



Proposed Plan for Site 26 Western Hangar Zone

BRAC
PMO WEST

Alameda Point, California

October 2005

The U.S. Navy announces this proposed plan and encourages the public to comment on its recommendations, which include a specific remedial alternative for **groundwater*** and no action for soil at the Western Hangar Zone, Site 26 at Alameda Point, the former Naval Air Station (NAS) Alameda (Figure 1). Groundwater is impacted with **volatile organic compounds (VOCs)**. This Proposed Plan provides an overview of investigation results for the site, describes all cleanup alternatives, and identifies the Navy's preferred remedial alternative for groundwater. The Navy developed this Proposed Plan in coordination with the other members of the **Base Realignment and Closure (BRAC) Cleanup Team (BCT)**, which include the U.S. Environmental Protection Agency (EPA), California Department of Toxic Substances Control (DTSC), and the San Francisco Bay Regional Water Quality Control Board.

The preferred remedial alternative for groundwater (Remedial Alternative 6) would include **in-situ chemical oxidation (ISCO)** and **in-situ bioremediation (ISB)** to accelerate the natural process of contaminant degradation. In addition, the Navy would implement short-term **institutional controls (ICs)** to limit potential exposure to groundwater contamination during the remediation period. Confirmation sampling of groundwater would be performed to validate remediation success.

You may provide comments on this proposed plan during the public comment period or attend the public meeting on November 9, 2005 (see opportunities for public involvement on page 9 for details).

After the Navy has considered the public comments on this Proposed Plan, a final decision document, known as the **record of decision (ROD)**, will be issued and a detailed remedial design will be prepared.

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Opportunities for Public Involvement

30-Day Public Comment Period:
October 24 until November 23, 2005
Public Meeting:
November 9, 2005, 6:30 pm to 8:00 pm
To be held at:
Building 1, Room 201
950 West Mall Square, Alameda Point

See page 9 for more details.

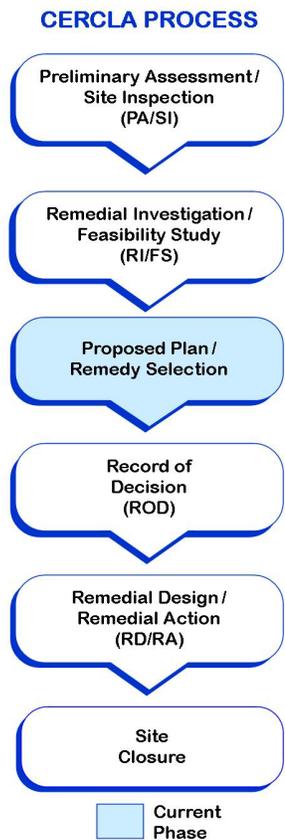


Figure 1. Vicinity Map

* Terms in **bold** are defined in the glossary on page 11.

CERCLA PROCESS

Numerous environmental investigations have been underway at former NAS Alameda since the mid-1980s under Navy's **Installation Restoration (IR) Program**, a comprehensive environmental investigation and cleanup program that complies with **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)** and the **Resource Conservation and Recovery Act (RCRA)**. See the flow chart on this page. The major documents produced for Site 26 thus far include a **remedial investigation (RI)** report, a **feasibility study (FS)** report, and this **Proposed Plan**. These documents describe the results of prior environmental investigations, risk evaluations, remedial alternative evaluations, and the Navy's proposed preferred remedial alternative.



SITE DESCRIPTION

The former NAS Alameda, now known as Alameda Point, ceased operations in 1997. Alameda Point is located on the western tip of Alameda Island on the eastern side of San Francisco Bay. Site 26 is located in the central portion of Alameda Point and is approximately 32 acres (Figure 2). Groundwater beneath the

central portions of Alameda Point (including Site 26) is not used for drinking water, irrigation, or industrial supply.

Site 26 is currently covered by pavement, four aircraft hangars (Buildings 20 through 23), a painting and finishing building (Building 24), and several ancillary buildings (Figure 3 on page 3). The four former aircraft hangars are included in the Alameda Point Historic District. In addition, Site 26 contains multiple solid waste management units (SWMUs), which include seven aboveground storage tanks, one oil-water separator, two washdown areas, and four generator accumulation points. The area southeast of Building 20 was historically used for aircraft washdown and included an associated oil-water separator.

Groundwater contaminated with fuel hydrocarbons is also present at Site 26 and is being addressed under the Alameda Point total petroleum hydrocarbons program. Fuel hydrocarbons are present in groundwater southwest of Building 23, known as corrective action area (CAA) Fuel Line C, and in an area designated as CAA 6, located to the northeast of the site.

