

Proposed Plan for Solid Waste Management Units 2, 5, 7, and 18 Inland Area, Naval Weapons Station Seal Beach Detachment Concord



Concord, California

October 2008

DEPARTMENT OF THE NAVY ANNOUNCES PROPOSED PLAN

The Department of the Navy (Navy) encourages the public to comment on this Proposed Plan for remediation of *Solid Waste Management Units (SWMU) 2, 5, 7, and 18* in the Inland Area at Naval Weapons Station Seal Beach Detachment Concord (NAVWPNSTA Seal Beach Det Concord), in Concord, California. The Navy is making this request in cooperation with the *U.S. Environmental Protection Agency, Region 9 (EPA)*, the *San Francisco Bay Regional Water Quality Control Board (Water Board)*, and the *Department of Toxic Substances Control (DTSC)*.

The Navy is responsible for investigating and remediating contamination that may have resulted from historical Navy operations at NAVWPNSTA Seal Beach Det Concord. This Proposed Plan presents the Navy's *preferred remedial alternative* for remediating chlorinated solvents in groundwater and soil gas at SWMUs 2, 5, 7, and 18 at NAVWPNSTA Seal Beach Det Concord. The Navy proposes to remediate SWMUs 2, 5, 7, and 18 (collectively called the "SWMUs site") by:

- Treating groundwater with *air sparging* and *enhanced bioremediation*
- Removing contaminants from soil gas with *soil vapor extraction (SVE)*
- Monitoring concentrations of chemicals in groundwater and soil gas to ensure the remedy effectively reduces contaminant concentrations to acceptable levels and performs in accordance with the guidelines that will be established in the *Record of Decision (ROD)*.

This Proposed Plan summarizes the site history, 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 (SARA)*, and explains the basis for choosing the preferred remedial alternative. The Navy, EPA, Water Board, and DTSC participated in the evaluation. The Navy will consider and respond to the public comments on this Proposed Plan during preparation of the ROD for the SWMUs site.

— Notice —

Public Comment Period

October 7 to November 6, 2008

Public Meeting

October 22, 2008

Concord Senior Center
Dianda Room
2727 Parkside Circle
Concord, California 94519
6:30 to 8:30 p.m.

THE CERCLA PROCESS

The Navy 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)*. Figure 1 illustrates the current status of the SWMUs site in the CERCLA process.

This Proposed Plan summarizes information detailed in the *Remedial Investigation (RI) Report* and *Feasibility Study (FS) Report*, along with other documents contained in the Administrative Record file for the SWMUs site. The Administrative Record contains the reports and historical documents used to select remedial alternatives. The Navy encourages the public to review these documents to gain an understanding of the SWMUs site and the environmental assessment and investigation activities that have been conducted. The documents

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Comprehensive Environmental Response Compensation and Liability Act (CERCLA) Process

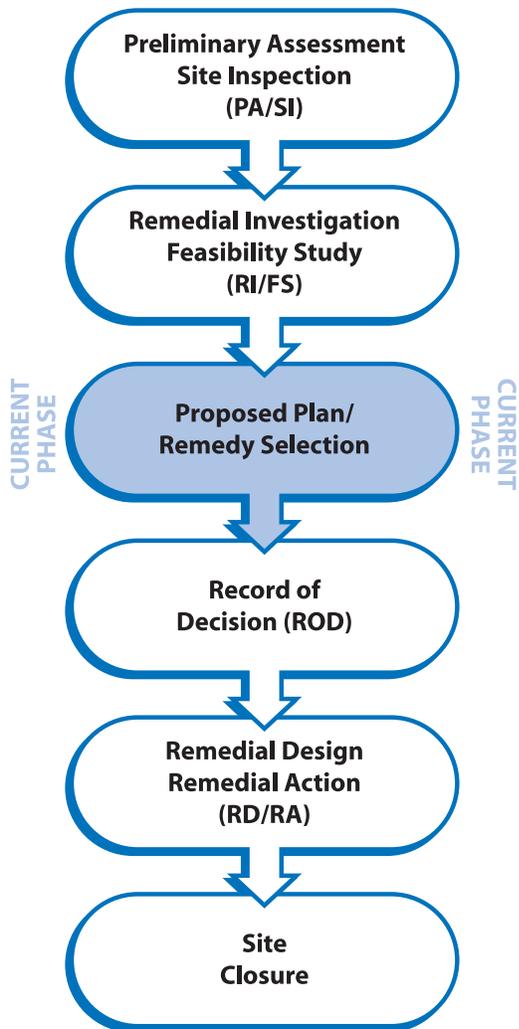


Figure 1- CERCLA Process

are available for public review at the locations listed on page 12.

The public comment period is from October 7 through November 6, 2008. Public comments can be submitted by mail, fax, or e-mail throughout the comment period. The public meeting will be held on October 22, 2008, at the Concord Senior Center from 6:30 to 8:30 p.m. Members of the public may also submit written and oral comments on this Proposed Plan at the public meeting.

In consultation with the regulatory agencies, the Navy may modify the preferred alternative or select another remedial option based on feedback from the community or on new information. Therefore, the community is encouraged to review this Proposed Plan and comment. A final decision on the remedy to be implemented will be documented in the ROD.

SITE HISTORY

NAVWPNSTA Seal Beach Det Concord was a major naval munitions transport and shipment facility located in the north-central portion of Contra Costa County, California, about 30 miles northeast of San Francisco (Figure 2). Currently, NAVWPNSTA Seal Beach Det Concord includes two principal areas: the Tidal Area and the Inland Area. In 1999, the Inland Area was placed in a reduced operational status. In November 2005, the Defense Base Closure and Realignment Commission’s recommendation for NAVWPNSTA Seal Beach Det Concord was enacted. Specifically, the Inland Area, with some exceptions, is being operationally closed and will be transferred eventually from federal ownership and the custody and control of the Navy. The Tidal Area and approximately 115 acres of the Inland Area will be transferred from the Navy to the Department of the Army and will remain an active Army installation. The SWMUs site is located in the Inland Area (Figure 2).

