Attachment SW-187
Administrative Draft

San Francisco Electric Reliability Project

Construction Drainage, Erosion, and Sedimentation Control/ Stormwater Pollution Prevention Plan

Prepared for

San Francisco Public Utilities Commission

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SECTION 1

Introduction

1.1 Objectives

This Stormwater Pollution Prevention Plan[1] (SWPPP) was developed to address the new construction activity associated with the San Francisco Public Utilities Commission's (SFPUC) San Francisco Electrical Reliability Project (SFERP). This report is being prepared to comply with the requirements of the California Statewide General Construction Storm Water Permit. However, any stormwater entering a drain that discharges to the City of San Francisco's combined sewer system is not regulated under the Statewide General Construction Storm Water Permit. These discharges are under the authority of the City of San Francisco. All stormwater runoff from the proposed project site and adjacent laydown area flows to the bay. All drains along the proposed linear utilities construction discharge into the City's combined sewer system. This SWPPP was developed and will be amended or revised, when necessary, to meet the following objectives:

- Identify all pollutant sources including sources of sediment that may affect the quality of stormwater discharges associated with construction activity (stormwater discharges) from the construction site;
- Identify non-stormwater discharges;
- Identify, construct, implement, and maintain Best Management Practices (BMPs) to reduce or eliminate pollutants in stormwater discharges and authorized non-stormwater discharges from the construction site during construction, and
- Develop a maintenance schedule for BMPs installed during construction designed to reduce or eliminate pollutants after construction is completed (post-construction BMPs).

1.2 Project Overview

The City of San Francisco (City) is proposing to construct and operate a simple-cycle power plant, the San Francisco Electric Reliability Project (SFERP), in the City and County of San Francisco (CCSF) (Figure 1-1, figures are at the end of each section).

[1] In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act [CWA]) was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with a National Pollution Discharge Elimination System (NPDES) permit. The 1987 amendments to the CWA added Section 402(p), which established a framework for regulating municipal and industrial stormwater discharges under the NPDES Program. On November 16, 1990, the U.S. Environmental Protection Agency (USEPA) published final regulations that establish stormwater permit application requirements for specified categories of industries. The regulations provide that discharges of stormwater to waters of the United States from construction projects that encompass five (5) or more acres of soil disturbance are effectively prohibited unless the discharge is in compliance with an NPDES Permit. While federal regulations allow two permitting options for stormwater discharges (individual permits and General Permits), the California State Water Resources Control Board elected to adopt only one statewide General Permit that (with few exceptions) apply to all stormwater discharges associated with construction activity, upon submittal of a Notice of Intent to comply, certain fees and a Stormwater Pollution Prevention Plan. The SWPPP must be kept onsite during construction and made available upon request by a representative of the Regional Water Quality Control Board or local agency.

The SFERP will consist of a nominal 145-megawatt (MW) simple-cycle plant, using three natural gas-fired General Electric LM 6000 gas turbines and associated infrastructure. The project site is located near the San Francisco Bay in the Potrero District of San Francisco, on a 4-acre site of City-owned land (see Figure 1-2).

The project will include the construction of a new air-insulated 115-kilovolt (kV) switchyard on the north side of the site adjacent to 25th Street. The SFERP circuits will enter the PG&E Potrero switchyard underground from Illinois Street. This overhead line would then connect with the switchyard bus in an overhead arrangement. Electrical generation will be at 13.8 kV, which will be stepped up with 115-kV step-up transformers (Figure 1-3).

A pipeline tie-in will be made to the existing PG&E natural gas transmission line at the intersection of Illinois and 25th streets. Natural gas for the facility will be delivered through a new 900-foot-long, 12-inch-diameter (or less) pipeline. This service will be connected to a booster compressor station that will be part of the SFERP facility. Process water for the project will be obtained via a water pump station (WPS) located on Marin Street near Cesar Chavez Street which will connect to a new recycled water plant located on the southern portion of the project site.

The City will provide wastewater effluent for the onsite recycled water treatment. The WPS will be located in an existing combined sewer system structure and will include three variable frequency drive pumps (two operational and one standby). A water supply pipeline (0.7 mile long) will connect the WPS and the SFERP's onsite recycled water treatment system. The pipeline consists of two sections. Approximately 1,300 feet of the pipeline will be installed within an existing collection box. The remaining section will be new construction. The onsite treatment system will be designed to produce Title 22 quality recycled water for industrial use at the SFERP.

Plant wastewater and reject water from the SFERP wastewater treatment system will be discharged into the City's combined sewer system, which routes the waste to the City of San Francisco Southeast Water Pollution Control Plant (SEWPCP).

Stormwater will be collected onsite during operations and will be directed to the stormwater collection system at the adjacent MUNI Metro East site. Their system then discharges the stormwater into the combined sewer system.

The plant's design will incorporate air pollution emission controls designed to meet the best available technology stringent standards required by the State and the Bay Area Air Quality Management District. These controls will include water injection for combustion control of nitrogen emissions, a selective catalytic reduction system (SCR) for post combustion control oxides of nitrogen emissions, and an oxidation catalyst system to control carbon monoxide and precursor organic compound emissions.

Site access will be provided via 25th Street at the northern side of the plant site. The plant will be accessed from 25th Street via Illinois Street, with vicinity access via Interstate 280 (I-280).

The main plant and laydown areas are inside the Port's Jurisdictions. The gas transmission line and the water supply pipeline are inside the City's jurisdiction. Jurisdictional areas are indicated on Figure 1-4.

1.3 Project Ownership

The power plant and transmission lines will be owned and operated by CCSF. Consistent with PG&E practice and California Public Utilities Commission (CPUC) law and regulation, the natural gas pipeline will be owned by PG&E. The potable water and process water lines will be owned by CCSF. The legal description of the site is provided in Appendix A.

Parcel numbers and names of the landowners within 1,000 feet of the site and within 500 feet of the linear corridors are included in Appendix B.

The initial capital cost of the SFERP is estimated to be $140 million. The estimated value of materials and supplies that will be purchased locally (within San Francisco) during demolition/construction is between $2 and $3 million.

1.4 Implementation Schedule

Construction of the generating facility—from site preparation and grading, to commercial operation—is expected to take approximately 12 months. Major milestones are listed in Table 1.4-1.

TABLE 1.4-1
Project Schedule Major Milestones

Activity	Date
Begin Construction	Second Quarter 2006
Startup and Test	Second Quarter 2007
Commercial Operation	Second Quarter 2007

The site will be accessed for construction via either 25th or Cesar Chavez and Maryland streets.

The workforce on the project during construction will be approximately 264 people, including construction craft persons and supervisory, support, and construction management personnel.

Normal construction will be scheduled between 7 a.m. and 8 p.m., Monday through Friday. During construction and startup of the project, some activities may continue 24 hours per day, 7 days per week.

The construction phases of the SFERP as they pertain to stormwater management are expected to be as follows:

Preparation—Parking areas for construction workers and laydown areas for construction materials will be prepared. Site access for construction and maintenance will be provided via existing access roads. Construction traffic will enter the site off of 25th Street via Third Street with vicinity access via Interstate 280 (I-280).

- A stabilized construction access road and entrance/exit will be provided to clean vehicle wheels at both the plant site and construction laydown areas. The construction laydown and parking areas will be covered with crushed rock.

- **Site Grading—** Prior to use as the construction parking and laydown area, no grading will be necessary since the site is flat and currently drains to either the Port's stormwater system (which drains to the Bay) or percolates into the ground. However, the site will be graveled to provide all weather use and further minimize soil erosion potential. Heavy equipment stored onsite will be placed on dunnage to protect it from ground moisture. Once construction is completed, the gravel will either be removed from the site or left in place at the discretion of the Port of San Francisco (Port).

