

3.10 HAZARDS AND HAZARDOUS SUBSTANCES

This section describes the existing regulatory and physical setting related to hazards and hazardous substances, including a summary of the ongoing environmental management programs taking place within the VA Transfer Parcel. This section also discusses the potential effects of the EA Alternatives related to hazards and hazardous substances. Exposure to hazardous air emissions from toxic air contaminants¹ is addressed in Section 3.7 (Air Quality). Other safety hazards, such as earthquakes, are addressed in Section 3.14 (Geology and Soils). Flooding hazards are addressed in Section 3.2 (Water Resources), and flooding associated with sea level rise is addressed in Section 3.8 (Greenhouse Gas Emissions and Climate Change). Other public safety services, including law enforcement and fire protection are discussed in Section 3.13 (Public Services).

3.10.1 Regulatory Framework

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

CERCLA created a legal mechanism for cleaning up abandoned or uncontrolled hazardous waste sites. CERCLA requires Federal agencies to respond where necessary to protect human health and the environment when there is a release or threat of release of a hazardous substance into the environment or when there is a release of any pollutant or contaminant which may present an imminent and substantial danger to public health or welfare. Under CERCLA, the EPA developed the National Priorities List (NPL) of sites that present the greatest risk to public health and the environment.

The Navy is implementing CERCLA response actions at the former NAS Alameda to address the releases of hazardous substances in accordance with CERCLA and other related regulations that will ensure adequate protection of human health and the environment. The transfer and development of the VA Transfer Parcel are not CERCLA response actions.

Superfund Amendments and Reauthorization Act (SARA)

In 1986, Congress passed SARA, which mandated that the DoD follow the same cleanup regulations that apply to private entities. SARA also established the Defense Environmental Restoration Program (DERP). Through DERP, the DoD conducts environmental restoration activities at sites on active installations undergoing BRAC, and formerly utilized defense sites.

Resource Conservation and Recovery Act (RCRA)

RCRA regulates the treatment, storage, transportation, handling, labeling, and disposal of hazardous waste. The Hazardous and Solid Waste Amendments of 1984 added the requirement for treatment, storage, and disposal facilities with permits issued after November 8, 1984, to include corrective actions.

¹ Among the sources of hazardous or toxic air emissions are processes (e.g., emissions of laboratory fume hood exhaust); vehicle use (diesel particulate emissions from exhaust); and proximity to existing or relocated sources of diesel or other toxic air emissions.

The Defense Environmental Restoration Program (DERP)

DERP addresses the cleanup of DoD hazardous waste sites consistent with the requirements of CERCLA. DERP requires the Secretary of Defense to carry out a program of environmental restoration for hazardous substances, pollutant, and contaminant releases at facilities under the Secretary's jurisdiction consistent with Section 120 of CERCLA.

Navy Environmental Restoration Program (ERP)

To comply with the requirements of CERCLA, SARA, and DERP, the Navy established the ERP to reduce the risk to human health and the environment from past waste disposal operations and hazardous substance spills at Navy activities, including certain oil spills that are not addressed in the CERCLA framework. The ERP has been organized into three program categories, one of which is the Installation Restoration (IR) Program. The DoD established the Navy's IR Program in 1986 to identify, assess, characterize, and clean up or control contamination from past hazardous waste disposal operations and hazardous materials spills at Navy and Marine Corps installations. The program was developed to comply with Federal requirements regarding cleanup of hazardous waste sites, including CERCLA and SARA.

The Navy's IR Program is structured in accordance with CERCLA guidelines. The CERCLA process and the IR Program specify a number of sequential procedures for initiating and carrying out the remedial process under the IR Program. Interested agencies and the public have opportunities to review and comment on assessments/studies and proposals for removal/remedial actions throughout the remedial process. More information on the environmental investigation and cleanup process is included in Section 3.10.2 (Affected Environment), below.

U.S. Department of Transportation Hazardous Materials Regulations

Under CFR Title 49, the U.S. Department of Transportation has the regulatory responsibility for the safe transportation of hazardous materials. Departmental regulations govern all means of packaging, handling, and transportation of hazardous materials, except for packages shipped by mail.

Emergency Planning and Community Right-to-Know Act (EPCRA)

Enacted in 1986, EPCRA, also known as SARA Title III, provides State- and local-level infrastructure to plan for chemical emergencies. Under EPCRA, facilities that store, use, or release certain chemicals may be subject to several reporting requirements. Facility-reported information is then made publicly available to ensure that interested parties have access to this information and may become more informed about potentially harmful chemicals that may be present in their communities.

Toxic Substances Control Act (TSCA)

The Toxic Substances Control Act provides EPA with the regulatory authority to implement requirements for reporting, recordkeeping, testing, and restrictions associated with chemical substances and/or mixtures. Specifically, under the TSCA, EPA regulates the production, importation, use, and disposal of specific chemicals, such as polychlorinated biphenyls (PCBs), asbestos, radon, and lead-based paint.

Medical Waste Management Act of 2007

The Medical Waste Management Act authorizes a local agency to implement and enforce a medical waste management program by adopting an ordinance or resolution. A medical waste management program is characterized by the processing and review of medical waste management plans, the inspection of on-site treatment facilities, and the completion of an evaluation or records review for all facilities issued a large-quantity medical waste registration or permit. The transportation and disposal of medical wastes at the proposed VA facilities would be closely regulated under the California Medical Waste Management Act (California Health and Safety Code, Sections 117600–118360).

California Hazardous Materials Release Response Plans and Inventory Law of 1985

The California Hazardous Materials Release Response Plans and Inventory Law of 1985 (Chapter 6.95 of the California Health and Safety Code), also known as the Business Plan Act, requires that any business that handles hazardous materials prepare a Hazardous Materials Business Plan.