The SWMUs site is located between the hills to the east and Seal Creek to the west (Figure 3). The area is developed with industrial buildings, paved parking areas, and railroad tracks. SWMU 2 consists of Building IA-7, constructed in the mid-1940s as a fire station for the Inland Area. SWMU 5 consisted of Building IA-12, a locomotive repair shop, and Building 269, the locomotive and railcar steam-cleaning facility. SWMU 7 consists of Buildings IA-15 and IA-16. Building IA-15 included a metals shop, a machine shop, a weld shop, a forge shop, offices, and a tool storage area in the



Figure 2- Location of NAVWPNSTA Seal Beach Det Concord

eastern portion of the building and an automotive repair shop in the western end. Building IA-16 was the paint shop where maintenance crews staged painting jobs for the facility. SWMU 18 consists of Building IA-51 and a locomotive turntable. The building was used as a steam-cleaning facility.

The primary source of the chlorinated solvent contamination at the SWMUs site was a 6,000-gallon capacity waste oil underground storage tank (UST). An UST is a buried tank used to store liquid such as fuel. The UST was removed from the south side of Building IA-12 at SWMU 5 in 1994 as part of the *Resource Conservation and Recovery Act (RCRA)* closure. Contaminated soil surrounding the UST was excavated and disposed of off base. The Navy obtained case closure for the UST removal from DTSC in March 1995.

PREVIOUS INVESTIGATIONS

RCRA Facilities Investigation

DTSC conducted a RCRA Facility Assessment (RFA) at NAVWPNSTA Seal Beach Det Concord in June 1992 to evaluate the potential release of hazardous substances from 49 SWMUs including SWMUs 2, 5, 7, and 18. In 1996, the Navy completed an RFA Confirmation Study to further evaluate the findings from the DTSC RFA Report. After the RFA

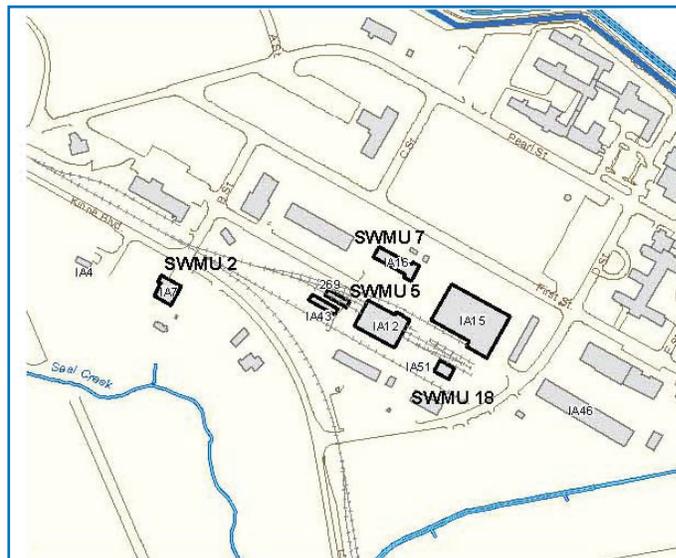


Figure 3 - Site Layout

Confirmation Study, the Navy conducted follow up CERCLA investigations at SWMUs 2, 5, 7, and 18. The purpose of the follow-up investigations was to confirm the presence, concentrations, and potential sources of contaminants in soil and groundwater, as well as to evaluate the need for additional investigations or abatement activities.

Remedial Investigation

Results of groundwater samples collected at SWMUs 2, 5, 7, and 18 as part of the 2004 RI indicated the highest concentrations of chlorinated solvents were found in samples collected at SWMU 5. These chlorinated solvents included cis-1,2-dichloroethene (DCE), tetrachloroethene (PCE), and trichloroethene (TCE). Soil sample results indicated the chlorinated solvents had not significantly contaminated the soil at SWMU 5. However, the results of soil gas samples collected near the former waste oil tank indicated that it was the source of the chlorinated solvent contamination.

Chemical data collected during the RI were used to assess potential risks to humans, plants, and animals. "Risk" is the likelihood or probability that a hazardous chemical, when released into the environment, will cause adverse effects on exposed humans or other organisms. To assess the risk, a human health risk assessment (HHRA) and a screening-level ecological risk assessment (SLERA) were conducted. These assessments identify exposure pathways and chemicals of concern (COC), which are chemicals that pose a potential risk to humans, plants, or animals.

Human Health Risk Assessment

A HHRA was conducted to evaluate the likelihood that chemicals of potential concern at the SWMUs site would cause adverse cancer and noncancer effects in exposed humans. The HHRA considered current and potential future site uses. The future use of the SWMUs site is unknown; as a result, a residential scenario was used because it represents the most conservative future use scenario and would allow for unrestricted use of the site. The results of the HHRA indicated no unacceptable risk was posed to humans from soil ingestion or dermal exposure (through the skin) at the SWMUs site. Concentrations of DCE, PCE, and TCE in soil gas, however, exceeded screening criteria for indoor air quality.

The excess *cancer risk*, or incremental risk, from PCE (2.8×10^{-5}) and TCE (1.6×10^{-6}) from vapor intrusion to indoor air was within the *risk management range* of 10^{-4} to 10^{-6} . The cancer risk for DCE was not calculated because DCE is not considered a potential carcinogen. The *noncancer risk hazard quotients* were less than 0.1 for all three chemicals, resulting in a hazard index well below the EPA threshold of 1. A hazard index is the sum of the hazard quotients of each chemical, representing a total potential noncancer health effect at the site. A hazard index of 1 or less is considered protective of human health.

However, the maximum detected concentrations of DCE, PCE, and TCE in groundwater exceeded the federal and California-promulgated drinking water standards. Although the SWMUs site is not currently used as a source of drinking water, groundwater at the site is designated as potentially suitable for municipal and domestic water supply.

Screening-Level Ecological Risk Assessment

A SLERA is an evaluation of the likelihood that plant or animals exposed to chemicals of potential ecological concern at a site would cause adverse effects. The SLERA considered risk to plants, soil invertebrates, mammals, fish, and aquatic invertebrates for the SWMUs site. The screening-level approach used conservative assumptions and available scientific literature to evaluate ecological risk in accordance with USEPA guidance. The SLERA concluded that exposure to chemicals at the SWMUs site would not cause harmful effects in plants and animals.