  The overall site grading scheme for the site and construction parking and laydown areas will be designed to route surface water around and away from all equipment and buildings.

- **Foundation—** All underground piping and wiring will be installed, followed by installation of the foundation for the new power plant and associated structures. During this time, stormwater will be routed to flow away from the foundation.

- **Plant Construction—** During plant construction, all stormwater will continue to flow to the San Francisco Bay. Appropriate best management practices (BMPs) will be applied to all stormwater leaving the site. All storm drains on surface streets surrounding the site will be protected. As construction progresses, the new site drainage will be developed and storm drains will be constructed. Stormwater will then be routed via these drains and underground piping to the City's existing combined stormwater/sewer system. BMPs are detailed in Sections 2 and 3.

- **Site Stabilization—** The site will be paved and the final drainage system will be designed for all flow to drain to the new onsite drainage inlets and into the City's existing stormwater/sewer system. Final drainage details are covered in Section 2.6.

- **Demobilization—** All temporary construction facilities will be removed. Stormwater controls planned in the operational SWPPP will then be in effect.

A Notice of Intent (NOI) to comply with the terms of the General Permit to Discharge Storm Water associated with Construction Activity will be prepared and submitted prior to the commencement of construction (Appendix C). Any necessary revisions to the SWPPP will be prepared in a timely manner. The SWPPP will be amended whenever there is a change in construction or operations that may affect the discharge status of pollutants. Once construction activities have been concluded, a Notice of Termination will be submitted to the Regional Board and this Construction SWPPP will no longer be in effect. Stormwater for the SFERP will then be managed under the facility's Industrial SWPPP.

1.5 Plan Availability

The SWPPP will remain on the construction site while the project is under construction during working hours, commencing with the initial construction activity and ending with termination of coverage under the General Permit. A copy of the California General Permit

will also be maintained on the construction site. As part of its Municipal Storm Water Management Program, the Port requires that a copy of each construction SWPPP be kept on file at Pier 1 for public review. The SWPPP will be provided to the Regional Board upon request, and can also be made available to the public through the Regional Board.

INSERT FIGURE 1-1
Vicinity Map

INSERT FIGURE 1-2
SFERP Site and Linear Facilities Location Map

INSERT FIGURE 1-3
SFERP Site Layout

INSERT FIGURE 1-4
Jurisdictional Boundaries in the Study Area

SECTION 2

Site Description

2.1 Site Description and Project Activity

The site layout shown in Figure 1-3 and the conceptual image of the site presented in Figure 2-1 illustrate the proposed facility. Approximately 4.0 fenced acres will be required to accommodate the generation facilities. The construction laydown area will be approximately 8.5 acres, and located on land leased from the Port. The laydown area is located directly east and adjacent to the project site between the project site and the waterfront (see Figure 1-2).

The plant site has been cleared of all permanent structures. Currently, there are some temporary facilities on the property including construction trailers, a construction laydown area and a cement batch plant. The temporary facilities will be removed prior to the construction of the SFERP.

2.1.1 Offsite Linear Descriptions and Project Activity

The proposed SFERP project will have underground utility connections for supplying natural gas, potable water, and process water to the SFERP site. Similarly, the electric transmission line will be connected through an underground conveyance. The natural gas supply pipeline will extend from the northwest corner of the SFERP site approximately 900 feet to the west along 25th Street. The potable water line will extend southward approximately 300 feet from the southeast corner of the SFERP site to an existing line within Cesar Chavez Street. The process water supply for the SFERP project will be pumped from an existing water pumping station through a conveyance pipeline (approximately 0.76 mile long) that will bring the wastewater to the SFERP site where it will be treated for use in an onsite treatment plant. The process water pipeline will be constructed from near the southeast corner of the SFERP site and will follow Cesar Chavez Street westward to a point where it joins into an existing collection box that will carry the process water pipeline under I-280 and south to within 101 feet of the pumping station. No soil trenching will be required along the existing collection box segment that is approximately 1,335 feet in length.

The underground electric transmission line will run from the northwest corner of the SFERP site west along 25th Street, then north along Michigan Street to 24th Street where it turns west to Illinois Street. The line then runs north along Illinois Street. The underground line will enter the PG&E Potrero switchyard bays 18 and 19 from Illinois Street. Given the location of the proposed trenching areas described above, the SFERP linear features will have no impact on agricultural land uses.

The selected contractor will prepare site maps showing the construction project in detail once a final design has been established. Site conditions, including paved areas, buildings, lots and roadways, general topography and drainage patterns for stormwater collection will be shown for the following phases of construction:

- **Existing Site Topography**—Existing site topography is shown on Figure 2-4.

- **Conceptual Rough Grading**—A plan with figures for Interim Grading and Erosion Control will be prepared. It will show the temporary onsite drainage patterns to be established by the rough grading of the project site, as well as any necessary erosion control features.
- **Stabilized Site**—Post –construction grading is shown on Figure 2-5. A Detailed Finish Grading and Drainage Plan with figures will be prepared showing the final conditions of the site as constructed.
- **Finished Project**—A Conceptual Image of the SFERP Site (Figure 2-1), shows the completed Generating Facility.

2.2 Vegetation and Soils

The proposed 4.0-acre SFERP site is located in southeast San Francisco within an urban area along the western shore of the San Francisco Bay (the Bay). The site is bounded on the west by the proposed MUNI Metro East Light Rail Vehicle Maintenance and Operation Facility along Illinois Street, on the north by 25th Street, on the east by Maryland Street, and on the south by a developed property along the north side of Cesar Chavez Street. Surrounding land uses are composed of mixed light and heavy industrial and commercial properties. Businesses in the surrounding area include shipping and dry dock facilities, warehouses, manufacturing, and various small commercial businesses. The SFERP site is currently being used as the location of a portable concrete batch processing plant. Prior uses of the properties in this area were likely associated with the switchyard for the former Western Pacific Railroad or shipping and receiving (AGS, 1999). The approximately 8.5-acre construction material laydown site is located directly across Maryland Street (an undeveloped paper street) from the proposed SFERP site. Both the SFERP site and laydown area were likely part of the former railroad switchyard and are currently vacant at this time, except for some temporary storage of shipping containers on the laydown area property. Both properties are nearly level and are unpaved and/or partially covered with gravel. Surrounding and nearby properties have been (or are currently) used for barrel manufacture, fuel storage tank facilities, steel and iron fabrication, manufactured gas plant facilities, railroad facilities, and a sugar refinery (Geomatrix Consultants, Inc., 2000).

There are no agricultural land uses within the proposed SFERP site or vicinity. The gas, water supply, and electrical connections will be made to existing facilities nearest to the SFERP site and all underground trenches will be completed within existing roadways and rights-of-way.

Soil survey mapping units characterizing the types and distribution of soils within the project area, as shown on Figure 2-3, are taken from *Soil Survey of San Mateo County, Eastern Part, and San Francisco County, California* (NRCS, 1991). The electronic shape files for these mapping units were downloaded from the NRCS website. Detailed soil descriptions were developed from the soil survey publication (NRCS, 1991).

Data for the affected environment are summarized and presented in the following paragraphs.

