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3.6 UTILITIES

The Presidio's utility systems date from almost every period of the Presidio's history of development as a military installation. Consequently, many of its older facilities have required significant upgrading and replacement and the Trust has an ongoing program of capital investment in its infrastructure systems. Utilities in the Presidio include water treatment, water distribution, wastewater collection, solid waste disposal, and electrical distribution. The Utilities Affected Environment section discusses the treatment, supply and distribution of these utilities.

3.6.1 WATER SUPPLY AND DISTRIBUTION

WATER SUPPLY

The Trust has water resource management responsibilities and authorities to provide water to Presidio users. Historically, the Presidio water needs have been met by Lobos Creek water which is treated at the Presidio Water Treatment Plant (PWTP) and supplemented by water purchased from the San Francisco Public Utilities Commission (SFPUC). In addition, the Army also operated several groundwater wells located near the existing PWTP, golf course and Mountain Lake. These wells were taken out of service before the Trust assumed jurisdiction over Area B, and the Trust has no plans to utilize groundwater for future water supplies.

Lobos Creek is a 1.3-mile free-flowing stream that drains an approximately 3.2-square-mile drainage basin. Lobos Creek is the last remaining urban coastal stream in San Francisco that drains into the Pacific Ocean. Diversions from this water resource are limited by natural stream flow volumes and by resource protection objectives provided in the Lobos Creek Restoration Plan (Philip Williams & Associates, Ltd. 1995). Lobos Creek is in Area A.

The main source of water for Lobos Creek is the Lobos groundwater drainage basin, a 3.2-square-mile underground aquifer extending from under the southwest quarter of the Presidio south to Golden Gate Park and west to the Palace of the Legion of Honor. The aquifer is recharged directly by rainwater and indirectly by flows that leak under the paved streets of San Francisco. The

outfall from the aquifer flows both on the surface via Lobos Creek and underground via permeation below sea level at roughly equal rates. The aquifer is also the source of water for Mountain Lake on the Presidio. Mountain Lake apparently does not have any direct surface connection to Lobos Creek.

The surface of the groundwater recharge area is primarily sand dune geology. The ground consists of sand blown into layers over thousands of years from beaches along the Pacific Ocean. The shape of the creek bed follows the clay Colma Formation several meters below the stream. The steep drop of the Colma Formation at Baker Beach results in a one-way outfall from Lobos Creek to the Pacific Ocean. The Lobos Creek drainage basin captures an average annual rainfall of 23 inches per year. Rainfall has the potential to contribute to creek flows, but because most of the unpaved land north of Lobos Creek is composed of northern dune sands, rainfall is readily absorbed into the ground to recharge the aquifer. Thus, little surface runoff collects in the Lobos Creek bed for immediate downstream flow. Daily flow in Lobos Creek ranges from 1.2 million gallons per day (mgd) in dry years to 2.1 mgd in wet years. A minimum stream flow of 500,000 gallons per day, or 0.5 mgd, has been estimated to be the basic in-stream flow necessary to ensure resource preservation. As a result, between 0.7 and 1.6 mgd of Lobos Creek water is available in any given year for diversion, treatment and use at the Presidio. The availability of water in the Creek varies by water year and by season, with the dry summer months yielding the lowest amount of water and wet winter months providing the greatest amount. Conversely, the demand for water is usually highest during the dry summer months mainly due to a peak in irrigation demand. During these times, water is purchased on an as-needed basis from the SFPUC. Historically the SFPUC has supplied up to one-third of the Presidio's water demand, and several points of interconnection are currently maintained. The amount of water purchased varies by year, however, and last year the Trust purchased approximately 15% of the average daily amount used at the Presidio.

The Presidio is considered a "retail customer" by the SFPUC. As such, the purchase and use of this water is subject to the SFPUC's regulations during a water shortage, and to all mandatory water rationing programs and rate structures adopted during drought conditions. The *San Francisco 2000 Final*

Urban Water Management Plan (SFPUC, February 2001) outlines the City's water shortage contingency plan. The SFPUC's Plan also acknowledges the Presidio as a retail customer, and identifies a constant projected water demand of 1 million gallons per day (mgd) for the park through the year 2020. As described in Section 4.6.1, the Trust seeks to substantially reduce the amount of water purchased from the SFPUC.

