Proposed Plan for Installation Restoration Site 30 Soil Former NAS Alameda

Alameda, California ***November 2008***

U.S. NAVY PROPOSES NO FURTHER ACTION FOR SOIL

The U.S. Navy requests public comments on its Proposed Plan for no further action for soil at **Installation Restoration (IR)*** Site 30, located on the former Naval Air Station (NAS) Alameda, in Alameda, California (Figure 1). The U.S. **Environmental Protection Agency (EPA)**, California EPA **Department of Toxic Substances Control (DTSC)**, and the California EPA **San Francisco Bay Regional Water Quality Control Board (Water Board)** worked with the Navy and concur that no further action is required for soil at IR Site 30.

This Proposed Plan presents the Navy's no further action recommendation and summarizes the results of the environmental investigations for soil at IR Site 30, where Island High School and the Woodstock Child Development Center are located. IR Site 30 is located on the former NAS Alameda, now referred to as Alameda Point. This recommendation is based on extensive field investigations, laboratory analyses, data evaluations, current and future land use, and thorough assessments of the potential human health and ecological risks.

The **remedial investigation (RI)**, which included the environmental investigation and technical investigations, was conducted in accordance with the governing federal regulation known as the **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**. The RI evaluated the nature and extent of potential contaminants in IR Site 30 soil and the risk to current and future **receptors**.

Based on the RI evaluations, the soil at IR Site 30 does not present an unacceptable risk to human health or the environment under the current or future conditions. No land-use restrictions, environmental monitoring, or other cleanup actions are required at this site for soil. The RI also concluded that the soil at IR Site 30 is not a source of benzene and naphthalene in the **Operable Unit** 5/ IR-02 groundwater plume, which lies beneath IR Site 30 and is being addressed separately.

Figure 1. Former NAS Alameda Location

- NOTICE –

Public Comment Period

November 7, 2008
through
December 12, 2008

Public Meeting

November 19, 2008

Alameda Point
Main Office Building, Room 201
950 West Mall Square
Alameda, California
6:30 to 8:00 pm

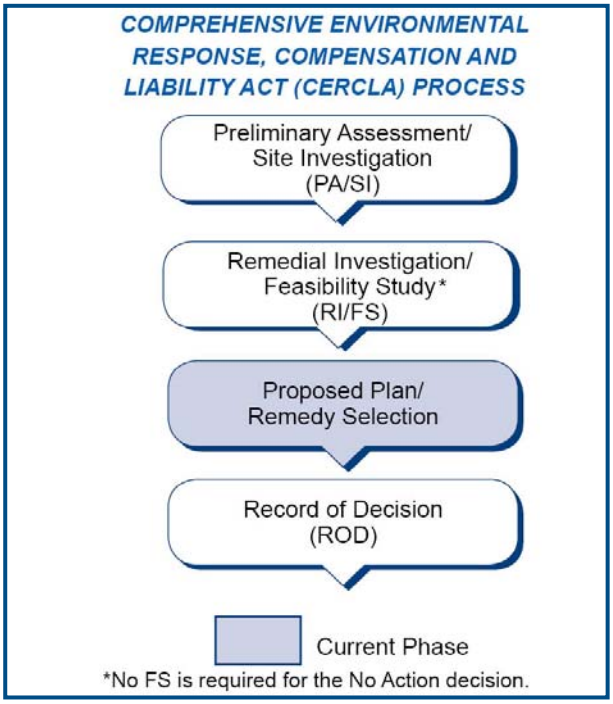
*Words in bold are defined in the glossary on page 6.

THE CERCLA PROCESS

The Navy is issuing this Proposed Plan as part of its public participation responsibilities under Section 117(a) of CERCLA and Section 300.430(f) (2) of the **National Oil and Hazardous Substances Pollution Contingency Plan (NCP)**. In accordance with the CERCLA process, the Proposed Plan follows the RI when the results of the risk assessment show that cleanup or other remedial actions are not needed. In this case, a feasibility study evaluating different options for cleanup or other remedial action is not required. When cleanup or other remedial actions are needed, then the Proposed Plan follows the feasibility study. A **Time-Critical Removal Action (TCRA)** was implemented at IR Site 30 in 2004. The flowchart to the right illustrates the current phase of IR Site 30 in the CERCLA process.