A storm sewer segment located between Buildings 23 and 24 may have received waste from operations at Site 5, the Navy plans to address impacts to this storm sewer segment as part of Site 5 CERCLA activities.

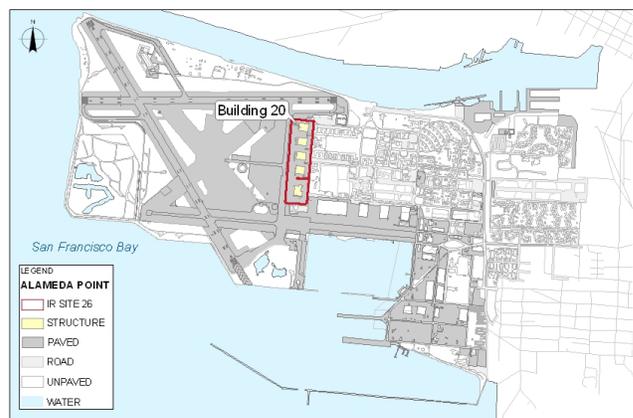


Figure 2. Site Location Map

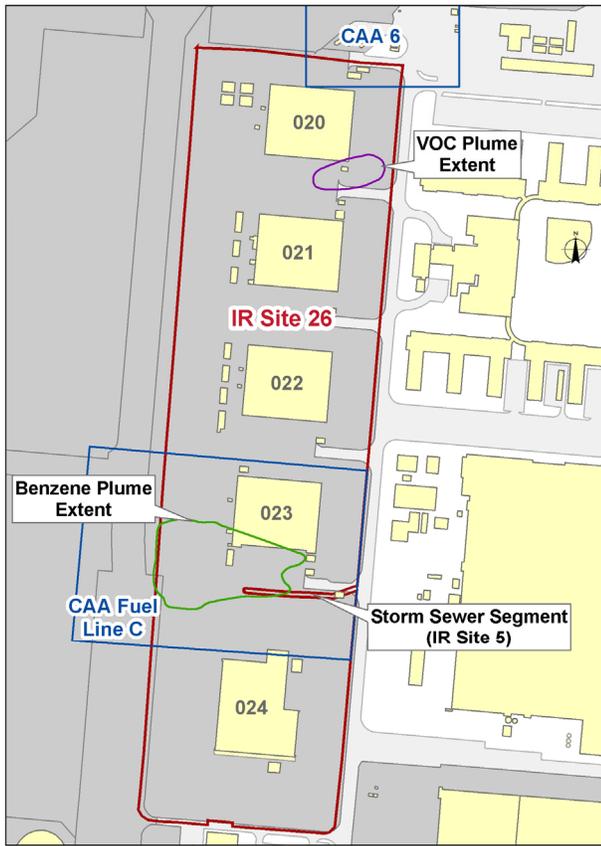


Figure 3. Site Feature Map

REMEDIAL INVESTIGATION SUMMARY

Numerous investigations have been conducted at Site 26. In 1994, environmental samples were collected, and elevated concentrations of VOCs were identified in shallow groundwater south of Building 20 (Figure 4). In 1995, surface and subsurface soil samples were collected and risk-screening evaluations were performed. An additional investigation was conducted in 2003 to further characterize the extent of contamination at Site 26 and collect data for risk assessment.

The environmental investigations did not identify any significant soil contamination or suggest the presence of a continuing source. Groundwater contamination was identified southeast of Building 20, near the former washdown area and an associated oil-water separator, and the former activities in this area may have been the source of groundwater contamination. However, there are no documented releases of VOCs around Building 20. Elevated concentrations of the VOCs

cis-1,2-dichloroethene, trichloroethene, and vinyl chloride were identified in groundwater in the **first water-bearing zone (FWBZ)** at a depth of 2 to 6 feet below ground surface at Site 26.

Storm sewer lines were evaluated, and the results indicate that contaminants from the site have not migrated to the Oakland Inner Harbor, and it is unlikely that storm sewers or bedding materials near Site 26 would be acting as a preferential pathway.

The RCRA SWMU evaluation process is incomplete at this time, but Navy will complete the process prior to issuance of the ROD.

