



Proposed Plan for Modified Remedy at IR Site 1 Burn Area, Alameda Point, Alameda, California

Alameda, California

March 2013

U.S. NAVY ANNOUNCES PROPOSED PLAN

The U.S. Navy encourages the public to comment on the *Proposed Plan** for cleanup of the Burn Area within *Installation Restoration (IR) Site 1*, at Alameda Point, the former Naval Air Station (NAS) Alameda, in Alameda, California. This *Proposed Plan* specifically recommends an amendment to the 2009 *Record of Decision (ROD)* for *IR Site 1* to modify cleanup originally planned at the Burn Area portion of the site.

The *U.S. Environmental Protection Agency (EPA)* and the *California Environmental Protection Agency*, including the *Department of Toxic Substances Control (DTSC)* and the *San Francisco Bay Regional Water Quality Control Board (Water Board)*, worked with the Navy in the evaluation of the modified *preferred alternative*.

This *Proposed Plan* summarizes the alternatives evaluated in a *Focused Feasibility Study (FFS)* Report and explains the basis for choosing the preferred *remedial (cleanup) alternative* for the Burn Area of *IR Site 1*. The Navy proposes the following cleanup actions to address soil contamination in the Burn Area of *IR Site 1*:

- **Installation of Waste Isolation Bulkhead (WIB)** to contain unconsolidated contaminated soil and waste material.
- **Excavation of all burnt waste in the Burn Area** that reside outside of the proposed WIB.
- **Surface scan and removal of specified radiological material** to a depth of one foot.
- **Construction of a Soil Cover** to prevent contact with any buried debris, contaminated soils, and radiological sources that are not excavated.
- **Implementation of *Institutional Controls (IC)* selected in the *ROD* issued in 2009** to limit exposure to

contaminated soil by restricting specified land uses and activities for the Burn Area.



Figure 1. Alameda Point Location Map

– NOTICE –

Public Comment Period
March 22 to April 24, 2013

Public Meeting

April 9, 2013

Alameda Public Library
1550 Oak Street, Alameda, California
6:30 to 8:00 pm

* A glossary of terms and definitions is provided on page 13. Words included in the glossary appear as italicized text.

The decision in the *ROD* was that *groundwater remedial action* in the Burn Area, other than monitoring, was not required. The selected *groundwater remedial action* is fully protective and does not need to be amended. Additional data gathered in 2010, 2011, and 2012 confirms that decision.

This *Proposed Plan* presents information from the Final Burn Area *Focused Feasibility Study Report (FFS Report)*. Included in this *Proposed Plan* is a brief description of the regulatory process; summaries of the site history, environmental investigations, *risk assessments*, and *remedial alternatives* for the Burn Area; and an explanation for the basis of choosing the *preferred alternatives*. The Navy will consider the public comments on this *Proposed Plan* during preparation of a *ROD Amendment* for *IR Site 1*.

THE CERCLA PROCESS

The Navy's *IR Program* is a comprehensive environmental investigation and cleanup program that identifies, investigates, and remediates chemical and radiological contamination that results from past activities. Since the mid-1990s, numerous investigations under the *IR Program* have been conducted at Alameda Point.

The *IR Program* complies with the *Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)*, the *California Hazardous Substances Account Act*, and all other federal and state laws that govern environmental cleanups. 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)*.

The flow chart in Figure 2 illustrates the *CERCLA Process* and indicates the current phase in that process. This *Proposed Plan* has been prepared to address the results of a *FFS* that was conducted to evaluate and compare the remedy selected in the *ROD* with a new alternative soil remedy in the Burn Area. The new preferred alternative was the result of additional site characterization conducted between the summer of 2010 and the spring of 2012.

This *Proposed Plan* summarizes information detailed in the *FFS Report* and the *ROD*, as well as other documents contained in the *Administrative Record* file for this site. The Navy encourages the public to review these

documents to gain an understanding of the environmental assessment and investigation activities that have been conducted. The documents are available for public review at the locations listed on page 11.

In response to feedback from the community or new information and in consultation with the regulatory agencies, the Navy may modify the *preferred alternative* or select an alternate remedy. Therefore, the community is encouraged to review and comment on this *Proposed Plan*. A final decision, documented in the *ROD Amendment*, will not be made until all comments are considered.