The Proposed Plan summarizes information detailed in the RI report (October 2005) and Addendum (July 2008). The Navy encourages the public to review these documents to gain an understanding of the environmental investigation activities and risk assessments that have been conducted at the site. The RI report and Addendum are available for public review at the locations listed on page 5. Information about the public meeting for this Proposed Plan and on submitting public comments during the 30-day public comment period is also presented on page 5.

In consultation with the regulatory agencies, the Navy may modify the proposed remedy based on feedback from the community or on new information. Therefore, the community is encouraged to review and comment on this Proposed Plan. A final decision, documented in the **Record of Decision (ROD)**, will not be made until all comments are considered.



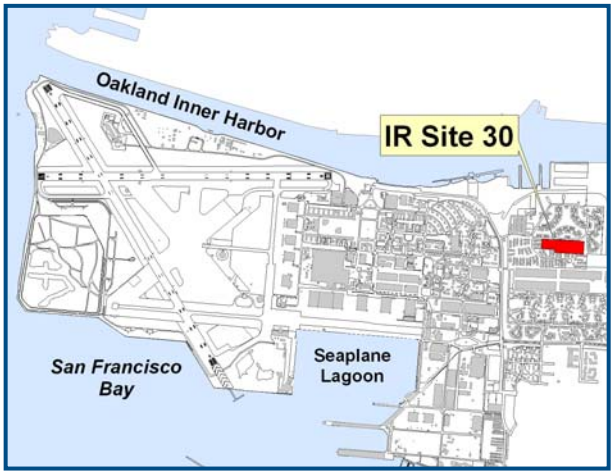


Figure 2. Location of IR Site 30

SITE DESCRIPTION AND BACKGROUND

Former NAS Alameda ceased operations in 1997. Alameda Point is located on the western tip of Alameda Island, which is on the eastern side of San Francisco Bay. Alameda Point is relatively flat land that was created by filling tidelands, marshlands, and sloughs between Oakland Inner Harbor and the western tip of Alameda Island. The fill largely consisted of dredge material from the surrounding San Francisco Bay and Oakland Inner Harbor.

IR Site 30 is a 6.6-acre site located within the former NAS Alameda, at the eastern end of Alameda Point (Figure 2). Currently, the Woodstock Child Development Center and Island High School (formerly the George P. Miller Elementary School) are located on this site, which is planned for conveyance to the Alameda Unified School District. Planned future use for IR Site 30 is the same as the current use.

IR Site 30 is located in the northwestern portion of the former San Francisco Bay Airdrome property, which was an airfield that was operational from 1929 to 1941. By 1947, the site was used for military housing; by 1959, the site was paved and used for storage. In 1975, the high school was constructed and in 1985, the child development center was built.

SITE INVESTIGATIONS

A soil RI was performed at IR Site 30 to expand upon previous investigations. The August 2004 RI sampling included the collection of soil and groundwater samples. These samples were collected and analyzed for **volatile organic compounds (VOCs)**, **semivolatile organic compounds (SVOCs)**, pesticides, **polychlorinated biphenyls (PCBs)**, and metals.

The RI report evaluated the nature and extent of potential chemicals of concern in IR Site 30 soil and included **human health** and **ecological risk assessments**. The RI report also evaluated the shallow groundwater beneath IR Site 30 to determine whether the soil at the Site has contributed to a potential release of contamination to

groundwater. The RI evaluations incorporated data from previous soil and groundwater investigations. The 2005 RI report calculated risk and HI numbers based on pre-TCRA data, so the assessment of risk is conservative. The human health and ecological risk assessments are summarized in subsequent sections. A brief summary of the IR Site 30 RI follows.