Radioactive Waste Management

In addition to the requirements described above, the Federal Atomic Energy Act requires states to assume responsibility for using, transporting, and disposing of low-level radioactive material and for protecting the public from radiation hazards. The Radiological Health Branch (RHB) of the California Department of Public Health (DPH) administers the Radiation Control Law under Title 17 of the California Code of Regulations (CCR), which governs the use, transportation, and disposal of radioactive material and radiation-producing equipment. The VA would comply with this regulation through its Master Materials License, which administers and manages permits for VA medical facilities

Occupational Safety and Health Administration (OSHA)

Occupational safety standards have been established in Federal and State laws to minimize risks to worker safety from both physical and chemical workplace hazards. The Federal Occupational Safety and Health Administration (OSHA) is the agency responsible for assuring worker safety in the workplace.

Federal OSHA regulations regarding the use of hazardous materials in the workplace require employee safety training, use of safety equipment, accident and illness prevention programs, warnings about exposure to hazardous substances, and preparation of emergency action and fire prevention plans. A site health and safety plan would be prepared in compliance with Federal OSHA, as applicable.

Alameda County Environmental Health Hazardous Materials/Waste Program

The California Environmental Protection Agency has adopted regulations implementing a Unified Program. The six program elements of the Unified Program are hazardous waste generators and hazardous waste on-site treatment, underground storage tanks (USTs), aboveground storage tanks (ASTs), hazardous-material release response plans and inventories, risk management and prevention programs, and Uniform Fire Code hazardous-substances management plans and inventories.

3.10.2 Affected Environment

Much of the VA Transfer Parcel, and the larger former NAS Alameda property, is constructed on fill material that was placed in the late 19th century and the first half of the 20th century. The Navy acquired the property in 1936 and operated the former NAS Alameda as an active naval facility from 1940 to 1997. The VA Transfer Parcel encompasses the former airfield area of the installation and is comprised of the former aircraft runways, taxiways, and support-service facilities. The following buildings and structures currently exist on the property:

- Alternative 1: Building or Structure 50, 51, 56, 57, 58, 100, 259, 272 (with metal shed), 353, 354, 407, 441, 442, 480, 488, 489, and 499.
- Alternative 2 (In addition to those buildings and structures listed for Alternative 1): Building or Structure 26, 52, 53, 120, 121, 122, 359, 420, 439, and 440.

The VA Transfer Parcel is currently unused, aside from the active management of the California Least Tern colony. There are no existing hazardous materials uses or hazardous waste generation occurring within the VA Transfer Parcel.

Overview: CERCLA Environmental Investigation and Cleanup Process

The former NAS Alameda property, including the VA Transfer Parcel, was added to the CERCLA NPL in July 1999, and subsequent CERCLA investigations and remedial actions have been conducted and continue under the Navy's ERP. The Navy and EPA negotiated and signed a Federal Facility Agreement (FFA) in 2001, and the California Environmental Protection Agency Department of Toxic Substances Control (DTSC) and the California Regional Water Quality Control Board (RWQCB) signed it in 2005. The FFA requires that the Navy investigate and remediate actual or threatened releases of hazardous substances, pollutants, and contaminants at the former NAS Alameda in accordance with Sections 104 and 120 of CERCLA, 42 U.S.C. 9604 and 9620, as delegated under Executive Order 12580; the DERP, 10 U.S.C. 2701, *et seq.*; and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR Part 300). The Navy addresses these requirements through its IR Program which is itself a component of the Navy's ERP.

The Navy is implementing CERCLA response actions (both remedial and removal) to address the releases of hazardous substances at the VA Transfer Parcel in accordance with CERCLA, SARA, DERP, NCP, and other applicable laws and regulations that will ensure adequate protection of human health and the environment. Potential environmental effects of the remedial activities (i.e., of soil excavation, soil transport, and operation of treatment systems) have been, and will continue to be, evaluated by the Navy and regulatory agencies in conjunction with the approval process for specific response actions selected and implemented by the Navy under CERCLA. Appropriate controls to protect human health and the environment have been, and will continue to be, incorporated into the design and implementation of those remedial actions.

The CERCLA response actions being carried out by the Navy within the VA Transfer Parcel, involve completing site-specific investigations, feasibility studies, and remedial activities at each cleanup site. Installation Restoration (IR) Sites located within the VA Transfer Parcel include:

- Alternative 1: IR Site 2 and 33; and

- Alternative 2: IR Site 2, 33, and a portion of each IR Site 14 and 34.

More information on the IR Sites, including the current environmental investigation and cleanup status is described below. Figure 3.10-1 and Figure 3.10-2 illustrate the location of the IR Sites within both Alternative 1 and 2.

Under the proposed action, for both Alternative 1 and 2, the Navy would transfer the VA Transfer Parcel to VA before the Navy completes the CERCLA environmental investigation and cleanup process. However, the Navy would continue to perform its ongoing CERCLA obligations, including managing the investigation, remedy selection and remedial action phases. For IR Site 2 the Navy would continue to perform CERCLA obligations following the property transfer until the remedy is complete as documented in a final Remedial Action Completion Report (RACR) (or similar document). In addition, following transfer of the property, the Navy would continue to manage the investigation and remaining CERCLA phases to address environmental contamination identified prior to the property transfer for IR Sites 14, 33, and 34.

As Federal property owner and land manager, at IR Site 2 VA would be responsible for the long term management phase to maintain the completed remedy in accordance with the Post-Closure Operation, Maintenance, and Monitoring Plan after the Navy completes the remedy. Such VA responsibilities include but are not limited to long-term monitoring, long-term operations, CERCLA institutional control² (IC) reporting and maintenance, engineering control maintenance (e.g., landfill cap/cover monitoring, maintenance and repair), regulatory agreement maintenance, CERCLA five year reviews, and responding to any failures of the remedy, all of which may be required in accordance with future Navy IR Site 2 decision documents for the property. VA would not use the VA Transfer Parcel for any use or activity that is prohibited by CERCLA ICs. In addition, VA would be responsible for any and all additional necessary remedial or corrective actions that are required for a change in land use set forth in VA land use plans revised following the date of property transfer.