Air Sparging and Soil Vapor Extraction Pilot Test

In 2007, an air sparging and SVE pilot test was conducted to (1) assess the ability of air sparging to treat chlorinated solvents in groundwater at the SWMUs site and (2) obtain design information for a full-scale system, should air sparging be chosen as part of the preferred alternative. The test also assessed the ability of SVE to collect soil vapors. The study included groundwater sampling to provide supplemental information on the plume area location and the chlorinated solvent concentrations. Based on the results of the pilot test, the Navy concluded the following:

- The chlorinated solvent plume is relatively stable (that is, the plume is not migrating significantly or increasing in concentration).
- Air sparging significantly decreased the concentrations of chlorinated solvents in groundwater in a relatively short period of time (less than a week); longer-term application of air sparging is expected to effectively reduce chlorinated solvent concentrations to below drinking water standards.
- SVE may be used to remove contamination in soil gas, in particular at UST IA-12 at SWMU 5, where the buildings and utilities limit ex-situ actions.
- Collection and treatment of vapors are not required because the total amount of chlorinated solvents removed would be less than the threshold established by Bay Area Air Quality Management District regulations. However, some form of vapor collection near buildings would likely be required to prevent vapors from accumulating in the buildings and posing a human health risk to current and future receptors.

Feasibility Study

The FS identified remedial action objectives (RAO) and remedial alternatives for contaminated soil gas and groundwater at the SWMUs site. The RAOs state the objectives of the remedial alternatives and establish goals for the protection of humans or wildlife. The remedial alternatives identified in the FS Report were evaluated against seven of the nine criteria required by CERCLA and as specified in the NCP. The two final criteria are state acceptance and community acceptance. State acceptance is documented in this Proposed Plan. Community acceptance will be evaluated after this



Figure 4 - Criteria for Comparison of Alternatives

public comment period and will be addressed in a *Responsiveness Summary* in the ROD. Figure 4 describes the nine remedial alternative evaluation criteria. The summary below focuses on the remedial alternatives that would make the site suitable for future residential use.

REMEDIAL ACTION OBJECTIVES

RAOs provide the foundation upon which remedial alternatives are developed. RAOs are medium-specific (such as soil and groundwater) goals for the protection of human health and the environment. Each RAO specifies (1) the COCs, (2) the exposure routes and receptors (organisms exposed), and (3) an acceptable chemical concentration or range of concentrations for each exposure pathway and medium (known as “remedial goals”). The following RAOs were identified for the SWMUs site:

- Prevent potential future residential exposure to PCE, TCE, and DCE at concentrations greater than the remedial goals for domestic use of groundwater. The remedial goals are California maximum contaminant levels (MCL), which are health-protective drinking water standards for public water systems (5 micrograms per liter [µg/L] for PCE and TCE; 6 µg/L for DCE).
- In the source area, prevent potential future residential exposure to PCE in indoor air at concentrations greater than the site-specific residential inhalation criteria developed during the RI, which corresponds to a remedial goal in soil gas of 4,286 micrograms per cubic meter.
- Prevent the off-site migration of contaminated groundwater and control risk to humans from other nondrinking water pathways.

The remedial goals for groundwater and soil gas are based on the lowest of federal and state risk-based values for drinking water and indoor air exposure.

REMEDIAL ALTERNATIVES

Multiple remedial options were considered during the FS, and the four implementable options were refined into the remedial alternatives. The remedial alternatives ranged from no action to extensive remediation of contamination in soil gas and groundwater. The remedial alternatives evaluated in the FS are (1) no action, (2) air sparging, (3) enhanced bioremediation, and (4) groundwater pump and treat.

All alternatives (except for Alternative 1, No Action) include (1) SVE to remove contaminants in soil gas in the source area near Building IA-12 at SWMU 5 and (2) the restriction of residential use of the property and use of the groundwater until the RAOs are achieved. Alternatives 2 through 4 use different technologies to treat chlorinated solvents in groundwater. Each alternative is split into “A” and “B” alternatives. The “A” alternatives treat the area where PCE concentrations exceed 5 µg/L, as shown on Figure 5. The “B” alternatives include treatment where PCE concentrations exceed 10 µg/L (Figure 5); the remainder of the plume (where PCE concentrations exceed 5 µg/L) would be addressed with *monitored natural attenuation (MNA)*. For each alternative, treatment would continue until the remedial goals for chlorinated solvents are met in the treatment area. For MNA, groundwater monitoring would continue until the remedial goals

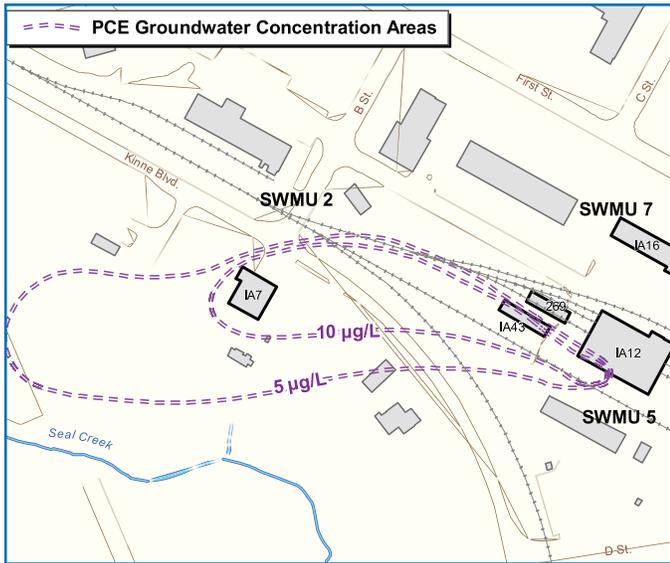


Figure 5 - Treatment Areas

for chlorinated solvents are met. Each alternative is discussed in more detail below and summarized in Table 1.

