

3.9 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

This section describes the existing setting related to population, employment, income, and ethnicity, and discusses the potential effects of the EA Alternatives related to socioeconomics. In addition to general socioeconomic information, this section discusses environmental justice and risks to children's health and safety.

3.9.1 Regulatory Framework

Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

EO 12898 requires each federal agency to make achieving environmental justice part of its mission. Specifically, the agency must identify and address, as appropriate, the disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. These provisions also apply fully to programs involving Native Americans. The EO also requires each federal agency to conduct its programs, policies, and activities so that they do not exclude, deny benefits to, or discriminate against persons (including populations) because of race, color, or national origin.

Executive Order 12898: Protection of Children from Environmental Health Risks and Safety Risks

EO 13045 requires that "each Federal agency (*a*) shall make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children, and (*b*) shall ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risk or safety risks."

3.9.2 Affected Environment

This section presents regional and local demographic and economic information as it relates to the VA Transfer Parcel and the surrounding area. For the purposes of this resource section, the socioeconomic study area includes the Census Tracts that encompass the VA Transfer Parcel and its immediate surrounding area (i.e., U.S. Census Bureau Census Tracts 4287, 4276, and 4277; which encompass the VA Transfer Parcel and the western portion of the City of Alameda), the City of Alameda, and Alameda County. Information about population, housing, employment, income, and ethnicity is derived primarily from the 2010 U.S. and projections by the California Department of Finance and Association of Bay Area Governments. Because the Proposed Action does not propose the addition or removal of housing, the analysis in this EA does not address impacts related to the availability of housing.

Population

The VA Transfer Parcel is located within the City of Alameda, which had a total estimated population of 73,812 in 2010 (an approximate 2% increase from 2000). No population resides and no residential housing exists within the VA Transfer Parcel. Study area population estimates are summarized in Table 3.9-1.

Table 3.9-1: Study Area Population Estimates (2000–2010)

	Population 2000	Population 2010	Percent Change 2000 to 2010
Census Tracts ¹	12,006	13,707	+ 14.2%
City of Alameda	72,259	73,812	+ 2.2%
Alameda County	1,443,744	1,510,271	+ 4.6%

Notes:

NA = not applicable; VA = U.S. Department of Veterans Affairs

¹ For purposes of this analysis and to allow comparison between 2010 and 2000 data, information for Census Tracts 4275 and 4274 have been combined. In 2010, Census Tracts 4274 and 4275 were combined, resulting in Census Tract 4287.

Source: U.S. Census 2000a, 2000b, 2010a

Income and Unemployment

Study area income and unemployment characteristics are summarized in Table 3.9-2. No employment or income generating businesses are currently located within the VA Transfer Parcel. However, the site does contain active conservation and management efforts for the CLT.

Table 3.9-2: Study Area Income and Unemployment (2010)¹

	Per Capita Income (\$)	Median Household Income 2010 (\$)	Unemployed (% of Civilian Labor Force)
Census Tracts	30,441 ²	61,158 ²	6.4 ²
City of Alameda	38,434	74,221	5.4
Alameda County	33,961	69,384	5.6

Notes:

1 Employment and income data from the 2006–2010 American Community Survey 5-Year Estimates were used because 2010 U.S. Census data were not available at the time this document was prepared.

2 Average of the three Census Tracts.

Source: U.S. Census, 2010a

Environmental Justice

Consistent with Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (February 11, 1994), the policy is to identify and address any disproportionately high and adverse human health or environmental effects of its actions on minority or low-income populations.

The CEQ (1997) has issued guidance to federal agencies on the terms used in Executive Order 12898, as follows:

- **Low-income Population.** Low-income populations in an affected area should be identified using the annual statistical poverty thresholds from the U.S. Bureau of Census’s Current Population Reports, Series P-60, on Income and Poverty.
- **Minority.** Individual(s) who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not Hispanic origin; or Hispanic.

- **Minority Population.** Minority populations should be identified where: (a) the minority population of the affected area exceeds 50%, or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.
- **Disproportionately High and Adverse Human Health Effects.** When determining whether human health effects are disproportionately high and adverse, agencies are to consider the following three factors to the extent practicable:
 1. Whether the health effects, which may be measured in risks and rates, are significant (as employed by NEPA), or above generally accepted norms;
 2. Whether the risk or rate of hazard exposure to a minority population, low income population, or Indian tribe to an environmental hazard is significant (as employed by NEPA) and appreciably exceeds or is likely to appreciably exceed the risk or rate to the general population or other appropriate comparison group; and
 3. Whether health effects occur in a minority population, low-income population, or Indian tribe affected by cumulative or multiple adverse exposure to environmental hazards.
- **Disproportionately High and Adverse Environmental Effects.** When determining whether environmental effects are disproportionately high and adverse, agencies are to consider the following three factors to the extent practicable:
 1. Whether there is or will be an impact on the natural or physical environment that significantly (as employed by NEPA) and adversely affects a minority population, low-income population, or Indian tribe. Such effects may include ecological, cultural, human health, economic, or social impacts on minority communities, low-income communities, or Indian tribes when those impacts are interrelated to impacts on natural or physical environment;
 2. Whether environmental effects are significant (as employed by NEPA) and are or may be having an adverse impact on minority populations, low income populations, or Indian tribes that appreciably exceed or are likely to appreciably exceed those on the general population or other appropriate comparison group; and
 3. Whether the environmental effects occur or would occur in a minority population, low-income population, or Indian tribe affected by cumulative or multiple adverse exposures from environmental hazards.