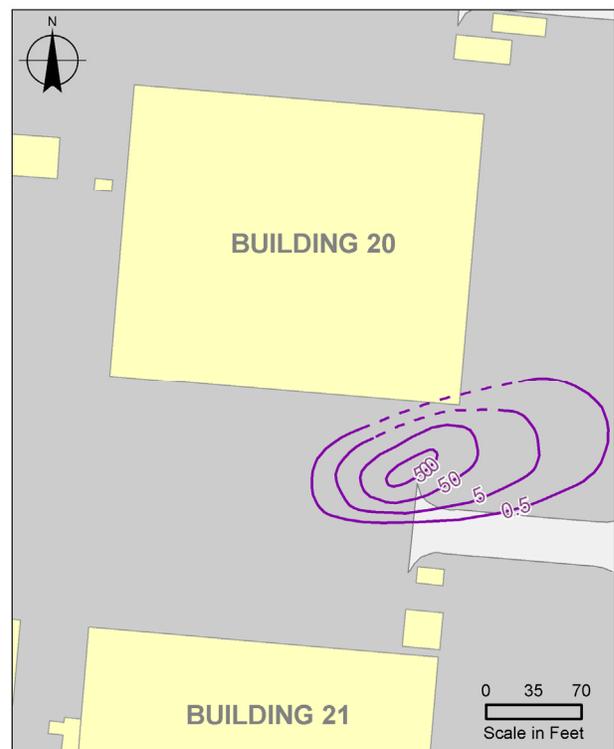


Figure 4. Total VOCs in Groundwater at Building 20 (VOC concentrations in micrograms per liter)

SITE-SPECIFIC RISK ASSESSMENT

“Risk” is the likelihood or probability that a hazardous chemical, when released to the environment, will cause adverse effects on exposed humans or other biological receptors. As part of the RI, a **human health risk assessment (HHRA)** and **ecological risk assessment (ERA)** were conducted to assess risk.

HUMAN HEALTH RISK ASSESSMENT

The Navy considered the different ways that people might be exposed to the chemicals, the possible concentrations of chemicals that potentially could be encountered in those exposures, and the potential frequency and duration of exposure. The long-term reuse of Site 26 is expected to be commercial and industrial. To support possible future land uses, three exposure scenarios were evaluated: residential, occupational, and construction workers. The residential scenario is considered the most conservative.

Risk calculations were based on conservative assumptions to protect human health. "Conservative" means the assumption will tend to overestimate risk which means that the remedial goals will be more protective. Human health risk is classified as cancer (from exposure to carcinogens) or non-cancer (from exposure to non-carcinogens). A **hazard index (HI)** of 1 or less is set as protective of non-cancer health hazards.

To assist with the characterization of cancer risks, a federally established risk management range was developed to protect human health and help risk managers determine whether site risks are significant enough to warrant cleanup. When risk is below 1 additional cancer case in a population of 1,000,000 (written as 10^{-6}), action is generally not warranted by EPA. When risk is within the risk management range of between 1 additional cancer case in a population of 1,000,000 (written as 10^{-6}) and 1 additional cancer case in a population of 10,000 (written as 10^{-4}), site-specific factors are considered when making decisions about whether action is required.

The risk assessment results for soil and groundwater at Site 26 are presented in Table 1 on page 4. Because dichloroethene and trichloroethene may degrade further to vinyl chloride, which could further increase the risk, risks presented in Table 1 reflect risk from VOCs in groundwater degrading to vinyl chloride and vinyl chloride not degrading at all.

Cancer risks to occupational and construction workers are equal to or below a cancer risk of 10^{-6} and the noncancer HIs are less than 1. Cancer risk to residents is within the risk management range, and the noncancer HI is 1.

Potential residential cancer risk from soil is posed by arsenic, and arsenic concentrations in soil are considered similar to background. Background is defined as naturally occurring metals in soil and groundwater. Based on the low levels of incremental contamination in soil, no remedial action for soil is necessary at Site 26 to protect human health. Potential cancer risk to residents from groundwater is posed from the VOCs cis-1,2-dichloroethene, trichloroethene, and vinyl chloride through inhalation of vapors in indoor air; therefore, these chemicals were identified as **chemicals of concern (COCs)**.

Table 1 Cancer and Non-Cancer Risks

Use	Media	Cancer Risk ¹	Non-Cancer HI ¹
Occupational	Soil	1×10^{-6}	0.08
	Groundwater	9×10^{-8}	0.0006
Construction	Soil	6×10^{-7}	0.08
Residential	Soil	5×10^{-6}	1
	Groundwater	4×10^{-5}	0.03

¹ Based on EPA-derived toxicity values

ECOLOGICAL RISK ASSESSMENT

An ERA was conducted for both soil and groundwater and was found to have no significant risk to terrestrial and marine ecological receptors. A significant factor was that Site 26 supports only limited habitat, the presence of terrestrial receptors is limited, and future land uses would not create additional ecological habitat. Further, no ecological risk to the San Francisco Bay was identified due to lateral groundwater movement or storm sewer system discharge.

