listed endangered salt marsh harvest mouse (*Reithrodontomys raviventris*), state-listed threatened California black rail (*Laterallus jamaicensis coturniculus*), and rare plants such as soft bird's beak (*Cordyalanthus mollis mollis*). In the late 1960s and early 1970s, the Navy purchased several parcels of land to create a buffer zone for ***munitions*** loading at the installation. In 1980, the California Department of Health Services concluded that the previous industrial land owners contaminated the land the Navy purchased. These purchased parcels of land are known as the Litigation Area because of litigation the Navy initiated against the former owners of the property who were responsible for the site contamination. In 1983, the Navy initiated ***remedial investigations (RI)*** and a ***feasibility study (FS)*** of the area under CERCLA. The FS grouped the area into four remedial action subsites (RASS), 1 through 4; Sites 32 and 33 are located in RASS 1 (Figure 4). Investigations conducted at Sites 32 and 33 identified six metals (arsenic, cadmium, copper, lead, selenium, and zinc) as chemicals of concern (COC). In 1989, the Navy issued a Final Remedial Action Plan (RAP) and unilaterally signed a ROD for remediation of

Confluence of Units 10 and 11 of Lost Slough

California Black Rail

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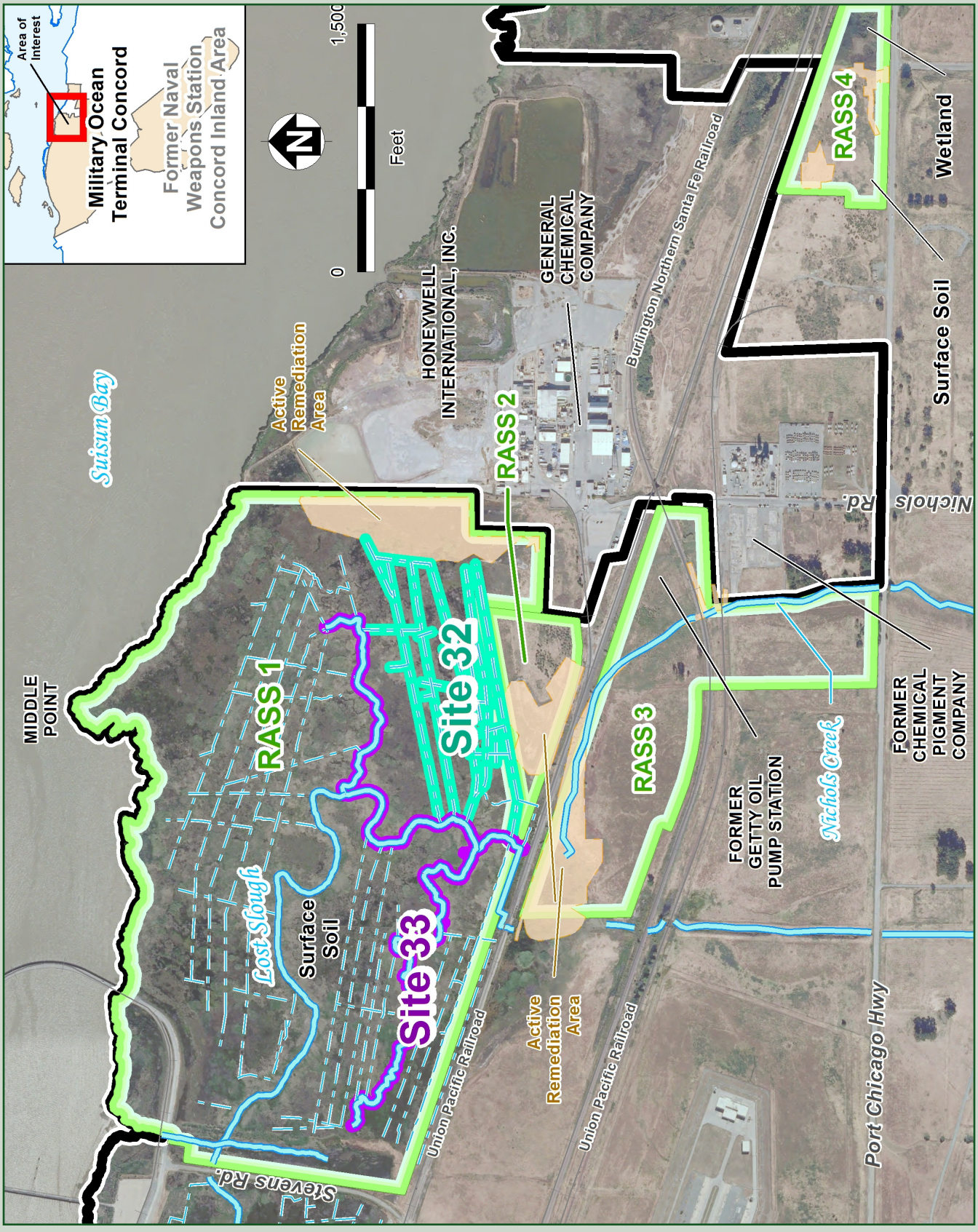

Figure 4. Site 32 and 33 Location

the sites. The Navy conducted active remediation (excavation and off-site disposal of contaminated soil) between 1992 and 1995 and completed site revegetation field work by 1996. Figure 4 identifies the area of the active remediation conducted by the Navy. The remediation efforts by the Navy were successful in reducing risk and meeting the remedial action objectives and goals stated in the ROD. Figure 5 summarizes the site history in a timeline for Sites 32 and 33 from the past industrial operations to the current Proposed Plan.