Environmental justice impacts refer to disproportionately high and adverse human health or environmental effects of a Proposed Action on low-income populations, minority populations, or Indian tribes. In order to identify if any potential disproportionate adverse environmental justice effects would be associated with the implementation of the Proposed Action, existing environmental justice characteristics (i.e., minority and low-income population) in the community directly affected (i.e., Census Tracts 4287, 4276, and 4277) were identified. This data is presented for descriptive purposes and do not indicate the probable location of disproportionate impacts. A minority population concentration is identified as follows:

- The minority population in the community is equal to or greater than 50%; or

- The minority population in the community is 10 or more basis points higher than that of the “base” community (city or county, depending on location).

Minority groups include African American, Hispanic, Asian, American Indian and Alaska Native, and Native Hawaiian or Other Pacific Islander. A “low-income” person is defined as a person whose household income is at or below the income level stated in the U.S. Department of Health and Human Services’ poverty guidelines, which in the 2010 guidelines was \$22,050 for a family of four.

The communities in the immediate project area (i.e., 4287, 4276, and 4277) have a combined minority population of 65.4% and a combined percentage of individuals below the poverty level of 14.9%. Table 3.9-3 presents statistics on low-income and minority population characteristics for the study area, including Census Tracts (i.e., 4287, 4276, and 4277), City of Alameda, and Alameda County.

Table 3.9-3: Environmental Justice Population Characteristics (2010)

	Total Population	Percent Minority	Percent Below Poverty Level
Census Tracts ¹	13,707	65.4	14.9
City of Alameda	73,812	49.2	10.1
Alameda County	1,510,271	47.2	11.4

Notes:

1 Includes Census Tracts 4287, 4276, and 4277.

Source: U.S. Census, 2010b, 2010c

3.9.3 Environmental Consequences

Assessment Methods

Socioeconomic impacts refer to the basic attributes and resources associated with the human environment, with particular emphasis on population and employment. Potential impacts can be related to the displacement of populations, residences, and/or businesses; impacts on the availability of housing or accommodation; and the inducement of unplanned growth. Socioeconomic impacts can also stem from the nature and duration of construction and operational activities that, in turn, may lead to displacement or modification of existing activities, and any diversion or temporary suspension of access associated with a Proposed Action. Because the EA Alternatives do not propose the addition or removal of housing, the analysis in this EA does not address impacts related to the availability of housing. Daily population and employment totals for the EA Alternatives were estimated using patient/visitor/employment information from similar VA facilities.

Alternative 1

Construction

Population

Alternative 1 would have no effect on existing population in study area. Therefore, there would be no significant construction-related impact.

Employment and Income

Initial construction under Alternative 1 (July 2015 to December 2016) is anticipated to require a temporary crew of 20–56 persons derived from the local labor pool. Construction of subsequent cemetery phases under Alternative 1 (from 2026 through 2116) is anticipated to require a temporary crew of approximately 15 persons for a period of approximately 12 months per phase derived from the local labor pool. Because both the Bay Area as a whole and the city of Alameda have experienced a reduction in employment (including construction jobs) over the last decade (between 2000 and 2010), the additional construction jobs provided by the Proposed Action would have a positive short-term beneficial effect on the local and regional economies. The construction-related impact of Alternative 1 related to employment growth would not have a significant adverse impact.

Construction under Alternative 1 would not impede residential or business activity within the community surrounding the VA Transfer Parcel because all construction activities would be limited to the currently unoccupied area within the VA Development Area. As discussed in Section 3.3 (Transportation, Traffic, Circulation, and Parking), construction-related trucks would flow into and out of the VA Transfer Parcel using I-880 and designated truck routes in Oakland and Alameda. Construction activities would be limited to the VA Development Area, and construction-related traffic would use existing roadways. Therefore, no residents or businesses would be displaced. No construction-related significant adverse impact related to displacement of persons, residences, and/or businesses would occur.

Operation

Population

Because no housing is proposed under Alternative 1, there would be no direct change in permanent population or housing with implementation of this alternative. In general, a project would be considered growth inducing if its implementation would substantially increase the population or result in the need for additional development, which might not occur if the project were not implemented. Employees are anticipated to be already living in the San Francisco Bay Area and would not require new housing. Thus, no significant impact related to induced population or housing growth would occur under Alternative 1.

Employment and Income

Under Alternative 1 the new daily employment population is estimated to be 250 VA employees in the OPC building and the Conservation Management Office and seven employees at the NCA Cemetery. Because both the Bay Area as a whole and the city of Alameda have experienced a reduction in employment over the last decade (between 2000 and 2010), adding an estimated 257 jobs that could be filled by Bay Area and/or Alameda residents would have a beneficial effect on the regional and local economies. The operational impact of Alternative 1, related to employment growth would not be significant.