PRESIDIO WATER DEMAND AND CONSERVATION

Current water use at the Presidio is approximately 0.8 mgd. Of this total, roughly half is used for irrigation and the balance is used for domestic service. Based on available records, the demand for water has remained relatively constant at 0.8 mgd since 1997. During the last several years, many buildings have been rehabilitated and reoccupied, however water demand has remained relatively constant. The Trust requires that as part of building rehabilitation, water efficient fixtures (i.e., faucets, toilets, etc.) are installed. In addition, effort to improve irrigation efficiency and in particular at the Presidio Golf Course which has installed a satellite based which can be attributed to the Trust's aggressive use of water efficient fixtures in building rehabilitation projects and other domestic-side conservation actions. In 2000, the total water consumed for domestic and irrigation purposes was approximately 285 million gallons.

FIRE FLOW

The Presidio water distribution system provides water for domestic and irrigation purposes as well as internal building sprinkler systems and fire hydrants. The NPS Fire Department requires that a minimum of 3.0 million gallons of the total 6.0 million gallons of water stored in the Presidio reservoir is reserved for fire flow. Fire flow is defined as the rate of the flow of water combined with the duration of flow to equal the supply of water reserved for fire emergencies. The Uniform Fire Code establishes the required volume and duration of fire flow that must be present within a certain distance of a structure according to the type of construction, size of the building, and other site layout conditions. The GMPA EIS (Nolte and Associates 1991) identified water distribution system deficiencies that resulted in inadequate fire flow to the Letterman Complex, and improvements have since been made to the water distribution system that have increased the fire flow available. Other

improvements to the water distribution system have been ongoing as required to ensure adequate fire flow to new development throughout the Presidio to meet the Uniform Fire Code.

Water Treatment and Distribution

The Trust is responsible for daily operations of the Presidio Water Treatment Plant (PWTP) as well as the operation and maintenance of the water distribution system at the Presidio. The PWTP takes water from Lobos Creek and treats it to potable water standards for use by Presidio tenants. The PWTP is permitted by the State of California Department of Health Services (DHS). Water produced at the plant must meet stringent water quality requirements. Water quality testing is accomplished through the use of independent laboratories. The PWTP has consistently met or exceeded all water quality standards as required by the California Safe Drinking Water Act. The PWTP was upgraded in 1995, both seismically and for its conventional treatment technology (flocculation and settlement, sand filtration, and chlorine/fluorine treatment). The current plant capacity is 2.0 mgd, but daily production ranges from 0.4 mgd in winter to 1.0 mgd in summer.

The Trust operates and maintains approximately 51 miles of water distribution system at the Presidio. The Trust provides all new water connections required for building rehabilitation and new construction activities at the Presidio. As part of the Trust's water conservation efforts, building retrofits and new construction activities are required to install low flow fixtures. Upgrades to the Presidio Water Distribution System consist of many individual small projects. Ongoing upgrades include eliminating dead ends, adding loops and valves in strategic locations, and reducing the number of lead joints throughout the distribution system. These upgrades will improve water quality and system reliability. As an example, the Trust has replaced approximately 100 lead joints in the distribution system as part of an ongoing effort to improve water quality. Measured lead levels in Presidio drinking water ranged from 0.5 to 64 parts per billion (ppb) in 1993. By 1999, the levels had dropped to less than 1 to 10 ppb. This represents an appreciable increase in water quality to Presidio tenants.