VOCs, SVOCs (other than **polycyclic aromatic hydrocarbons** [PAHs]), pesticides, and PCBs were detected infrequently in the soil (in 15 percent or fewer of samples) and at concentrations lower than levels established by the regulatory agencies for residential use, except for PCBs at one location where the soil was subsequently removed. Because a school and daycare center are located on this IR site, the Navy conducted a TCRA in 2004 as a protective measure until the remedial investigation and associated human health and ecological risk assessments could be completed. During the TCRA in November 2004, soil cover materials were installed in six areas at the site. Also, soil at one location was removed to 2 feet below ground surface because of elevated concentrations of several organic compounds, including PCBs and metals. The surface was then restored to pre-removal action conditions.

The RI report identified arsenic as the cancer risk driver. Subsequently, in an Addendum to the RI report, an in-depth statistical analysis of arsenic in the soil showed that arsenic was ambient (naturally occurring), and not the result of a release to the environment from Navy activities.

The groundwater investigation at IR Site 30 determined that no site-specific releases of VOCs, SVOCs, PCBs, pesticides, metals, or PAHs had occurred at IR Site 30. The investigation also evaluated benzene and naphthalene, the chemicals present in the OU 5/IR-02 groundwater plume, and concluded that no site-specific releases had occurred and that the soil at IR Site 30 was not a source of these chemicals in the groundwater plume.

HUMAN HEALTH RISK ASSESSMENT

Within the context of environmental investigations and actions, "**risk**" is the likelihood that a hazardous substance, when released to the environment, will cause adverse effects on exposed people and the environment. For humans, risk is further classified as carcinogenic (causes cancer) or noncarcinogenic (causes other illnesses).

Risk assessments are designed to provide a margin of safety to protect public health and the environment by using conservative assumptions that assure risks are not underestimated. Actual human exposures and associated risks are likely to be lower than those calculated for the risk assessment. Therefore, health risk estimates do not predict actual health effects, but are a tool for making **risk management** decisions on the need for action to reduce possible exposure.

A human health risk assessment was performed for IR Site 30 as part of the RI evaluation. The Navy used EPA guidance to evaluate the different ways in which people could be exposed to the chemicals in soil, possible concentrations of the chemicals that potentially could be encountered in those exposures, and the potential frequency and duration of exposure. **Exposure pathways** for children and adults at IR Site 30 are shown in Table 1.

Table 1. Exposure Pathways for Current and Potential Future Human Receptors

- Direct contact with soil (ingestion, inhalation of dust, and skin absorption) for all receptors
- Consumption of homegrown produce for potential future residents
- Inhalation of vapors in indoor air from volatile chemicals in soil and groundwater for all receptors

These exposure pathways are based on current and reasonable future **exposure scenarios**. To account for uncertainty, and to be representative, the risk calculations used statistical methods and a **reasonable maximum exposure (RME)** to assure that risks are not underestimated. This risk assessment included inhalation of vapors in indoor air from volatile chemicals in groundwater for all receptors, but not ingestion of groundwater. Groundwater beneath IR Site 30 is not used for drinking water. Water services to the school and child care center are provided by the East Bay Municipal Utility District. Groundwater at IR Site 30 is within the Operable Unit 5/IR-02 plume and is part of a separate remedial action.

As part of the CERCLA risk assessment process, ambient metals are included in the calculation of total risk. An in-depth statistical analysis of potential site-related arsenic in the RI Addendum showed that this metal was ambient (naturally occurring), and was not the result of a release to the environment from Navy activities. Therefore, risks were also calculated without arsenic.

Cancer risk is expressed as a statistical probability that an individual could have an increased risk of cancer incidence. A 1 in 10,000 chance is a risk of 1×10^{-4}. For every 10,000 people, one additional cancer risk may occur as a result of exposure. A 1 in 1,000,000 chance is expressed as 1×10^{-6}. In this case, for every 1,000,000 people, one additional cancer case may occur as a result of exposure. Therefore, a 1×10^{-4} cancer risk is a higher risk than 1×10^{-6}.

In accordance with EPA guidance, the risk management range is 10^{-4} to 10^{-6}. The risk management range was

established by EPA to set guidelines for making risk management decisions. EPA guidance states, "Where the cumulative carcinogenic site risk to an individual based on reasonable maximum exposure for both current and future land use is less than 10^{-4} and the noncarcinogenic **hazard quotient (HQ)** is less than 1, action generally is not warranted unless there are adverse environmental impacts." Site-specific factors are typically considered at sites where the cancer risks are in the 10^{-4} to 10^{-6} range when decisions are being made about whether action will be taken. Cancer risks below 10^{-6} are generally considered insignificant. For cancer risks above the risk management range of 10^{-4} to 10^{-6}, action is generally required.