Soil types for the project site and along the project water supply pipeline are identified in Figure 2-3. Table 2-1 summarizes the characteristics of each of the individual soil mapping units identified on Figure 2-3 in the areas that will be potentially affected by project construction, including the site boundaries and the project's linear facilities. The table summarizes depth, texture, drainage, permeability, erosion hazard rating, land capability classification, and fertility as an indicator of its revegetation potential.

There are no soil series designated as "Prime Farmland" (or Farmland of Statewide Importance) among the soils listed in Table 2-1.

2.2.1 Agricultural Use on and around the Proposed SFERP Site

A review of the aerial photograph base map, provided in the soil survey (NRCS, 1991), confirmed that the site and surrounding areas are not used to support livestock or agricultural production. The soils mapped at the SFERP and surrounding areas are indicated to be of the soil capability subclass VIII, essentially unsuitable to commercial crop production. None of the mapped soil units in the areas are associated with prime agricultural land. The Farmland Mapping and Monitoring Program (FMMP) of the California Department of Conservation (CDC) shows the project site and surrounding areas to be designated as "Urban and Built-Up Land."

2.2.2 Agricultural Use along the SFERP Features

The proposed SFERP project will have underground utility connections for supplying natural gas, potable water, and process (recycled) water to the SFERP site. Similarly, the electric transmission line will be connected through an underground conveyance. The natural gas supply pipeline will extend from the northwest corner of the SFERP site approximately 900 feet to the west along 25th Street. The potable water line will extend southward approximately 300 feet from the southeast corner of the SFERP site to an existing line within Cesar Chavez Street. The process water supply for the SFERP project will be pumped from a new water pumping station through a conveyance pipeline (approximately 0.76 mile long) that will bring the wastewater to the SFERP site where it will be treated in an onsite treatment plant. The process water pipeline will be constructed from near the southeast corner of the SFERP site and will follow Cesar Chavez Street westward to a point where it joins into an existing collection box that will carry the process water pipeline under I-280 and south to within 101 feet of the pumping station. No soil trenching will be required along the existing collection box segment that is approximately 1,335 feet in length.

The underground electric transmission line will run from the northwest corner of the SFERP site west along 25th Street, then north along Michigan Street to 24th Street where it turns west to Illinois Street. The line then runs north along Illinois Street. The underground line will enter the PG&E Potrero switchyard bays 18 and 19 from Illinois Street. Given the location of the proposed trenching areas described above, the SFERP linear features will have no impact on agricultural land uses.

2.2.3 Soil Types within the Study Area and Prime Farmlands

Table 2.2-1 provides a description of the properties of the soil mapping units that are found in the vicinity of the proposed SFERP site and along the proposed process water route. As indicated, the soil mapping units in the project area are associated with urban land and

Orthents (i.e., young soils) with wide-ranging slope classes and low capability to support commercial crop production (soil capability class VIII). The proposed SFERP project will not affect any Prime Farmlands or other important farmlands. In fact, the project will not affect any lands used for agricultural production.

TABLE 2.2-1
Soil Mapping Unit Descriptions and Characteristics

Map Unit	Description
131	Urban Land—Slope Class (0 to 5 percent typical, but may range from 0 to 30 percent) This map unit features areas where more than 85 percent of the surface is covered by paving, buildings, and other structures, typically at slopes of 0 to 5 percent. This map unit is classified as soil capability class VIII. This soil capability class corresponds to the lowest ranking suitability for field crops because soil limitations essentially preclude its use for commercial crop production. The soils at the SFERP and surrounding areas are not used for crop production. Urban soils are typically regraded, native soils with some amounts of fill. Given that the native soils likely derived from the underlying surficial geologic formations, which are mapped as serpentinized, ultramafic rock (Wagner et al., 1991), there is a potential for some of these soils to contain natural forms of asbestos.
132	Urban Land—Orthents, Cut and Fill Complex—Slope Class (0 to 5 percent)*
133	Urban Land—Orthents, Cut and Fill Complex—Slope Class (5 to 75 percent)*
134	Urban Land—Orthents, Reclaimed Complex—Slope Class (0 to 2 percent) This map unit includes areas that were once part of San Francisco Bay and adjacent tidal flats. It is about 65 percent urban land and 30 percent Orthents, reclaimed. Orthents consist of soils that have been filled and vary greatly in texture, including soil, gravel, concrete and asphalt rubble, solid wastes, and Bay Mud. They are very deep and can be poorly to somewhat poorly drained. The highly variable soil characteristics are related to the differences and amount of fill material used. Some areas have a permanent high water table at a depth of 30 to 60 inches because of fluctuating tides. Runoff is slow and the hazard of water erosion is low. The map unit is in capability class VIII and, as mentioned above, this soil capability class has limitations that essentially preclude its use for commercial crop production. The main limitations of these soils are a high water table, potential for subsidence and low fertility. These soil mapping units have highly variable soil properties related to the type and quality of fill used.

Notes:

Soil characteristics are based on soil mapping provided in the published soil survey (NRCS, 1991) and are limited to those mapped in the vicinity of the SFERP project.

* These soil units comprise the majority of the area moving westward (inland) from the SFERP area and consist primarily of urban land and Orthents (i.e., young soils) complexes, as listed below. The soils are similar to the soil mapping unit 131 in that regraded soils often derive from the in-place, native soils, which are not mapped. Because these soils are outside of the proposed SFERP area and not associated with important farmlands or wetland areas, they are not described in detail.

2.3 Hydrology

Most of the precipitation in the project area falls between November and April. Monthly average rainfall in the San Francisco area near the project site is presented in Table 2.3-1. The total annual average rainfall in San Francisco is approximately 21 inches.

TABLE 2.3-1
Average Monthly Rainfall in the Proposed Project Area (San Francisco) 1961-1990

Precipitation	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Rainfall (in.)	4.3	3.2	4.0	1.4	0.2	0.1	0.0	0.1	0.2	1.2	2.8	3.1

2.4 Estimated Total Site Area and Total Disturbed Area

The estimated area disturbed during project construction is:

Generating Facility	4.0 acres
Equipment Laydown Area and Construction Parking	8.5 acres
Total Area	12.5 acres
Linear Construction	1.25 miles

2.5 Existing Drainage

2.5.1 SFERP Facility Site Area

The 4-acre project site and adjacent 8.5-acre laydown area are currently undeveloped and unpaved. A temporary concrete batch plant occupies the northern portion of the project site and what would become the laydown area is currently used as trailer storage for a trucking operation. Drainage percolates into the ground or sheet flows offsite directly to San Francisco Bay. Just south of the southern boarder of the laydown area there are three drains that are part of the Port's separate storm drain system. Any runoff potentially entering these drains would also flow directly to San Francisco Bay. These discharges are managed under the Port's Storm Water Management Plan (SWMP) and NPDES permit.

The project site is located at an elevation of approximately 10 to 14 feet above mean sea level and roughly 500 feet from the shoreline. The 100-year tide elevation, including the effect of wind-generated wave runup at mean higher high water (MHHW), or the average level of the higher of the two daily high tides is 9.25 feet above mean sea level measured using the North American Vertical Datum, 1988 (AGS, Inc., 1999). Based on this, the potential for flooding at the project site is low. This is consistent with the San Francisco Community Safety Element, which indicates that there are no areas prone to surface flooding in San Francisco (San Francisco Planning Department, Community Safety Element, 1995). Although seiches and tsunamis can occur and cause tidal surges in San Francisco Bay, the Bay greatly attenuates tsunamis that might reach the Golden Gate area and these events are extremely rare.

The construction parking and laydown area is approximately 9 to 10 feet above mean sea level and is not prone to surface flooding. All runoff from the construction parking/laydown area currently sheet flows to the Bay or percolates into the ground. Because much of soil at the site has been impacted by cementitious materials, percolation is limited.