Alternative 1 – No Action

Estimated Capital Cost: \$0

Estimated Total Operation and Maintenance Cost: \$0

Estimated Total Present Worth Cost: \$0

Estimated Time to Complete Remediation: 75 Years

Under Alternative 1, no remedial action or monitoring would be conducted. By law, the no-action alternative must be evaluated to establish a baseline for comparison with other alternatives involving remedial actions. Under Alternative 1, the site would be left in its current condition and no remediation would be conducted; therefore, there would be no associated costs. Based on natural attenuation modeling, RAOs could be met in about 75 years through natural processes.

Alternative 2A – Air Sparging

Estimated Capital Cost: \$2.3 Million

Estimated Total Operation and Maintenance Cost: \$0.9 Million

Estimated Total Present Worth Cost: \$3.2 Million

Estimated Time to Complete Remediation: 4 Years

Under Alternative 2A, air sparging would be used to remove chlorinated solvents from groundwater where PCE concentrations exceed 5 µg/L (Figure 5). The SVE system would also prevent migration of contaminant vapors into Building IA 12. Alternative 2A is expected to take 4 years to complete, which includes 2 years for treatment and 2 years of groundwater monitoring.

Alternative 2B – Air Sparging and MNA

Estimated Capital Cost: \$1.0 Million

Estimated Total Operation and Maintenance Cost: \$1.5 Million

Estimated Total Present Worth Cost: \$2.5 Million

Estimated Time to Complete Remediation: 10 Years

Under Alternative 2B, air sparging (Figure 6) would be implemented where concentrations of PCE exceed 10 µg/L. MNA would be implemented throughout the remainder of the plume. SVE would be used as described for Alternative 2A. Alternative 2B is expected to require 10 years to complete, which includes 2 years for treatment where concentrations of PCE exceed 10 µg/L and up to 10 years of MNA in the remainder of the plume.

Alternative 3A – Enhanced Bioremediation

Estimated Capital Cost: \$1.3 Million

Estimated Total Operation and Maintenance Cost: \$0.8 Million

Estimated Total Present Worth Cost: \$2.1 Million

Estimated Time to Complete Remediation: 5 Years

TABLE 1. SUMMARY OF REMEDIAL ALTERNATIVES

Alternative Number	Description
1	No Action
2A	Air Sparging (where PCE concentrations are > 5 µg/L)
2B	Air Sparging (where PCE concentrations are > 10 µg/L) and Monitored Natural Attenuation (for remainder of plume)
3A	Enhanced Bioremediation (where PCE concentrations are > 5 µg/L)
3B	Enhanced Bioremediation (where PCE concentrations are > 10 µg/L) and Monitored Natural Attenuation (for remainder of plume)
4A	Groundwater Pump and Treat (where PCE concentrations are > 5 µg/L)
4B	Groundwater Pump and Treat (where PCE concentrations are > 10 µg/L) and Monitored Natural Attenuation (for remainder of plume)