The Navy implemented a monitoring plan as part of its remedial design to monitor the effects and mobility of chemicals left in place after the contaminated soil had been removed. In 2003, the Navy conducted a Five-Year Review which evaluated the implementation and effectiveness of the selected remedy and assessed whether additional actions were necessary. The Five-Year Review included more extensive sampling than previously conducted in RASS 1, a ***baseline ecological risk assessment (BERA),*** and a screening-level human health risk assessment. The Five-Year Review concluded that the residual contamination in RASS 1 posed risk to the environment based on elevated concentrations of metals (arsenic, cadmium, copper, lead, mercury selenium, and zinc) in the bottom sediments of Site 32 and in the sediments of Site 33.

SCOPE AND ROLE OF ACTIONS AT SITES 32 AND 33

This Proposed Plan presents the Army's ***preferred remedial alternative*** for addressing sediment contamination. The Army's preferred alternative to protect the environment is placement of an in-situ cap at Sites 32 and 33. Placing an in-situ cap over the contaminated sediments at Site 32 and Site 33 would address the environmental site risks. The Army proposes its preferred remedy, as identified in this Proposed Plan, to be the final response action for Sites 32 and 33.

SUMMARY OF SITE RISKS

Human Health Risk Assessment

The Army completed a screening-level ***human health risk assessment*** and BERA for Sites 32 and 33. The risk assessments measure the chance that human health or the environment will be harmed as the result of the presence of environmental hazards. Sites 32 and 33 will continue to be the property of the Army and act as a buffer zone for the Tidal Area operations into the reasonably foreseeable future; as such, there are no plans for future public access to Sites 32 and 33. Sites 32 and 33 will remain part of an active base for military operations. There is limited access for military personnel working at the facility, and no plan for future residential development. The current land use scenario considers risk to human health for exposure to site workers. The only current site worker at these areas is a mosquito abatement control worker.

This human health risk assessment concluded that exposure to metal concentrations in the sediments at Site 32 and at Site 33 does not pose unacceptable risk to workers under current land use scenarios.

Ecological Risk Assessment

A BERA was performed to evaluate environmental risks to plants, fish, aquatic invertebrates, birds, and mammals. The BERA made the following conclusions:

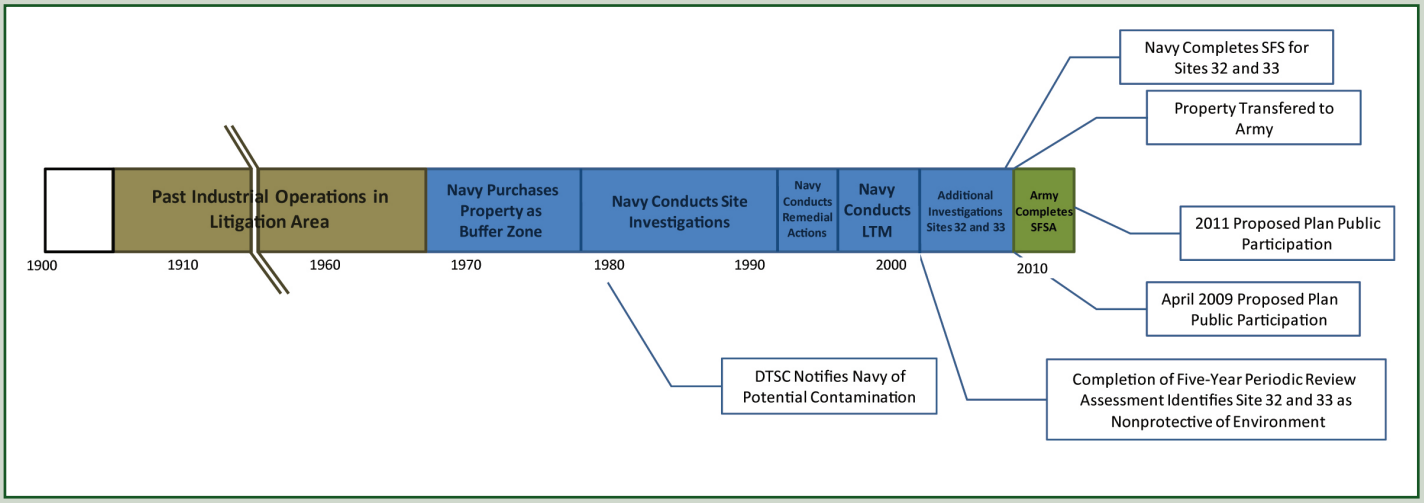

Figure 5. Site 32 and 33 Property Time Line

All words in ***bold italic*** print are defined in the Glossary of Terms starting on page 13.