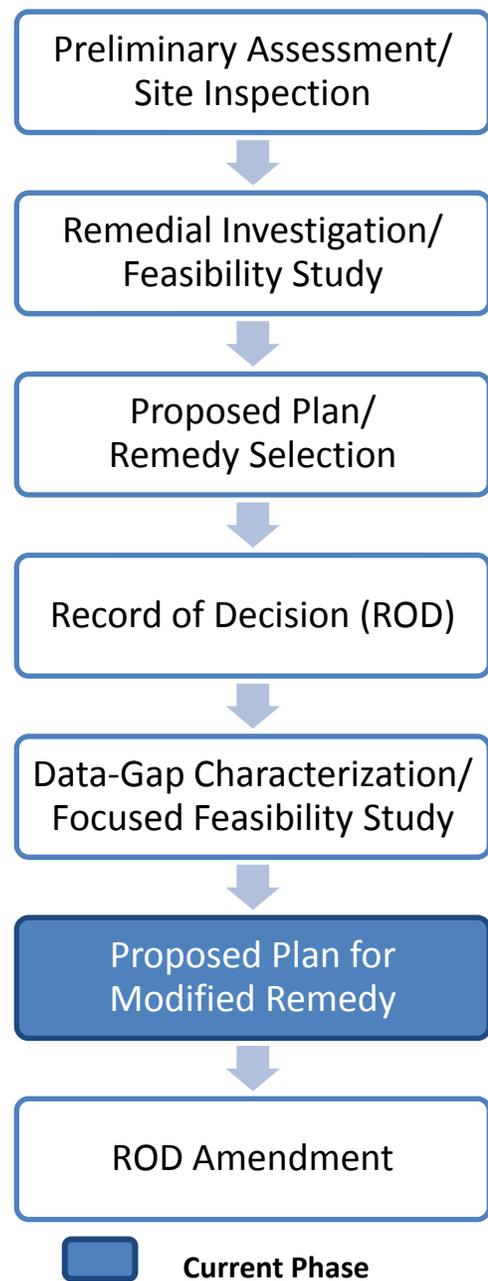


Figure 2. *CERCLA process*

SITE HISTORY

The former Naval Air Station Alameda, now known as Alameda Point, is located on the eastern side of San Francisco Bay and south of Oakland, California. *IR* Site 1 is located in the northwestern tip of Alameda Island, where the Oakland Inner Harbor joins San Francisco Bay (Figure 3).

IR Site 1 is approximately 37 acres in size and was historically used to dispose of waste, aircraft parts, and petroleum. The site is partially paved and has relatively flat topography, with slight depressions that promote seasonal wetlands. The site presently includes four small abandoned buildings and a portion of the former aircraft runway. The site formerly included a pistol and skeet range, a baseball field, an aircraft engine and part storage area, three now-closed above ground storage tanks that contained diesel and hydraulic fluid, and an underground storm water collection and conveyance system.

For the purpose of defining specific *remedial actions* for portions of *IR* Site 1, the site was subdivided into six areas. The Burn Area was titled Area 1b and was defined as the location where waste was burned and disposed of at the edge of the shoreline (Figure 4).

The Burn Area is a designated area within *IR* Site 1, delineated for specific consideration because of additional environmental concerns brought on by the burning of industrial waste and onsite disposal of the burn residues.

The Navy Public Works Department implemented open-air burning as the primary waste disposal method at the site in the 1950s. Burned residue was subsequently pushed into San Francisco Bay with a bulldozer.

The *ROD* was completed in 2009 and included a remedy for Area 1b, which, at the time, was thought to contain the full extent of the Burn Area. In summary, the remedy for the Burn Area was excavation and disposal of burnt waste and impacted soils above and below the burnt waste. Data gap characterization work conducted in support of the *remedial design* for the Burn Area was conducted between the summer 2010 and spring 2012.

The results of this pre-design characterization revealed that the footprint and vertical extent of the burnt waste was different than had been determined in the development of the *ROD*. The burnt waste is deeper and extends under the shoreline slope and along a longer portion of the shoreline. Based on information contained in the 2010-2012 pre-design characterization, it was determined that it may be necessary to amend the previously identified *remedial action* for soil. Additional investigation work was conducted during the Fall of 2011 and Spring of 2012 to support the *Focused Feasibility Study* and proposed amendment to the soil *remedial action* for the Burn Area. The information obtained from this investigation effort can be found in the Final Burn Area *Focused Feasibility Study, Installation Restoration, IR* Site 1, Alameda Point, Alameda, California.



Figure 3. *IR* Site 1 Location

SITE CHARACTERISTICS

Historical Sources of Contaminants

The primary source of contamination in the Burn Area is burnt waste material from industrial waste and construction demolition debris. Little to no evidence of municipal-type solid waste was observed in samples collected and examined from the Burn Area. In addition, radiological waste associated with radium paint and radium dials is also present in the Burn Area.

Nature and Extent of Soil Contamination

During the 2010 Pre-design Characterization conducted at IR Site 1, five test trenches and 15 soil borings were advanced over the limits of the suspect Burn Area boundaries, referred to as Area 1b (Figure 4). As a result of this investigation, it was determined that the Burn Area extended further to the south and north than previously supposed (Figure 5).

During Fall 2011 and Spring 2012, 17 additional soil borings were advanced and 14 new *groundwater* monitoring wells were installed and sampled to complete the characterization of the Burn Area. Trench, boring, and monitoring well locations are shown in Figure 5.