For noncancer effects, an HQ is calculated. An HQ of 1 or greater indicates that a lifetime of exposure may have potential for causing adverse health effects. The HQ is based upon effects of a single chemical. To express health effects for multiple chemicals, the HQs are added together to obtain the **hazard index (HI)**.

In accordance with the NCP, site-specific factors including exposure factors, uncertainty, and other technical site-specific information were evaluated during the risk management decision-making process. The estimated risks associated with soil for IR Site 30 have a high level of confidence based upon numerous soil samples (more than 400) and the evaluation of comprehensive exposures. For potential future residents, the evaluation included ingestion of soil for 350 days per year for 30 years and ingestion of home-grown produce. Because of the high confidence level in the risk values, extensive site characterization, and other site-specific factors, risks within the risk management range are protective of human health at IR Site 30. Most of the potential noncancer hazard was associated with the contaminant concentrations in a single soil sample, which was removed during the TCRA. This sample contained elevated concentrations of PCBs, metals, and other organic compounds. Therefore, the human health risk assessment concluded that there are no unacceptable risks for soil at IR Site 30.

Table 2 shows the post-TCRA cancer risks for IR Site 30 soil with and without the inclusion of arsenic. As shown in this table, the risks are within the risk management range, and current conditions are protective for adults and children.

ECOLOGICAL RISK ASSESSMENT

The ecological risk assessment presented in the RI report was conducted following EPA and Navy guidelines to estimate potential risk for adverse effects from chemicals to ecological receptors at IR Site 30. Ecological receptors include birds and small mammals; however, no native habitat is present at the site. Most of IR Site 30 is paved or covered by buildings and an urban habitat consisting of ornamental shrubs, trees, and landscaped areas are present. The current and future use of the site as a school facility will maintain the urban habitat of the area.

The ecological risk assessment did not find a significant risk to ecological receptors.

SUMMARY AND CONCLUSIONS

Results of the human health and ecological risk assessments show that soil does not pose an unacceptable risk to human health or the environment. Additional information on the evaluation of IR Site 30 can be found in the RI report and Addendum, which are available for public review at the locations listed on page 5.

No further action for soil at IR Site 30 is proposed for the following reasons:

- Results of the human health and ecological risk assessments show that site conditions are protective of human health and the environment.
- There is no evidence of a release of hazardous substances related to Navy activities based on evaluation of current site data.
- There is no evidence that the soil at the site has contributed to a release to groundwater, and groundwater is being addressed in the Operable Unit 5/IR-02 groundwater remedial program.

Multi-Agency Environmental Team Concurs with No Action

The environmental team, which has been working cooperatively to address remedial decisions for IR Site 30, concurs with no further action for this site and consists of the following agencies:

- The Navy
- DTSC
- EPA, Region 9
- Water Board

Table 2. Estimated Cancer Risk for Soil

Current and Future Exposure Scenarios	Total Cancer Risk	Cancer Risk without Arsenic
	Values Calculated by EPA Methods	
RESIDENTIAL - potential future	1×10^{-4}	4×10^{-5}
CHILD DEVELOPMENT CENTER	4×10^{-5}	8×10^{-6}
OCCUPATIONAL	1×10^{-5}	6×10^{-6}
CONSTRUCTION WORKER	2×10^{-6}	1×10^{-6}

SITE CONTACTS

Community involvement in the decision-making process is encouraged. If you have any questions or concerns about environmental activities at IR Site 30, please feel free to contact any of the following project representatives:

- **Mr. George Patrick Brooks**
  BRAC Environmental Coordinator
  Department of the Navy
  BRAC Program Management Office West
  1455 Frazee Road, Suite 900
  San Diego, CA 92108-4310
  (619) 532-0907
- **Ms. Anna-Marie Cook**
  Project Manager
  U.S. EPA, Region 9
  75 Hawthorne Street
  San Francisco, CA 94105
  (415) 972-3029
- **Ms. Dot Lofstrom**
  Project Manager
  Department of Toxic Substances Control
  8800 California Center Drive
  Sacramento, CA 95826
  (916) 255-6449
- **Mr. John West**
  Project Manager
  San Francisco Bay Water Board
  515 Clay Street, Suite 1400
  Oakland, CA 94612
  (510) 622-2438
- **Mr. Marcus Simpson**
  Public Participation Specialist
  Department of Toxic Substances Control
  8800 California Center Drive
  Sacramento, CA 95826
  (916) 255-6683 or toll free at (866) 495-5651

OPPORTUNITIES FOR PUBLIC INVOLVEMENT

Information Repository

Individuals interested in the full technical details beyond the scope of this Proposed Plan can visit the local Information Repository in Alameda:

- Alameda Point – 950 West Mall Square, Building 1, Room 240

Supporting documents describing the field investigations, laboratory analyses, and risk assessments are part of the Alameda Point **Administrative Record (AR)** and are available for your review at the Information Repository in Alameda. These reports include the 2005 Final Soil RI Report and the 2008 RI Addendum for IR Site 30. In addition, the Alameda Public Library maintains new environmental documents during review periods and is located at 1550 Oak Street, Alameda, CA 94501.

Administrative Record

The AR is the collection of reports and historical documents used by the decision-making team in the selection of the cleanup or environmental management alternatives for a site. The AR file includes the 2005 Final Soil RI Report (AR File # 2125) and 2008 RI Addendum (AR File # 992) for IR Site 30 discussed in this Proposed Plan. You may view these documents by appointment during working hours (Monday through Friday, 8 a.m. to 5 p.m.). Please contact Ms. Diane Silva at the number provided to make an appointment. The AR file is located at:

- **Naval Facilities Engineering Command, Southwest**
  1220 Pacific Highway
  San Diego, CA 92132-5190
  ATTN: Ms. Diane Silva,
  FISC Building 1, 3rd Floor
  Phone: (619) 532-3676

PUBLIC COMMENT PERIOD

The 30-day public comment period for the IR Site 30 Proposed Plan is November 7 through December 12, 2008.

Submit Comments

There are two ways to provide comments during this period:

- Offer verbal comments during the public meeting on November 19, 2008
- Provide written comments by mail, e-mail, or fax (no later than December 12, 2008)

Public Meeting

The public meeting will be held on November 19, 2008 at Alameda Point, 950 West Mall Square, Room 201 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 that have occurred at the site. You will have an opportunity to ask questions and formally comment on this Proposed Plan.

Send Comments to:

Mr. George Patrick Brooks
BRAC Environmental Coordinator
Department of the Navy
BRAC Program Management Office West
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310
Phone (619) 532-0907
Fax (619) 532-0940
george.brooks@navy.mil

For more information:
www.bracpmo.navy.mil

GLOSSARY OF TECHNICAL TERMS

Administrative Record (AR) – The reports and historical documents used in selection of cleanup or environmental management alternatives.

Base Realignment and Closure (BRAC) Program – Program established by Congress, under which Department of Defense installations undergo closure, environmental cleanup, and property transfer to other federal agencies or communities for reuse.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) – Also known as Superfund, this federal law regulates environmental investigation and cleanup of sites in a manner that is protective of human health and the environment.

Department of Toxic Substances Control (DTSC) – A department with the California Environmental Protection Agency charged with overseeing the investigation and cleanup of hazardous waste sites; herein referred to as DTSC.

ecological risk assessment – The evaluation of potential harmful effects to plants, animals, and habitat as a result of exposure to chemicals in the environment.

Environmental Protection Agency (EPA) – The Federal agency established to protect human health and the environment.

exposure pathway – The way that a chemical comes into contact with a living organism.

exposure scenario – The exposure pathways associated with different receptor uses, such as residential.

hazard index (HI) – Summation of hazard quotients for multiple chemicals.

hazard quotient (HQ) – Ratio of exposure to toxicity of an individual chemical.

human health risk assessment (HHRA) – The estimate of potential harmful effects humans may experience as a result of exposure to chemicals.