Status: CERCLA Environmental Investigation and Cleanup Process

The CERCLA response actions being carried out within the VA Transfer Parcel are ongoing; therefore, this section presents the latest data available at the time of this EA's preparation. The most current data regarding the cleanup activities at the VA Transfer Parcel are published as part of the environmental restoration processes and are available for public review at the following locations:

Alameda Point
950 West Mall Square, Building 1, Room 240
Alameda, CA 94501

² Institutional Controls (ICs) consist of a set of legal and administrative mechanisms to implement land use restrictions to limit the exposure of future landowner(s) and/or user(s) of the property to hazardous substances present on the property, and to ensure the integrity of remedial action. ICs will be selected as a component of remedial action in areas where residual levels of hazardous substances will remain at concentrations that are not suitable for unrestricted use and ICs are necessary to provide adequate protection of human health and the environment. Implementation of ICs will allow the property to be developed for its intended use, subject to land use restrictions designed to prevent exposure to residual levels of hazardous materials. ICs include requirements for monitoring, inspecting, and reporting to ensure compliance with land use or activity restrictions.



Sources: CH2M Hill, 2011; data compiled by AECOM in 2012

Figure 3.10-1: Installation Restoration Sites and Areas of Concern on the VA Transfer Parcel (Alternative 1)



Sources: CH2M Hill, 2011; data compiled by AECOM in 2012

Figure 3.10-2: Installation Restoration Sites and Areas of Concern on the VA Transfer Parcel (Alternative 2)

Alameda Free Library
1550 Oak Street
Alameda, CA 94501
Phone: (510) 747-7777

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

Information is also available on the Navy's BRAC PMO website at www.bracpmo.navy.mil.

In addition to the sites listed below, IR Site 32 is located immediately northwest of the VA Transfer Parcel. At this time, IR Site 32 is located outside the boundary of the VA Transfer Parcel (under both Alternative 1 and 2). However, the boundary for IR Site 32 is currently under investigation for Radium-226 (Ra-226) and may change. The CERCLA Record of Decision (ROD) for IR Site 32 is expected to be finalized in 2015 and will show the final site boundary. The remedial design/ remedial action work plan is anticipated to be finalized in 2017, with field construction in 2017 and 2018.

IR Site 2 (Alternative 1 and Alternative 2)

Site Description and Historic Uses: IR Site 2 is located within the VA Transfer Parcel for both Alternative 1 and 2. The area of present day IR Site 2 was originally open water until 1956 when a sea wall was constructed along the southern and western shorelines to confine and protect the area. Dredged fill was hydraulically placed within the seawall creating the area to be used as landfill, now IR Site 2. The IR Site 2 landfill, also called the West Beach Landfill, was used as the main disposal area for the former NAS Alameda from approximately 1956 through 1978. An estimated 1.6 million tons of waste was deposited. The landfill encompasses about 60 acres of the 110-acre IR Site 2. The remaining area is made up of tidal and seasonal wetlands, and open space between the landfill and site boundaries known as the coastal and interior margins.

Results of Environmental Investigations: Contamination at IR Site 2 is defined by the CERCLA ROD as metals, pesticides, Benzo(a)pyrene, total DDx and Total PCBs in soil, and pesticides, a phthalate, and metals in groundwater (Battelle, 2010). Additional information on the results of previous environmental investigations conducted by the Navy at IR Site 2 can be found in the *Final Record of Decision for IR Site 2, Alameda Point, Alameda, California, August 2010* (Battelle, 2010).

Cleanup Status: Cleanup activities have been implemented at IR Site 2, including: Time Critical Removal Actions of radiological materials in 2002 and 2008. A chronology of the CERCLA actions completed at IR Site 2 is identified in Table 3.10-1.

Table 3.10-1: IR Site 2 CERCLA Chronology

Process Step	Year Completed
Preliminary Assessment/Site Inspection	1998
Remedial Investigation	2006
Feasibility Study	2008
Proposed Plan	2010
CERCLA Record of Decision	2010
Remedial Design	2013
Remedial Action	In Progress

Source: Battelle, 2010

The Navy published a Final CERCLA ROD for IR Site 2 in 2010 (*Final Record of Decision for IR Site 2, Alameda Point, Alameda, California, 2010*), which documents the selected remedy for soil and groundwater. The Navy’s remedial alternative for soil is a multi-layer soil cover, engineering and institutional controls, and monitoring. The remedial alternative for groundwater is monitored natural attenuation, engineering controls, and ICs.

The Navy would continue to manage the investigation, remedy selection and remedial action phases of IR Site 2 following the property transfer. The Navy’s responsibility for compliance with CERCLA obligations for IR Site 2 will cease upon completion of a RACR (or similar document) anticipated in 2014. VA would be responsible for implementation of CERCLA response actions in the Navy decision documents at IR Site 2 after the Navy completes its responsibility. Such VA responsibilities include but are not limited to long-term monitoring, long-term operations, IC reporting and maintenance, engineering control maintenance (e.g., landfill cap/cover monitoring, maintenance and repair), regulatory agreement maintenance, CERCLA five year reviews, and responding to any failures of the remedy, all of which may be required in accordance with Navy IR Site 2 decision documents for the property.

IR Site 14 (Alternative 2 only)

Site Description and Historic Uses: IR Site 14, the former Fire Training Center, is partially located within the VA Transfer Parcel, along the north-central boundary under Alternative 2. The IR Site is not located within the VA Transfer Parcel under Alternative 1. The site was historically used for training firefighters, parking equipment and storing miscellaneous items, defueling planes, cleaning machinery, storing ordnance, storing fuel, and storing and using solvents. The site is partially paved with a generally flat topography.

Results of Environmental Investigations: Results of investigations at IR Site 14 have verified that inhalation of VOCs in indoor air by hypothetical future residents is a potential health risk due to the presence of vinyl chloride in groundwater at the site. However, for current and reasonably foreseeable anticipated future land uses the soil at the site poses no unacceptable risk to human health or the environment.

Cleanup Status: A chronology of the CERCLA actions completed at IR Site 14 is identified in Table 3.10-2.