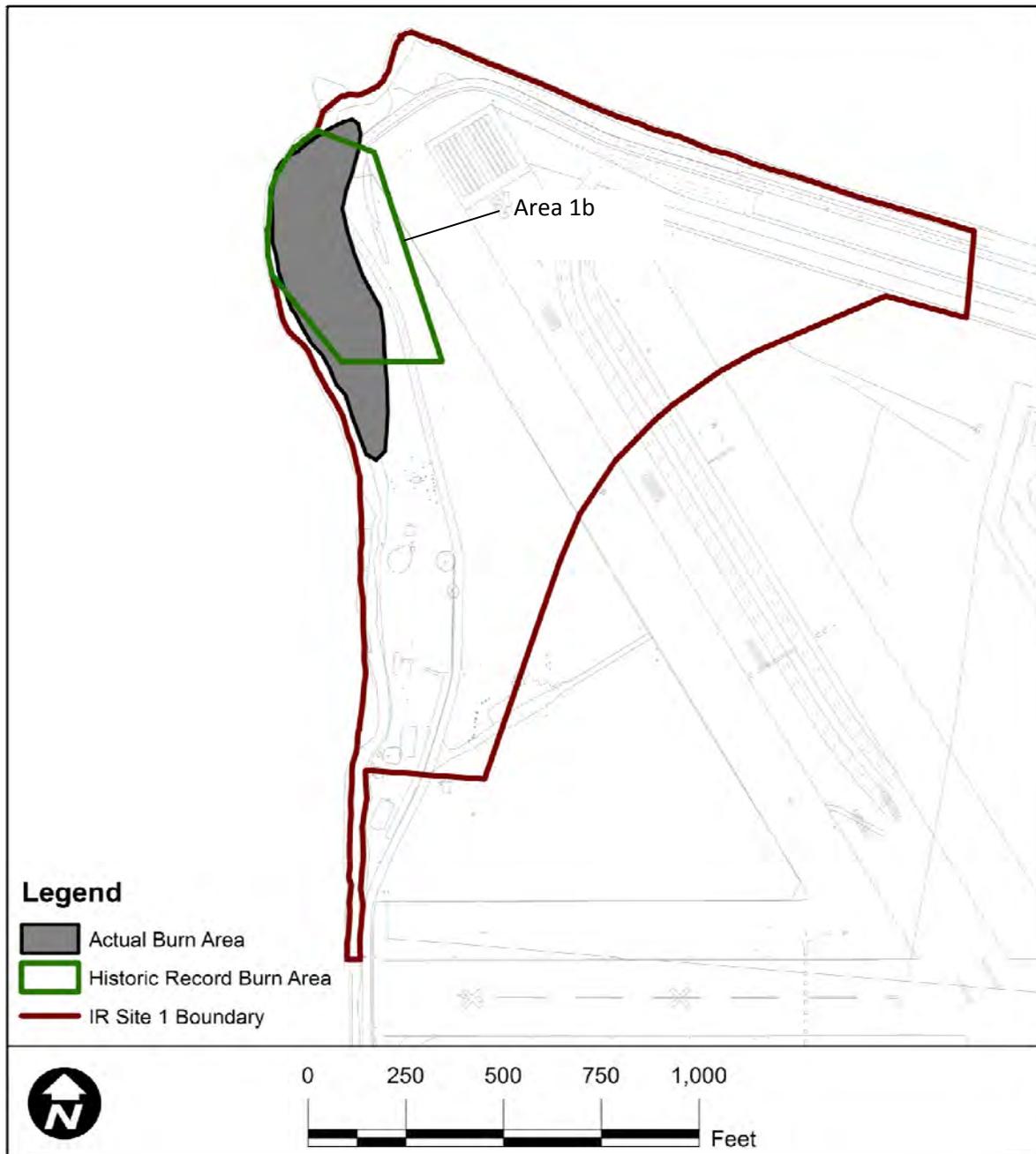


Figure 4. Comparison of Actual and Historic Record Burn Area Map

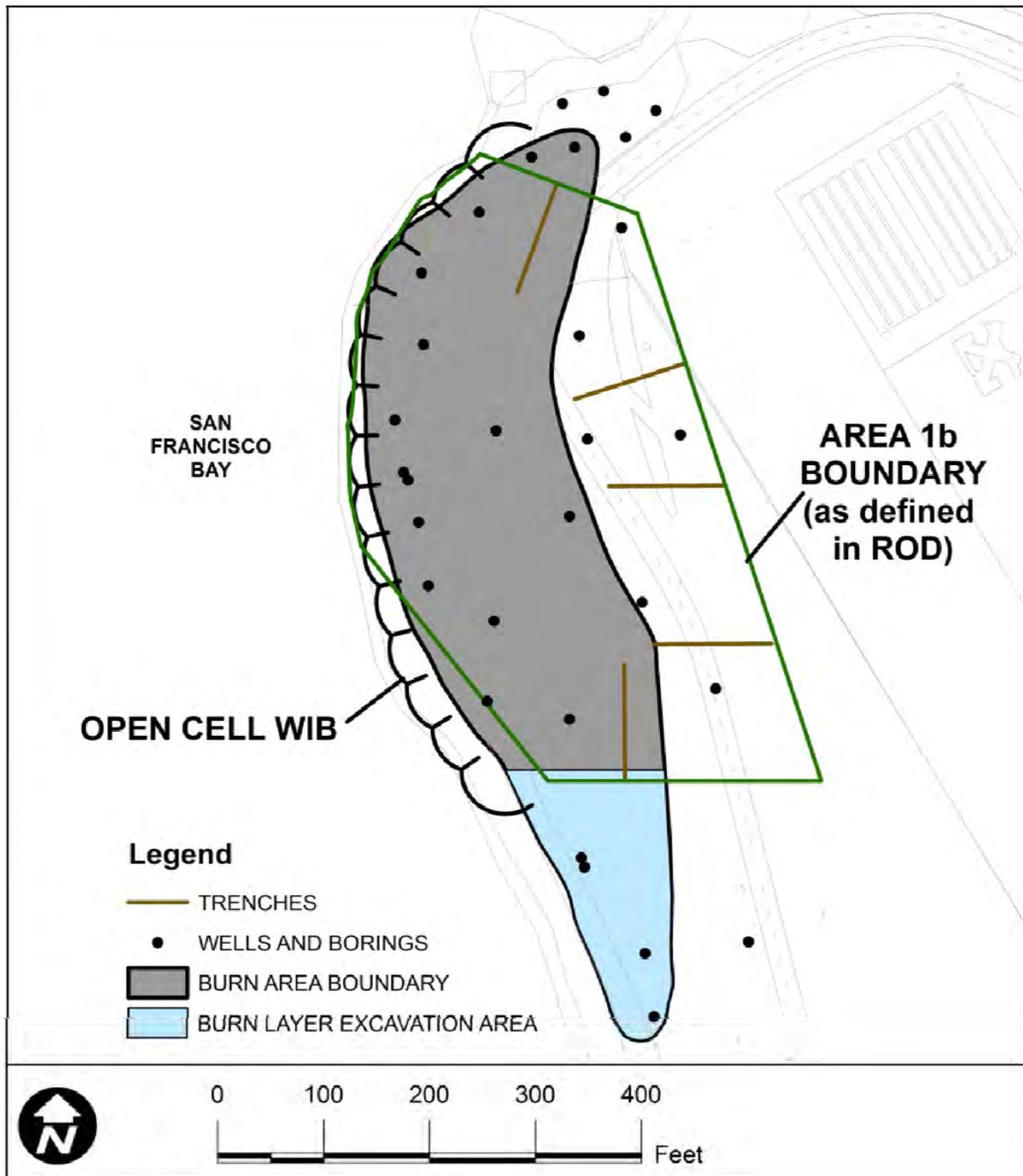


Figure 5. Burn Area, Trench, Boring, and Monitoring Well Locations with Proposed WIB location and Select Excavation Area

Soil samples were collected during trenching and boring activities. Results from these soil samples show that five of the eight *Chemicals of Concern (COCs)* for human receptors, three of the five *COCs* for ecological receptors, and two of the three radiological materials of concern exceeded *remediation goals* identified in the *ROD*. The

location of the chemical and radiological *COCs* varies. Cadmium, zinc, lead, and radium-226 appear to be widespread across the Burn Area compared with *polycyclic aromatic hydrocarbons (PAH)*, *polychlorinated biphenyls (PCB)*, pesticides, and cesium-137 and cobalt-60, which occur in localized areas and depths.

Nature and Extent of Groundwater Contamination

Sampling

Groundwater samples were collected from the Burn Area monitoring wells installed after the ROD. Groundwater sampling was conducted in two stages:

1. Tidal-Influence Biased Groundwater Sampling and Analysis
2. Study Area Groundwater Sampling and Analysis

The primary purpose of the Tidal-Influence Biased Groundwater Sampling and Analysis stage was to determine if dilution of groundwater contamination by tidal changes occurred. Results from this sampling stage showed that there was no observable link between contaminant concentration and tide cycle.

The purpose of the Study Area Groundwater Sampling and Analysis stage was to determine the nature and extent of groundwater contamination. Results from this stage, combined with those from previous studies, determined that more analysis was needed to completely understand potential contamination to bay waters. Therefore, a groundwater model was created to evaluate the potential for site contaminants to migrate through the site soil and groundwater and their likelihood to remain there.

Groundwater Modeling

A groundwater model was developed to more effectively estimate the potential migration of contaminants from the groundwater onsite into the bay water surrounding the site. Major inputs into the model were detailed site geology and soil material characteristics and hundreds of data points from soil and groundwater samples collected from the data-gap characterization fieldwork conducted between the summer of 2010 and the spring of 2012.

The primary result of the groundwater modeling effort was the calculation of a dilution attenuation factor for each well and contaminant. These dilution attenuation factor values were then used in risk analysis calculations presented in the following sections.