REMEDIAL ACTION OBJECTIVES

Site-specific **remedial action objectives (RAOs)** and remedial goals were developed to guide the development and evaluation of remedial alternatives. An RAO is a medium-specific (soil, groundwater, or air) goal for protecting human health or the environment. The remedial goals are usually chemical concentration limits, which provide a quantitative means of identifying areas for potential remedial action, screening the types of appropriate technologies, and assessing a

remedial action's potential for achievement of the RAO. Remedial goals are also the performance requirements and the main basis for measuring the success of the response actions. Because groundwater is unlikely to be a drinking water source, the BCT has concurred with setting the remedial goals for Site 26 groundwater above **maximum contaminant levels (MCLs)**, provided that the risk from groundwater vapors to residents is considered acceptable by EPA.

The RAOs for groundwater are to protect human health by preventing exposure of potential residents and occupational workers to VOCs in indoor air that have migrated from groundwater and preventing exposure of potential construction workers to VOCs in outdoor air that have migrated from groundwater. The remedial goal for cis-1,2-dichloroethene in groundwater is 6 micrograms per liter (ug/L), trichloroethene is 5 ug/L, and vinyl chloride is 0.5 µg/L. ICs for the site will remain in affect until the remedial goals are met. These remedial goals provide for unrestricted site use even though the planned future use is commercial. However, the costs associated with unrestricted use are expected to be comparable with commercial use at this site, when considering the associated long-term costs. During the remedial design phase, the vertical and lateral extent of cis-1,2-dichloroethene, trichloroethene, and vinyl chloride in groundwater will also be further delineated.

Because the RI indicated low incremental risk for soil, the Navy, together with the BCT, has agreed that no action for soil under CERCLA is required at Site 26. Under federal cleanup regulations, when levels of contamination are low and do not pose a significant risk for its current or proposed future use, it is not necessary to develop and analyze multiple cleanup options; therefore, this Proposed Plan does not provide remediation alternatives for soil.

SUMMARY OF GROUNDWATER REMEDIATION ALTERNATIVES

Technologies and associated process options retained after screening were assembled into nine separate comprehensive **remedial action (RA)** alternatives for Site 26. These RA alternatives and associated process options are described below:

- **Remedial Alternative 1 – No Action.** In this alternative, no actions are performed. This alternative provides a baseline for comparing all other alternatives. There is no cost associated with this alternative.
- **Remedial Alternative 2 – Groundwater Confirmation Sampling.** Implements 3 years of groundwater confirmation sampling to verify the extent and stability of the VOC plume and document contaminant concentrations. This alternative is estimated to cost \$750,000.
- **Remedial Alternative 3 – Monitored Natural Attenuation (MNA) and ICs.** Consists of performing groundwater monitoring to evaluate natural attenuation, along with implementation of ICs to restrict residential reuse. This alternative would include 70 years of groundwater monitoring and is estimated to cost \$3,200,000.
- **Remedial Alternative 4 – In Situ Bioremediation (ISB) Source Area Treatment, MNA, and ICs.** Includes ISB treatment to target and breakdown source area contaminants over time, groundwater monitoring for 45 years to evaluate natural attenuation, and implementation of 46 years of ICs to restrict residential reuse. This alternative is estimated to cost \$3,200,000.
- **Remedial Alternative 5 – In Situ Chemical Oxidation (ISCO) Source Area Treatment, MNA, and ICs.** Implements ISCO source area treatment to accelerate breakdown of contaminants through oxidation, groundwater monitoring for 50 years to evaluate natural attenuation, and implementation of 50.5 years of ICs to restrict residential reuse. This alternative is estimated to cost \$3,400,000.
- **Remedial Alternative 6 – ISCO, ISB, and ICs – Preferred Alternative.** Accelerates the reduction of VOC plume contaminant concentrations using full-scale ISCO to breakdown contaminants and ISB treatment to breakdown remaining contaminants over time combined with implementation of 3 years of ICs to restrict residential reuse. This alternative is estimated to cost \$3,100,000.
- **Remedial Alternative 7 – ISCO Source Area Treatment, ISB, MNA, and ICs.** Combines limited-scale ISCO treatment to target and breakdown source area contaminants, ISB treatment to breakdown remaining contaminants over time, groundwater monitoring for

40 years to evaluate natural attenuation, and implementation of 41.5 years of ICs to restrict residential reuse. This alternative is estimated to cost \$3,500,000.