Table 3.10-2: IR Site 14 CERCLA Chronology

Process Step	Year Completed
Preliminary Assessment/Site Inspection	2001
Remedial Investigation	2003
Feasibility Study	2005
Record of Decision	2007
Remedial Design	2008
Operating Properly and Successfully Determination	2012
Remedial Action	In progress

Source: Battelle, 2010

The final CERCLA ROD was signed in January 2007 (*Final Record of Decision for IR Site 14, Former Firefighting Training Area, Alameda Point, Alameda, California, January 31, 2007*). Data gaps were identified and further sampling investigations were conducted in March and April 2007. The chosen remedial alternative for groundwater in the CERCLA ROD was in situ chemical oxidation (ISCO), installation of monitoring wells and additional groundwater sampling, and temporary ICs. Remedial action for IR Site 14 groundwater commenced in September 2008 with agency approval. Groundwater monitoring of the remedy is on-going and will continue until remedial action objectives are met.

IR Site 14 is currently protective for recreational/open space land uses and industrial (office) worker scenarios, with anticipated closure with unrestricted use in late 2014.

Following the property transfer, the Navy would continue to manage the investigation and remaining CERCLA phases to address environmental contamination identified prior to the property transfer.

IR Site 33 (Alternative 1 and Alternative 2)

Site Description and Historic Uses: IR Site 33 is located in the southeastern portion of the VA Transfer Parcel (Alternative 1 and 2). The Navy formerly used the land at IR Site 33 as aircraft runways, taxiways, and support service facilities (e.g., aircraft-arresting devices, compass pads, and lighting vaults).

Results of Environmental Investigations: Results of investigations at IR Site 33 have determined that polynuclear aromatic hydrocarbons (PAH) levels in soil are above the Alameda screening level. The Expanded Site Investigation Report recommended further evaluation of elevated PAH concentrations in limited areas in the central and southern portion of IR Site 33.

Cleanup Status: A Time Critical Removal Action (TCRA) was completed in November 2012 to address elevated PAHs concentrations in soil. The TCRA field work included excavation and disposal of impacted soil. The Navy anticipates No Further Action documented in a Site Investigation Addendum in fall 2013. A chronology of the CERCLA actions completed at IR Site 33 is identified in Table 3.10-3.

Following the property transfer, the Navy would continue to manage the investigation and remaining CERCLA phases to address environmental contamination identified prior to the property transfer. No Further Action (unrestricted use) determination is anticipated to be documented in the Site Investigations (SI) Addendum in late 2013.

Table 3.10-3: IR Site 33 CERCLA Chronology

Process Step	Year Completed
Draft Site Investigation	2008
Expanded Site Investigation`	2011
Time Critical Removal Action	2012
Site Investigation Addendum	In progress

Source: Navy, 2011b

IR Site 34 (Alternative 2 only)

Site Description and Historic Uses: IR Site 34 is partially located near the north central boundary of the VA Transfer Parcel (Alternative 2 only). The IR Site is not located within the VA Transfer Parcel under Alternative 1. IR Site 34 was a Naval Air Rework Facility used primarily for painting services, storage, wood and metal shops, sandblasting, and to maintain base equipment such as scaffolding and other apparatus. Except for their concrete pads, all buildings, ASTs, generator accumulation points (GAPs), transformers, and fuel lines were removed between 1996 and 2000.

Results of Environmental Investigations: Results of investigations at IR Site 34 have determined that soil at the site poses a potential risk to human health due to the presence of arsenic, lead, 1, 4-DCB, dieldrin, heptachlor epoxide, Aroclor-1248, Aroclor-1254, and Arcolor-1260. The Navy is undertaking the CERCLA remedial action at IR Site 34 because of the potential risk to human receptors from exposure to chemical of concern (COC) in soil. Additional information on the results of previous environmental investigations conducted by the Navy at IR Site 34 can be found in the *Final Record of Decision for IR Site 34, Alameda Point, Alameda, California, April 28, 2011*, (Navy, 2011a).

Cleanup Status: A chronology of the CERCLA actions completed at IR Site 34 is identified in Table 3.10-4.

Table 3.10-4: IR Site 34 CERCLA Chronology

Process Step	Year Completed
Preliminary Assessment/Site Inspection	1994 to 2003
Remedial Investigation	2006 to 2007
Feasibility Study	2010
Proposed Plan	2010
Record of Decision	2011
Remedial Design	2013
Remedial Action	2013
Remedial Action Completion Report	In Progress

Source: Navy, 2011a

The Navy published a Final CERCLA ROD for IR Site 34 in 2011 (*Final Record of Decision for IR Site 34, Alameda Point, Alameda, California, April 28, 2011*), which documents the selected remedy for soil. The selected remedy for IR Site 34 is excavation and disposal of soil. No Further Action (unrestricted use) determination is anticipated in 2013.

Following the property transfer, the Navy would continue to manage the investigation and remaining CERCLA phases to address environmental contamination identified prior to the property transfer.

Other Environmental Investigations and Cleanup Activities

In addition to the CERCLA environmental investigations and cleanup activities, other Navy efforts include investigation and remediation for petroleum products, asbestos-containing materials (ACMs), PCBs, USTs, ASTs. Additional cleanup activities are ongoing in ‘compliance programs’ such as the petroleum corrective action program overseen by the RWQCB pursuant to Subtitle I of the Federal RCRA and the *California Porter-Cologne Water Quality Control Act*. This section discusses the other environmental investigations and cleanup activities within the VA Transfer Parcel. These activities and programs are separate from the CERCLA requirements.

Petroleum Program

The Petroleum Program was created to address potential and actual soil and groundwater contamination related to petroleum products, which are excluded from CERCLA regulations. The Navy identified a variety of Corrective Action Areas (CAAs), and individual features (e.g. USTs and ASTs) as part of the Petroleum Program. For any petroleum sites identified prior to transfer of the property, the Navy would continue to manage the investigation, corrective action plan, and corrective action implementation phases. The Navy’s responsibility for managing petroleum sites will cease upon the RWQCB’s approval of completion of corrective action.