SUMMARY OF SITE RISKS

“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.

The risk assessment performed to support the most recent FFS activities, using the data collected from 2010-2011, was conducted to fill a gap in previously performed risk assessments; thus, in addition to FFS-specific risk assessment results, this section also presents the Human Health Risk Assessment (HHRA) results from previous efforts.

Previous Human Health Risk Assessment

The Navy considered the different ways that humans might be exposed to chemicals, the possible concentrations of chemicals that could be encountered during exposure, and potential frequency and duration of exposure. These exposure scenarios depend on the future use of the land.

The expected long-term use of IR Site 1 is recreational. The HHRA includes all data gathered during the FFS field sampling of the Burn Area soil and groundwater in 2010 and 2011. These data can be found in the Burn Area Focused Feasibility Study Report, dated November 2012.

To support possible future land uses, two exposure scenarios were evaluated: the future occupational worker and the recreational user.

Risk calculations were based on conservative assumptions to protect human health. “Conservative” means the assumption will tend to overestimate risk, resulting in remediation goals that are more protective of human health.

Human health risk is classified as cancer (from exposure to carcinogens) or non-cancer (from exposure to non-carcinogens).

Cancer risk is generally expressed as a statistical probability that an individual could have an increased risk of cancer incidence. For example, a cancer risk probability of 5 in 100,000 (5×10^{-5}) indicates that out of 100,000 people exposed using these risk assumptions, 5 cancer cases may occur as a result of exposure. To help characterize cancer risks, the federally established risk management range (10^{-4} to 10^{-6} ; or 1 in 10,000 to 1 in 1,000,000) was used by risk managers to determine if site risks are significant enough to warrant further cleanup.

According to the EPA, action is generally warranted for sites where the cumulative site *risk* for future and current land use is greater than 10^{-4} . When *risk* is within the *risk management range*, between 10^{-4} and 10^{-6} , site-specific factors are considered when making decisions about whether action is required.

Non-cancer *risk* is expressed as a number called the *Hazard Index (HI)* and is estimated by comparing chemical exposure levels with reference values established by the regulatory agencies. An *HI* of 1 or less is considered an acceptable exposure level for non-cancer health hazards.