Environmental Justice

As identified in Table 3.9-3, the communities surrounding the VA Transfer Parcel do not have a disproportionately high minority or low-income population. In addition, there are no specific impacts on general health or quality of life that would adversely or disproportionately impact the surrounding population. Therefore, it was determined

that no disproportionate adverse environmental justice effects would be associated with the implementation of Alternative 1. There would be no significant impact to environmental justice.

Alternative 2 (Preferred Alternative)

Construction

The construction of VA facilities under Alternative 2 would be similar to that under Alternative 1. Therefore, impacts of construction under Alternative 2 on population, housing, employment, income, and environmental justice would be the same as those described for Alternative 1. Construction-related impacts of Alternative 2 would not be significant.

Operation

The operation of VA facilities under Alternative 2 would be similar to that under Alternative 1. Therefore, impacts of facility operation under Alternative 2 on population, housing, employment, income, and environmental justice would be the same as those described for Alternative 1. Operation-related impacts of Alternative 2 would not be significant.

Environmental Justice

As identified in Table 3.9-3, the communities surrounding the VA Transfer Parcel do not have a disproportionately high minority or low-income population. In addition, there are no specific impacts on general health or quality of life that would adversely or disproportionately impact the surrounding population. Therefore, it was determined that no disproportionate adverse environmental justice effects would be associated with the implementation of Alternative 2. There would be no significant impact to environmental justice.

No Action Alternative

Construction

Because the proposed VA facilities would not be constructed under the No Action Alternative, no construction impacts related to socioeconomics or environmental justice would result. No construction-related significant impact would occur.

Operation

Under the No Action Alternative, no operational impacts related to socioeconomic or environmental justice would result. No significant operational impact would occur.

3.9.4 References

U.S. Census Bureau (U.S. Census). 2000a. American FactFinder: Profile of General Demographic Characteristics: California, 2000. Available: <http://factfinder.census.gov/servlet/DatasetMainPageServlet?_lang=en&_ts=329663591260&_ds_name=DEC_2000_SF1_U&_program=>. Accessed July 25, 2011.

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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, 452A, 452B, 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, and 439.

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 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 of IR Site 2 following the property transfer until completion of a 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 Site 33 and a portion of IR Sites 14 and 34.

As Federal property owner and land manager, 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, 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 response actions, 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 Draft EA's preparation. The most current

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)

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.

In addition to the sites listed below, IR Site 32 is located immediately northeast 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 2013 and the remedial design/ remedial action work plan is anticipated to be finalized in 2014, with field construction in 2014 and 2015. Because it is anticipated that the Navy's CERCLA response will be completed prior to construction and operation of any component of VA's proposed action on the VA Transfer Parcel, any change to the IR Site 32 boundary that results in IR Site 32 extending onto the VA Development Area will not impact the construction and operation of VA proposed facilities.

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 1952 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.

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.

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	In Progress

Source: Battelle, 2010

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). 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 response actions, all of which may be required in accordance with future 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 the site poses a potential risk to human health from vinyl chloride in groundwater through inhalation of vapors in indoor air. However, the site poses no unacceptable risk to human health or the environment from soil based on current and reasonably foreseeable anticipated future land uses.

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

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

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
Remedial Action	In progress

Source: Battelle, 2010

action for IR Site 14 groundwater commenced in September 2008 with agency approval. Groundwater monitoring of the remedy is on-going. IR Site 14 is currently protective for recreational/open space land uses, 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) is underway to address elevated PAHs concentrations in soil. The TCRA field work includes excavation and disposal of impacted soil. The Navy anticipates No Further Action documented in an Site Investigation Addendum in early 2013. A chronology of the CERCLA actions completed at IR Site 33 is identified in Table 3.10-3.

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

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 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. No further action is needed for groundwater at IR Site 34. 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
CERCLA Record of Decision	2011
Remedial Design	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.

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) as part of the Petroleum Program.

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 as CAA-1 (TTEMI 2001, RWQCB 2003).
- **CAA-C:** Is an aviation fuel spill area that is currently being 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. Ongoing environmental work includes operation and maintenance of the CAA-C treatment system.

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). 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 RWQCBs approval of completion of corrective action.

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, 354 and 452.

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, 452, 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).

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

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.

CH2M Hill. 2011 (January). *Final Site Inspection Report Transfer Parcels FED-1A, FED-2B, and FED-2C Alameda Point Alameda, California*. Prepared for U.S. Department of the Navy.

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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3.11 UTILITIES

This section describes the existing utilities and service systems serving the VA Transfer Parcel, including water supply, wastewater, energy (including electricity and natural gas), and solid waste collection and disposal and discusses the potential effects of the EA Alternatives related to these utilities. For a discussion of stormwater as it relates to flooding and water quality, see Section 3.2 (Water Resources).