Corrective Action Areas (CAAs): Four CAAs are located partially or entirely on the VA Transfer Parcel (both Alternative 1 and 2).

- **CAA-A:** The site consists of the area around two parallel fuel lines used to transport jet fuel. The Navy determined that no further action was necessary for fuel line CAA-A, which passes through the northeast corner of the property, and the RWQCB concurred with site closure in 2007 (TTEMI 2004, RWQCB 2007).
- **CAA-12:** The site consists of the area around Building 29 that was an aircraft weapons overhaul and testing facility; Building 38, which served as an acoustical enclosure for aircraft engines; and aircraft run-up areas. The Navy has determined that no further action is necessary and has recommended regulatory closure for CAA-12 (TTEMI 2003b).
- **CAA-1:** The third corrective action area located on the property is CAA-1/UST-442, and regulatory closure for that site was obtained following a Navy recommendation of no further action (TTEMI 2001, RWQCB 2003). UST 442-1 was removed October 20, 1994 (IT 2001) and was closed under the Petroleum Program with CAA-1 (TTEMI 2001, RWQCB 2003).
- **CAA-C:** Is an aviation fuel spill area that was cleaned up using a combination of dual-phase extraction and biosparging. Most of CAA-C lies within IR Site 26, but a portion extends onto the VA Transfer Parcel. Operation and maintenance of the CAA-C treatment system is complete and decommissioning of the wells is pending submission of a site closure package and concurrence from the RWQCB.

Underground Storage Tanks (USTs): UST 442-1 was removed October 20, 1994 and was closed under the Petroleum Program as CAA-1 (TTEMI 2001, RWQCB 2003). In March 2005, an unnumbered 500-gallon UST was removed from an area near the California Least Tern colony.

Above Storage Tanks (ASTs): There are currently no ASTs within the VA Transfer Parcel. Twelve ASTs were previously removed (Bechtel, 2008). There are eleven open AST cases in the Petroleum Program within the VA Transfer Parcel (AST 467B, AST 483A, AST 483B, AST 485A, 485B, AST 488, AST 495A, AST 495B, AST 496, AST 599A, and AST 599B). ASTs 467B, 483A & B, 485A & B, 495A & B, and 599A & B were 30-gallon diesel tanks associated with aircraft arresting devices. ASTs 495A & B, and 599A & B are within or adjacent to IR Site 33. AST 488 was a 5,000-gallon aviation gasoline tank with secondary containment adjacent to helicopter parking pads used for aircraft refueling. AST 496 was a 200-gallon diesel tank for a generator associated with structure 496, a Ground Control Approach Turntable (IT Corporation, 2001).

Pesticides

The VA Transfer Parcel may contain pesticide residue from pesticides that have been applied during the former management of the property. The Navy knows of no use of any registered pesticide in a manner inconsistent with its labeling and believes that all applications were made in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), Title 7 USC § 136, et seq., its implementing regulations, and according to the labeling provided with such substances.

Asbestos-Containing Material (ACM)

Until the 1970s, asbestos was commonly used in building materials, including insulation materials, shingles and siding, roofing felt, floor tiles, brake linings, and acoustical ceiling material. Asbestos is a carcinogen and known to present a public health hazard if it is present in friable (easily crumbled) form. IR Site 2 operated as a Class II landfill accepting solid and liquid wastes generated at the former NAS Alameda between 1956 and 1978 (Navy 2009). Solid wastes disposed in the landfill included asbestos. ACM is either suspected or confirmed present in Buildings 407, 441, 442, and 499 (Navy 2009). The following buildings were inspected for ACM and found to have no ACM (Navy 2009): 50, 51, 56, 57, 58, 272, 353, and 354.

VA would have sole responsibility for management of asbestos and ACM on the property, including but not limited to, maintenance, renovation, or demolition of buildings and structures; and asbestos related surveys or sampling, whether of action or corrective action, or other environmental action. VA would be responsible for managing asbestos and ACM in accordance with all applicable Federal, State, and local laws, regulations, or other requirements.

Lead-Based Paint

Lead-based paint was commonly used prior to 1960 and is likely present in buildings constructed prior to 1960. It is assumed that any military building constructed or rehabilitated prior to 1978 contains lead-based paint. Lead is toxic to humans, particularly young children, and can cause a range of human health effects depending on the level of exposure. The Navy complies with the United States Code, which requires lead-based paint inspections only for target housing built prior to 1979, and further defines target housing to exclude zero-bedroom dwellings. The property does not contain target housing, and as a result, no lead-based paint surveys were conducted. However, based on the age of the following buildings, lead-based paint is likely present in buildings: 26, 50, 51, 52, 53, 56, 57, 58, 120, 121, 122, 272, 353, 354, 359, 407, 420, 439, 440, 441, 442, 499, and 576 (Navy, 2009).

VA would have sole responsibility for management of lead-based paint in soil on the property, including but not limited to, maintenance, renovation, or demolition of buildings and structures; and lead related surveys or sampling, whether of action or corrective action, or other environmental action. VA would be responsible for managing lead-based paint and lead in soil in accordance with all applicable Federal, State, and local laws, regulations, or other requirements.

Polychlorinated Biphenyls (PCB)

PCBs were commonly manufactured and used in the United States between 1929 and 1977 for use in devices such as electrical transformers and capacitors and fluorescent light ballasts. The transformer in Building 442 has been removed. It is not known when this transformer was removed. Building 100 served as a former transformer vault. All equipment was removed from the building during the Phase I EBS, which was completed in October 1994. Final SI Report 2011, sampled concrete in Building 100 in April 2010, nothing was found.

As of August 2001, all equipment containing oil contaminated with PCBs at a concentration of greater than 40 ppm was removed from service and disposed of (Navy, 2009). No remaining equipment containing oil in excess of 40 ppm remains on the VA Transfer Parcel.