The 100-year 24-hour storm event rainfall for San Francisco is 5 inches/24 hours, which results in an intensity of 0.2 inches/hour. The runoff coefficient for the plant site and the adjacent lay down area is 0.65 which is assumed for the hard-packed soil of the existing site. This results in a total of 1.57 cubic feet per second (cfs) of runoff directly to the San Francisco Bay. See Appendix D for detailed runoff calculations. Figure 2-4 shows the pre-development elevations for the site.

2.5.2 Linear Construction Areas

A project component is the construction of three linear facilities.

A new air-insulated 115-kilovolt (kV) switchyard will be constructed on the north side of the site adjacent to 25th Street. Underground transmission circuits will link the power grid through the PG&E Potrero Substation. PG&E is currently performing a Facilities Study to evaluate whether the SFERP circuits will enter the switchyard underground from Illinois Street or continue north to 22nd Street. The circuits would then run east in 22nd Street to an underground/overhead transition structure located on the eastern portion of the Potrero switchyard. This overhead line would then connect with the switchyard bus in an overhead arrangement. From the SFERP switchyard to the connection at the Potrero Substation breakers, the total transmission distance is approximately 3,000 feet.

A pipeline tie-in will be made to the existing PG&E natural gas transmission line at the intersection of Illinois and 25th streets. Natural gas for the facility will be delivered through a new 900-foot-long, 12-inch-diameter (or less) pipeline adjacent to 25th Street.

Process water for the project will be obtained via a water pump station (WPS) located on Marin Street near Cesar Chavez Street that will connect to a new recycled water plant located on the southern portion of the project site. A 0.76-mile-long pipeline adjacent to Cesar Chavez Street will connect the WPS and the SFERP's onsite treatment system. This pipeline will consist of two sections. The first section, approximately 1,300 feet long, will be installed within an existing collection box. The remaining section will be new construction.

The linear facilities portion of the project site is currently 100 percent impervious surfaces and all drainage flows to the City's combined sewer system (CSS). The CSS collects and transports both wastewater (sewage and industrial discharges) and stormwater runoff in the same set of pipes. During dry weather, wastewater flows consist mainly of municipal (also referred to as sanitary sewage) and industrial wastewater. Dry weather flows to the CSS along the east side of the City are transported to the Southeast Water Pollution Control Plant (SEWPCP) on Phelps Street, about 0.9 mile southwest of the project site, for treatment and subsequent discharge to the Bay through the deep water outfall at Pier 80. During wet weather, the volume of wastewater in the City's combined sewer system greatly increases when stormwater runoff mixes with the municipal and industrial wastewater. The wet weather flows are either treated at the SEWPCP or wet weather treatment facilities, or retained in storage and transport boxes for later treatment. Treated wastewater is discharged to the Bay through various outfalls and overflow structures in compliance with an NPDES permit from the California Regional Water Quality control Board (RWQCB, 2002).

2.6 Proposed Post-Construction Drainage

2.6.1 SFERP Facility Site Areas

During construction, the Applicant will be required to develop and submit for review to the City, Bureau of Environmental Regulation and Management, an erosion and sediment control plan (i.e., a copy of this SWPPP) to prevent the offsite migration of sediment and other pollutants and to reduce the effects of runoff from the construction site to the combined sewer system and to the Port's stormwater system, which drains to the Bay. The City will conduct periodic inspections to ensure compliance with the erosion and sediment control plan.

Implementation of the project will alter existing drainage patterns. After completion of the construction, the proposed SFERP would result in 100 percent impervious surfaces, and stormwater would flow to the City's combined sewer system on Illinois Street. The general site grading will establish a working surface for construction and plant operating areas, provide positive drainage from buildings and structures, and provide adequate ground coverage for subsurface utilities.

As stated previously, the 100-year 24-hour storm event rainfall for San Francisco is 5 inches/24 hours which is an intensity of 0.2 inches/hour. The runoff coefficient for the developed plant site will be 0.95 which is assumed for impervious areas (pavement, roofs, etc.) of the future site. This will result in a total runoff from the plan site to the sewer of 0.76 cfs. The laydown area will remain undeveloped and 1.05 cfs of runoff will continue running to the San Francisco Bay. See Appendix D for detailed runoff calculations. Figure 2-5 shows the post-development elevations for the site.

Onsite drainage will be accomplished through gravity flow. The surface grading will direct stormwater runoff to the proposed collection system via overland flow at a minimum of 0.4 percent. Inlets will be constructed of cast-in-place or pre-cast concrete. The underground pipes will be sized to limit flow velocities to a maximum of 10 feet per second (fps) and a minimum, self-scouring velocity.

The buildings and structures will be located with the ground floor elevation a minimum of 6 inches above the finished grade.

As described earlier, the City is almost entirely served by a combined sewer system, which collects and transports both wastewater (sewage and industrial discharges) and stormwater runoff in the same set of pipes. During dry weather, wastewater flows consist mainly of municipal (also referred to as sanitary sewage) and industrial wastewater. Dry weather flows to the combined sewer system along the east side of the City are transported to the Southeast Water Pollution Control Plant (SEWPCP) on Phelps Street, about 0.9 mile southwest of the project site, for treatment and subsequent discharge to the Bay through the deep water outfall at Pier 80 (east of the project site). During wet weather, the volume of wastewater in the City's combined sewer system greatly increases when stormwater runoff mixes with the municipal and industrial wastewater. The wet weather flows are either treated at the SEWPCP or wet weather treatment facilities, or retained in storage and transport boxes for later treatment. Treated wastewater is discharged to the Bay through various outfalls and overflow structures in compliance with an NPDES permit from the San Francisco Bay Regional Water Quality Control Board (RWQCB, 2002).

During operation of the SFERP, discharges to the combined sewer system, including stormwater runoff, will be subject to the permit requirements of the City's Class I permit for industrial waste discharge. The permit requirements will include compliance with the federal combined sewer overflow control policy minimum controls, including development and implementation of a pollution prevention program. The City's pollution prevention program would require best management practices to minimize the amount of pollutants carried by stormwater to the combined sewer system.

2.6.2 SFERP Linear Construction Areas

Implementation of the linear facilities in this project will not alter existing drainage patterns along the roadways into the City's combined sewer system.

2.7 Construction and Maintenance Access Road

Site access for construction and maintenance will be provided via existing access roads. Construction traffic will enter the site off of 25th Street via Third Street or Cesar Chavez and Maryland streets with vicinity access via Interstate 280 (I-280).

2.8 Earthwork

2.8.1 SFERP Plant Site Earthwork

Excavation work will consist of removal, storage, and/or disposal of earth, sand, gravel, vegetation, loose rock, and debris to the lines and grades necessary for construction. Materials suitable for backfill will be stored in stockpiles at designated locations using proper erosion protection methods. Excess materials will be incorporated into the unused portion of the site or removed from the site and disposed of at an acceptable location.

The proposed SFERP site is located on the Former Western Pacific Railroad (WPRR) yard, which lays in an area reclaimed from the Bay in the Islais Creek Estuary. The WPRR Yard operated as a switchyard for raid cars brought across the bay on the ferry from Oakland. According to the Final Risk Management Plan and Site Management Plan prepared by AGS in 2000, major maintenance was not performed at the facility, although there was both a Railroad Engine House and Repair Track Building (AGS, Inc. 2000). Most of the rail cars at the site contained dry goods, although there were some tank cars used at the Cargill Coconut Oil Operation. Refueling operation for the train engines occurred at the yard, but not in the location of the proposed SFERP site (AGS, Inc., 2000).