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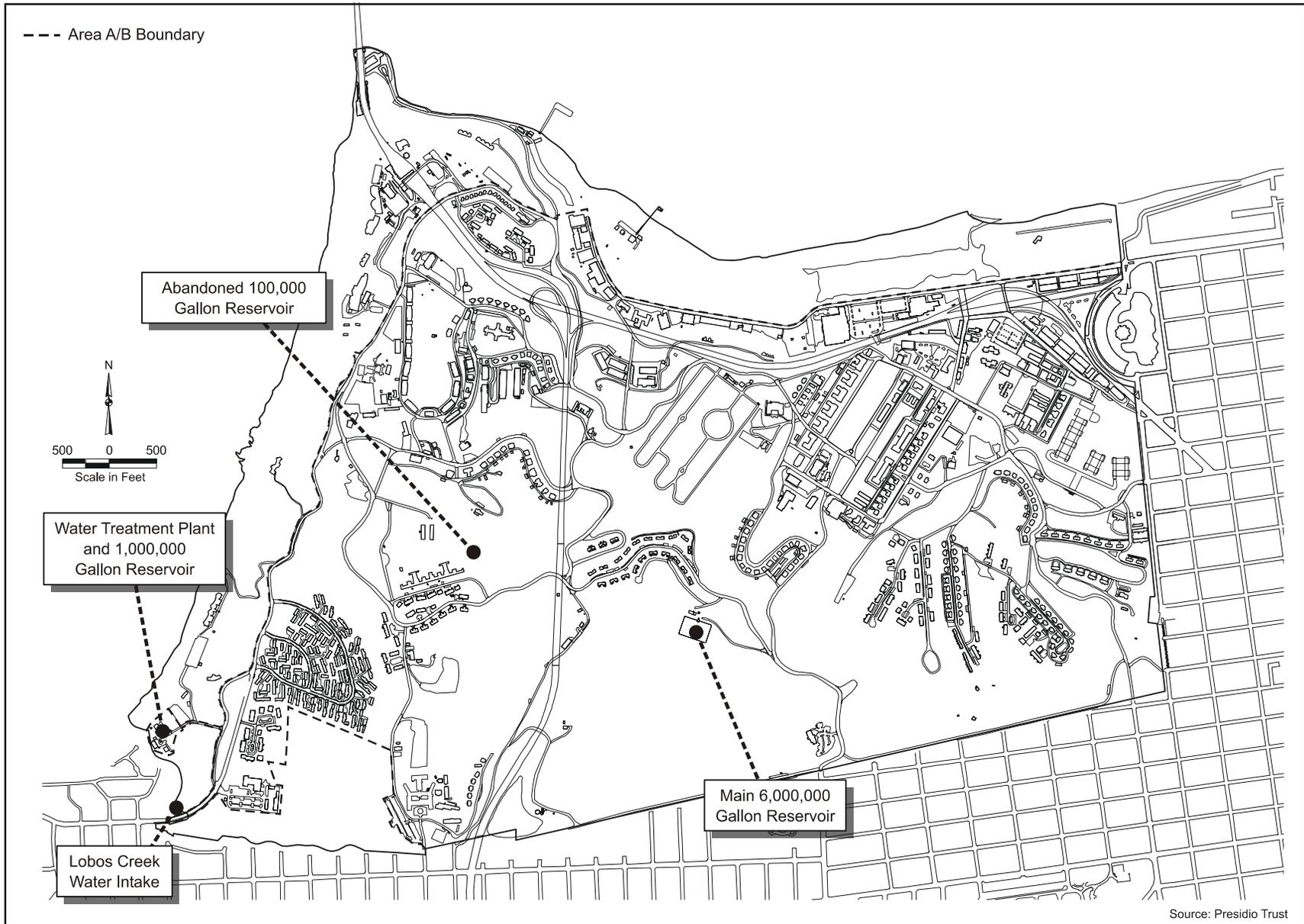


Figure 33: Water Supply Facilities

RECYCLED WATER

In addition to the water conservation, the concept of providing recycled water as a way to reduce potable water consumption for non-potable uses (i.e., irrigation) has long been considered as future goal at the Presidio. The 1994 GMPA EIS assumed that up to 1.0 mgd of recycled water would be available for use at the park. At the time the GMPA was prepared, it was assumed that the City would provide this water. The City prepared a Recycled Water Master Plan in 1996 identifying a 10+ mgd project, however, the Plan was never adopted and the City is currently working to revise the Plan to provide for a smaller, less costly project. In 1999, the City asked the Trust to consider developing an on-site water recycling system. The Trust responded and in March 2002, released a draft plan and Environmental Assessment (EA) for a proposed on-site project. The proposed project would substantially reduce off-site wastewater flows while maximizing the supply of recycled water available for use at the Presidio. The first phase would provide up to 200,000 gpd of recycled water and the second phase would expand the system to provide up to 500,000 gpd. This drought proof source of water will help reduce Lobos Creek and SPFUC water demands as well as minimize the amount of potable water consumed for non-potable uses (i.e., landscape irrigation). Based on the direction provided in the GMPA, major new projects occurring since 1994 requiring irrigation at the Presidio (i.e., Crissy Field, LDAC project) have been conditioned to require installation of necessary infrastructure (i.e., purple piping) in anticipation of the future provision of recycled water.