Fluorescent light fixtures were not included in any of the PCB equipment inventories (Navy 2009). However, based on the age of most of the buildings within the VA Transfer Parcel, it is assumed that some light ballasts in the buildings may contain PCBs. Fluorescent light ballasts manufactured before 1979 often include PCB containing small capacitors that may be disposed of as municipal solid waste. No action is required at the buildings, unless large quantities of PCB containing fluorescent light ballasts are removed (Navy, 2009).

Munitions Storage Areas

Soil and groundwater samples were collected at the former munitions storage areas (MSAs) to assess whether the former presence of munitions resulted in a CERCLA-related release of hazardous substances. Soil samples were collected from boreholes at specific depth intervals near the front doors of the MSAs. Soil and groundwater samples were analyzed for explosives (CH2M Hill, 2011). Explosives were not reported at levels above their screening levels at any of the sample locations within the VA Transfer Parcel (CH2M Hill, 2011). A closeout survey for Munitions and Explosives of Concern was conducted by Naval Ordnance Safety and Support Activity in July 2012.

3.10.3 Environmental Consequences

Assessment Methodology

The evaluation of potential impacts associated with hazardous materials was based on review of existing information and various site investigation reports prepared for the VA Transfer Parcel. The most current data regarding the cleanup activities at the VA Transfer Parcel are published as part of the environmental restoration processes and are available for public review at Alameda Point (950 West Mall Square, Building 1, Room 240, Alameda, CA 94501). Information is also available on the Navy's BRAC PMO website at www.bracpmo.navy.mil.

Alternative 1

Construction

Implementing Alternative 1 would involve construction to accommodate new development. Construction would include demolition, excavation, trenching, grading and compaction, and other earth-disturbing activities.

CERCLA, DERP, and NCP provisions require that all necessary remedial actions be taken to adequately protect human health and the environment from risks associated with the actual or potential release of hazardous substances, pollutants, or contaminants into the environment. As discussed in Section 3.10.2.1 (Overview: CERCLA Environmental Investigation and Cleanup Process) above, the Navy would continue to perform its ongoing CERCLA obligations, including managing the investigation, remedy selection and remedial action phases of IR Site 2, following the property transfer until completion of such obligations and approval by the regulatory agencies of a RACR (or similar document). In addition, following transfer of the property, the Navy would continue to manage the investigation and remaining CERCLA phases to address environmental contamination identified prior to the property transfer for IR Site 33 located on the VA Transfer Parcel. These requirements can be satisfied by different types and combinations of remedial actions (including excavation and disposal, treatment, and containment of hazardous substances, pollutants, or contaminants and ICs) that are evaluated and ultimately selected in a CERCLA ROD (remedial action) or CERCLA Action Memorandum (removal action).

Implementation of ICs will allow the property to be developed for its intended use, subject to land use restrictions designed to prevent exposure to residual levels of hazardous materials. VA will comply with the CERCLA ICs and would not use the property for any use or activity that is prohibited by the ICs. Such compliance will ensure that the property after transfer will be used in a manner that is adequately protective of the environment and human health as required by CERCLA. Further, VA would be required to manage hazardous materials and wastes in accordance with applicable Federal, State, and local regulations.

VA would be responsible for completion of CERCLA response actions at IR Site 2 after the Navy completes its responsibility. Such VA responsibilities include but are not limited to long-term monitoring, long-term operations, institutional control reporting and maintenance, engineering control maintenance (e.g., landfill cap/cover monitoring, maintenance and repair), regulatory agreement maintenance, CERCLA five year reviews, and responding to any failures of response actions.

VA would, as the Federal land manager and lead Federal agency after transfer, be responsible for the release of environmental contaminants on the property identified after the date of transfer and for future and/or newly identified releases of environmental contaminants at, or from, the property that occur after the transfer. VA would not use the VA Transfer Parcel for any use or activity that is prohibited by CERCLA ICs. In addition, VA would be responsible for any and all additional necessary remedial or corrective actions resulting from a change in land use set forth in VA land use plans revised following the date of property transfer.

For any petroleum sites identified prior to transfer of the property, the Navy would continue to manage the investigation, corrective action plan, and corrective action implementation phases. The Navy's responsibility for managing petroleum sites will cease upon the completion of corrective action or a no further action determination. VA would have responsibility for management, if applicable, of lead-based paint in soil, and asbestos and ACM

on the property, including but not limited to, maintenance, renovation, or demolition of buildings and structures; and lead or asbestos related surveys or sampling, whether of action or corrective action, or other environmental action. VA would be responsible for managing lead-based paint, lead in soil, asbestos, and ACM in accordance with all applicable Federal, State, and local laws, regulations, or other requirements.

For these reasons, including the completed and ongoing CERCLA remedial actions and other ongoing non-CERCLA remediation efforts and compliance programs (e.g., Petroleum Program) there would be no hazard to the public or the environment, no reasonably foreseeable environmental impacts, and no significant environmental impacts as a result of releases of hazardous substances, pollutants, or contaminants during development or operation at the VA Transfer Parcel that are addressed under CERCLA.

VA would be required to manage construction related hazardous materials and wastes in accordance with applicable regulations identified in section 3.10.1 "Regulatory Framework", above. In addition, VA would adhere to all applicable laws and regulations related to construction, environmental protection, and health and safety before and during the development of the VA Transfer Parcel after transfer of the property by the Navy.

Safety standards have been established in Federal law to minimize risks to worker safety from both physical and chemical workplace hazards. Federal OSHA is responsible for developing and overseeing standards for safe workplaces and practices in accordance with CFR Title 29. The VA would prepare a site Health and Safety Plan in compliance with Federal OSHA as applicable to protect workers from exposure to potential hazards. VA's construction contractor would be required to transport hazardous materials (e.g., fuels, lubricants, paints, adhesives, contaminated soil) to and from the VA Transfer Parcel and to use such materials during construction. In addition, construction vehicles require the use of hazardous materials such as oils, grease, and fuels. The contractor is likely to store these hazardous materials and vehicles on-site at the staging sites. However, as described above in section 3.10.1 "Regulatory Framework" transporters of hazardous materials must comply with applicable laws and regulations, which include proper labeling and packaging, transfer, and documentation requirements. Because VA and its construction contractor will comply with the applicable laws and regulations, construction-related impacts of Alternative 1 related to hazardous materials exposure from material transport would not be significant.