In 1987, a site characterization study was conducted by Dames & Moore, and several unlabeled drums and containers were found throughout the entire WPRR Yard. The drums were subsequently sampled, removed and disposed of offsite.

Site investigations of the soil and groundwater at the site were conducted in 1999 by AGS Inc. at the location of the proposed MUNI Maintenance and Operation Center, to be located to the west of the proposed SFERP facility (AGS, Inc., 2000). The 1999 investigation concluded that localized areas of soil and groundwater have been affected by chemical release from past activities. The chemicals of concern in the soil include petroleum hydrocarbon (diesel), at a maximum concentration of 1,730 milligrams per kilogram (mg/kg) (unsaturated soil); motor oil at a maximum concentration of 16,400 mg/kg (saturated soil); arsenic at a maximum concentration of 591 mg/kg; and lead at a maximum concentration of 2530 mg/kg. Both arsenic and lead are above background and EPA Region IX industrial Preliminary Remediation Goal (PRG) levels (AGS, Inc., 2000)

Management of excavated materials at the site and along the process water pipeline will be conducted in accordance with the Site Mitigation and Implementation Plan (SMIP). The SMIP document is needed to satisfy the requirements of Article 22A of the San Francisco

Public Health Code, which governs development within the filled lands adjacent to San Francisco Bay. Excavated materials will be used for backfill to the extent possible.

Graded areas will be smooth, compacted, free from irregular surface changes, and sloped to drain. Structures will be designed to meet appropriate seismic requirements (the site is located in Seismic Risk Zone 3) and California Building Code requirements. Areas to be backfilled will be prepared by removing unsuitable materials and rocks. The bottom of an excavation will be examined for loose or soft areas. Such areas will be excavated fully and backfilled with compacted fill.

Backfilling will be done in layers of uniform, specified thickness. Soil in each layer will be properly moistened to facilitate compaction to achieve the specified density. To verify compaction, representative field density and moisture-content tests will be performed during compaction in accordance with ASTM standards.

2.8.2 SFERP Linear Construction

Trench excavation will consist of concrete/asphalt cutting and making subgrade to the depth, width, and grade necessary for construction of the linear facility. Disturbed soils such as those from trench excavation will be hauled away, backfilled into the trench, and/or covered (e.g. metal plates, pavement, plastic covers over spoil piles) at the end of the construction day. Materials suitable for backfill will be stored in stockpiles at designated locations using proper erosion and sediment control methods. Excess materials (i.e., asphalt debris, earth, sand, gravel, loose rock) will be incorporated into the unused portion of the site or removed from the site and disposed of at an acceptable location.

Areas to be backfilled will be prepared by removing unsuitable materials and rocks. The bottom of an excavation will be examined for loose or soft areas. Such areas will be excavated fully and backfilled with compacted fill.

Backfilling will be done in layers of uniform, specified thickness. Soil in each layer will be properly moistened to facilitate compaction to achieve the specified density. To verify compaction, representative field density and moisture-content tests will be performed during compaction in accordance with ASTM standards.

Management of excavated materials along the process water pipeline will be conducted in accordance with the Site Mitigation and Implementation Plan (SMIP). The SMIP document is needed to satisfy the requirements of Article 22A of the San Francisco Public Health Code, which governs development within the filled lands adjacent to San Francisco Bay. Excavated materials will be used for backfill to the extent possible after it has been analyzed by an approved certified laboratory to determine contaminant levels and material characterization. If it cannot be used as backfill, a licensed waste hauler will be contracted for removal of soil and disposal at a fully permitted facility consistent with the waste characterization.

2.9 Name of Receiving Water

Implementation of the project will alter existing drainage patterns. The project site and adjoining laydown area are currently unpaved and stormwater runoff either percolates or

sheet flows offsite directly to San Francisco Bay via storm drains located south and east of the site. These storm drains are under the jurisdiction of the Port of San Francisco. Construction of the proposed SFERP would result in a change of drainage for the site. All site surfaces would be impervious and stormwater from the site would flow to the City's combined sewer system on Illinois Street.

Implementation of the linear facilities in this project will not alter existing drainage patterns along the roadways into the City's combined sewer system.

2.10 Potential Pollutant Sources

Construction of the project will involve handling a large variety of building materials. The primary potential pollutant source for stormwater during the construction of the SFERP results from soil materials being exposed to wind and water movement. The greatest amount of soil will be exposed during trench excavation for the linear facilities and the demolition, preparation, and site grading phases of the project. Upon completion of the foundation phase, the amount of soil exposed will be significantly reduced. Due to the controls and BMPs described in subsequent sections of this SWPPP, soils and sediments in stormwater runoff from the SFERP site will be minimized.

Other chemicals that could be potentially stored and used during construction of the facility include: gasoline, diesel fuel, oil, lubricants (i.e., motor oil, transmission fluid, and hydraulic fluid), solvents, adhesives, asphalt products, Portland Concrete masonry products, and paint materials. There are no feasible alternatives to these materials for construction or operation of construction vehicles and equipment, repaving areas, pouring concrete, or for painting and caulking buildings and equipment. Material Safety Data Sheets for each chemical used will be kept onsite, and construction employees will be made aware of their location and content. The contractor will be responsible for assuring that the use, storage and handling of these materials will comply with applicable federal, state, and local laws, ordinances, regulations, and standards (LORS), including licensing, personnel training, accumulation limits, reporting requirements, and record keeping.

INSERT FIGURE 2-1
Conceptual Image of SFERP Site

INSERT FIGURE 2-2
Land Use Designations in the Study Area

INSERT FIGURE 2-3
Soils Map of SFERP Project Area

INSERT FIGURE 2-4
Pre-Developed Drainage

Insert Figure 2-5 Post-Developed Drainage

SECTION 3

Erosion Control Plan

3.1 Best Management Practices

The following sections present standard construction Best Management Practices (BMPs), most of which are described in the *Caltrans Storm Water Quality Handbook* (2003). These resource handbooks provide comprehensive details on BMP implementation and will be obtained and reviewed by managers for all construction contractors that may have an impact on implementation of the SWPPP. Additional BMPs are described where appropriate. The BMPs outlined in this SWPPP are considered the minimum requirements for erosion and sediment control. Specific BMP's are described in this section, but at this time, no BMP site map has been designed. When the site is graded and topographical maps for the site have been developed, site-specific BMPs will be designed on the project site maps. Figure 3-1 illustrates installation methods for various BMPs that are further discussed in the following sections. Appendix E contains the Caltrans BMP Handbook titled Detailed Description of BMPs.

3.2 General Erosion and Sediment Control Measures

The project has been designed to impact as small an area as possible at any given time, thereby limiting the amount of exposed soil. However, given the nearly level topography, soil types, and the anticipated use of construction BMPs, the overall potential for erosion and soil loss is slight. Construction is expected to proceed as expediently and efficiently as possible, while maintaining all levels safety, thereby ensuring that as little soil is exposed for as short a time as possible. In general, all work areas will be surrounded by dikes, drainage swales, sand bags, or combinations of these to prevent run-on and uncontrolled run-off from the work area. General erosion and sediment controls may include installation of filter fabric fencing, fiber rolls, or sand bags wherever appropriate. It may be appropriate to surround the site and neighboring laydown area with filter fabric fencing (silt fencing) and/or fiber rolls. All drains on surface streets surrounding the site will be protected with gravel bags and/or silt sacks. Example erosion control installation methods are shown on Figure 3-1. General site BMPs and equipment and materials laydown areas are indicated on Figure 3-2.