- **Remedial Alternative 8 – ISB and ICs.** Combines full-scale ISB treatment to accelerate the breakdown of contaminants over time, and implementation of 4 years of ICs to restrict residential reuse. This alternative is estimated to cost \$2,800,000.
- **Remedial Alternative 9 – Zero-Valent Iron (ZVI) Source Area Treatment, MNA, and ICs.** Implements ZVI treatment to chemically break down VOC contaminants, groundwater monitoring for 40 years to evaluate natural attenuation, and implementation of 41 years of ICs to restrict residential reuse. This alternative is estimated to cost \$3,300,000.

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 **applicable or relevant and appropriate requirements (ARAR)**. ARARs that apply to the cleanup of groundwater impacted with cis-1,2-dichloroethene, trichloroethene, and vinyl chloride are listed below. See the FS for a complete list of ARARs.

FEDERAL ARARS

The following state regulations that are a component of a federally authorized or delegated state program are considered federal ARARs.

- The substantive requirements of the **California Code of Regulations (CCR)** Title 22, Sections 66264.94(a)(1), (a)(3), (b), (c), and (e) [Groundwater protection standards for owners and operators of Resource Conservation and Recovery Act (RCRA) Treatment, Storage and Disposal (TSD) facilities] have been determined to be potentially relevant and appropriate ARARs for the development of site remedial goals.

Substantive applicable requirements of the CCR Title 22 pertaining to the potential characterization and accumulation of waste generated during the monitoring and construction of monitoring wells:

- On-site waste generation [Sections 66262.10(a), 66262.11, and 66264.13(a) and (b)]
- Hazardous waste accumulation [Section 66262.34]
- The substantive requirements of hazardous waste container storage regulations [Section 66264.171, .172, .173, .174, .175(a) and (b), and .178]

Substantive relevant and appropriate requirements of the CCR Title 22 pertaining to the identification of constituents of concern that are reasonably expected during groundwater sampling and analysis:

- Groundwater Monitoring [Section 66264.93]

The Navy believes that MCLs do not apply to this site. MCLs are not applicable because MCLs are applicable to public drinking water, which is not supplied by the groundwater at this site. The MCLs are not relevant or appropriate because the groundwater is unlikely to be used as a drinking water supply. Additionally, the groundwater beneficial use determination report dated July 2000 states, *“For the purpose of CERCLA cleanup decisions, groundwater in the western and central regions (including Site 26) of Alameda Point is unlikely to be used as a potential drinking water source.”*

STATE OF CALIFORNIA ARARS

- The substantive requirements of the California Fish and Game Code Section 2080 [California Endangered Species Act] have been determined to be relevant and appropriate ARARs. Remedial activities should not affect any areas that support special-status species or habitat.
- **California Civil Code (CCC)** Section 1471, Transfer of Obligations
- CCR Title 22, 67391.1, Land Use Covenants
- **Health and Safety Code (HSC)** Sections 25202.5; 25222.1; and 25233(c)
- Water Quality Control Plan for the San Francisco Bay Basin, 1995, Chapter 2 through 3;
- State Water Resources Control Board (SWRCB) Resolution No. 88-63; and
- California Water Code, Division 7, Sections 13241, 13243, 13360, and 13263(a) (Porter-Cologne Water Quality Act).

COMPARISON OF ALTERNATIVES

Selection of the preferred alternative is based on the effectiveness of reducing human health and ecological risks, cost, and implementability. General descriptions of the nine National Contingency Plan (NCP) evaluation criteria are presented in Table 2. The nine evaluation criteria are separated into three categories (threshold, primary balancing, and modifying) as shown at the bottom of Table 2.

The following numbered text presents a comparison of the nine remedial alternatives to the nine evaluation criteria. Table 3 summarizes this discussion for the primary balancing criteria.

1. **Overall Protection of Human Health and the Environment.** Alternative 1 is not fully protective of human health and the environment because plume stability and contaminant degradation is not verified. Alternatives 3, 4, 5, 6, 7, 8, and 9 meet the threshold criterion for overall protection of human health and the environment.
2. **Compliance with ARARs.** ARARs are not applicable to Alternative 1. Alternatives 3, 4, 5, 6, 7, 8, and 9 meet the threshold criteria of compliance with ARARs.
3. **Long-Term Effectiveness and Permanence.** Table 3 provides a comparative analysis of the remedial alternatives with respect to this criterion.
4. **Reduction of Toxicity, Mobility, or Volume through Treatment.** Table 3 provides a comparative analysis of the remedial alternatives with respect to this criterion.
5. **Short-Term Effectiveness** Table 3 provides a comparative analysis of the remedial alternatives with respect to this criterion.
6. **Implementability.** All of the alternatives are implementable. Table 3 provides a comparative analysis of the remedial alternatives with respect to this criterion.
7. **Cost.** Table 3 provides a comparative analysis of the remedial alternatives with respect to this criterion.
8. **State Agency Acceptance.** The State of California has concurred with the Navy's proposed remedial alternative (Alternative 6).