3.6.2 PRESIDIO SANITARY SEWER SYSTEM

SYSTEM OVERVIEW

The storm and sanitary sewer collection systems are two separate systems at the Presidio--in contrast to the City and County of San Francisco systems, which are combined. Sanitary sewage (wastewater) is collected from buildings at the Presidio and discharged into the City's sanitary sewer system and the Trust pays the City for these services. Storm water is collected from throughout the Presidio and routed to outfalls that discharge into the Crissy Field Marsh, the San Francisco Bay or the Pacific Ocean, with the exception of a small area located on the southwest boundary of the

park. (see Section 3.6.3 for additional discussion of the storm drainage system).

WASTEWATER COLLECTION AND DISPOSAL

The sanitary sewer system is comprised of approximately 50 miles of sewer lines. Raw wastewater is collected from Presidio buildings and discharged to the City's system at one of five locations along the park's border with the City. The City and Trust meter the amount of wastewater discharged to the City, and the Trust pays the City for treatment services based on total volume discharged. Over the years, the amount of wastewater discharged to the City has decreased substantially. Before leaving the Presidio, the Army implemented a major infrastructure repair program which included slip-lining of main and lateral sanitary sewer lines with high density polyethylene (HDPE) pipe which reduces the potential for infiltration of stormwater into the sanitary system. These activities help to substantially reduce infiltration as well as separate the storm and sanitary sewers. During 2000 and 2001 the Presidio Trust conducted surveys of the Presidio sanitary sewer system. Several remaining areas requiring immediate repair were identified during the surveys, and these repairs have already been implemented. Based on the sewer outflow, it appears that there may still be some minor points of infiltration within the system. The Trust plans to address these minor areas through on-going infrastructure repairs. Although it is difficult to make a direct comparison between the annual flow data from before and after the various improvements were made (as occupancy rates have varied and repairs are ongoing), there is clearly a noticeable reduction. For example, metering data indicates that total wastewater flows entering the City's system in 2000 were approximately 120 million gallons or roughly one-quarter of the 1990, pre-repair flows (which were about 475 million gallons). Current average daily flows are 400,000 gpd.

Wastewater discharging from the east side of the Presidio is transported to the City's Southeast Water Pollution Control Plant (SEWPCP) for treatment and disposal. There are three connections to the City's system on the eastside of the park: Lombard Gate, Gorgas Gate and at Marina Blvd. The SEWPCP has a peak secondary treatment capacity of 150 mgd in dry weather, and 250 mgd in wet weather. In 2000, the SEWPCP treated an average of approximately 67 mgd. Wastewater discharging from the west side of the Presidio is transported to the Oceanside Water Pollution Control Plant (OWPCP) for treatment and

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disposal. There are two Westside connections to the City's system: one at 25th Avenue and one at 15th Avenue. The OWPCP has a peak secondary treatment capacity of 43 mgd under dry weather, and 65 mgd in wet weather. In 2000, the OWPCP treated an average of approximately 17 mgd.

The City maintains and operates a combined sewer system (stormwater and sanitary sewage are conveyed and treated in the same system). During wet weather, there is a surge in the volume of flows in the City's system and during peak events combined sewer overflow (CSO) can occur at the City's SEWPCP. During a CSO, treatment processes are limited and flows are discharged to the Bay. When CSOs occur, they are comprised of approximately 94 percent storm water and 6 percent sanitary sewage. Although the City has invested a substantial resources in correcting this problem, CSOs can still occur and the City's NPDES Permit (CA0038610) for the plant allows up to 10 events per year. The OWPCP has sufficient wet weather capacity and CSOs are not a problem at this location.

Of the five discharge locations at the park, approximately 85% of all Presidio flows are conveyed to the City's system via the Presidio Main Line which exits the park near the Gorgas Gate. The proposed on-site water recycling project (see Section 3.6.1) would capture and reuse flows from this line thereby substantially reducing the Presidio's contribution to the City's system. Because there is little to no demand for irrigation water (i.e., recycled water) during the winter months, a variety of wet weather operations being evaluated for the proposed recycled water system including the treatment and on-storage of wastewater flows during peak wet weather events. In addition, the implementation of stringent water conservation practices would also help to contribute to a reduction in the amount of Presidio wastewater flows entering the City's system.