A mitigation monitoring plan will also be developed in conjunction with California Energy Commission (CEC) staff to set performance standards and monitor the effectiveness of mitigation measures. This plan will address the timing and methods of such measures, as well as reporting and response requirements. Personnel will receive training to conduct their jobs properly and recognize and report abnormal/adverse situations so that they can be quickly corrected.

The following are general control measures that may be used during various phases of the project and in conjunction with phase-specific BMPs (see Appendix E):

- Proper scheduling and sequencing of activities (BMP SS-1)
- Silt Fences and Fiber Rolls (BMP SC-1 and SC-5)
- Straw mulch (BMP SS-6)
- Placement of geotextiles, plastic covers, & erosion control blankets/mats (BMP SS-7)
- Gravel bag berm (BMP SC-6)
- Street sweeping (BMP SC-7)
- Sandbag barrier (BMP SC-8)
- Storm drain inlet protection (BMP SC-10)
- Stockpile management (BMP WM-3)
- Dust control (BMP WE-1)
- Employee and contractor training

3.2.1 Access Road, Entrance and Parking, Staging and Laydown Areas

Plant Site and Laydown Area

Approximately 4 fenced acres of City-owned land will be used to accommodate the generation facilities. The 8.5-acre construction laydown area will be located directly east and adjacent to the SFERP project site between 25th and Cesar Chavez streets, and the waterfront (see Figure 1-2). The laydown area, under the control of the Port, is a previously disturbed, relatively flat, vacant parcel of land. A concrete mixing plant, temporary offices and shipping containers once occupied the SFERP and laydown sites. As shown on Figure 2-3, the site and laydown area soil type is 134—Urban Land-Orthents, reclaimed complex with 0 to 2 percent slopes. As described below, this soil has low erosion potential. Since the erosion characteristics of the soil type at the laydown area are minimal, very little soil erosion is expected during the construction period. The laydown area will be devoted to equipment and materials laydown, storage, construction equipment and employee parking, and office trailers. Layout of access roads and loading areas is important in the development of the laydown yard. Space is required for large turbine parts, structural steel, piping spools, electrical components, and building parts. Sufficient space will also be provided to accommodate preventive and in-storage equipment maintenance activities.

The plant entrance/exit off of 25th Street, as well as internal access roads will be stabilized using coarse aggregate. The aggregate cover will be maintained so as to limit sediment tracking and creation of dust. Based on the soil mapping results, there is potential for wind erosion, due to soil type. Therefore, surfaces will be regularly watered to reduce generation of dust, but will not be excessively watered so as to generate runoff. Filter fabric fencing (silt fencing) may be used at edges of these areas, as necessary, to minimize sediment discharging into swales or ditches. Figure 1-2 illustrates the general location of the construction laydown area. The following BMPs will be used for construction access areas:

- Proper scheduling and sequencing of activities (BMP SS-1)
- Silt fencing (BMP SC-1)
- Fiber Rolls (BMP SC-5)
- Storm drain inlet protection (BMP SC-10 or silt sacks)
- Stockpile Management (WM-3)

- Stabilizing surfaces with coarse aggregate
- Compacting access/entrance road surfaces (BMPs TC-1 and TC-2)
- Placement of geotextile (BMP SS-7)
- Dust control (BMP WE-1)
- Temporary drains and swales (BMP SS-9)
- Vehicle and equipment cleaning (BMP NS-8)

Linear Construction Access

The project will include the construction of a nominal 145-megawatt (MW) simple-cycle plant, using three natural gas-fired gas turbines; a new air-insulated 115-kilovolt (kV) switchyard on the north side of the site adjacent to 25th Street; 900 feet of 12-inch-diameter natural gas pipeline that will connect to PG&E's main at the intersection of Illinois and 25th streets; and a new recycled water system located on the southern portion of the project site for which the water will be pumped via a water pump station (WPS) located 0.76 mile away on Marin Street near Cesar Chavez Street. PG&E is currently performing a Facilities Study to evaluate whether the SFERP circuits will enter the switch yard underground from Illinois Street or continue north to 22nd Street. The circuits would then run east in 22nd Street to an underground/overhead transition structure located on the eastern portion of the Potrero switchyard. This overhead line would then connect with the switch yard bus in an overhead arrangement. The water supply pipeline consists of two sections. Approximately 1,300 feet of the pipeline will be installed within an existing collection box. The remaining portion (approximately 2,713 feet) will be new construction.

Site access for construction and maintenance will be provided via existing city roads. Construction traffic will enter the site off of 25th or Cesar Chavez or Illinois streets with vicinity access via Interstate 280 (I-280). Access roads are currently paved and prior to disturbance do not need to be provided with erosion and sediment controls. The construction laydown area is addressed in Section 3.2.1.1. Prior to ground-disturbance associated with the linear construction phases, all or a combination of these BMPs will be used:

- Proper scheduling and sequencing of activities (BMP SS-1)
- Straw mulch (BMP SS-6)
- Placement of geotextiles, plastic covers, & erosion control blankets/mats (BMP SS-7)
- Silt fencing (BMP SC-1)
- Fiber rolls (BMP SC-5)
- Gravel bag berm (BMP SC-6)
- Street sweeping and vacuuming (BMP SC-7)
- Sandbag barrier (BMP SC-8)
- Storm drain inlet protection (BMP SC-10 or silt sacks)
- Stockpile management (BMP WM-3)
- Dust control (BMP WE-1)

3.2.2 Site Grading and Drainage Swales

No grading will be necessary for the laydown area since the site is flat and stormwater generally sheet flows to the Bay or percolates into the ground. Much of the soil in the area has been impacted by cementitious material, so percolation is limited. However, the site will

be graveled to provide all weather use and further minimize soil erosion potential. Heavy equipment stored onsite will be placed on dunnage to protect it from ground moisture. Once construction is completed, the gravel will either be removed from the site or left in place at the discretion of the Port. See Figure 2-4 for current drainage flow at the proposed laydown area.

Grading will be required for the plant site. The overall plant site grading scheme is designed to route surface water around and away from all equipment and buildings. Transmission line construction will occur in areas that are paved. Final drainage for the plant area is shown on Figure 2-5. Interim drainage schemes will be developed as the construction period approaches. A grading permit with the Port of San Francisco is required.

The site will be constructed on relatively level ground; therefore, it is not considered necessary to place barriers around the property boundary. However, some barriers would be placed in locations where offsite drainage could occur to prevent sediment from leaving the site. Barriers and other sedimentation control measures would be used to prevent runoff into irrigation ditches located near the site. If used, fiber rolls would be properly installed (staked), then removed after construction. The potential locations of sedimentation control measure use are indicated by the red line on Figure 3-2. Runoff detention basins, drainage diversions, and other large-scale sediment traps are not considered necessary due to the level topography and surrounding paved roads. Any stockpiles would be stabilized and covered if left onsite for long periods of time, including placement of sediment barriers around the base of the stockpile. These methods can be employed during trenching operations for the water line and the natural gas line.

3.2.3 Foundations

As the foundation for the project structures are developed, drainage swales may be replaced with surface collectors and underground drainpipes. Sediments and hydrocarbons will be minimized or prevented from entering the surface collectors with storm drain inlet protection devices and rings of hydrocarbon-absorbing fabric.

A concrete washout site will be designated or will occur offsite at the concrete contractor's facility. Dumping of excess concrete and washing out of delivery vehicles will be prohibited at other locations onsite. Notices will be posted to inform all drivers.