Table 2 NCP Evaluation Criteria

1. **Overall protection of human health and the environment** addresses whether or not a remedy provides adequate protection and describes how risks posed through each pathway are eliminated, reduced, or controlled.
2. **Compliance with ARARs** addresses whether or not a remedy will meet all Federal and State environmental laws or provide grounds for a waiver.
3. **Long-term effectiveness and permanence** refers to the ability of a remedy to provide reliable protection of human health and the environment over time.
4. **Reduction of toxicity, mobility, or volume through treatment** refers to preference for a remedy that reduces health hazards, the movement of contaminants, or the quantity of contaminants at the site through treatment.
5. **Short-term effectiveness** addresses period of time needed to complete remedy and any adverse effects to human health and the environment that may be caused during construction and implementation of the remedy.
6. **Implementability** refers to the technical and administrative feasibility of the remedy, including availability of materials and services needed to carry out the remedy and coordination of Federal, State, and local governments to work together to clean up the site.
7. **Cost** evaluates estimated capital and operation and maintenance costs of each alternative in comparison to other, equally protective measures.
8. **State acceptance** indicates whether the State agrees with, opposes, or has no comment on the alternative.
9. **Community acceptance** includes determining which components of the alternatives interested persons in the community support, have reservations about, or oppose (not complete until public comments on Proposed Plan are received).

Threshold. These criteria (1 and 2) must be satisfied for an alternative to be eligible.

Primary Balancing. These criteria (3, 4, 5, 6, and 7) are used to weigh major trade-offs among alternatives.

Modifying. Once all comments are evaluated, state and community acceptance (8 and 9) may prompt modifications to the preferred remedy and are thus designated modifying criteria.

9. **Community Acceptance.** This criterion will be evaluated after the public comment period ends. A responsiveness summary will document responses to public comments in the ROD.

Table 3 Comparative Analysis of Remedial Alternatives					
Alternative Number	Long-Term Effectiveness and Permanence	Reduction of Toxicity, Mobility or Volume Through Treatment	Short-Term Effectiveness	Implementability	Cost
1	○	○	○	●	●
2	●	○	●	●	●
3	○	○	●	●	○
4	●	●	●	●	○
5	●	●	●	●	○
6	●	●	●	○	●
7	●	●	●	●	○
8	●	●	●	○	●
9	●	●	●	●	○

Relative Performance In Satisfying Criteria

- Low Performance
- Moderate Performance
- High Performance

The nine alternatives were evaluated further to address Site 26 environmental impacts as follows:

Alternative 1 is required as part of the remedial screening process and provides a baseline for comparing all other alternatives. Under this alternative, no action would be taken to alter or maintain Site 26, and the RAOs are not achieved.

Alternative 2 would verify the extent and stability of the VOC plume by performing groundwater sampling, and results would document reduction in contaminant concentrations as a result of

natural processes. Since groundwater sampling is for a period of 3 years only, natural attenuation may not have decreased contaminant concentrations within an acceptable range.

Alternative 3 institutes a long-term monitoring program to evaluate the effectiveness of natural processes in reducing contaminant concentrations over time. The risk evaluation for this alternative indicated that the health risk may increase, although the increase in risk would still be within the Navy’s risk management range of 10⁻⁶ to 10⁻⁴. Long-term ICs restrict residential reuse of the property and prohibit actions which interfere with natural attenuation processes. Seventy years of ICs limit the availability of the property for unrestricted reuse and is less desirable than a short-term solution.

Alternatives 4, 5, 7, and 9 implement limited-scale in situ chemical and biological treatments to accelerate the destruction of the contaminants, combined with moderate-term ICs. Limited-scale treatment reduces contaminant source concentrations while accelerating the destruction of contaminant by-products. The breakdown of the by-products results in a reduced health risk. Natural processes further reduce the contaminants over a period of 40 to 45 years. Limiting the availability of the property for unrestricted reuse by implementing ICs for a period of 41 to 46 years is less desirable than the short-term solutions provided by Alternatives 6 and 8.

Alternatives 6 and 8 use full-scale ISB and/or ISCO treatment to accelerate the destruction of the contaminants in combination with short-term ICs. Full-scale chemical treatment significantly reduces contaminant and by-product concentrations throughout the entire plume area. Biological treatment provides the agents necessary to accelerate the natural processes of contaminant degradation. Short-term ICs are required for a period of 3 to 4 years. Short-term ICs are preferred over long-term ICs. Alternative 8 relies on biological treatment alone and depends on the availability of indigenous bacteria to break down the chemical contaminants naturally. In addition, there is limited experience in successfully implementing treatment, making it more of a risk than Alternative 6.