3.11.1 Regulatory Framework

Clean Water Act

In 1972 the federal Clean Water Act (CWA) was enacted to regulate the discharge of pollutants to receiving waters such as oceans, bays, rivers, and lakes. The objective of the act is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters” by regulating discharges of pollutants into the Waters of the United States. As the major federal legislation governing stormwater quality, CWA regulates runoff of polluted stormwater under the National Pollutant Discharge Elimination System (NPDES). The EPA is the lead federal agency responsible for water quality management. EPA is authorized to implement pollution control programs setting wastewater standards for industry, as well as water quality standards for all contaminants in surface waters.

Safe Drinking Water Act

Originally enacted in 1974, the Safe Drinking Water Act protects public health by regulating the nation’s public drinking water supply. The law was amended in 1986 and 1996 and requires actions to protect drinking water and its sources: rivers, lakes, reservoirs, springs, and groundwater wells. The Safe Drinking Water Act authorizes EPA to set national health-based standards for drinking water to protect the public from naturally occurring and human-made contaminants.

Energy Policy Act of 2005

The Energy Policy Act of 2005 was enacted on August 8, 2005. This law seeks to reduce reliance on nonrenewable energy resources and provide incentives in the form of tax credits to reduce energy demand.

Executive Order (EO) 13423, "Strengthening Federal Environmental, Energy, and Transportation Management"

EO 13423, "Strengthening Federal Environmental, Energy, and Transportation Management," was signed on January 24, 2007 and requires federal agencies to reduce energy and water intensity to achieve sustainability goals, including:

- Energy Efficiency: Reduce energy intensity 30 % by 2015, compared to an FY 2003 baseline.
- Renewable Power: At least 50 % of current renewable energy purchases must come from new renewable sources (in service after January 1, 1999).

- **Building Performance:** Construct or renovate buildings in accordance with sustainability strategies, including resource conservation, reduction, and use; siting; and indoor environmental quality.
- **Water Conservation:** Reduce water consumption intensity 16 % by 2015, compared to FY 2007 baseline.
- **Electronics Management:** Annually, 95 % of electronic products purchased must meet Electronic Product Environmental Assessment Tool standards where applicable; enable Energy Star® features on 100 % of computers and monitors; and reuse, donate, sell, or recycle 100 % of electronic products using environmentally sound management practices.

Executive Order 13514, “Federal Leadership in Environmental, Energy, and Economic Performance”

EO 13514, “Federal Leadership in Environmental, Energy, and Economic Performance,” was signed on October 5, 2009 and introduces new Green House Gas (GHG) emissions management requirements. EO 13514 expands the requirements of EO 13423 by setting greater energy reduction and environmental performance requirements.

Under EO 13514, each federal agency must meet GHG specific requirements. Please see Section 3.8 (Greenhouse Gas Emissions and Climate Change) for a detailed description of those target requirements. VA has completed the EO 13514 requirements in the form of the Department of Veterans Affairs Strategic Sustainability Performance Plan (VA SSPP). The VA SSPP identifies sustainability goals and defines policy and strategy for achieving these goals (VA, 2011a).

East Bay Municipal Utility District (EBMUD) Urban Water Management Plan

Urban water management plans (UWMPs) are prepared by California’s urban water suppliers to support their long-term resource planning and ensure that adequate water supplies are available to meet existing and future water demands. EBMUD’s UWMP assesses current and projected water usage, water supply planning, conservation, and recycling efforts, helping to ensure a reliable water supply for the next generation (EBMUD, 2011). The EBMUD’s Water Supply Management Program (WSMP) projects water supply needs to the year 2040 (EBMUD, 2012). The 2040WSMP identifies conservation efforts and supplemental water supplies that would be needed to satisfy demand from EBMUD’s service area during drought years.

3.11.2 Affected Environment

Water Supply

VA Transfer Parcel

There is no existing demand for potable water and no functional existing potable water supply infrastructure within the VA Transfer Parcel. The use of non-potable water within the existing VA Transfer Parcel is limited to the existing work space (temporary trailer) utilized for California Least Tern management. The non-potable water used (i.e., toilet and sink) is provided via an above ground pipe that taps into a non-potable water supply at Building 494. There is no other use of or functional existing non-potable water supply infrastructure (e.g., grey water, fire suppression, landscaping, etc.) within the VA Transfer Parcel.

Surrounding Area

The EBMUD is responsible for operating and maintaining the existing water system (i.e., potable and non-potable) within the City of Alameda. The EBMUD supplies water to 1.34 million customers in Alameda and Contra Costa Counties (EBMUD, 2011). EBMUD's water supply system consists of a network of raw water reservoirs, aqueducts, water treatment plants, pumping plants, and distribution pipelines (EBMUD, 2011). EBMUD currently produces an average of 220 million gallons of potable water per day (MGD). In 2010, EBMUD customers used 216 MGD (EBMUD, 2011). Even assuming implementation of system-wide conservation measures, system-wide demand is projected to rise to 230 MGD by 2040. EBMUD projects that it can meet future demands through the year 2040 during normal year conditions; therefore, available supply is considered equal to or greater than demand (EBMUD, 2012).