3.6.3 STORM DRAINAGE

The Trust is responsible for operating and maintaining the storm water collection systems at the Presidio. Storm water is collected from throughout the Presidio and routed underground to outfalls that discharge into the restored Crissy Field Marsh, San Francisco Bay or the Pacific Ocean. A small area located on the southwest boundary of the park discharges to the Richmond Transport, which part of the City's combined

sewer system. The Trust maintains approximately 33 miles of storm sewers throughout the Presidio. It is generally in fair to good condition. However, the Trust anticipates further upgrades will be needed to comply with proposed EPA regulations and permits.

The GMPA EIS indicated that portions of the storm drainage system were not adequate to convey the runoff from the 10-year storm event. Several system upgrades have occurred to address these system deficiencies; however, all of the upgrades identified in the GMPA EIS have not been completed. The Presidio's hilly terrain makes flooding an unlikely issue throughout most of the Presidio. Flat areas such as Crissy Field are most prone to flooding, and Crissy Field has been the focus of most recent system upgrades.

Multiple drainage basins, which are roughly approximate to the PTMP planning districts, comprise the Presidio. The existing storm drainage capacity of the basins is discussed below.

Main Post and Crissy Field

Together these two planning districts are separated into five different drainage basins designated by their respective outfall pipe. These are basins D, E, F, G-H, and I-J-K-L. The outfalls servicing these planning areas discharge directly to the bay or Crissy Marsh.

The D basin is serviced by a 72-inch pipe, and extends through the Main Post, Letterman, and East Housing Planning Districts. The 72-inch pipe is over designed and, at a conservative estimate, has a capacity of 350 cubic feet per second (cfs). The portion of the D basin that lies within the Main Post Planning District falls roughly between Anza Street and Funston Avenue. It has a 10-year design flow of 31.6 cfs.

The E and F drain systems recently had their outfalls reconstructed to discharge into the Crissy Field wetland. Since the primary cause of flooding is the inability to discharge collected storm water, the reconstruction of these outfalls eliminates potential impacts from accumulated beach sand and facilitates drainage. An oil/water separator was installed on the discharge line to enhance the quality of the water flowing into the wetlands.

The E drainage basin is relatively small. It is bounded by Mason Street on the north, Lincoln Street on the south, Hallack Street on the east, and tapers out by Building 211 on the west. This area has a 10-year design flow rate of 8.0 cfs and a conveyance capacity of 8.8 cfs. The E basin has sufficient capacity for an additional 0.8 cfs.

The F drainage basin falls roughly between Taylor Road and Anza Street. It has a 10-year design flow of 62.8 cfs. The primary outfall pipe is a 24-inch diameter Reinforced Concrete Pipe (RCP) with a full flow capacity of 132.9 cubic feet per second cfs. The F basin has sufficient capacity for an additional 70.1 cfs.

The G-H and I-J-K-L drain systems were newly installed in 2000. They are designed for the 50-year storm event. These new systems drain the Stable area, the west side of Crissy Field (from Building 610 west), and the western portion of the Main Post (from Taylor Road west).

Letterman

The Letterman Planning District is served by outfall B-4, which consists of a 42-inch pipeline with a capacity of 85 cfs. The discharge point for this outfall is planned to be rerouted to Crissy Marsh, similar to outfalls E & F, to prevent the accumulation of beach sand and promote drainage.

Fort Scott

The Fort Scott Planning District is situated on a plateau high above sea level. All water from Fort Scott flows down gradient and discharges into the San Francisco Bay via outfall L-2, L-4, or M. The drainage basins discharging to L-4 and M are mostly along the Crissy Field Planning District, and will not be affected greatly from additional flows from the main Fort Scott Planning District. Outfall L-2 will be the system that receives the main flow. This outfall currently experiences operational problems due to sand accumulation at the mouth of the discharge. If the mouth of the outlet is not kept clear, the drainage system can back-up during intense storm events. Alternatives to address this problem are currently being evaluated.

East Housing

The East Housing Planning District lies mostly within the Tennessee Hollow drainage basin. All of the storm water runoff in this drainage basin is conveyed, via open channel and sewer pipe, to outfall D.