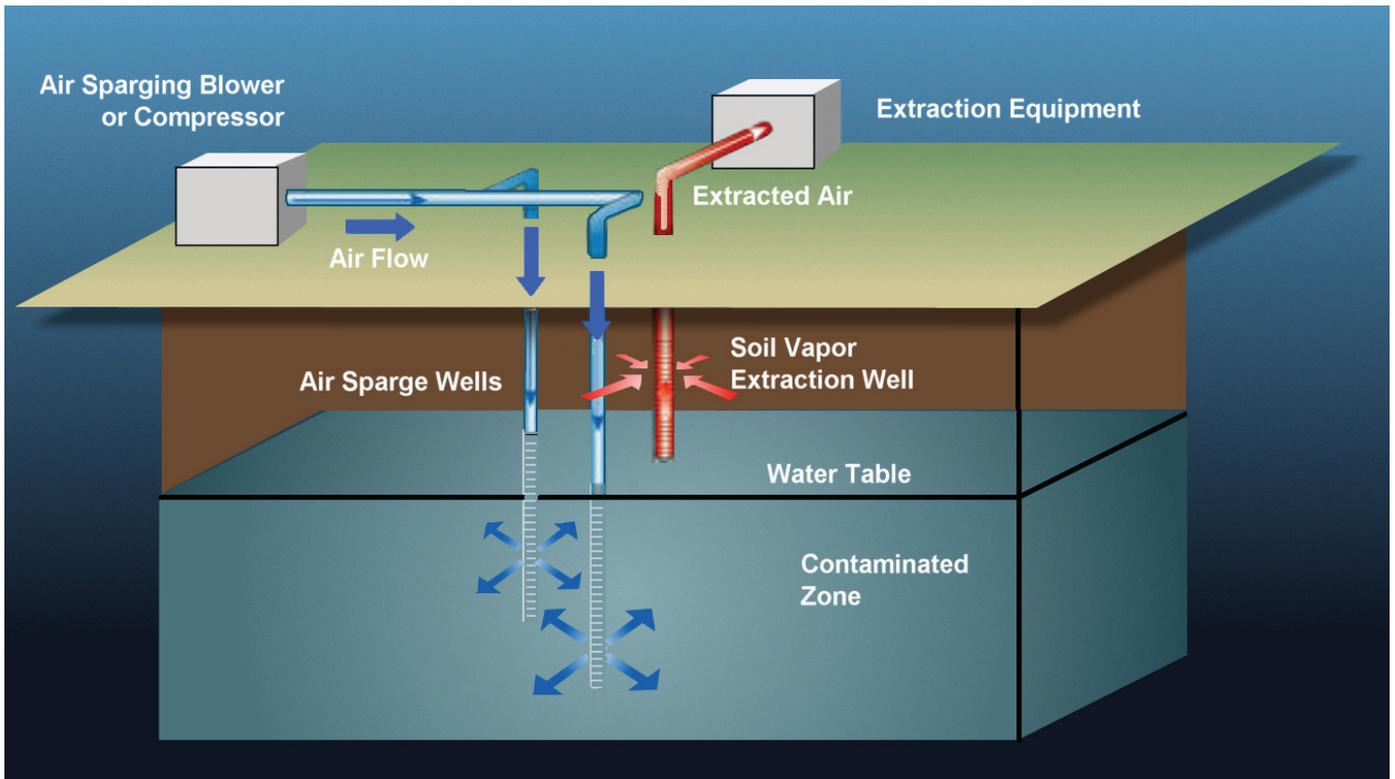


Figure 6 - Air Sparging and Soil Vapor Extraction

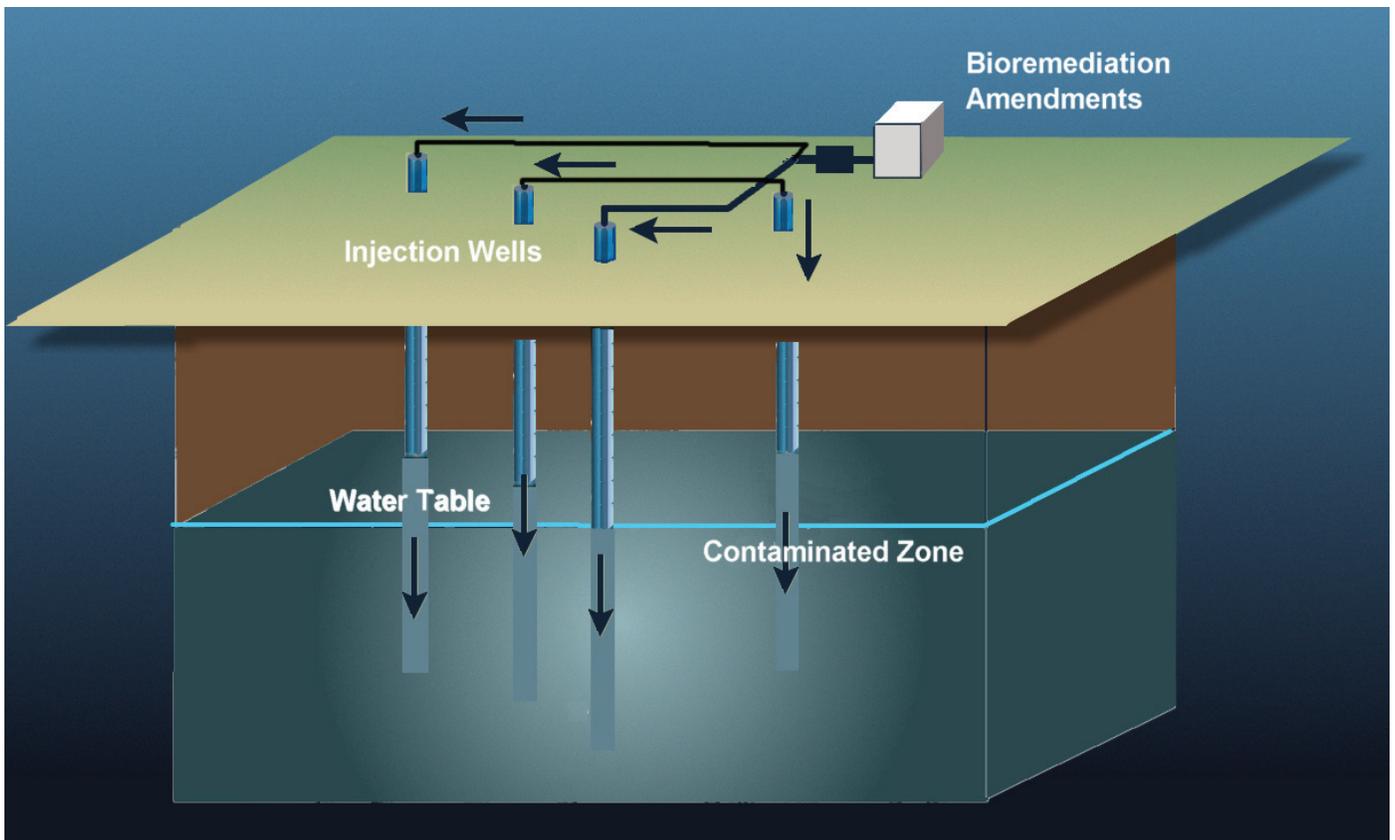


Figure 7 - Enhanced Bioremediation

Under Alternative 3A, enhanced bioremediation (Figure 7) would be used to treat groundwater where concentrations of PCE exceed 5 µg/L. SVE would remove contaminants in soil gas in the source area. Alternative 3A is expected to require 5 years to complete because treatment may require up to 3 years, followed by 2 years of groundwater monitoring.

Alternative 3B – Enhanced Bioremediation and MNA

Estimated Capital Cost: \$0.7 Million

Estimated Total Operation and Maintenance Cost: \$1.1 Million

Estimated Total Present Worth Cost: \$1.8 Million

Estimated Time to Complete Remediation: 10 Years

Alternative 3B includes the same components as Alternative 3A to treat chlorinated solvents in soil gas and groundwater, except groundwater would be treated by enhanced bioremediation in the area of the plume where concentrations of PCE exceed 10 µg/L and MNA would be implemented for the remainder of the plume. Alternative 3B is expected to require 10 years to complete. Enhanced bioremediation is expected to meet the remedial goals within 3 years in the area of treatment, but meeting the remedial goals in the remainder of the plume through MNA may require up to 10 years.

Alternative 4A – Groundwater Pump and Treat

Estimated Capital Cost: \$0.8 Million

Estimated Total Operation and Maintenance Cost: \$4.4 Million

Estimated Total Present Worth Cost: \$5.2 Million

Estimated Time to Complete Remediation: 20 Years

Under Alternative 4A, groundwater containing PCE concentrations that exceed the remedial goals would be extracted and treated above ground. Alternative 4A is expected to require 20 years to complete, based on experience from other sites where pump-and-treat techniques have been applied.

Alternative 4B – Pump and Treat and MNA

Estimated Capital Cost: \$0.6 Million

Estimated Total Operation and Maintenance Cost: \$3.2 Million

Estimated Total Present Worth Cost: \$3.8 Million

Estimated Time to Complete Remediation: 20 Years

Under Alternative 4B, groundwater containing PCE concentrations exceeding 10 µg/L would be extracted and treated above ground and MNA would be implemented for the remainder of the

plume. Alternative 4A is estimated to require 20 years to complete, which is based on experience from other sites where pump-and-treat techniques have been applied.