Wastewater Systems

VA Transfer Parcel

No functioning sanitary sewer infrastructure is currently located on the VA Transfer Parcel (Anderson Engineering, 2012). The generation of wastewater is limited to the existing California Least Tern management work space (temporary trailer). There are no other sources of wastewater located within the VA Transfer Parcel.

Surrounding Area

EBMUD is responsible for operating and maintaining the existing waste water system within the City of Alameda. The off-site EBMUD infrastructure conveys wastewater from the former NAS Alameda to EBMUD's Main Wastewater Treatment Plant (EBMUD Special District No. 1), located near the San Francisco-Oakland Bay Bridge. The plant provides secondary treatment for a maximum flow of 168 MGD. Primary treatment can be provided for up to a peak flow of 320 MGD. The average annual daily flow is approximately 65 MGD. EBMUD Special District No. 1 wastewater flows are projected to be 74 MGD in 2040 (EBMUD, 2011). EBMUD projects that it can meet future demands through the year 2040; therefore, available capacity is considered equal to or greater than project flows (EBMUD, 2012).

Stormwater Drainage Systems

VA Transfer Parcel

Surface water runoff from the VA Transfer Parcel is collected in a stormwater drainage system that conveys surface water from the site directly to receiving waters. The storm drainage collection system at the VA Transfer Parcel was constructed in the 1940s and consists of drains, catch basins, and 11 discharge outfalls to the Oakland Inner Harbor and San Francisco Bay (ARRA, 2005). Four of the 11 outfalls are in fair to good condition; the remaining outfalls are paved-over corrugated metal pipes that lead to flap gate outfalls and need substantial improvement. The storm drainage collection system is currently operated and maintained by the City of Alameda under a cooperative agreement with the Navy. The City of Alameda Department of Public Works' Maintenance Service Division is responsible for preventive and corrective maintenance on the storm drainage system.

Seasonal flooding problems are common because of the deterioration of the storm drains. In addition, the generally flat topography of the VA Transfer Parcel (including some areas of subsidence) causes inefficient conveyance of rainfall runoff. Some locations on the VA Transfer Parcel are subject to flooding during heavy rainstorms (ARRA, 2005). For more information on stormwater see Section 3.2 (Water Resources).

Surrounding Area

Stormwater drainage from Alameda Point is generally collected in a stormwater drainage system consisting of drains and catch basins and is discharged via outfalls to the Oakland Inner Harbor and San Francisco Bay. No creeks or natural watercourses cross Alameda Point to convey floodwater. Some locations on Alameda Point contain new drainage infrastructure that has been constructed to address the flooding that can occur in low-lying areas. See Section 3.2 (Water Resources) for additional discussion of regional hydrologic features.

Energy (Electricity, Natural Gas, and Fuel)

VA Transfer Parcel

Electricity is provided to the VA Transfer Parcel by facilities located adjacent to Main Street and Atlantic Avenue. A large existing overhead electric transmission line on the east side of Main Street connects to the existing substation at the former NAS Alameda east gate. The electrical facilities within the former NAS Alameda do not meet current standards or codes (Alameda, n.d.). Current activities, including the California Least Tern management work space, on the VA Transfer Parcel demand only minimal electricity. Current activities on the VA Transfer Parcel do not demand any natural gas and no functional infrastructure exists.

Surrounding Area

Alameda Municipal Power serves the residents and the businesses within the City of Alameda (AMP, 2012a). For Fiscal Year 2011, Alameda Municipal Power had a peak demand of approximately 70.8 megawatts (MW). Alameda Municipal Power does not independently own any generation assets; rather, it procures power through long-term agreements. The power purchased by Alameda Municipal Power is typically more than 60% renewable, including geothermal, small hydroelectric, wind, and landfill gas power (AMP, 2012b). It also has an additional 22% of large hydroelectric power.

Natural gas is provided to the City of Alameda by Pacific Gas and Electric Company (PG&E). Serving 4.3 million natural gas customers, PG&E has approximately 42,141 miles of distribution pipeline, and 6,438 miles of transportation pipelines from three major sources: California, the southwestern U.S., and Canada (PG&E, 2012).

Solid Waste Disposal

VA Transfer Parcel

Current activities on the VA Transfer Parcel do not generate solid waste.

Surrounding Area

In 2000, the City of Alameda disposed of slightly less than 50,000 tons of solid waste at several different landfills. Most nonhazardous solid waste was transported to the Davis Street Transfer Station in San Leandro, CA and disposed of at the Altamont Landfill in Alameda County (ARRA, 2005). The landfill has a permitted throughput of 11,150 tons per day (CalRecycle, 2005); however, typical daily intake is more often approximately 3,500 tons per day (Nourot, pers. comm., 2012). The remaining capacity of the Altamont Landfill, as of August 2009, is 45.7 million cubic yards. At current disposal rates, the Altamont Landfill would be expected to reach capacity in January 2032 (CIWMB, 2009a). Waste Management Inc. handles solid waste collection services, including recycling, for Alameda Point.