To minimize construction risks associated with exposure to hazardous materials/waste, all hazardous materials/waste would be stored, used, transported, and disposed of in strict accordance with applicable hazardous-waste regulations. Further, the construction contractor would be required to submit an Environmental Protection Plan in accordance with VHA Environmental Protection Specifications Sections 01 57 19. This plan would describe the best management practices (BMPs) that would be implemented to minimize the risks associated with the use, storage, handling, and transport of hazardous materials/waste and the contingency protocols to be implemented in the event of an accidental release or exposure during construction. Because VA and its construction contractor would comply with the Environmental Protection Plan and Health and Safety Plan, construction related impacts of Alternative 1 related to hazardous materials/waste exposure from potential accidental releases would not be significant.

Operation

Routine Use, Storage, Transport, or Disposal of Hazardous Materials

Operation of the proposed action under Alternative 1 would involve the routine handling, use, and storage of hazardous materials. Nearly all uses within the proposed VA facilities would involve the presence of hazardous materials (or products containing hazardous materials) at varying levels. Occupation and operation of the facilities would also increase the number of people who could be exposed to potential health and safety risks associated with routine use. The following summarizes the general types of hazardous materials that would be expected in association with the proposed action.

- Office, clerical, and administration type functions would use relatively small quantities of hazardous materials. Typical products containing hazardous materials would consist mostly of household-type cleaning products.
- Proposed medical-related uses (i.e., medical clinic, laboratories, or pharmacies) would be expected to include small amounts of laboratory-type chemicals, compressed gases, pharmaceuticals, and radiological materials. Medical, bio-hazardous, and low-level radioactive wastes would also be produced from these activities.
- Operation and maintenance of the facilities would include the use of maintenance products (e.g., paints, solvents, cleaning products); fuels and other petroleum products; refrigerants associated with building mechanical and heating, ventilation and air conditioning systems.
- Grounds and landscape maintenance within the development area could also use a wide variety of commercial products formulated with hazardous materials, including fuels, cleaners and degreasers, solvents, paints, lubricants, adhesives, sealers, and pesticides/herbicides.

No storage or use of large quantities of hazardous materials or products are proposed as part of the proposed action. However, there would be numerous locations where smaller quantities of hazardous materials, as described above, would be present. The potential risks associated with hazardous materials handling and storage would generally be limited to the immediate area where the materials would be located, because this is where exposure would be most likely. For this reason, the individuals most at risk would be employees or others in the immediate vicinity of the hazardous materials, rather than site visitors. For the most part, the health and safety procedures that protect workers and other individuals in the immediate vicinity of hazardous materials would also protect the adjacent community and environment. The pathways through which the community or the environment (e.g., local air quality and biota) could be exposed to hazardous materials include air emissions, transport of hazardous materials to or from the site, waste disposal, human contact, and accidents.

Facilities where hazardous materials would be used or hazardous wastes stored during proposed operation would be constructed in accordance with current laws and regulations, which require storage that minimizes exposure to people or the environment, including the potential for inadvertent releases. Transportation would be in compliance with the existing hazardous materials/waste regulations.

Routine maintenance operations would be expected to be conducted in accordance with the applicable, and legally enforceable CERCLA ICs, and to adhere to local, State, and Federal regulations and laws. For these reasons, hazardous materials uses and waste generation from proposed action operations and routine maintenance operations would not pose a substantial public health or safety hazard to the project vicinity. Impacts from the

routine transport, use, or disposal of hazardous materials/waste (including radiological, hazardous, and medical wastes) from operation of Alternative 1 would not be significant.

Exposure to Hazardous Materials via Upset and Accident Conditions

Potential hazards from routine use, storage, transport, or disposal of hazardous materials/waste are addressed above. Therefore, the following discussion focuses on risks to the public from exposure to accidental releases of hazardous materials through reasonably foreseeable upset and accident conditions during operation of the Proposed Action.

In general, the types and amounts of hazardous materials proposed would not pose any greater risk of upset or accident compared to other similar development elsewhere in the city or region. No uses of large amounts of hazardous materials or acutely hazardous materials, which typically pose a greater accident or upset risk, are proposed. Moreover, releases, if any, present a greater, although manageable, risk to immediately exposed individuals rather than the population at large. The Alameda Fire Department (AFD) responds to hazardous materials incidents within the city and additional emergency response capabilities are not anticipated to be necessary to respond to the potential incremental increase in the number of incidents that could result from operation of the proposed action.

Potential impacts from upset and accident conditions involving the release of hazardous materials and wastes would also be minimized, because the proposed action would comply with applicable local, State, and Federal requirements for hazardous materials and waste management, which are described in section 3.10.1 “Regulatory Framework“ above. The transportation of hazardous materials/waste is required to comply with applicable Federal and State laws and regulations. These regulations identify proper labeling and packaging, transfer, and documentation requirements. State law prescribes requirements for through-transport of hazardous materials/waste on roadways under State control.

Compliance with applicable city, State, and Federal laws would minimize potential exposure to hazardous materials/waste, via upset and accident conditions and there would be no significant impact.

Alternative 2 (Preferred Alternative)

Construction

Implementation of Alternative 2 would have similar impacts from hazards and hazardous substances for construction activities as Alternative 1. As discussed above, CERCLA, DERP, and NCP provisions require that the Navy implement all remedial actions necessary to adequately protect human health and the environment from risks associated with the actual or potential release of hazardous substances, pollutants, or contaminants into the environment. The Navy would continue to perform its ongoing CERCLA obligations of IR Site 2 following the property transfer until completion of a RACR (or similar document). In addition, following transfer of the property, the Navy would continue to manage the investigation and remaining CERCLA phases to address environmental contamination identified prior to the property transfer for IR Site 33 and the portion of IR Sites 14 and 34.