South Hills and Public Health Service Hospital

The South Hills and Public Health Service Hospital Districts are the least developed of all the planning districts at the Presidio. These districts contain large areas of open space that promote natural drainage. The developed portions of these districts include areas surrounding Wherry Housing and the Public Health Services Hospital. Drainage from these areas, as well as a small portion of Highway 1, is collected and discharged to the Richmond Transport, which is part of the City's combined sewer system. These areas currently do not experience flooding.

WATER QUALITY

The Trust is in the process of finalizing an interim Stormwater Pollution Prevention Plan (SPPP) for the Presidio. The SPPP is being prepared in coordination with the National Park Service and will include the sampling design and protocol, threshold requirements for constituents monitored, and a reporting mechanism for program. The SPPP will also include park-wide Best Management Practices (BMPs), consistent with the California Stormwater Best Management Practices Handbook, including physical structures such as oil-water separators and infiltration basins, as well as operational practices such as street sweeping that will be implemented to minimize runoff and improve water quality. There are currently four oil-water separators located on stormwater lines which drain to Crissy Marsh. The Trust also currently conducts year-round street sweeping and regular maintenance and cleaning of stormwater inlets. The Presidio Golf Course has implemented a site-specific SPPP which includes a variety of BMPs such as practices to minimize irrigation and runoff, regular cleaning of inlets, cleaning of golf carts, as well as other practices. This interim plan Presidio-wide SPPP is being developed specifically to adhere to the general guidelines for storm water management as established under the National Pollutant Discharge Elimination System (NPDES), and will remain in effect until the Trust obtains an NPDES Phase II permit.

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3.6.4 SOLID WASTE

REGULATIONS

The State of California authorizes a local enforcement agency (a city or county) to permit, inspect, and enforce solid waste handling and disposal activities in its jurisdiction. A variety of types of disposal sites are permitted, including municipal solid waste facilities, which receive domestic solid waste as well as a various other waste types. For example, construction and demolition debris disposal sites specialize in the disposal of construction and demolition debris as well as its diversion from the waste stream through various recycling techniques. Other waste sites accept strictly regulated types of waste. Some solid waste facilities are permitted to accept a broad range of the waste types described above. A federal agency disposing of waste at one of these permitted sites must comply with all appropriate state and local laws.

SOLID WASTE GENERATION

The Trust handles solid waste disposal through contracts with private haulers. According to the latest available estimates, approximately 22,000 tons of solid waste are generated at the Presidio every year, and sent to Contra Costa County waste disposal sites (U.S. Army Corps of Engineers 1991). These estimates are conservative, because the Trust is developing a comprehensive waste management system to minimize the park's impact on the solid waste stream.

There are 20 solid waste landfill sites in the nine-county Bay Area (California Integrated Waste Management Board and State Board of Equalization 1999). The number of solid waste disposal sites available for the disposal of waste from the Presidio increases to 28 when adjacent counties, such as San Joaquin, Yolo and San Benito, are included.

As of FY 2000, the Presidio diverted approximately 25 percent of materials from the waste stream annually as a result of waste reduction efforts. The Presidio has a goal of diverting 50 percent of the waste stream. The practices that are being implemented by the Trust to meet waste reduction goals are:

- Curbside residential recycling program;
- Comprehensive recycling program for all non-residential facilities;
- Special-event recycling;
- Public recreation on-site recycling;
- Salvage program for equipment, supplies, and building materials;
- Construction and demolition waste management plan; and
- Organic debris composting.

The Trust is building infrastructure and programs to maximize the capability to handle materials on-site in a closed-loop system. Whenever possible, materials are reused or recycled on-site, minimizing disposal, handling, and transport. Asphalt and concrete are recycled from roadwork, and concrete from building deconstruction will be recycled and reused on site. When planning for the removal of any buildings, the following hierarchy of waste management is used:

- Adaptive reuse and renovation of building on-site;
- Adaptive reuse of building off-site by moving the building;
- Deconstruction of the buildings for reuse of components elsewhere;
- Salvage all possible elements and materials from buildings for “value-added” reuse. In the case of selective demolition, separate materials on site for recycling and reuse; and
- Demolish and separate recyclable and compostable materials from the waste.