Environmental Consequences

Assessment Methodology

To evaluate the impacts of a particular alternative, projections were generated for these utilities based on the square footage of the proposed development. Specifically, water use, electricity, and natural gas demands for the VHA OPC were based on existing usage data for similar VA OPC facilities and were indexed based on the difference in facility square footage. Water use demands for the NCA Cemetery and Conservation Management Office were projected by the irrigation consultant (Dickson & Associates, Inc.). Electricity demands for the cemetery were provided by Anderson Engineering of MN LLC. Electricity and natural gas demands for the Conservation Management Office were provided by the project engineers (HDR).

The evaluation of potential impacts related to solid waste was based on a review of existing information for solid waste landfills serving the VA Transfer Parcel, such as capacity and daily intake volumes, to determine whether existing facilities could accommodate the projected waste generated under the Proposed Action. Waste generation projections were based upon estimated solid waste generation rates of “Medical Offices/Hospital” and “Office” from CalRecycle. A solid waste generation rate was not provided by CalRecycle for cemetery-related uses, so the solid waste generation rate for the service establishment “golf course” land use category was applied based on the number of people anticipated to attend services per year.

Alternative 1

Construction

Several non-functioning utility lines within the VA Transfer Parcel, many of which are more than 50 years old and are not to current standards and codes, are located within the footprint of the facilities proposed under Alternative 1. These lines would be removed or abandoned as necessary before construction of the new facilities. Site utilities, potable water, and storm drains for the VA facilities would be constructed within an off-site utility corridor along West Red Line Avenue and Main Street, and would tie into the existing City of Alameda infrastructure lines to the east of the VA Transfer Parcel.

Water Supply and Wastewater

The water (potable and non-potable) required and wastewater generated by construction activities would be supplied by portable sources (e.g., water trucks, portable toilets, etc.) and/or existing sources until such time as installation of the new services are complete. These sources would be adequate to meet demands during construction activities, and new or expanded entitlements and resources would not be required. Therefore, Alternative 1 would have no significant impact to regional potable and non-potable water supplies or wastewater systems.

Stormwater

As described in Section 3.2 (Water Resources) stormwater runoff during construction under Alternative 1 would be handled in accordance with the requirements set forth in the Construction General Permit (Order 2009-0009-DWQ). The permit requires the development and implementation of a storm water pollution prevention plan to reduce pollution of surface water throughout the construction period of the project. Measures include protecting existing storm drain and catch basin inlets, establishing perimeter controls, covering construction materials and mounds, maintaining washout areas for wet construction materials, inspections, and regular maintenance. Should dewatering be necessary during construction, dewatering effluent may require on-site treatment before being discharged to San Francisco Bay. If dewatering effluent is contaminated, the RWQCB may require an individual NPDES permit for dewatering effluent discharges.

Implementation of the requirements for protection of land resources outlined in the VA Specification Section 015719 "Temporary Environmental Controls," would also minimize impacts on stormwater systems (VA, 2011b). These requirements include such measures as setting work area limits, protecting the landscape, reducing exposure of unprotected soils, protecting disturbed areas, installing erosion and sediment control devices, implementing hazardous-material spill prevention measures, managing spoil areas, and following good housekeeping procedures. Construction activities in and of themselves would not require the construction of new stormwater drainage systems or the expansion of existing stormwater systems; therefore, no significant construction-related impacts related to stormwater infrastructure would occur under Alternative 1.

Energy (Electricity, Natural Gas, and Fuel)

Construction of Alternative 1 would involve the use of construction equipment and vehicles, which would result in a temporary increase in energy consumption and fuel use for the duration of construction. The use of construction equipment would not affect existing regional energy infrastructure, such as electricity or natural gas systems, because construction activities would be temporary and involve using vehicles and mobile equipment that would be fueled from sources off site. Construction activities would likely use utility-provided electricity as the buildings are nearing completion and electrical distribution systems become active. It is unlikely any temporary natural gas usage would occur during construction. Therefore, construction-related energy use associated with Alternative 1 would not have a significant impact on regional energy systems.

Solid Waste Disposal

Alternative 1 construction activities would result in a short-term increase in generation of construction waste, which would require disposal. Alternative 1 is projected to generate approximately 116,787 cubic yards of

construction and demolition waste (see Table 3.11-1). The majority of the wastes generated would consist of debris from the removal of the existing runways and paved surfaces within the VA Development Area. The majority of construction and demolition waste would be reused onsite (e.g., existing runways and asphalt in parking areas would be removed, crushed, reconditioned, and reused as base material for new roadways and parking lots). If applicable, some construction and demolition debris would also be recycled. It is assumed that 60% (approximately 70,072 cubic yards) of the total volume of construction and demolition waste would be reused or recycled. Materials that cannot be reused or recycled (approximately 46,715 cubic yards) would be disposed of at a local landfill.

Table 3.11-1: Estimated Solid Waste Generation during Construction (Alternatives 1 and 2)

Alternative	Estimated Volume of Construction and Demolition Waste¹ (Cubic Yards)	Estimated Volume of Construction and Demolition Waste to be Reused or Recycled – 60 % (Cubic Yards)	Estimated Volume of Construction and Demolition Waste to be sent to Landfill (Cubic Yards)
Alternative 1	116,787	70,072	46,715
Alternative 2	111,410	66,846	44,564

Notes:

¹ The majority of the wastes generated during the proposed construction would consist of debris from the removal of the existing runways and paved surfaces within the VA Development Area.