VA would be responsible for completion of CERCLA response actions at IR Site 2 after the Navy completes its responsibility. VA would, as the Federal land manager and lead Federal agency after transfer, be responsible for the release of environmental contaminants on the property identified after the date of transfer and for future and/or newly identified releases of environmental contaminants at, or from, the property that occur after the transfer. VA would not use the VA Transfer Parcel for any use or activity that is prohibited by CERCLA ICs. In addition, VA would be responsible for any and all additional necessary remedial or corrective actions that are required for a change in land use set forth in VA land use plans revised following the date of property transfer.

For any petroleum sites identified prior to transfer of the property, the Navy would continue to manage the investigation, corrective action plan, and corrective action implementation phases. The Navy's responsibility for managing petroleum sites will cease upon the completion of corrective action. VA would have responsibility for management, if applicable, of lead based paint in soil, and asbestos and ACM on the property, including but not limited to, maintenance, renovation, or demolition of buildings and structures; and lead or asbestos related surveys or sampling, whether of action or corrective action, or other environmental action. VA would be responsible for managing lead based paint, lead in soil, asbestos, and ACM in accordance with all applicable Federal, State, and local laws, regulations, or other requirements.

For these reasons, including the completed and ongoing CERCLA remedial actions and other ongoing non-CERCLA remediation efforts and compliance programs (e.g., petroleum program) there would be no hazard to the public or the environment, no reasonably foreseeable environmental impacts, and no significant environmental impacts as a result of releases of hazardous substances, pollutants, or contaminants during development or operation at the VA Development Parcel that are addressed under CERCLA.

VA would be required to manage construction-related hazardous materials and wastes in accordance with applicable regulations identified in section 3.10.1 "Regulatory Framework", above. In addition, VA would adhere to all applicable laws and regulations related to construction, environmental protection, and health and safety before and during the development of the VA Transfer Parcel after transfer of the property by the Navy.

Safety standards have been established in Federal law to minimize risks to worker safety from both physical and chemical workplace hazards. Because VA and its construction contractor will comply with the applicable laws and regulations, there would be no significant construction related impacts related to hazardous materials/waste exposure from material transport.

To minimize construction risks associated with exposure to hazardous materials, all hazardous materials/waste would be stored, used, transported, and disposed of in strict accordance with applicable hazardous-waste regulations. Because VA and its construction contractor would comply with the Environmental Protection Plan and Health and Safety Plan, there would be no significant construction related impact related to hazardous materials/waste exposure from potential accidental releases.

Operation

Routine Use, Storage, Transport, or Disposal of Hazardous Materials

Implementation of Alternative 2 would have similar impacts from hazards and hazardous substances for operational activities as Alternative 1. Operation of the proposed VA facilities under Alternative 1 would involve

the routine handling, use, and storage of hazardous materials. Nearly all uses within the proposed VA facilities would involve the presence of hazardous materials (or products containing hazardous materials) at varying levels. Occupation and operation of the facilities would also increase the number of people who could be exposed to potential health and safety risks associated with routine use.

Facilities where hazardous materials would be used or hazardous waste stored during proposed operation would be constructed in accordance with current laws and regulations, which require storage that minimizes exposure to people or the environment, including the potential for inadvertent releases. Transportation would be in compliance with the existing hazardous materials/waste regulations.

Routine maintenance operations would be expected to be conducted in accordance with the applicable, and legally enforceable, CERCLA ICs, and adhere to local, State, and Federal regulations and laws. For these reasons, hazardous materials uses and waste generation for proposed action operations and routine maintenance operations would not pose a substantial public health or safety hazard to the project vicinity. There would be no significant impacts from the routine transport, use, or disposal of hazardous materials/waste (including radiological, hazardous, and medical wastes) from operation of Alternative 2.

Exposure to Hazardous Materials via Upset and Accident Conditions

Implementation of Alternative 2 would have similar impacts from hazards and hazardous substances for operational activities as Alternative 1. Increased routine use of hazardous materials compared to existing conditions, exposure of future occupants, visitors, and employees to hazardous materials could occur by improper handling or use of hazardous materials or hazardous wastes during operation, particularly by untrained personnel, environmentally unsound disposal methods, or fire, explosion, or other emergencies, all of which could result in adverse health effects. Accidents involving the transportation of hazardous materials to, from, or within the project site could also occur. As identified under Alternative 1, compliance with applicable city, State, and Federal laws would minimize potential exposure to hazardous materials/waste, via upset and accident conditions. There would be no significant impact.

No Action Alternative

Construction

Under the No Action Alternative, the Fed-to-Fed transfer would not take place. The environmental cleanup by the Navy would continue until completion, but no construction of VA facilities would occur. No construction related hazardous materials/waste exposure or public safety impacts would occur.

Operation

Under the No Action Alternative, the Fed-to-Fed transfer would not take place, and no VA facilities would be constructed. The environmental cleanup by the Navy would continue until completion, but no VA facilities would be operated. No operational impacts related to hazardous waste generation or public safety would occur.

3.10.4 References

- Bechtel Environmental, Inc. 2008 (May). *Draft Site Inspection Report for Transfer Parcels FED1A, FED-2B, and FED-2C, Alameda Point, Alameda, California.*
- Battelle. 2010 (August). *Final Record of Decision for IR Site 2, Former Naval Air Station Alameda, California.* Prepared for U.S. Department of the Navy.
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- IT Corporation, Inc. 2001 (January). *Environmental Baseline Survey Data Evaluations - Final, Alameda Point, Alameda, California.*
- U.S. Department of the Navy (Navy). 2009 (September). *Final Environmental Summary Document, VA FED Transfer Parcel, Alameda Point, Alameda, California.*
- . 2011a (April 28). *Final Record of Decision for IR Site 34, Alameda, California.*
- . 2011b (January 11). *Final Site Inspection Report Transfer Parcels FED-1A, FED-2B, and FED-2C, Alameda Point, Alameda, California.*

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