- Metal concentrations in soil and sediment at selected areas of the site can pose unacceptable risk to individual plants for some species; however, unacceptable risk is not indicated at the population level for any wetland or upland plant species at the Litigation Area.
- Metal concentrations in sediment and surface water can pose unacceptable risk to fish and aquatic invertebrates at selected locations in the main reach and western arm of the Lost Slough.
- Metal concentrations in sediment and surface water can pose unacceptable risk to the California black rail and, to a lesser extent, the Suisun song sparrow along areas of the main reach and western arm of Lost Slough and the mosquito abatement ditches.

Use of Preferred Alternative to Address Risk

The Army's recommendation is that the preferred alternative identified in this Proposed Plan is necessary to protect the environment at Sites 32 and 33 from metals (arsenic, cadmium, copper, mercury, lead, selenium, and zinc) contaminated sediment. Placement of cap material on top of the sediments will isolate the metals and block the exposure pathway of the metals from the environment. In addition, this alternative is sensitive to the existing habitat because it is less destructive than excavation.

REMEDIAL ACTION OBJECTIVES AND REMEDIATION GOALS

Potential cleanup alternatives were developed and evaluated during the ***feasibility study (FS)*** phase. The first step in that process was developing the ***remedial action objectives (RAOs)***. The RAOs were established for each site to assist with identifying and screening alternatives that protect the public and the environment. RAOs were developed to protect the environment for each site.

Remediation goals (RG) were developed for Site 32 and Site 33 to meet the RAOs for sediments contaminated by metals. RGs are the highest concentration of metals that can remain in place and be protective of the environment. The RAOs and RGs were developed to address the risk posed by the metal concentrations as identified by the ecological risk assessment.

Based on the site-specific information presented in the Five-Year Review and site investigations, the following RAOs were identified for:

- Site 32: Reduce exposure of fish and aquatic invertebrates and birds to protective levels of arsenic, cadmium, copper, mercury, lead, selenium, and zinc in sediments originating from the mosquito abatement ditches and associated spurs at Site 32.
- Site 33: Reduce exposure of fish, aquatic invertebrates, and birds to protective levels of arsenic, cadmium, copper, mercury, lead, selenium, and zinc in sediment originating from the Lost Slough at Site 33.

Lost Slough

Ultimately, two sets of RGs were established: (1) area-weighted average RGs, which represent concentrations to be achieved for each site as a whole, and (2) do-not-exceed RGs, which represent concentrations not to be exceeded at any individual location within the site. A ***geographic information system (GIS)*** remediation model was used to establish the remedial action footprint and the target area-weighted average RGs. The RGs for the two sites differ based on difference in total area. Table 1 presents the RGs for Site 32, mosquito abatement ditches, and Site 33, Lost Slough. Figure 6 shows the areas to be remediated within Sites 32 and 33, the areas where the RGs listed in Tables 2 were exceeded.

SUMMARY OF ALTERNATIVES

In 2008, the Navy prepared an SFS, which recommended excavation with off-site disposal as the preferred alternative for Site 32 and excavation, off-site disposal, and filling as the preferred alternative for Site 33. In April 2009, the Army prepared a Proposed Plan for Sites 32 and 33 and held a public meeting on May 6, 2009, for the preferred alternative of excavation and off-site disposal. During development of the remedial design, the Army, which became responsible for the site in 2008, consulted in more detail with the EPA, DTSC, Water Board, CDFG, and U.S. Fish and Wildlife Service on protection requirements for the threatened and endangered species at Sites 32 and 33 and in particular the state-listed threatened