The Trust is working closely with tenants to provide waste reduction education. The San Francisco Conservation Corps (SFCC) operates a community recycling center in the Presidio and conducts school education programs, youth job training, and waste reduction outreach. The Presidio composting program collaborates with SFCC and conducts additional education programs for local schools, summer camps, and the general public.

3.6.5 ENERGY CONSUMPTION AND DISTRIBUTION

This section describes electrical and natural gas facilities in the Presidio. Ongoing energy conservation efforts are also described.

PRESIDIO ELECTRICAL SUPPLY

In 1990, 57,378 megawatt-hours of electricity were distributed at the Presidio serving 6,664,000 sf of building space. This translates into an average electric intensity of 8.61 watts per square foot (W/sf). In 1999, 21,208 megawatt-hours of electricity were distributed at the Presidio serving 2.9 million sf of buildings; this translates into an average electric intensity of 7.33 W/sf.

The total load capacity of the Presidio's electrical infrastructure is 7,307 kilovolt amps (kVA). Pacific Gas & Electric's (PG&E) feeders entering into the Presidio currently have approximately 3,000 kVA of spare capacity. Existing current demand at the Presidio is 4,307 kVA.

The Trust operates and maintains the electrical distribution system at the Presidio. The system consists of approximately 42 miles of above-ground and under-ground electrical lines. The Presidio is a bundled service customer of PG&E, and receives electric service at primary voltage at two major points of connection (Greenwich and Main Post substations). The Trust's high voltage department then distributes power to the various facilities at the Presidio. The high voltage department maintains two major substations (Greenwich and Main Post), as well as 12 emergency back-up generators at various buildings across the Presidio.

The Trust upgraded the Main Post substation in order to increase the reliability of the electric distribution system at the Presidio. The work consisted of overhauling the 12 kV circuit breakers and retapping the major bus bars. This work required an eight-hour electrical outage, which was carefully coordinated with the affected tenants.

Having its own local high voltage maintenance shop allows the Trust to respond in a very timely manner to electrical outage problems at the Presidio. A typical response time for an electrical outage at the Presidio is under 10 minutes. It also allows the Trust to carefully coordinate with Presidio tenants any required power outages for system maintenance.

The Trust has several ongoing projects and practices to maintain the integrity and reliability of the electrical distribution system at the Presidio

including substation upgrade and maintenance. Additionally, the trust is planning a major distribution system condition assessment to establish and prioritize long-term maintenance goals.

The Trust is in the process of completing an Energy Management Strategy which will establish a framework for meeting projected energy demands at the Presidio. The strategy will evaluate the feasibility of implementing various on-site generation and cogeneration systems, including microturbines, fuel cells and photovoltaic panels. On-site generation will enhance the reliability of the Presidio's electrical supply and demonstrate the commercial viability of these emerging technologies.

NATURAL GAS SUPPLY

The natural gas distribution facilities at the Presidio are owned and operated by PG&E. In 1990, 6.7 million therms of natural gas were distributed through the system to the U.S. Army and other users at the Presidio. In 1999, 1.2 million therms of natural gas were distributed to users throughout the Presidio.

ENERGY CONSERVATION

Federal energy management policy is articulated in Executive Order 13123. The major goals of Executive Order 13123 are summarized below:

- Greenhouse Gas Reduction Goals: reduce greenhouse emissions by 30 percent by 2010 as compared with 1990;
- Energy Efficiency Improvement Goals: reduce energy consumption per square foot by 30 percent in 2005 and 35 percent in 2010 as compared with 1985;
- Renewable Energy: strive to expand the use of renewable energy by implementing renewable energy projects and purchasing renewable energy;
- Petroleum: reduce the use of petroleum by switching to less greenhouse gas intensive, non-petroleum energy sources and by eliminating unnecessary fuel use; and

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- Source Energy: strive to reduce total energy use and associated greenhouse gas as measured at the source.

The best available baseline information to determine if the Presidio has met the energy efficiency improvement goals is from 1990. In 1990, 869,231 million British thermal units (BTUs) of energy were consumed at the

Presidio serving 6.7 million sf of buildings with an annual energy index of 130,437 BTU per square foot. In 1999, 190,451 million BTUs of energy were consumed at the Presidio serving 2.9 million square feet of buildings with an annual energy index of 65,807 BTU per sf. This change represents a 50 percent reduction in energy usage from the 1990 baseline usage.