Installation Restoration (IR) Program – The Department of Defense's comprehensive program to investigate and clean up environmental contamination at military facilities in full compliance with CERCLA.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP) – The federal regulation that guides the CERCLA (Superfund) program.

operable unit (OU) – Group of one or more Installation Restoration Program sites that share common characteristics. These groups are created to facilitate investigations and, if needed, remedial action.

polycyclic aromatic hydrocarbons (PAHs) – Specific class or group of semivolatile organic compounds whose molecules consist of multiple benzene rings. Some are suspected as cancer-causing compounds. PAHs are commonly associated with noncombusted fuels and waste oil.

polychlorinated biphenyls (PCBs) – Category of organic compounds in which a biphenyl molecule has been chlorinated to varying degrees. In the past, PCBs were often used in industry in electrical transformers because of their insulating properties.

reasonable maximum exposure (RME) – The potential duration and frequency estimated by dividing daily intake by time of exposure.

receptor – The human or ecological entity that may be exposed to the potential site contaminants.

record of decision (ROD) – A legal document that explains the selected site remedy. It is signed by the Navy and regulatory agencies and is a binding agreement regarding the final remedy.

remedial investigation (RI) – One of the two major studies that must be completed before a decision can be made about how to clean up a site. The RI is conducted to determine the nature and extent of contamination at the site and the associated risk. (The feasibility study is a second study that is only conducted when the RI recommends development of cleanup options for a site.)

risk – Likelihood or probability that a hazardous substance released to the environment will cause adverse effects on exposed human or biological receptors. Classified as carcinogenic or noncarcinogenic.

risk management – Evaluation and implementation of options or measures to reduce risk, including but not limited to such options as no action, monitoring, active treatment, or collecting additional data before making a decision.

semivolatile organic compounds (SVOCs) – A general category of organic compounds that evaporate at a slower rate than VOCs. Some SVOCs are known cancer-causing compounds (see VOCs definition below).

time-critical removal action (TCRA) – an expedited regulatory approach used when quick actions are needed to clean up hazardous materials.

volatile organic compounds (VOCs) – A general category of organic (carbon-containing) compounds that evaporate readily at room temperature. VOCs include compounds commonly used for degreasing machinery and parts and other industrial activities. Gasoline contains VOCs (benzene and naphthalene) as part of its fuel mixture.

Water Board (San Francisco Regional Water Quality Control Board) – The California water quality authority; a department within the California Environmental Protection Agency. California is covered by nine regional boards; Alameda is within the San Francisco Bay Region (Region 2).

Proposed Plan Comment Form

Alameda Point IR Site 30 Soil

The public comment period for the Proposed Plan for IR Site 30, Former NAS Alameda at Alameda Point, Alameda, California is from November 7, 2008 through December 12, 2008. A public meeting to present the Proposed Plan will be held at the Alameda Point Main Office Building, Room 201, 950 West Mall Square, Building 1, Alameda, California on November 19, 2008 from 6:30 to 8:00 p.m. You may provide your comments verbally at the public meeting where your comments will be recorded by a stenographer. Alternatively, you may provide written comments in the space provided below or on your own stationery. All written comments must be postmarked no later than December 12, 2008. You may also submit this form to a Navy representative at the public meeting. Comments are also being accepted by e-mail. Please address email comments to: george.brooks@navy.mil.

Name: _____

Representing:
(if applicable) _____

Phone Number:
(optional) _____

Address:
(optional) _____

☐ Please check here if you would like to be added to the Navy's Environmental Mailing List for Alameda Point.

Comments:

Mail to:

Mr. George Patrick Brooks
BRAC Environmental Coordinator
Department of the Navy
Program Management Office West
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310

Don't forget: A Public Meeting for the Proposed Plan will be held on November 19, 2008 at the Alameda Point Main Office Building

Ms. Tommie Jean Damrel
Tetra Tech EMI
135 Main Street, Suite 1800
San Francisco, CA 94105

Proposed Plan for Installation Restoration Site 30 Soil Former NAS Alameda