Action may be warranted if a chemical-specific standard that defines acceptable *risk* is exceeded or if there are non-cancer effects or adverse environment effects that warrant action. This *risk* assessment indicated that the non-cancer *HI*s are below 1 for both the recreational and occupational scenarios, and that cancer *risk* is less than the *risk management range* for the recreational and occupational scenarios.

The cumulative *HHRA* performed in 2002 presented a refined list of *COCs* with *risk* values of 1×10^{-6} or greater (or *COCs* that represented most of the *HI* value). Total radiological and chemical cancer *risk* values and non-cancer *HI*s are summarized below.

Occupational receptor:

- Cancer *risk*: 1×10^{-4} (U.S. EPA) or 4×10^{-4} (Cal EPA)
- Non-cancer *HI*: 0.09 (U.S. EPA) or 0.2 (Cal EPA); related entirely to chemical *COCs*

Recreational receptor:

- Cancer *risk*: 1×10^{-4} (U.S. EPA) or 6×10^{-4} (Cal EPA)
- Non-cancer *HI*: 0.1 (U.S. EPA) or 0.4 (Cal EPA); related entirely to chemical *COCs*

Previous Ecological Risk Assessment

An *ecological risk assessment (ERA)* considers *risks* to *ecological receptors*, such as small mammals, birds, and marine life. The *ecological risk assessment* at IR Site 1 evaluated *risk* to terrestrial *receptors* (small mammals and birds) from exposure to soil and *risk* to marine life from exposure to *groundwater* discharged to the bay waters.

The *ERA* in the *RI* was conducted to evaluate potential *risk* to aquatic *ecological receptors* from contaminants in shallow *groundwater* that could migrate to San Francisco Bay. The evaluation from this report indicated that

potential ecological *risks* would not pose unacceptable *risk* in the Burn Area.

There were no fundamental changes in the results of either *risk* assessment that led to this *Proposed Plan*.

Burn Area Surface Water Risk Evaluation

Data from the recent field studies conducted in 2010, 2011, and 2012 were used to perform an updated *risk* evaluation for the Burn Area. This new *risk* assessment evaluated human and ecological *risks* of exposure from surface water in the San Francisco Bay mixed with *groundwater* discharged from the Burn Area. The results from this updated surface water *risk* assessment indicate that the surface-water concentrations of chemicals or radiological materials resulting from the mixing of *groundwater* discharged from the Burn Area to the San Francisco Bay do not pose unacceptable *risk* to human or *ecological receptors* from exposure to bay water. No *COCs* or radionuclides of concern related to the submarine discharge of *groundwater* from the Burn Area to the San Francisco Bay were identified.

APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs)

CERCLA requires that *remedial actions* meet federal or state environmental standards, requirements, criteria, or limitations that are determined to be *ARARs*. A full list of *ARARs* identified for Site 1 remediation can be found in Tables 13-1 to 13-3 of the *ROD* and in Appendix E of the 2012 Burn Area *FFS* Report. This *Proposed Plan* does not identify any additional *ARARs* that were not set forth in the *ROD* and the preferred soil alternative complies with the Site 1 *ARARs* selected in the *ROD*.

REMEDIAL ACTION OBJECTIVES

Remedial Action Objectives (RAOs) are established to assist in identifying and assessing *remedial alternatives* to address *risks* associated with the site. *RAOs* provide the foundation upon which *remedial alternatives* are developed. *RAOs* are cleanup goals that protect human health and the environment. Each *RAO* should specify: (1) the *COCs*, (2) exposed *receptors*, and (3) acceptable contaminant concentrations. *RAOs* are provided for each *exposure pathway* and environmental media, such as soil, *groundwater*, and air.

Remediation goals establish acceptable exposure levels that are protective of human health and the environment. Environmental scientists and engineers use *RAOs* to provide a quantitative means of (1) identifying areas for potential *remedial action*, (2) screening appropriate types of technologies, and (3) assessing a *remedial action's* potential to achieve the *RAO*. Ultimately, the success of a *remedial action* is measured by the action's ability to meet the respective *RAOs*. Planned future land use is an important component in developing *RAOs*. The Navy developed the *RAOs* for *IR Site 1* in consultation with the regulatory agencies.

Most of the *RAOs* include *remediation goals*. A *remediation goal* is a chemical or radiological material concentration that corresponds to an unacceptable *risk* associated with pathways identified in the *RAOs*.

IR Site 1 is within the boundary of the public trust land at Alameda Point, which must be used for water-related activities. The proposed future use for this site is recreational.

The *RAOs* listed below were identified in the *ROD* for *IR Site 1* and remain unchanged.

- **Soil:** Protect human health for future recreational visitors from exposure to *PCBs*, *PAHs*, and hexavalent chromium (also known as chromium VI), and protect terrestrial *ecological receptors* from pesticides and metals that exceed *remediation goals*.
- **Groundwater:** Prevent ingestion of *VOCs* and *SVOCs* by people who fish recreationally, and ingestion of metals by aquatic life above the *remediation goals*.
- **Radium-Impacted Soil:** Prevent exposure to soils with radiation levels that exceed background concentrations, and ensure that the *risk* and dose received through all pathways to any member of the critical group does not exceed 10^{-6} to 10^{-4} (risk-based standard), or *total effective dose equivalent (TEDE)* (above background) of 15 *mrem/yr* (dose-based standard).

Table 1 lists the chemical *remediation goals* for human *receptors*, Table 2 lists the *remediation goals* for *ecological receptors*, and Table 3 lists the radiological *remediation goals* for human *receptors* presented in the *ROD*.