INSTITUTIONAL CONTROLS

ICs described in this Proposed Plan include deed restrictions, which would be established to limit human exposure to vapors migrating from contaminated shallow groundwater. ICs are applicable to Alternatives 3 through 7, and will be implemented through deed restrictions at the time of property transfer.

The Navy plans to use ICs to:

- Prevent exposure to vapors migrating from contaminated groundwater.
- Allow access to extraction and monitoring wells and other remedial action components.
- Protect monitoring wells installed as part of the remedy and other equipment installed at Site 26.
- Restrict residential use of the property until remedial goals are met.

Access provisions are needed to ensure the Navy and the regulatory agencies have access for the purpose of implementing the remedial action, performing maintenance activities, and conducting groundwater monitoring. The ICs will be incorporated and implemented through two separate legal instruments:

- (1) A "Covenant Agreement" with DTSC pursuant to state laws and
- (2) A Quitclaim Deed from the Navy to the property recipient.

PREFERRED ALTERNATIVE

The Navy prefers Alternative 6 for groundwater at Site 26 because full-scale ISCO treatment would provide substantial reduction in contaminant concentrations throughout the VOC plume within 3 years. Alternative 6 also incorporates ISB, the biological reduction of residual contaminants by natural processes, to accelerate the breakdown of remaining contaminants over time. In addition to providing highly effective contaminant reduction, this alternative would provide the shortest term ICs (only 3 years), low relative cost, and moderate implementability while fully protecting human health and the environment and complying with all environmental regulations and laws. Although ICs were estimated at 3 years, ICs would remain in place until RAOs and remedial goals established in the ROD have been achieved. During the remedial design phase

permanent monitoring wells would be constructed and additional groundwater sampling would be performed to delineate the horizontal and vertical extent of the groundwater plume, monitor flow conditions, plume movement, and to verify treatment effectiveness. This alternative reduces the mobility, toxicity, and volume of VOCs in the groundwater by implementing an expedient, aggressive, and proven treatment strategy. Therefore, Alternative 6 is recommended as the preferred RA for groundwater at Site 26.

Because the RI indicated low risk for soil, the Navy, together with the BCT, recommends no action for soil at Site 26.

NEXT STEP FOR SITE 26

After the public comment period, the Navy will review and consider the comments before making a final decision on the remedial action alternative for Site 26. The Navy's decision will be recorded in a ROD, which will include all of the comments received on this Proposed Plan, as well as the Navy's "Responsive Summary." A Public Notice will be placed in the *Oakland Tribune* and *Alameda Times-Star* announcing when the ROD is available to the public in the information repositories.

OPPORTUNITIES FOR PUBLIC INVOLVEMENT

PUBLIC COMMENT PERIOD

The 30-day public comment period on the Proposed Plan will extend from October 24 through November 23, 2005.

There are two ways to provide comments during the public comment period:

- Offer oral comments during the public meeting
- Provide written comments by mail or fax (no later than November 23, 2005).

The meeting will be held on November 9, 2005 at 950 West Mall Square, Building 1, Room 201 at Alameda Point from 6:30 pm to 8:00 pm. It will be an opportunity to discuss the information presented in this Proposed Plan. Navy 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 the remedial alternatives summarized in this Proposed Plan.

Written comments should be sent to:

- Mr. Thomas Macchiarella,
Base Realignment and Closure (BRAC)
Environmental Coordinator
BRAC Program Management Office West
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310
(619) 532-0907 (phone)
(619) 532-0940 (fax)

SITE CONTACTS

The Alameda BCT encourages community involvement in the decision-making process for Alameda Point. If you have any questions or concerns about environmental activities at Alameda Point, please feel free to contact any of the following project representatives:

- Ms. Anna-Marie Cook, Project Manager
U.S. EPA, Region 9
75 Hawthorne Street
San Francisco, CA 94105
(415) 972-3029
- Ms. Marcia Y. Liao, Project Manager
Dept of Toxic Substances Control
700 Heinz Avenue, Suite 200
Berkeley, CA 94710
510-540-3767
- Ms. Judy Huang, Project Manager
San Francisco Bay Regional Water Quality
Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612
(510) 622-2363
- Mr. Thomas Macchiarella,
Base Realignment and Closure (BRAC)
Environmental Coordinator
BRAC Program Management Office West
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310
(619) 532-0907 (phone)
(619) 532-0940 (fax)