The anticipated volume of construction waste would be expected to be accommodated by landfills located in the region, including the Altamont Landfill (Livermore, CA), the primary current disposal location for the City of Alameda’s solid waste. The remaining capacity of the Altamont Landfill, as of August 2009, is 45.7 million cubic yards. The estimated 46,715 cubic yards of construction waste, represents less than 0.2% of this remaining capacity. Therefore, construction-related wastes associated with Alternative 1 would not have a significant impact on regional landfills or waste disposal facilities.

Operation

Water Supply

Potable water infrastructure for the proposed VA facilities would be constructed on site and within an off-site utility corridor along West Red Line Avenue and Main Street, and would tie into the existing EBMUD water main to the east of the VA Transfer Parcel on Main Street by the Alameda Ferry Terminal. Water system improvements would involve installing new water mains to provide potable water and fire suppression water to new buildings and irrigated areas (i.e., landscaping). Pipes for the fire-suppression water system would be installed to meet NFPA Fire Code requirements.

Based on the density of development at full build-out, Alternative 1 would require water at a rate of approximately 0.190 MGD (69.2 million gallons per year), including OPC operations, office uses, and landscape irrigation (see Table 3.11-2). Site water usage would be reduced through implementation of appropriate conservation strategies, including meeting the sustainability goals identified in the VA’s Strategic Sustainability Performance Plan which include implementing water conservation measures and best water management practices to reduce non-healthcare

Table 3.11-2: Estimated Operational Water Demands (Both Alternative 1 and 2)

OPC (facility and irrigation) ¹	Water Demand (million gallons per day)		Total Projected Water Demand
	Conservation Management Office	Cemetery Irrigation ²	
0.016	0.001	0.173	0.190

Notes:

OPC = Outpatient Clinic

¹ Alameda Point OPC water demands are based on actual water use from the existing Mare Island OPC. Demands were indexed by 2.2 to account for the size difference between the OPCs (Mare Island OPC = 68,000 square feet).

² In most years, irrigation is typically required from March through November; conservatively estimating water usage, it has been assumed that irrigation would occur year round and that it would be required during wet years. The volume of water required for landscape irrigation would also increase and decrease with seasonal changes in weather and hours of daylight; however, a constant year-round irrigation rate was assumed for water projection purposes.

Sources: Data calculated by AECOM in 2012; Janbakhsh, pers. comm., 2012a; Morrissey, pers. comm., 2012; Dickson, pers. comm., 2012

water use; installing water efficient sterilization systems; implementing water reduction strategies in laundry and other non-medical areas; increasing xeriscaping¹; and using “smart” irrigation controllers (VA, 2011a).

The existing EBMUD system would be expected to have sufficient capacity to meet any future water supply demands resulting from implementation of Alternative 1. EBMUD projects that there is sufficient future capacity to meet system-wide, normal condition, demands until 2040. EBMUD’s 2040 demand projection study did not include the specific development components of the Proposed Action. However, it did include the assumption that approximately 250 acres of the former NAS Alameda property would be irrigated as a potential golf course or VA cemetery, as well as accommodate future regional growth and development within the City of Alameda (EBMUD, 2012). Because the 2040 demand study assumes that irrigation would take place on approximately 250 acres in the Northern Territories (higher water use than the Proposed Action), water use is reasonably assumed sufficient; and has been planned for and could be accommodated within EBMUD’s system. VA is aware of EBMUD’s proposed non-potable water supply system extension into the area of the VA Transfer Parcel. The proposed facility designs incorporate the ability to shift the ground watering irrigation demand from the potable to the non-potable water supply system to further minimize future potable water use. Implementation of Alternative 1 would not be expected to have a significant impact on the future capacity and infrastructure of the regional water system.

Wastewater

Wastewater infrastructure for the proposed VA facilities would be constructed on site and within an off-site utility corridor. Assuming that approximately 90% of total water supplied to the VHA OPC and Conservation Management Office would end up as wastewater, Alternative 1 would generate an average of 0.015 MGD (5.6 million gallons per year) of wastewater. Wastewater from the VA Development Area would be transported via a new or expanded conveyance system along the proposed utility corridor, then through the existing off-site conveyance system. EBMUD projects that there is sufficient future capacity to meet system-wide, normal condition, demands until 2040. The existing EBMUD conveyance system would be expected to have sufficient capacity (projected capacity of 94 MGD in year 2040) to meet future water supply demands resulting from

¹ Xeriscape landscapes are defined as “quality landscaping that conserves water and protects the environment.”

implementation of Alternative 1. Therefore, no expansion of the existing offsite conveyance system would be required to accommodate wastewater flows from proposed development. Implementation of Alternative 1 would not have a significant impact on the future capacity and infrastructure of the regional wastewater system.

Stormwater

The current stormwater discharge system would generally continue with implementation of Alternative 1; however, the quantity, duration, and contaminant loading would be reduced.