TABLE 1. CHEMICAL REMEDIATION GOALS FOR HUMAN RECEPTORS	
Chemical of Concern	Remediation Goal
SOIL	
Metals (mg/kg)	
Chromium (hexavalent)	3.1
Polynuclear Aromatic Hydrocarbons (mg/kg)	
Benzo(a)anthracene	16.4
Benzo(b)fluoranthene	16.4
Benzo(a)pyrene	1.6
Indeno(1,2,3-cd)pyrene	16.4
Dibenzo(a,h)anthracene	2.7
Polychlorinated Biphenyls (mg/kg)	
Aroclor-1254	0.38
Aroclor-1260	0.38
GROUNDWATER	
Volatile Organic Compounds (ug/L)	
Vinyl Chloride	6,011
SURFACE WATER	
Volatile Organic Compounds (ug/L)	
1,1-Dichloroethene	3.2
Benzene	71
Trichloroethene	81
Vinyl Chloride	525
Semivolatile Organic Compounds (ug/L)	
Bis(2-chloroethyl)ether	1.4
Bis(2-ethylhexyl)phthalate	5.9
2,4-Dimethylphenol	2,300

TABLE 2. REMEDIATION GOALS FOR ECOLOGICAL RECEPTORS

Chemical of Concern	Remediation Goal
SOIL	
Metals (mg/kg)	
Cadmium	1.5
Lead	88.32
Zinc	300
Pesticides (mg/kg)	
4,4'-DDD	1.2
4,4'-DDT	1.2
SURFACE WATER	
Metals (ug/L)	
Arsenic	36

TABLE 3. RADIOLOGICAL REMEDIATION GOALS FOR HUMAN RECEPTORS

Chemical of Concern	Remediation Goal
SOIL (pCi/g)	
Radionuclide	
Cesium-137+D	0.113
Cobalt-60	0.0361
Radium-226	1.0+
Strontium-90	0.331
Thorium-232	1.69
Uranium-238+D	0.742

The results of 1) additional characterization conducted in the Burn Area in 2010, 2011 and 2012; and, 2) the additional human and ecological risk assessment performed to assess the exposure of surface water mixed with groundwater discharged from the Burn Area to the San Francisco Bay support the conclusion that

groundwater remedial action in the Burn Area is not required.

Upon completion of the data-gap characterization work in 2010-2012, an alternative remedy for the Burn Area soil contamination was developed. The selected and alternative remedies for soil in the Burn Area are presented below.

COMPARISON OF SOIL REMEDIAL ALTERNATIVES

The Burn Area remedy selected in the ROD – Alternative S1-4a, includes the removal of waste from Area 1b, the installation of a soil cover for the remainder of Area 1, and ICs. The soil alternatives are presented in Table 4.

TABLE 4. REMEDIAL ALTERNATIVES FOR SOIL

Remedial Alternative	Cost (\$M)	Components of Remedial Alternative
S1-4a	40.2	Excavation of Waste from Area 1b: remove waste from Area 1b (see Figure 4). ICs: prohibit residential use of IR Site 1, limit and regulate penetration of soil cover through lead regulatory agency
BA-1	13.1	Installation of WIB and Select Excavation: install WIB along the thickest portions of the burn layer and impacted materials adjacent to the IR Site 1 shoreline and select excavation of the thinner burn layer deposits in the southern portion of the Burn Area. Removal of Radiologically-Impacted Waste: screen surface and remove material which exceeds 2 times background to a depth of one foot. Soil Cover: construction of a soil cover over the Burn Area to extend and connect to the WIB fill material. ICs from ROD are unchanged: prohibit residential use of the Burn Area and any actions that could damage or otherwise reduce the effectiveness of the remedies.

The Alternative Remedy, BA-1, was not considered in the ROD. It was evaluated in the FFS and is identified as the preferred alternative for soil remediation in this Proposed Plan. This alternative provides stabilization and containment of burnt waste with an Open Cell steel sheet pile WIB, select excavation of burnt waste, soil cover installation, and institutional controls (ICs). There is no need to modify the ICs contained in the ROD for Alternative Remedy BA-1.



Figure 6. Nine NCP Criteria

Nine criteria (Figure 6) are used to evaluate the different remediation alternatives for soils individually and against each other in order to select a remedy. This section of the Proposed Plan profiles the relative performance of each alternative against the nine criteria. The nine NCP criteria are shown and briefly described in Figure 6. The detailed analysis of alternatives can be found in the FFS Report.

Table 5 shows the comparison of remedial alternatives for soil in the Burn Area.

Table 5. Comparative Analysis of Soil Alternatives		
Remedial Alternatives	S1-4a	BA-1
Overall Protection of Human Health and Environment	Yes	Yes
Compliance with ARARs	Yes	Yes
Long-Term Effectiveness and Performance	MH	M
Reduction of Toxicity, Mobility, or Volume via Treatment	L	L
Short-Term Effectiveness	M	H
Implementability	L	M
Cost	L - \$40M	M - \$13M
State Acceptance	TBD	TBD
Community Acceptance	TBD	TBD

Notes: L=low; ML=medium-low; M=medium; MH=medium-high; H=high.

Text in green **bold** indicates preferred alternative.

PREFERRED ALTERNATIVE

To become the *preferred alternative*, a remedy must meet the *NCP* threshold criteria and satisfy the following statutory requirements of *CERCLA* Section 121(b):

1. Protects human health and the environment
2. Complies with the *ARARs*
3. Is cost effective
4. Uses permanent solutions and alternative treatment technologies to the maximum extent practicable

Based on the comparison of *remedial alternatives*, the Navy identified the *preferred alternative* for soil. The *EPA* and the State accepted the *preferred alternative*. Community acceptance will be evaluated after the public comment period for the *Proposed Plan*. Community input will be summarized in a responsiveness summary that will be part of the *ROD* Amendment.