The following BMPs will be used around foundations:

- Storm drain inlet protection (BMP SC-10 or silt sacks)
- Concrete waste management (BMP WM-8)

3.2.4 Site Stabilization and Demobilization

As construction nears completion, areas used for parking, storage and laydown will be stabilized. Areas that will continue to be used (for parking or storage) will have permanent stormwater collection and conveyance structures provided. All disturbed areas associated with the linear facilities will be stabilized.

3.3 Other Controls

3.3.1 Hazardous Materials

There will be a variety of chemicals stored and used during construction and operation of the SFERP. The storage, handling, and use of all chemicals will be conducted in accordance with applicable laws, ordinances, regulations, and standards. Chemicals will be stored in appropriate chemical storage facilities. Bulk chemicals will be stored in storage tanks, and most other chemicals will be stored in returnable delivery containers. Chemical storage areas will be designed to contain leaks and spills. Berm and drain piping design will allow a full-tank capacity spill without overflowing the berms. For multiple tanks located within the same bermed area, the capacity of the largest single tank will determine the volume of the bermed area and drain piping. Drain piping for volatile chemicals will be trapped and isolated from other drains to eliminate noxious or toxic vapors. During the construction and operations phases, stormwater collected from the chemical storage areas will be directed to the CSS.

3.3.2 Solid and Hazardous Wastes

The construction of the facility will generate various types of non-hazardous solid wastes, including debris and other materials requiring removal during site grading and excavation, excess concrete, lumber, scrap metal, and empty non-hazardous chemical containers. Management of these wastes will be the responsibility of the construction contractor(s). The generation of waste materials will be minimized through efficient and careful use of materials, and recycling when possible. Non-hazardous materials will be used where acceptable to meet construction requirements. Drummed and bagged wastes will not be stored directly on the ground, and will be covered or stored indoors where feasible. Incompatible materials will be separated, and secondary containment will be provided for liquids. Sufficient spill cleanup materials will be kept in proximity to areas where materials are stored and used.

Small quantities of hazardous wastes will be generated over the course of construction. These may include waste paint, spent solvents, and spent welding materials. All hazardous wastes generated during facility construction will be handled and disposed of in accordance with applicable laws, ordinances, regulations, and standards. Hazardous wastes generated during construction will be collected in hazardous waste accumulation containers near the point of generation and moved daily to the contractor's 90-day hazardous waste storage area located onsite. The accumulated waste will subsequently be delivered to an authorized waste management facility.

Contractor waste materials will be collected and stored in metal dumpsters provided by a licensed solid waste management company. The dumpster will meet local and state solid waste management regulations, and be provided with solid lids or removable flexible covers. Trash and construction debris will be deposited in the dumpsters; the dumpsters will be covered, and then hauled offsite weekly to an approved local Class III landfill. No construction waste will be buried onsite. Personnel will be instructed as to proper disposal procedures, notices will be posted, and individuals will be designated to assure that the procedures are followed. A licensed contractor will regularly collect all sanitary wastes from portable units.

The following BMPs will be used at the designated storage locations:

- Cover or store hazardous materials indoors, if possible (BMP WM-1)
- Material delivery and storage (BMP WM-1)
- Material use (BMP WM-2)
- Spill Prevention and Control (BMP WM-4)
- Solid Waste Management (BMP WM-5)
- Hazardous Waste Management (BMP WM-6)
- Use of covered dumpsters and containers for waste (BMP WM-5)
- Sanitary and septic waste management (BMP WM-9)
- Stockpile management (BMP WM-3)

3.3.3 Potential Contaminated Soil

The proposed SFERP site is located on the Former Western Pacific Railroad (WPRR) yard, which lays in an area reclaimed form the Bay in the Islais Creek Estuary. The WPRR Yard operated as a switchyard for raid cars brought across the bay on the ferry from Oakland. According to the Final Risk Management Plan and Site Management Plan prepared by AGS in 2000, major maintenance was not performed at the facility, although there was both a Railroad Engine House and Repair Track Building (AGS, Inc. 2000) Most of the rail cars at the site contained dry goods, although there were some tank cars used at the Cargill Coconut Oil Operation. Refueling operation for the train engines occurred at the yard, but not in the location of the proposed SFERP site (AGS, Inc., 2000).

In 1987 a site characterization study was conducted by Dames & Moore, and several unlabeled drums and containers were found throughout the entire WPRR Yard. The drums were subsequently sampled, removed and disposed of offsite.

Site investigations of the soil and groundwater at the site were conducted in 1999 by AGS Inc. at the location of the proposed MUNI Maintenance and Operation Center, located to the west of the proposed SFERP facility (AGS, Inc., 2000). The 1999 investigation concluded that localized areas of soil and groundwater have been affected by chemical release from past activities. The chemicals of concern in the soil include petroleum hydrocarbon (diesel), at a maximum concentration of 1,730 milligrams per kilogram (mg/kg) (unsaturated soil); motor oil at a maximum concentration of 16,400 mg/kg (saturated soil); arsenic at a maximum concentration of 591 mg/kg; and lead at a maximum concentration of 2530 mg/kg. Both arsenic and lead are above background and EPA Region IX industrial Preliminary Remediation Goal (PRG) levels (AGS, Inc., 2000)

Management of excavated materials at the site and along the process water pipeline will be conducted in accordance with the Site Mitigation and Implementation Plan (SMIP). The SMIP document is needed to satisfy the requirements of Article 22A of the San Francisco Public Health Code, which governs development within the filled lands adjacent to San Francisco Bay. Excavated materials will be used for backfill to the extent possible after it has been analyzed and characterized by an approved certified laboratory to determine contaminant levels. If it cannot be used as backfill, a licensed waste hauler will be contracted for removal of soil and disposal at a fully permitted facility consistent with the waste characterization.

3.3.4 Groundwater Controls

Groundwater at the project site is currently not used for potable water, and the project will have no effect on groundwater. The linear facilities, minor excavation and foundation structures required for SFERP would not result in any substantial change from the existing groundwater flow and conditions at the site. During construction, temporary dewatering may be required, and any dewatering activity would require a permit from the City for discharge to the combined sewer system. During construction, the Project would be subject to LORS requiring standards for isolating and controlling offsite runoff and contaminants that could enter groundwater. During construction, the Project would isolate all work areas using fiber, rolls, mats or similar devices to keep contaminated runoff from leaving the site.

3.3.5 Offsite Vehicle Tracking

Because sediment reaching public roads generally has a clear path to water bodies, controls will be in place to minimize or eliminate soils from being tracked off the project site from vehicles. The site will have an access road and entrance/exit made of coarse aggregate to limit the amount of material adhering to tires. Paved roads used during the linear facilities' construction phase and those located at the entrance of the construction site will be inspected daily and cleaned as necessary using manual or mechanical street sweepers (BMP SC-7).

3.3.6 Dust Suppression and Control

Wind erosion controls shall be evaluated and implemented as needed throughout the duration of the project on all disturbed soils on the project site and linear facility sites that are subject to wind erosion, and when significant wind and dry conditions are anticipated during project construction. Wind controls will be used to prevent the transport of soil from soil-disturbed areas of the project site by offsite wind. The following control methods will be used for dust suppression, as necessary:

- Water aggregate roadways, parking areas and construction areas as needed (BMP WE-1).
- Cover all trucks hauling soil, sand and other loose materials offsite or require all trucks to maintain at least 18 inches of freeboard.
- Sweep adjacent streets and onsite paved roadways (BMP SC-7).
- Hydroseed or apply non-toxic soil stabilizers to inactive or completed construction areas as soon as is practical (BMP SS-4 or SS-5).
- Enclose, cover, water or apply non-toxic soil stabilizers to exposed stockpiles of sand, dirt, etc. (BMP WM-3).
- Limit traffic speed onsite to 15 mph or less.
- Suspend excavation and grading during periods of high winds.