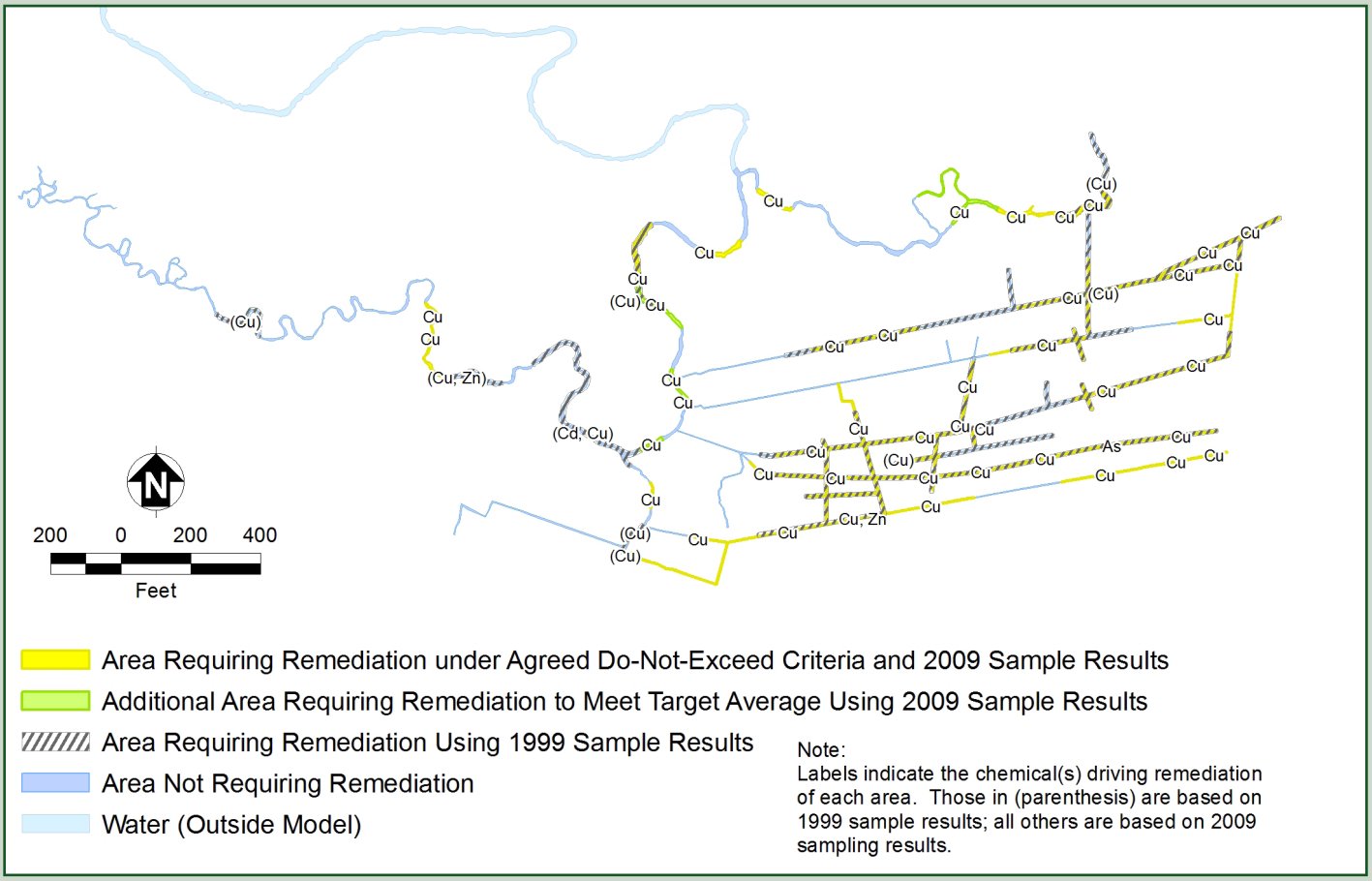

Figure 6. Areas to be Remediated

species (California black rail) and the state- and federally listed endangered species (salt marsh harvest mouse). The marshland site conditions are sufficiently sensitive and the protection requirements sufficiently stringent that implementation of remediation alternative that involve excavation at Sites 32 and 33 may not be protective of the environment. In addition, implementation may be difficult within the soft marshland habitat conditions. Implementation of the alternative would require excavation, which in turn would necessitate construction of temporary access roadways and removal of vegetation in the construction areas — rendering this alternative extremely difficult to implement and possibly destructive to the existing habitat. The Army and the agencies are sensitive to the possibility of long-term disturbance to the larger habitat because the existing marsh offers valuable and high-quality habitat

TABLE 1: REMEDIATION GOALS FOR SITE 32 AND SITE 33

Source	Remediation Goals						
	Arsenic (mg/kg)	Cadmium (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Selenium (mg/kg)	Zinc (mg/kg)
Site 32 (Mosquito Abatement Ditches)							
Target (Area-Weighted Average Concentration)	689	12.2	111	95.0	2.98	12.0	2,420
Remediation Goal (Do-Not-Exceed Criteria)	1,380	124	200	553	6.89	24.19	12,100
Site 33 (Units 10 & 11 of Lost Slough)							
Target (Area-Weighted Average Concentration)	603	10.7	96.7	95.0	2.62	16.1	2,110
Remediation Goal (Do-Not-Exceed Criteria)	1,200	120	139	484	6.03	28.3	10,600

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despite the ecological risk within the smaller contaminated areas. To address these concerns, the Army developed an addendum to the SFS in 2011 that included additional capping alternative for Sites 32 and 33 along with the previous alternatives presented in the initial SFS.

Table 2 below describes the remediation alternatives evaluated in the SFSA.

EVALUATION OF ALTERNATIVES

The SFSA screened each alternative relative to the nine criteria listed in the NCP (see Figure 3) to evaluate and select the preferred remedial alternative for Sites 32 and 33 to effectively meet the RAOs. The eighth criterion, state acceptance, is documented in this Proposed Plan, and the ninth criterion, community acceptance, will be evaluated after the close of the public comment period described in this Proposed Plan. For this reason, the Army encourages the public to comment on this proposed plan. The "De-