The new stormwater drainage systems would incorporate bioswales and/or other stormwater quality measures. Further, there would be an approximate decrease of 9.5 acres of impervious area through conversion of pavement and runway surfaces to cemetery and landscaped areas around the OPC as part of Alternative 1. These permeable features would provide improved ground/soil absorption of runoff and control erosion and pollution, as well as improve storm water runoff quality. The change in land use, however, could potentially introduce additional pollutants into the water that could adversely impact receiving waters. (Recommend removing this last sentence because there will be a stormwater program that minimizes this impact)

Implementation of Alternative 1 would include installation of new stormwater drainage systems on site. Alternative 1 would involve implementing the VA SSPP, which provides guidelines and practices regarding stormwater improvements. Implementing these guidelines would reduce the impact of potentially increasing stormwater loads on the existing infrastructure and its limited capacity. As described in Section 3.2 (Water Resources) implementing the requirements of Section 438 of the Energy Independence and Security Act (EISA) would ensure that infrastructure would be sized properly to handle stormwater flows; also, using LID or other techniques to infiltrate, evaporate, and detain stormwater would ensure preservation of predevelopment stormwater-runoff conditions. Thus, with implementation of the VA SSPP and Section 438 of the EISA, stormwater infrastructure that would be constructed as part of the project would be appropriately sized. As a result, operational impacts of Alternative 1 related to stormwater would not be significant.

Energy (Electric, Natural Gas, and Fuel)

Implementation of Alternative 1 would involve installation of utility infrastructure on site and within an off-site utility corridor. Electricity demand for Alternative 1 was projected using several different methods. Projected electricity and natural gas demand for the proposed VHA OPC was determined based on actual electricity use from the existing Martinez OPC, as indexed by 1.7 to account for the size difference between the OPCs (the Martinez OPC is approximately 90,000 square feet) (Janbakhsh, pers. comm., 2012b). Electricity and natural gas demand for the NCA Cemetery and the Conservation Management Office was determined by the project engineers based on their professional experience (Walters, pers. comm., 2012; Brandvold, pers. comm., 2012).

The existing Alameda Municipal Power electric and PG&E natural gas system would be expected to have sufficient capacity to meet any future energy demands resulting from implementation of Alternative 1. Implementation of Alternative 1 would not be expected to have a significant impact on the future capacity and infrastructure of the electrical and natural gas systems.

Solid Waste

Operation under Alternative 1 would generate an estimated 1,718 tons of solid waste per year (see Table 3.11-3). In addition, it is assumed that a portion of the wastes generated would be recycled reducing the volume of solid wastes. Proposed operational activities would not generate solid waste that would exceed the capacity of regional landfills. The anticipated volume of construction waste would be expected to be accommodated by landfills located in the region, including the Altamont Landfill (Livermore, CA), the primary current disposal location for the City of Alameda’s solid waste. Therefore, solid wastes generated under the operation of Alternative 1 would not have a significant impact on regional landfills and disposal facilities.

Table 3.11-3: Estimated Operational Solid Waste Generation (Alternatives 1 and 2)

Solid Waste Generation by Location ¹ (Tons per Year)			Total Solid Waste Generation
OPC	CMO	Cemetery	
1,706	2.7	9	1,718

Notes:

CMO = Conservation Management Office; OPC = Outpatient Clinic; VA SSPP = *Department of Veterans Affairs Strategic Sustainability Performance Plan*

¹ The California Department of Resources Recycling and Recovery (CalRecycle) estimates that medical office building/hospital land uses and office uses have solid waste generation rates of approximately 0.0108 ton per square foot per year and 0.001095 ton per square foot per year, respectively. CalRecycle did not provide a solid waste generation rate for cemetery uses, so the solid waste generation rate for a golf course of 0.5 pound per person per day was used.

Source: Data calculated by AECOM in 2012; generation rates from CalRecycle, 2009, 2011a, and 2011b

Alternative 2 (Preferred Alternative)

Construction

The construction of the facilities proposed under Alternative 2 would be similar to that for Alternative 1 (Table 3.11-1). Therefore, the construction-related impacts of Alternative 2 would be the same as those described for Alternative 1. Alternative 2 construction activities would not result in a significant impact to regional utility (i.e., water, wastewater, stormwater, and energy) infrastructure or utility and landfill/disposal facility capacity.

Operation

The operation of the facilities proposed under Alternative 2 would be similar to that for Alternative 1 (Tables 3.11-2 through 3.11-6). Therefore, the operational impacts of Alternative 2 would be the same as those described for Alternative 1. Alternative 2 operational activities would not result in a significant impact to regional utility (i.e., water, wastewater, stormwater, and energy) infrastructure or utility and landfill/disposal facility capacity.

No Action Alternative

Construction

Under the No Action Alternative, the fed-to-fed transfer would not take place and the proposed development (e.g., VHA OPC, VBA Outreach Office, NCA Cemetery, etc.) would not be built. Therefore, no significant construction impacts on utilities would occur.

Operation

Under the No Action Alternative, the fed-to-fed transfer would not take place and the proposed development would not be built. Therefore, no significant operational impacts on utilities would occur.

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