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 U.S. Environmental Protection Agency (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Originally enacted in 1974, the Safe Drinking Water Act protects public health by regulating the nation’s public drinking water supply.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 13423by 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) within the VA Transfer Parcel.

Surrounding Area

EBMUD is responsible for operating and maintaining the existing water system on Alameda Point (i.e., potable and non-potable) under a Joint Powers Agreement with the City of Alameda. 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

The City of Alameda is responsible for operating and maintaining the existing waste water system within the City of Alameda. EBMUD is responsible for maintaining the large transmission facilities (i.e., interceptor trunk mains and siphon) and providing wastewater treatment. 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 infrastructure lines to the east of the VA Transfer Parcel. As part of the Proposed Action, new wastewater pipelines would be constructed all the way to the estuary/Pump Station 1. The City of Alameda owns the storm drain, wastewater collection systems, and electrical and telephone systems into which the proposed VA facilities would be tied, and EBMUD owns and operates the potable water system into which the proposed VA facilities would be tied.

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 Waste[1] (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)

Water Demand (million gallons per day)			Total Projected Water Demand
OPC (facility and irrigation)[1]	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; Dicksion, pers. comm., 2012

water use; installing water efficient sterilization systems; implementing water reduction strategies in laundry and other non-medical areas; increasing xeriscaping[1]; and using "smart" irrigation controllers (VA, 2011a). VA is aware that EBMUD plans to provide recycled water in the vicinity, including Alameda Point, as part of the future phase (Phase 1B) of the East Bayshore Recycled Water Project. The impacts of using recycled water at Alameda Point are analyzed and disclosed in the Final EIR for the East Bayshore Recycled Water Project. VA is prepared to use that water when and where it becomes available to further reduce demands for potable water.

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 and did not assume any water usage for much of the VA Transfer Parcel (assumed to be future open space). However, it did include the assumption that approximately 250 acres of the former NAS Alameda property (Northwest Territories) 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). Given that the proposed VA facilities were not precisely included in EBMUD's 2040 demand projection study, EBMUD was contacted regarding the water demands for the proposed facilities, EBMUD responded that the proposed facilities would be served with existing water facilities. 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 1would generate an average of 0.015 MGD (5.6

[1] Xeriscape landscapes are defined as "quality landscaping that conserves water and protects the environment."

million gallons per year) of wastewater. Wastewater from the VA Development Area would be transported via a new conveyance system along the proposed utility corridor to where the system crosses the estuary and connects to EBMUD's trunk lines and interceptor system for conveyance to the Main Wastewater Treatment Plant (WWTP). As part of the Proposed Action, existing sanitary sewer lines along West Red Line Avenue would be replaced, and some lines would be upsized to accommodate both the proposed VA facilities and future development wastewater conveyance needs, including the line into Pump Station 1.

EBMUD's Main WWTP and interceptor system are anticipated to have adequate dry-weather capacity to treat the wastewater flows from the proposed project facilities; however, the San Francisco Bay Regional Water Quality Control Board (RWQCB) issued an order on January 14, 2009, prohibiting further discharges from EBMUD's wet-weather facilities. As part of the Stipulated Order for Preliminary Relief issued by EPA, the State Water Resources Control Board (SWRCB), and San Francisco Bay RWQCB (effective July 22, 2009), EBMUD must identify problem infiltration/inflow areas, begin to reduce infiltration/inflow through improvements to the private sewer lateral, and lay the groundwork for future efforts to eliminate discharges from the wet-weather facilities. Currently, there is insufficient information to forecast how these changes will affect allowable wet-weather flows in the individual collection system subbasins that contribute to the EBMUD wastewater system, including the subbasin in which the VA Transfer Parcel is located. It is reasonable to assume that a new regional wet-weather-flow allocation process may occur in the East Bay, but the schedule for implementation of any new flow allocations has not yet been determined.

Constructing new wastewater conveyance infrastructure for the project and along West Red Line Avenue to the pump station would also serve to reduce infiltration and inflow into the sanitary sewer's collection system, thereby preventing leakage flow into the system to the maximum extent feasible. Construction of new wastewater infrastructure would adhere to the Alameda County Public Works Agency's *Engineering Design Guidelines for Unincorporated Alameda County*, thus minimizing the potential for infiltration/inflow to the maximum extent feasible. Stormwater would flow into the stormwater drainage system for conveyance to receiving waters and would and not be directed to the sewer system. Therefore, 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.

Implementation of Alternative 1 would include installation of new stormwater drainage systems both on-site and off-site, crossing City of Alameda land before reaching the outfalls. The stormwater system constructed by VA to drain the VA development area would be operated and maintained by VA. Stormwater systems upgraded by VA, located off-site, would be maintained by the City of Alameda. 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 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[2] 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.

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.

[2] Before any "development" (i.e., greenfields site).

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

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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