TABLE 2: REMEDIAL ALTERNATIVES EVALUATED FOR SITE 32 AND 33

Site 32 Remedial Alternatives

Remedial Alternative	Cost ($M)	Description of Remedial Alternative
Alternative MD-1 No Action	NA	CERCLA requires an evaluation of a "No Action" alternative to provide a baseline for comparison with other options. Under a "No Action" alternative, no cleanup is conducted.
Alternative MD-2 Monitoring	$1.6	Monitoring involves annual sampling and analysis of sediment in the ditches to maintain awareness of site conditions. Evaluation of the monitoring data identifies trends in chemical concentrations and natural sediment accretion rates at the site.
Alternative MD-3 Excavation	$12.0	Excavation to remove the upper foot of the contaminated sediment. Excavated sediment would be disposed of off -site in a landfill. This remediation alternative requires removing vegetation, installing temporary roadways, and dewatering the ditches.
Alternative MD-4A Active In-situ Cap	$6.8	Placement of an active 6-inch in-situ cap consisting material such as apatite mineral. The active material isolates the contaminated sediments from the environment and reduces mobility by binding of contaminants to the cap material.
Alternative MD-4P Passive In-situ Cap	$3.5	Placement of a passive 6-inch-thick in-situ cap of natural material such as Bay Mud over the contaminated sediments. The passive material isolates the contaminated sediments from the environment. Natural properties of the Bay Mud may reduce mobility of the chemicals because of the ability of Bay Mud to sequester metals.

Site 33 Remedial Alternatives

Remedial Alternative	Cost ($M)	Description of Remedial Alternative
Alternative LS-1 No Action	NA	CERCLA requires an evaluation of a "No Action" alternative to provide a baseline for comparison with other options. Under a "No Action" alternative, no cleanup is conducted.
Alternative LS-2 Monitoring	$2.4	Monitoring involves annual sampling and analysis of sediment in the slough bottom to maintain awareness of site conditions. Evaluation of the monitoring identifies trends in chemical concentrations and natural sediment accretion rates at the site.
Alternative LS-3 Excavation	$10.2	Excavation to remove the upper 1 foot of the contaminated sediment. Excavated sediment would be disposed of off-site in a landfill. This remediation alternative requires removing vegetation, installing temporary roadways within the marsh, and dewatering the sloughs.
Alternative LS-4A Active In-situ Cap	$6.6	Placement of an active 6-inch in-situ cap consisting material such as apatite mineral. The active material isolates the contaminated sediments from the environment and reduces mobility by binding of contaminants to the cap material.
Alternative LS-4P Passive In-situ Cap	$4.0	Placement of a passive 6-inch-thick in-situ cap of natural material such as Bay Mud over the contaminated sediments. The passive material isolates the contaminated sediments from the environment. Natural properties of the Bay Mud may reduce mobility of the chemicals because of the ability of Bay Mud to sequester metals.

tailed Analysis of Alternatives" can be found in the final SFSA; copies are located in the information repository (see page 13 for location).

A numerical ranking of the analysis for each remedial alternative compares the alternatives with respect to the first seven NCP criteria. Threshold criteria, which include (1) overall protection of human health and the environment, and (2) compliance with ***applicable or relevant and appropriate requirements (ARARs)***, were assigned positive (yes) or negative (no) values to conduct the ranking analysis. To conduct the ranking analysis, a score from 0 to 5 was assigned to each alternative for each of the five balancing criteria, with a score of 5 being best and 0 being least satisfactory.

The No-Action (MD-1 and LS-1) alternative is required to be evaluated under CERCLA and is included only as a point of comparison. Under this option, no action would be taken to clean up the contamination. This alternative does not meet ARARs, protect the environment, or provide long-term effectiveness and permanence and therefore is not ranked.

SITE 32

A detailed comparative analysis of each remediation alternative at Site 32 for the CERCLA required threshold and balancing criteria was completed in the SFSA, and a summary of that evaluation is presented in Table 3. The comparative analysis ranked Alternative MD-4A, Active In-situ Cap, and Alternative MD-4P, Passive In-situ Cap, as the highest ranked alternatives and within a point of one another.

Alternative MD-3 is considered too difficult to implement, and the Army does not support selection of that alternative. Alternative MD-2 involves monitoring only while natural sedimentation continues the process of burying the sediments in the mosquito ditches. Although Alternative MD-2 is the least intrusive alternative, the in-situ capping Alternative MD-4A and Alternative MD-4P are relatively easy to implement in the mosquito ditches because of their limited width and depth. The in-situ capping alternative is an excellent choice for the mosquito ditches because they are located in the vicinity of the original contaminant source and the contaminant levels remain relatively high.

TABLE 3: SITE 32 EVALUATION SUMMARY FOR REMEDIAL ACTION ALTERNATIVES

		Evaluation Criterion	Alternative and Description				
			Alternative MD-1 No Action	Alternative MD-2 Monitoring	Alternative MD-3 Excavation	Alternative MD-4A Active In-situ Cap	Alternative MD-4P Passive In-situ Cap
Threshold Criteria	1	Overall Protection of Human Health and the Environment	No, does not protect the environment	Yes, with a score of 1	Yes, with a score of 3	Yes, with a score of 4	Yes, with a score of 4
	2	Compliance with ARARS	No, does not comply with ARARs	Yes, complies with ARARs	Yes, complies with ARARs	Yes, complies with ARARs	Yes, complies with ARARs
Balancing Criteria Score	3	Long-Term Effectiveness and Permanence	Not Ranked	1	3	4	4
	4	Reduction of Toxicity, Mobility, or Volume through Treatment	Not Ranked	1	1	4	2
	5	Short-Term Effectiveness	Not Ranked	3	1	4	4
	6	Implementability	Not Ranked	4	1	5	5
	7	Cost	Not Ranked	5	1	3	4
	Preliminary Ranking Summary		**Not Ranked**	**14**	**7**	**20**	**19**
Modifying Criteria	Meets with State Acceptance		No	No	No	Yes	Yes
	Meets with Community Acceptance		To be determined	To be determined	To be determined	To be determined	To be determined

All words in ***bold italic*** print are defined in the Glossary of Terms starting on page 13.