EVALUATION OF REMEDIAL ALTERNATIVES

The NCP criteria were used to evaluate and select the preferred remedial alternative for the remedy in the FS. The remedial alternatives were compared, using the applicable NCP criteria, to identify the alternative that most effectively meets the RAOs for the SWMUs site. The evaluation criteria are shown on Figure 4. The eighth criterion, state acceptance, is documented in this Proposed Plan. The ninth criterion, community acceptance, will be evaluated after the public comment period on this Proposed Plan. For this reason, the Navy encourages the public to comment on this Proposed Plan. The “Detailed Analysis of Alternatives” can be found in the Final FS Report, copies of which are located in the Administrative Record file and information repository (see page 12 for locations).

A ranking analysis of the remedial alternatives was also conducted to provide a comparison of the alternatives with respect to the first seven NCP criteria. To conduct the ranking analysis, a score from 1 to 5 was assigned to each alternative for each of the seven of the nine specific NCP evaluation criteria evaluated; a score of 5 being best, and 1 being least satisfactory. The results of this ranking analysis are summarized in Table 2. The following is a summary of the remedial alternative evaluation:

1. Overall Protection of Human Health and the Environment

Alternative 1 (No Action) would not protect human health because contaminated groundwater would remain in place and the potential for exposure to future residents would not be reduced.

Alternatives 2A, 2B, 3A, 3B, 4A, and 4B would all protect human health by reducing concentrations of contaminants in groundwater and soil gas to acceptable levels. These alternatives were ranked equally based on this criterion.

The SLERA in the RI Report indicated the SWMUs site posed no unacceptable risks to plants and animals, so none of the alternatives is intended to reduce risks to the environment.

TABLE 2: COMPARATIVE ANALYSIS OF ALTERNATIVES

Remedial Alternative	Overall Protection of Human Health and Environment	Compliance with ARARs	Long-Term Effectiveness/ Permanence	Reduction of Toxicity, Mobility, or Volume through Treatment	Short-Term Effectiveness	Implementability	Cost	Relative Ranking
1: No Action	No	NA	NA	NA	NA	NA	NA	NA
2A: Air Sparging	5	5	5	4.8	5	3.8	3	31.6
2B: Air Sparging and MNA	5	5	4.7	4.6	4.7	3.8	4	31.8
3A: Enhanced Bioremediation	5	5	5	4.8	4.7	4	4	32.5
3B: Enhanced Bioremediation and MNA	5	5	4.7	4.6	4.3	4	5	32.6
4A: Groundwater Pump and Treat	5	5	4.3	4.6	4	3.2	1	27.1
4B: Groundwater Pump and Treat and MNA	5	5	4.3	4.4	4	3.2	2	27.9

Notes:

NA Not Applicable

Each individual rating was on a scale from 1 to 5, with 5 being the highest rating. Individual ratings for each criterion were then summed up to give a total score or relative ranking. Since there were 7 criteria, the maximum total score would be 35.

Air sparging and enhanced bioremediation received similar rankings based on the comparison of alternatives. Both air sparging and enhanced bioremediation are incorporated in the preferred alternative as a mix of Alternatives 2B and a modified 3A, which are shown in bold.

2. Compliance with ARARs

Applicable or relevant and appropriate requirements (ARAR) are federal and state laws and regulations that are identified for each remedial alternative. Because Alternative 1 does not include any actions, a discussion of compliance with ARARs is not appropriate for Alternative 1. Alternatives 2A, 2B, 3A, 3B, 4A, and 4B would comply with all chemical-, location-, and action-specific ARARs. The ARARs are presented in Table 3.

3. Long-Term Effectiveness and Permanence

Alternative 1 (no action) would not provide significant long-term effectiveness because it does not reduce existing site risks for 75 years. All of the other alternatives would provide long-term effectiveness and permanence by actively treating groundwater and soil gas contamination to meet the remedial goals. However, alternatives that would require a long time to meet remedial goals (such as Alternatives 4A and 4B) would rely on property restrictions to prevent the exposure of humans to contaminated groundwater until treatment is complete. Therefore, alternatives that require administrative controls, such as property restrictions, rank lower than alternatives that do not require these controls.

4. Reduction of Toxicity, Mobility, or Volume through Treatment

Alternative 1 would eventually reduce the mobility, toxicity, and volume of contamination through natural degradation processes, not through treatment; however, the estimated time required is excessive. The other remedial alternatives would all reduce the mobility, toxicity, and volume of contamination through active treatment. However, the pump-and-treat alternatives would create substantial quantities of treatment residuals that require further handling, while the others would not.

5. Short-Term Effectiveness

By implementing Alternative 1, risks to the community or the environment would not be created in the short-term because no action would be taken. In the short-term, emissions from the other remedial alternatives would be minimal, so no significant risk to human health or the environment is associated with construction or implementation of the six other alternatives. However, there is a significant difference among the remedial alternatives in the time required to meet remedial goals. These differences are reflected in the rankings on Table 2.

TABLE 3: APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

CERCLA requires that remedial actions meet federal or state (if more stringent) environmental standards, requirements, criteria, or limitations that are determined to be ARARs. All action alternatives comply with the substantive provisions of the following requirements identified as chemical- and action-specific ARARs.

The substantive provisions of the following requirements were identified as chemical-specific ARARs.

The Navy has determined that the California MCLs will be applied to groundwater at the SWMUs site. The following primary and secondary state MCLs are set forth in Title (tit.) 22 of the California Code of Regulations (Cal. Code Reg.):

- § 64431 (MCLs – Inorganic Chemicals)
- § 64444 (MCLs – Organic Chemicals)
- § 64449(a) (Secondary MCLs)

The substantive provisions of the following requirements are applicable for determining whether any investigation-derived waste is hazardous:

- Cal. Code Regs. tit. 22, §§ 66261.21, 66261.22(a)(1), 66261.23, 66261.24(a)(1), and 66261.100

Location-specific ARARs are restrictions on the concentrations of hazardous substances or the site activities as a result of the characteristics of the site or its immediate environment.