The *preferred alternative* is summarized below.

Remedial Alternative BA-1: Containment of Burnt Waste with Open Cell Steel Sheet Pile WIB, Select Excavation, Soil Cover, and *ICs*

Alternative BA-1 assumes that the thickest portions of the burn layer and surrounding material exceeding *remediation goals* would be contained and stabilized by the construction of an Open Cell steel sheet pile bulkhead or WIB. The southern portion of the burn layer, which is thin and relatively shallow (located at approximately mean sea level) would be excavated, screened for radiological contamination and placed over the thicker burn layer contained by the WIB. The entire Burn Area will be scanned and radiological material exceeding 2 times background will be removed to a depth of one foot. A soil cover would be installed over all of Area 1 and tie into the WIB. *ICs* selected in the *ROD* would be implemented for the soil cover area. Placement of the soil cover will prevent exposure to contaminants above remediation goals.

Why is this the preferred soil alternative?

- Rated highest overall in satisfying the balancing criteria
- Judged to be the most effective in the short-term effectiveness

- Most implementable
- Least costly

OPPORTUNITIES FOR PUBLIC INVOLVEMENT

Information Repository

Supporting documents include the Final *Remedial Investigation* Report, Final *Feasibility Study* Report, Final *Record of Decision*, and Final *Focused Feasibility Study* Report, which are central to understanding the need to revise the remedy for the Burn Area portion of *IR* Site 1.

Community members interested in the full technical details beyond the scope of this *Proposed Plan* can visit the local information repository in Alameda at Alameda Point, 950 West Mall Square, Building 1, Rooms 240, Alameda, California, 94501. Additional information about the Alameda Point Information Repository can be found online at their website, <http://alamedapointinfo.com/>.

Additionally, the Main branch of the Alameda Public Library maintains new environmental documents during review periods and is located at 1550 Oak Street, Alameda, California, 94501; telephone: (510) 747-7777; hours: Mon.-Wed. 12pm-8pm, Thurs. 10am-6pm, Fri.-Sat. 10am-5pm, Sun. 1pm-5pm, holidays closed.

Administrative Record

The *Administrative Record* 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.

In addition to the documents listed above and available in Alameda, you may view other documents in the *Administrative Record* by appointment during working hours (Monday through Friday, 8 am to 5 pm). Please contact Ms. Diane Silva at the number provided to make an appointment or for more information.

Naval Facilities Engineering Command, Southwest
Attention: Diane Silva
NARA Certified Command Records Manager
1220 Pacific Highway
Code EV33, NBSD Bldg. 3519
San Diego, CA 92132
Phone: (619) 556-1280

Providing Comments on this *Proposed Plan*

There are two ways to provide comments during the 30 day public comment period (March 22 to April 24, 2013):

1. Offer oral comments during the public meeting (April 9, 2013)
2. Provide written comments by mail, fax, or e-mail to the Navy no later than April 24, 2013 (see contact information below)

The public meeting will be held on April 9, 2013, at Alameda Public Library, 1550 Oak Street, Alameda, California, from 6:30 pm to 8:00 pm. Navy representatives will provide visual displays and information on the environmental investigations and the *remedial alternatives* for the IR Site 1 Burn Area. You will have an opportunity to formally comment on this *Proposed Plan*, as well as the opportunity to ask informal questions if you would like to develop a better understanding of the site.

Please send all written comments to:

Mr. Derek Robinson
BRAC Environmental Coordinator
U.S. Department of the Navy
BRAC Program Management Office West
1455 Frazee Road, Suite 900
San Diego, California 92108
Phone: (615) 532-0951
Fax: (619) 532-0983
E-mail: derek.j.robinson@navy.mil

For more information online, please visit:
www.bracpmo.navy.mil

SITE CONTACTS

Community Involvement in the decision-making process is encouraged. If you have any questions or concerns about environmental activities at IR Site 1, please feel free to contact any of the following project representatives:

Mr. Derek J. Robinson
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Mr. James Fyfe
Project Manager
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Phone: (510) 540-3850

Mr. John West
Project Manager
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Mr. Wayne Hagen
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700 Heinz Avenue
Berkeley, California 94710
Phone: (510) 540-3911

Glossary of Technical Terms

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

Applicable or Relevant and Appropriate Requirements (ARARs) – The federal and state regulations and standards determined to be legally applicable or relevant and appropriate during *remedial actions* at a site.

Base Realignment and Closure (BRAC) Program – A 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.

California Environmental Protection Agency (Cal EPA) – A state cabinet-level agency within the government of California responsible for environmental research, regulating and administering the state's environmental protection programs, and fulfilling hazardous waste cleanup.

Chemicals of concern (COCs) – Chemicals that were identified in the *RI* or *FS* as a concern and requiring further investigation.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) – The federal law establishing a program to identify hazardous waste sites and procedures for cleaning up sites to protect human health and the environment.

Department of Toxic Substances Control (DTSC) – A department within the California Environmental Protection Agency charged with overseeing the investigations and cleanup of hazardous waste sites.

Dilution attenuation factor – The reduction in concentration expressed as the ratio of contamination concentration in the original soil to the contamination concentration at some determined end point, in this document, the San Francisco Bay.