SITE 33

A detailed comparative analysis of each remediation alternative at Site 33 for the CERCLA-required threshold and balancing criteria was completed in the SFSA and a summary of that evaluation is presented in Table 4. The comparative analysis ranked Alternative LS-4A, Active In-situ Cap, or Alternative LS-4P, Passive In-situ Cap, as the highest ranked alternatives and within one point of one another.

Alternative LS-2, monitoring, does not provide long-term effectiveness or reduction of toxicity, mobility, or volume through treatment as do the in-situ capping materials provided by Alternative LP-4A and Alternative LP-4P. As a result, the ranking for Alternative LS-2 follows behind the in-situ capping Alternative LS-4A and Alternative LS-4P. Placing an in-situ cap in the slough environment is expected to result in some short-term impact, as contaminated sediments are disturbed by the workers.

PREFERRED ALTERNATIVE

Based on the comparative analysis of remedial alternatives, the Army and the regulatory agencies agree that the preferred alternative at Sites 32 is Alternative MD-4A or Alternative MD-4P and that the preferred alternative for Site 33 is Alternative LS-4A or Alternative LS-4P. Installation of an in-situ cap along the bottom of the mosquito ditches and the slough channel (over the bottom sediments) will isolate the elevated metal concentrations from the environment, thus preventing exposure of these contaminants to the environment and animals. The preferred alternative meets the statutory requirements of CERCLA for protection of the environment. Each preferred remedial alternative was selected for the reasons summarized below:

1. Provides overall protection of the environment by isolating the contaminated sediments.
2. Meets federal and state ARARs.
3. Reduces toxicity, mobility, and volume of contaminated sediments.
4. Minimized damage to the marsh habitat during remediation.

TABLE 4: SITE 33 EVALUATION SUMMARY FOR REMEDIAL ACTION ALTERNATIVES

Evaluation Criterion			Alternative and Description				
			Alternative LS-1 No Action	Alternative LS-2 Monitoring	Alternative LS-3 Excavation	Alternative LS-4A Active In-situ Cap	Alternative LS-4P Passive In-situ Cap
Threshold Criteria	1	Overall Protection of Human Health and the Environment	No, does not protect the environment	Yes, with a score of 1	Yes, with a score of 3	Yes, with a score of 4	Yes, with a score of 4
	2	Compliance with ARARS	No, does not comply with ARARs	Yes, complies with ARARs	Yes, complies with ARARs	Yes, complies with ARARs	Yes, complies with ARARs
Balancing Criteria Score	3	Long-Term Effectiveness and Permanence	Not Ranked	1	3	4	4
	4	Reduction of Toxicity, Mobility, or Volume through Treatment	Not Ranked	1	1	4	2
	5	Short-Term Effectiveness	Not Ranked	3	1	3	3
	6	Implementability	Not Ranked	4	1	4	4
	7	Cost	Not Ranked	5	1	3	4
	Preliminary Ranking Summary		**Not Ranked**	**14**	**7**	**18**	**17**
Modifying Criteria	Meets with State Acceptance		No	No	No	Yes	Yes
	Meets with Community Acceptance		To be determined	To be determined	To be determined	To be determined	To be determined

PREFERRED ALTERNATIVE

- **Site 32 and Site 33** Army's preferred alternative is a passive or active in-situ cap placed over the contaminated sediments, isolating the chemicals from the environment

Under the preferred alternative, an in-situ cap of clean material would be spread over contaminated sediment (Figure 7). Figure 6 shows the required remediation footprint and location of the cap for Sites 32 and 33. Passive cap materials generally consist of granular material such as sand, clean sediment, or gravel. Cap materials may also consist of reactive materials that can sequester or immobilize metal contaminants in sediment, creating a reliable, stable, and long-lasting cap in aquatic environments. Currently, the cap would be put in place with a helicopter to spread the material in the mosquito ditches and slough, eliminating the need for road construction. Field crews on the ground would guide placement and spread the cap material. Helicopter placement for this project would not significantly disturb the sensitive marsh surfaces and vegetation.

The remedial design, which will follow this Proposed Plan and ROD, will include a treatability study for passive and active cap materials. Data generated during the treatability study will result in better understanding of the effectiveness of the various materials proposed and the required thickness of the cap. The treatability study may demonstrate that the two types of cap (passive cap or active cap material) are equally effective. The remedial design effort will determine the final material and design of the cap.