The site consists of active industrial areas with no significant ecological habitat and no evidence of historic, prehistoric, or archaeological significance. Therefore, no location-specific ARARs have been identified for the SWMUs site.

The Navy has identified the substantive provisions of the following requirements as action-specific ARARs for the preferred alternative.

Resource Conservation and Recovery Act

- Cal. Code Regs. tit. 22, § 66262.10(a) and 66262.11 – Requires a generator to determine if generated waste is hazardous waste.
- Cal. Code Regs. tit. 22, § 66264.13(a) and (b) – Requires analysis of waste to determine if it is hazardous.
- 40 CFR § 264.554 (d)(1)(i-ii) and (d)(2), (e), (f) (h), (i), (j), and (k) – Allows the temporary staging of RCRA hazardous waste in piles.
- Cal. Code Regs. tit. 22, § 66264.93 – COC requirements
- Cal. Code Regs. tit. 22, § 66264.97(b)(1)(A), (b)(1)(D)(1) and (2) – Requirement to establish a sufficient number of monitoring points
- Cal. Code Regs. tit. 22, § 66264.97(b)(4), (5), (6), and (7) – Monitoring well construction requirements
- Cal. Code Regs. tit. 22, § 66264.97(e)(6), (e)(12)(A)(3), (e)(12)(B), (e)(13), and (e)(15) – Sample collection requirements
- Cal. Code Regs. tit. 22, § 66264.100(d) – Requirement to implement a corrective action monitoring program that demonstrates the effectiveness of the corrective action program

Safe Drinking Water Act

- 40 CFR § 122.44, excluding the reporting requirements in §§ 144.12(b) and 144.12(c)(1) - Underground injection control program requirements prohibiting injection activities that allow movement of contaminants into underground sources of drinking water that may adversely affect health.

Clean Air Act

The Navy has identified the substantive provisions of the following potential federal actions-specific ARARs for SVE:

- Bay Area Air Quality Management District Regulation 2-2-301- The requirement to use the best available control technology for new emission sources.

California Fish and Game Code

- California Fish and Game Code §§ 5650(a) -Prohibits the discharge of substances or materials harmful to fish, plant life, or birds into waters of the state.

6. Implementability

Alternative 1 would be easy to implement because it requires no action. All of the remaining remedial alternatives are also implementable. The bioremediation alternatives (3A and 3B) are the easiest to implement because they do not require pumping systems or networks of piping, and they create no emissions or effluents. However, site-specific data would need to be collected during the remedial design phase prior to implementing bioremediation at the site. The pump-and-treat alternatives (4A and 4B) would require treatment and handling of extracted groundwater and treatment residuals. Therefore, Alternatives 4A and 4B are more difficult to implement.

7. Cost

Alternative 1 has no cost associated because no action would be implemented. All the other alternatives have significant costs; Alternative 3B is the least expensive (\$1.8 million), and Alternative 4A (\$5.2 million) is the most expensive.

THE PREFERRED REMEDIAL ALTERNATIVE

The Navy proposes an alternative that combines the remedial elements of Alternative 2B and a modified Alternative 3A. The preferred remedial alternative combines air sparging and SVE where concentrations of PCE exceed 10 µg/L with enhanced bioremediation in the remainder of the plume where chlorinated solvent concentrations exceed 5 µg/L to meet the remedial goals in a timely, efficient, and cost-effective way. Air sparging and enhanced bioremediation both received similar high rankings in the comparison of alternatives (see Table 2). The Navy would conduct monitoring to ensure the remedy effectively reduces contaminant concentrations in soil gas and groundwater to acceptable levels and the alternative performs in accordance with guidelines that will be established in the SWMUs site ROD. There will be a restriction on residential use of the property and use of the groundwater until the RAOs are achieved.

The preferred remedial alternative was developed during discussions between the Navy and the regulatory agencies, including during the Remedial Project Manager meeting in April 2008.

- 1) It would provide overall protection of human health by treating concentrations of chlorinated solvents in groundwater and soil gas that pose

risks to human health under a future potential residential scenario.

- 2) It meets federal and state ARARs.
- 3) It would provide short-term and long-term protection of human health through the reduction of chlorinated solvent concentrations in groundwater and soil gas in the shortest amount of time.
- 4) It would reduce the toxicity, mobility, and volume of chlorinated solvents in groundwater and soil gas through treatment.
- 5) Implementation would result in minimal short-term risk to the environment, community, and site workers.
- 6) It is more cost-effective to treat contaminated groundwater in place and the in-place alternatives would not create secondary wastes that require treatment and disposal.
- 7) Air sparging and SVE have already been successfully implemented in a pilot test, and implementation is relatively simple for enhanced bioremediation.

MULTI-AGENCY ENVIRONMENTAL TEAM SUPPORTIVE STATEMENT

The Base Realignment and Closure (BRAC) Cleanup Team (BCT) comprises the Navy, EPA, DTSC, and the Water Board. The primary goals of the BCT are to protect human health and the environment, coordinate environmental investigations, and expedite the environmental restoration of NAVWPNSTA Seal Beach Det Concord. The BCT has coordinated on all major documents and investigation activities associated with the SWMUs site, including the RI and FS Reports. Based on these reviews and discussions of key documents, the regulatory agencies support the Navy's preferred remedial alternative.

Based on the information available at this time, the Navy, EPA, DTSC, and Water Board support the preferred alternative because it is protective of human health for future potential residential use and supports unrestricted land use. The preferred remedial alternative may be modified in response to public comments or new information.

COMMUNITY PARTICIPATION

The Navy, EPA, DTSC, and Water Board encourage the public to gain a more thorough understanding of the SWMUs site and the CERCLA activities that have been conducted at NAVWPNSTA Seal

PUBLIC COMMENT PERIOD

The 30-day public comment period for the Proposed Plan is October 7 through November 6, 2008.