Ecological receptor – Organisms (plants, insects, fish, birds, mammals, etc.) that inhabit or visit a site.

Ecological Risk Assessment (ERA) – The evaluation of potentially harmful effects to plants, animals, and habitat as a result of exposure to chemicals in the environment.

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

Feasibility Study (FS) – The second of two major studies used to identify, screen, and compare cleanup (remedial) alternatives for a site.

Focused Feasibility Study (FFS) – A more specific study that focuses on one particular aspect of a site to identify, screen, and compare cleanup (remedial) alternatives.

Groundwater – Water in the subsurface that fills pores in the soil or openings in rocks.

Hazard Index (HI) – A calculated value used to represent a potential non-cancer health *risk*. An *HI* value of 1 or less is considered an acceptable exposure level.

Human Health Risk Assessment (HHRA) – An estimate of potential harmful effects humans may experience as a result of exposure to chemicals.

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

Institutional Controls (ICs) – Non-engineered mechanisms used to limit human exposure to contaminated waste, soil, or *groundwater*. These mechanisms may include deed restrictions, covenants, easements, laws, and regulations.

Microgram per liter (ug/L) – A unit of measure used to describe concentrations of chemicals in *groundwater*.

Milligram per kilogram (mg/kg) – A unit of measure used to describe concentrations of chemicals in soil.

Millirem per year (mrem/yr) – A unit of measure used to describe an amount of radiation absorbed by the body.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP) – The *NCP* is the basis for government responses to oil and hazardous substance spills, releases, and sites where these materials have been released.

Picocurie per gram (pCi/g) – A unit of measure used to describe the amount of radioactivity in soil.

Polychlorinated Biphenyl (PCB) – A group of up to 209 individual chlorinated compounds with similar molecular structure. *PCBs* have been used as coolants and lubricants in electrical equipment.

Glossary of Technical Terms

Polycyclic or Polynuclear Aromatic Hydrocarbon (PAH) – A group of over 100 different chemicals comprising one or more fused carbon rings. *PAHs* are present in coal and petroleum products, and are formed during burning of organic substances.

Preferred alternative – The *remedial alternative* selected by the Navy, in conjunction with the agencies that best satisfies the *RAO* and *remediation goals*, based on the evaluation of alternatives presented in the *FFS* report.

Proposed Plan – A document that summarizes the *remedial alternatives* presented in the *FS* or *FFS* report. It presents the recommended cleanup action, explains the recommendation, and solicits comments from the community.

Receptors – A living organism (human, animal, or plant) that may be exposed to chemicals at a site.

Record of Decision (ROD) – A decision document that identifies the *remedial alternative* chosen for implementation at a *CERCLA* site. The *ROD* is based on information from the *RI*, *FS*, and other reports, and on public comments and community concerns.

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.

Remedial Action Objective (RAO) – A set of statements that each contain a goal for the protection of one or more *receptors* from one or more chemicals in a specific medium (such as soil, *groundwater*, or air) at a site.

Remedial alternative – An alternative or option for cleanup of a site.

Remedial Design (RD) – The phase in the *CERCLA* cleanup process where the technical specifications for cleanup remedies and technologies are identified. The *RD* contains the detailed information describing how the selected remedy will be implemented.

Remediation Goal – Chemical concentration limit that provides a quantitative means of identifying areas for potential *remedial action*, screening the types of

appropriate technologies, and assessing the *remedial action's* potential to achieve the *RAOs*.

Remedial Investigation (RI) – The first of two major studies that must be completed before a decision can be made about how to clean up a site (the *FS* is the second study). The *RI* is designed to determine the nature and extent of contamination at a site and to estimate the *risks* presented by the contamination.

Risk – The likelihood or probability that a hazardous substance released to the environment will cause adverse effects on exposed human or other biological *receptors*. Classified as carcinogenic (cancer-causing) and non-carcinogenic.

Risk management – The 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.

Risk management range – A federally established range used by *risk* managers to determine if further action is needed to reduce *risk* to human health or the environment.

Semivolatile Organic Compound (SVOC) – An organic (carbon containing) compound that does not readily evaporate at room temperature. *SVOCs* include certain oils, pesticides, and *PAHs*.

Total Effective Dose Equivalent (TEDE) – A measure of the amount of radiation exposure.

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

Volatile Organic Compound (VOC) – An organic (carbon containing) compound that evaporates readily at room temperature. *VOCs* are found in industrial solvents commonly used in dry cleaning, metal plating, and machinery degreasing operations.

Water Board (San Francisco Regional Water Quality Control Board) – The California water quality authority; a department within the California Environmental Protection Agency.

Proposed Plan Comment Form

Alameda Point IR Site 1 Burn Area

The public comment period for the Proposed Plan for IR Site 1, at Alameda Point, Alameda, California, is from March 22 to April 24, 2013. A public meeting to present the Proposed Plan will be held at the Alameda Public Library, 1550 Oak Street, Alameda, California, on April 9, 2013, from 6:30 to 8:00 pm. 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 stationary. All written comments must be postmarked no later than April 24, 2013. You may also submit this form to a Navy representative at the public meeting. Comments are also being accepted by e-mail. Please address e-mail comments to: derek.j.robinson@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. Derek J. Robinson
BRAC Environmental Coordinator
U.S. Department of the Navy
BRAC Program Management Office West
1455 Frazee Road, Suite 900
San Diego, California 92108

Don't forget: A Public Meeting for the Proposed Plan will be held on April 9, 2013, at the Alameda Public Library, 1550 Oak Street, Alameda, California