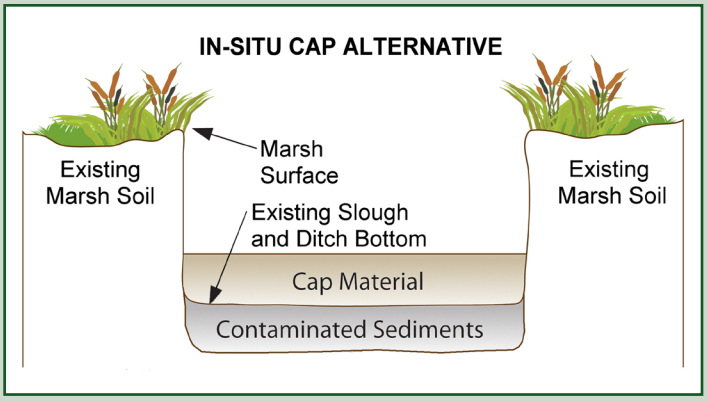

Figure 7. In-situ Cap

Army and Multi-Agency Environmental Team Supportive Statement

Based on information currently available, the lead agency (Army) believes the preferred alternative meets the threshold criteria and provides the best balance of tradeoffs among the other alternatives. The Army further expects the preferred alternative to satisfy the following statutory requirements of CERCLA §121(b): (1) be protective of human health and the environment; (2) comply with ARARs; (3) be cost-effective; (4) use permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and (5) satisfy the preference for treatment as a principal element.

The ***multi-agency environmental team*** coordinated reviews and oversight of the SFSA. Based on these reviews and discussions of key documents, the regulatory agencies support the Army's choice of the preferred remedial alternative.

COMMUNITY PARTICIPATION

The Army and the multi-agency environmental team encourage the public to gain a more thorough understanding of Sites 32 and 33 and the CERCLA activities that have been conducted at MOTCO by visiting the information repository, attending public meetings, and joining the mailing list to receive regular project information. Restoration Advisory Board meetings are held every other month and are open to the public.

The two ways for you to provide your comments on this Proposed Plan are summarized as follows:

1. **Public Comment Period.** During the public comment period from August 22, 2011, through September 21, 2011, you may use the comment form included with this Proposed Plan to send written comments via mail or e-mail to Mr. Guy Romine or Mr. Sunny Sea.
2. **Public Meeting.** You may provide written or oral comments during the public meeting that will be held from 6:00 to 7:30 p.m. on September 7, 2011, in the Clyde Community Center at 109 Wellington Avenue, Clyde, California 94520. A stenographer will be at the meeting to record all oral public comments.

All words in ***bold italic*** print are defined in the Glossary of Terms starting on page 13.

Information Repository

An information repository has been established to provide public access to technical reports and other Installation Restoration Program information. All site documents, meeting minutes, newsletters, public meeting announcements, and other items are available for review at:

Concord Public Library

2900 Salvio Street
Concord, California 94519
Phone: (925) 646-5455

Library Hours

Monday: 12:00-9:00 p.m.
Tuesday and Wednesday: 10:00-6:00 p.m.
Thursday: 12:00-9:00 p.m.
Friday and Saturday: 10:00 a.m.-5:00 p.m.
Sunday: 1:00 p.m.-5:00 p.m.

GLOSSARY OF TERMS

Applicable or Relevant and Appropriate Requirements (ARAR): Federal, state, and local regulations and standards determined to be legally applicable or relevant and appropriate to remedial actions at a CERCLA site.

Baseline Ecological Risk Assessment (BERA): Ecological risk assessment is a process for systematically evaluating the likelihood of adverse ecological effects as a result of exposure to contaminants.

California Department of Fish and Game (CDFG): The CDFG manages California's diverse fish, wildlife, and plant resources and the habitats they depend on.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): A federal law (also known as Superfund) that established a program to identify hazardous waste sites and procedures for evaluating sites to be protective of human health and the environment.

Department of the Army: The federal agency responsible for administration and enforcement of CERCLA (and other federal environmental regulations). The Army is the lead agency for MOTCO.

Department of Toxic Substances Control (DTSC): A part of the California Environmental Protection Agency, and Califor-

HOW THE PUBLIC CAN COMMENT

The 30-day comment period for the Proposed Plan is August 22, 2011, through September 21, 2011.

Submit Comments one of the following two ways during this period:

1. Offer oral or written comments during the public meeting
2. Provide written comments by mail or e-mail

Public Meeting

The public meeting will be held from 6:00 to 7:30 p.m. on September 7, 2011, in the Clyde Community Center at 109 Wellington Avenue, Clyde, California 94520. Army representatives will provide visual displays and information on the environmental investigations and the remedial alternatives evaluated. You will have an opportunity to ask questions and formally comment on this Proposed Plan.

Or you can send comments to:

Guy Romine
MOTCO Remedial Program Manager
410 Norman Avenue
Concord, CA 94520
Phone: (925) 246-4035
guy.romine1@us.army.mil

Mr. Sunny Sea
MOTCO Environmental Coordinator
410 Norman Avenue
Concord, CA 94520
Phone: (925) 246-4024
chainssun.sea@us.army.mil

nia's lead environmental regulatory agency. Its mission is to protect public health and the environment from toxic substances.