Submit Comments

There are two ways to provide comments during this period:

- Offer oral comments during the public meeting
- Provide written comments by mail, email or fax (no later than November 6, 2008)

Public Meeting

The public meeting will be held on Wednesday, October 22, 2008 at the Concord Senior Center, 2727 Parkside Circle, Dianda Room, from 6:30 pm to 8:30 pm. Navy representatives will provide visual displays and information on the environmental investigations and the remedial alternatives evaluated. You will have an opportunity to formally comment on this Proposed Plan.

Or you can send Comments to:

Mr. Darren Newton
BRAC Environmental Coordinator
Department of the Navy
BRAC Program Management Office West
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310
Phone (619) 532-0963
Fax (619) 532-0940
darren.newton@navy.mil

Beach Det Concord by visiting the information repository, reviewing the Administrative Record file, attending public meetings, and getting on the mailing list to receive regular project information. Restoration Advisory Board meetings are held every other month and are open to the public. For more information visit the Navy's website, www.bracpmo.navy.mil.

The two ways for you to provide your comments on this Proposed Plan are summarized below.

1. **Public Comment Period.** During the public comment period from October 7 through November 6, 2008, you may use the comment form included with this Proposed Plan to send written comments to Mr. Darren Newton, Navy BRAC Program Management Office West, at 1455 Frazee Road, Suite 900, San Diego,

California 92108-4310. You may also submit comments electronically to Mr. Newton at darren.newton@navy.mil.

2. **Public Meeting.** You may provide written or oral comments during the public meeting on October 22, 2008, that will be held in the Concord Senior Center. A stenographer will be at the meeting to record all public comments.

After the public comment period is over, the Navy will review and consider the comments before making a final decision on the remedial alternative to be used at the SWMUs site. All site-related documents are available for review in the information repository and Administrative Record file as listed below.

Information Repository

An Information Repository has been established to provide public access to technical reports and other Installation Restoration Program information which supports the remedial action alternative decision. All SWMUs site documents, meeting minutes, newsletters, public meeting announcements, and other items are available for review on the Navy's website, www.bracpmo.navy.mil, and at:

Concord Public Library

2900 Salvio St
Concord, CA 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.

Administrative Record File

Contact: Ms. Diane Silva
Administrative Records Coordinator
Naval Facilities Engineering Command, Southwest
1220 Pacific Highway, FISC Building 1, 3rd Floor
San Diego, CA 92132-5190
Telephone: (619) 532-3676

Please call in advance for an appointment Monday through Friday between 8:30 a.m. and 4:30 p.m.

GLOSSARY OF TERMS

Air Sparging: Air sparging is a treatment technology that reduces concentrations of volatile contaminants in groundwater. Air sparging is implemented by injecting pressurized air into the ground below the groundwater table so that air travels throughout the groundwater, creating an underground stripper that removes contaminants by volatilization.

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.

Cancer risk: The probability that an individual will develop cancer from direct exposure to chemicals classified as carcinogens. A carcinogen is a chemical that causes cancer.

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

Department of Toxic Substances Control (DTSC): A part of the California Environmental Protection Agency, and California's lead environmental regulatory agency. Its mission is to protect public health and the environment from toxic substances.

Enhanced bioremediation: Bioremediation is a process where concentrations of contaminants are reduced by microorganisms in the ground. With enhanced bioremediation, substances are injected into the ground to stimulate the growth of the microorganisms responsible for bioremediation.

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

Hazard quotient: The ratio of the potential site-specific exposure to a chemical compared with the level at which no adverse effects are expected. The hazard quotient for human health is used to evaluate the potential for noncancer health effects, such as organ damage.

Monitored natural attenuation (MNA): Natural attenuation depends on natural processes to remediate or attenuate pollution in soil and groundwater. Natural attenuation occurs to some extent at most polluted sites. However, the right conditions in the ground must exist or remediation

will not be timely or complete. Therefore, these conditions are monitored to make sure natural attenuation is working. This is called monitored natural attenuation or MNA.

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

Noncancer risk: The risk associated with exposure to chemicals considered noncarcinogens. Noncarcinogens are chemicals that cause effects other than cancer such as neurological, developmental, reproductive, or pulmonary effects.

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

Remedial goal: 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(s).

Remedial Investigation (RI): The first of two major studies that must be completed before a decision can be made about how to remediate a site (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.

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

Resource Conservation and Recovery Act (RCRA): Establishes the framework for treatment, storage, transportation, and disposal of hazardous substances.

Responsiveness Summary: A summary of oral and/or written public comments on the proposed plan received during the comment period, and responses to those comments provided in the ROD.

Risk management range: The range of cancer risks (from 10^{-4} to 10^{-6}) defined by EPA when evaluating whether potential risk to human health is acceptable. Cancer risks within or exceeding this

range may require further assessment to determine whether remedial action is warranted. Cancer risks below the risk management range generally do not require any further action.

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.

Solid Waste Management Unit (SWMU): An area where solid wastes have been accumulated, treated, stored, or disposed.

Soil Vapor Extraction (SVE): SVE is a technology that reduces concentrations of volatile contaminants in soil. A vacuum is applied to wells near the contaminant source, which causes volatile chemicals to be stripped from the soil into vapors and drawn to the wells. The extracted vapor can then be treated (if necessary) at the surface to remove the chemicals.

Superfund Amendments and Reauthorization Act (SARA): SARA amended CERCLA on October 17, 1986, making several important changes and additions to the program, including new enforcement authorities and settlement tools.

U. S. Environmental Protection Agency (EPA): The federal regulatory agency responsible for administration and enforcement of CERCLA (and other federal environmental regulations). EPA is the lead regulatory agency for NAVWPNSTA Seal Beach Det Concord.

INTERNET CONNECTION

For more information on the closure and transfer of NAVWPNSTA Seal Beach Det Concord, please visit the website at: <http://www.bracpmo.navy.mil>

Attn: Ms. Carolyn Hunter
Community Involvement Specialist, Tetra Tech EM Inc.
135 Main Street, Suite 1800
San Francisco, CA 94105



**BRAC
PMO**

**Proposed Plan for
Solid Waste Management Units 2, 5, 7, and 18
Inland Area, NAVWPNSTA Seal Beach Det Concord,
Concord, California**

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