INFORMATION REPOSITORY LOCATION

Individuals interested in the full technical details beyond the scope of this Proposed Plan should visit either of the two local Information Repositories in Alameda:

- Alameda Point - 950 West Mall Square,
Building 1, Rooms 240 and 241
- Alameda Public Library - 2200A Central
Avenue

Supporting documents describing the field investigation, laboratory analysis, and risk assessments are part of the Alameda Point Administrative Record and are available for your review at the Information Repositories in Alameda. These reports include:

- 2003 – Final Remedial Investigation Report
IR Site 26, Western Hangar Zone, Alameda
Point
- 2005 – Final Feasibility Study Report
IR Site 26, Western Hangar Zone, Alameda
Point

ADMINISTRATIVE RECORD

The collection of reports and historical documents used by the BCT in the selection of cleanup or environmental management alternatives is the *administrative record (AR)*. The AR file provides a record of decisions and actions by the Navy for the site discussed in this Proposed Plan. The AR includes the final remedial investigation and feasibility study reports for Site 26. These are the key documents that form the basis for the recommendation made regarding this site. Other supporting documents and data pertaining to these sites are also contained in the AR file.

The AR files are located at:

Naval Facilities Engineering Command,
Southwest
1220 Pacific Highway
San Diego, CA 92132-5190

The contact person is Ms. Diane Silva (Code EVR), Administrative Records Manager.

INTERNET CONNECTION

For more information on the closure of Alameda Point, the IR Program, and Site 26, checkout the website at:

<http://www.navybracpmo.org>

Glossary of Technical Terms, Abbreviations, and Acronyms Used in This Plan

ARARs: Applicable or Relevant and Appropriate Requirements - Federal, state, and local environmental standards, requirements, criteria, or limitations that have been determined to be legally applicable or relevant and appropriate to remedial actions on a CERCLA site.

BRAC: Base Realignment and Closure

BCT: BRAC Cleanup Team

CAA: - Corrective Action Area

COCs: Chemicals of Concern - Chemicals present at a site in soil, groundwater, or surface water, at concentrations that may potentially pose a threat to human health or the environment.

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act - A law that establishes a program to identify hazardous waste sites and procedures for cleaning up sites in a manner that is protective of human health and the environment.

DTSC: Department of Toxic Substances Control

EPA: U.S. Environmental Protection Agency

FS: Feasibility Study - A study to identify, screen, compare, and choose cleanup alternatives for a site.

ICs: Institutional Controls - Non-engineered mechanisms established to limit human exposure to contaminated waste, soil, or groundwater.

IR Program: Installation Restoration Program - Designated to identify, investigate, assess, characterize, and clean up or control releases of hazardous substances from past Navy activities.

ISB: In Situ Bioremediation - Addition of biological agents to enhance the natural processes of contaminant degradation on site.

ISCO: In Situ Chemical Oxidation - Acceleration of the breakdown of contaminants by injecting oxidizing chemicals into groundwater

NAS: Naval Air Station

Plume: A zone of contaminated groundwater.

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

Proposed Plan: A document that reviews the cleanup alternatives presented in the FS, summarizes the recommended cleanup actions, explains the

reasons for recommending them, and solicits comments from the community.

RA: Remedial Action

RAO: Remedial Action Objective - A medium-specific (soil, groundwater, or air) goal for protecting human health or the environment.

RCRA: Resource Conservation and Recovery Act - A federal law that gave EPA the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA focuses only on active and future facilities and does not address abandoned or historical sites (see CERCLA).

Remedial goals: Usually chemical concentration limits, which provide a quantitative means of identifying areas for potential remedial action, screening the types of appropriate technologies, and assessing a remedial action's potential for achievement of the RAO.

Remedial Action: A general term used to describe technologies or actions implemented to contain, collect, or treat hazardous wastes to protect human health and the environment. Examples include groundwater extraction wells operating with treatment systems.

RI: Remedial Investigation - One of the 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 determine the nature and extent of contamination at a site and to estimate the risks presented by the contamination.

ROD: Record of Decision - A decision document that identifies the cleanup alternative chosen for implementation at a CERCLA site. The ROD is based on information from the RI and FS, and on public comments and community concerns.

VOCs: Volatile Organic Compounds - Organic (carbon-containing) compounds that evaporate readily at room temperature. VOCs are found in industrial solvents commonly used in dry cleaning, metal plating, and machinery degreasing operations.

FWBZ: First Water-Bearing Zone - A distinct underground stratum in which water fills the pores in soil or openings in rocks.

ZVI: Zero-Valent Iron - Treatment to chemically break down contaminants.

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**Proposed Plan for
Site 26 Western Hangar Zone
Alameda Point, California**