Feasibility Study (FS): A study to identify, screen, and compare remedial alternatives for a site.

Geographic Information System (GIS): A tool that allows users to create interactive queries (user created searches), analyze spatial information, edit data and maps, and present the results of all these operations.

Litigation Area: Parcels of land purchased by the Navy to create a buffer zone around the tidal area. Eight of these parcels were subsequently found to be contaminated with metals primarily from off-site neighboring chemical companies. These parcels are referred to as the Litigation Area because the Navy was involved in litigation with owners of adjacent properties to recover remediation costs for these contaminated sites.

Human Health Risk Assessment: The process of estimating the potential risk of contaminants on a human population under defined conditions. This information enables those concerned to determine whether any cleanup is warranted or other actions need to be taken.

In Situ: In the natural or original position. An in-situ cap refers to placing the cap material and constructing the cap while the contaminated sediments remain in their original position.

Installation Restoration (IR): The IR program provides guidance and funding for the investigation and remediation of hazardous waste at military installations.

Military Ocean Terminal Concord (MOTCO): Operates as an Army ocean shipping terminal to transfer ordnance from trucks or railcars to ships.

Multi-Agency Environmental Team: The multi-agency environmental team is made up of the Army, EPA, DTSC, CDFG, and the Water Board.

Munitions: War material, especially weapons and ammunition. Ammunition covers anything that can be used in combat and includes bombs, missiles, warheads, and mines (landmines, naval mines, and anti-personnel mines).

National Oil and Hazardous Substances Pollution Contingency Plan (NCP): The regulatory basis for government responses to oil and hazardous substances spills, releases, and sites where these materials have been released.

Preferred Remedial Alternative: The remedial alternative selected by the Army, in conjunction with the regulatory agencies, that best satisfies the RAOs based on the evaluation of remedial alternatives presented in the FS.

Record of Decision (ROD): A decision document that identifies the remedial alternatives chosen for implementation at a CERCLA site; the ROD is based on information from the remedial investigation report and FS and on public comments and community concerns.

Remedial Action Objective (RAO): Describes what the site cleanup is expected to accomplish.

Remediation Goal (RG): A chemical concentration limit that provides a quantitative means of identifying areas for potential remedial action, screening the types of appropriate technologies, and assessing a remedial action's potential to achieve the RAO.

Remedial Investigation (RI): The first of two major studies that must be completed before a decision can be made about how to clean up a site (the FS is the second study). The RI is designed to evaluate the nature and extent of contamination and to estimate human health and ecological risks posed by chemicals of potential concern at a site.

Superfund Amendments and Reauthorization Act: The Superfund Amendments and Reauthorization Act of 1986 reauthorized CERCLA to continue cleanup around the country.

San Francisco Bay Regional Water Quality Control Board (Water Board): The California water quality authority, which is part of California Environmental Protection Agency. Its mission is to preserve, enhance, and restore California's water resources.

U.S. Environmental Protection Agency (EPA): The federal regulatory agency responsible for administration and enforcement of CERCLA (and other federal environmental laws and regulations). EPA is the lead regulatory agency for MOTCO.

The Army and the multi-agency environmental team encourage the public to gain a more thorough understanding of Sites 32 and 33 and the CERCLA activities that have been conducted at MOTCO by visiting the information repository, attending public meetings, and joining the mailing list to receive regular project information. Restoration Advisory Board meetings are held every other month and are open to the public.

Please send all written comments to:

Guy Romine
MOTCO Remedial Program Manager
410 Norman Avenue
Concord, CA 94520
Phone: (925) 246-4035
guy.romine1@us.army.mil

Mr. Sunny Sea
MOTCO Environmental Coordinator
410 Norman Avenue
Concord, CA 94520
Phone: (925) 246-4024
chainssun.sea@us.army.mil

If you have questions or concerns about environmental activities at Military Ocean Terminal Concord, please contact any of the following project representatives:

U.S. Department of the Army
Mark Eldridge
11711 North IH 35, Suite 110
San Antonio, TX 78233
Army Environmental Command
Phone: (210) 424-8857
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U.S. Environmental Protection Agency
Phillip Ramsey
Code: SFD 8-3
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San Francisco, CA 94105
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ramsey.phillip@epa.gov

Department of Toxic Substances Control
Jim Pinasco
8800 Cal Center Drive
Sacramento, CA 95826
Phone: (916) 255-3719
jpinasco@dtsc.ca.gov

San Francisco Bay Regional Water Quality Control Board
Alan Friedman
1515 Clay Street, Suite 1400
Oakland, CA 94612
Phone: (510) 622-2347
afriedman@waterboards.ca.gov

NOTES

Attn: Ms. Carolyn Hunter
Community Involvement Specialist, Tetra Tech EM Inc.
1999 Harrison Street, Suite 500
Oakland, CA 94612

Proposed Plan for MOTCO Sites 32 and 33

Request Public Comment on Proposed Plan for MOTCO Sites 32 and 33

Coment period August 22, 2011 to September 21, 2011

Public Meeting on Wednesday, September 7, 2011

SEE INSIDE FOR MORE INFORMATION