FIGURE 3-1
SFERP Erosion and Sediment Control Plan – Example Installation Methods

Insert Figure 3-2 BMP Map Main Site

Insert Figure 3-3 BMP Map- Water Line

Insert Figure 3-4 BMP Map- Gas and Transmission Lines

SECTION 4

Training

Prior to project startup, all designated onsite representatives will participate in a pre-project stormwater training workshop. The workshop will cover basic stormwater information, the requirements of the general permit, and the SWPPP. Specifically, the workshop will focus on implementation, inspection, and maintenance of stormwater controls. All new employees will be trained by staff familiar with these topics.

As required by the SWRCB, individuals responsible for SWPPP preparation, implementation, and permit compliance will be appropriately trained, and the training will be documented. This includes those personnel responsible for installation, inspection, maintenance, and repair of BMPs. Those responsible for overseeing, revising, and amending the SWPPP shall also document their training.

All contractors are responsible for familiarizing their personnel with the information contained in the SWPPP. Contractors will be informed of this obligation and will be expected to have one or more employee training or briefing sessions conducted. The purpose of the meetings will be to review the proper installation methods and maintenance of all erosion control BMPs to be used on the project. Monitoring and inspection activities will only be conducted by individuals who have had additional training specific for this purpose. Training records will be maintained. All contractors are responsible for familiarizing subcontractors with information contained in the SWPPP.

Each contractor will be required to certify that they understand the requirements of the SWPPP, and will perform their duties in accordance with its requirements. An example Certification Form is included as Appendix F. These signed Certifications will be collected by the Project Manager (or designee) to identify authorized contractors in the SWPPP (see Appendix G).

SECTION 5

Maintenance, Inspection, and Repair

5.1 Maintenance

Erosion and sediment control structures must be maintained to remain effective. Features that are washed out or damaged will be repaired as soon as possible, contingent at all times on worker safety. Structures designed to accumulate sediment will have sediment removed in advance of the rainy season, and before major storm events. The following criteria will be used to determine whether erosion and sediment control features should be cleaned, repaired, or replaced:

- Sediment or other debris has accumulated to greater than one-third the height of sediment fabric fences.
- Sediment or debris has reduced the storage capacity of sediment traps by 50 percent or more
- More than one-third of the cross-section of conveyance structures, such as drainage swales or ditches are plugged or blocked

In addition, the following maintenance activities will be performed:

- Paved roads immediately surrounding the construction sites will be cleaned as necessary using manual or mechanical street sweepers.
- Coarse aggregate on plant access road and entrance/exit will be maintained so as to limit sediment tracking and creation of dust.
- Surfaces that are not paved or provided with gravel surfacing will be watered to limit the generation of dust (but will not be excessively watered so as to generate runoff).
- All equipment will be maintained according to manufacturers' specifications so as to prevent leaks and spills.
- Any contaminated soils resulting from spills will be dug up as quickly as possible, and then removed from the site for proper disposal.

5.2 Inspections and Record Keeping

Inspections of the construction sites will be conducted prior to anticipated storm events and after actual storm events that cause runoff from the site. This will be accomplished by conducting weekly inspections. In addition, inspections will be made during each 24-hour period during extended storm events. SWPPP inspections may be conducted in conjunction with other facility inspections. For instance, if a regulated amount of petroleum materials is onsite and there is a Spill Prevention, Control and Countermeasures Plan (SPCC), the SWPPP inspections may be conducted in conjunction with SPCC inspections.

The goals of these inspections are: (1) to identify areas contributing to a stormwater discharge; (2) to evaluate whether measures to reduce pollutant loadings identified in the SWPPP are adequate, properly installed and functioning in accordance with the terms of the General Permit; and (3) whether additional control practices or corrective maintenance activities are needed.

Personnel responsible for inspections before, during and after storm events will receive additional training specific for this purpose. This can take the form of formal classroom training and/or "walk-around" with an experienced individual, who discusses the appropriate conditions and those conditions requiring action. The Project Manager (or designee) will maintain a list of authorized inspection individuals for the SWPPP (Appendix H).

All required inspections will be recorded on an inspection form (Appendix I). Records of SWPPP inspections will be maintained onsite for at least 3 years. An example checklist will contain, at a minimum, the following information required by the Regional Water Quality Control Board:

- Inspection date
- Weather information: best estimate of beginning of storm event, duration of event, time elapsed since last storm, and approximate amount of rainfall (inches)
- Description of any inadequate BMPs
- If possible to safely access during inclement weather, observations of all BMPs: erosion controls, sediment controls, chemical and waste controls, and non-stormwater controls; otherwise, result of visual inspection at relevant outfall, discharge point, or downstream location and projected required maintenance activities.
- Corrective actions required, including any changes to SWPPP necessary and implementation dates
- Inspectors name, title, and signature

Records of all monitoring information, copies of all reports required by the general stormwater permit, and records of all data used to complete the Notice of Intent for the construction activity shall be held, retained, and kept in possession by the facility operator and/or contractor for at least 3 years.

The facility operator and/or contractor will annually certify that its construction activity is in compliance with the requirements of this general permit and its SWPPP. Noncompliance notifications will be submitted within 30 days of identification of noncompliance to the Regional Water Quality Control Board.

Equipment, materials, and workers will be available for rapid response to failures and emergencies. All corrective maintenance to BMPs will be performed as soon as possible, depending upon worker safety.

Prior to plan commencement, names of responsible personnel will be added to this plan.

SECTION 6

Sampling and Analysis Program

The General Permit requires permittees to implement specific sampling and analytical procedures to determine whether BMPs implemented on the construction site are:

- Preventing sediment impaired waters from further impairment by direct discharge of sediments in stormwaters to listed waters
- Preventing other pollutants (not visually detectable) from causing or contributing to exceedances of water quality objectives

6.1 Sampling and Analysis Plan for Sediment

This project does not have the potential to discharge directly to a water body listed as impaired due to Sedimentation/Siltation and/or Turbidity pursuant to Clean Water Act, Section 303(d).

6.2 Sampling and Analysis Plan for Non-Visible Pollutants

The Sampling and Analysis Plan (SAP) for non-visible pollutants describes the sampling and analysis strategy and schedule for monitoring non-visible pollutants in stormwater discharges from the project site and offsite activities directly related to the project in accordance with the requirements of Section B of the General Permit, including SWRCB Resolution 2001-046.

6.2.1 Scope of Monitoring Activities

The following are common construction materials, wastes, or activities that are potential sources of non-visible pollutants to stormwater discharges from a project. Identification, storage, use, and operational locations of the potential sources at this project will be determined, identified onsite maps, and incorporated into this SWPPP at a later date.

- Vehicle batteries
- Painting products
- Contaminated soil
- Line flushing products
- Dust palliative products
- Masonry products
- Landscaping products
- Concrete curing
- Sealants
- Adhesives
- Cleaning products

The following existing site feature is a potential source of non-visible pollutants to stormwater discharges from the project:

- The site is located on the Former Western Pacific Railroad (WPRR) Yard, which operated as a switchyard for rail cars. Localized areas of soil and groundwater most likely have been affected by past chemical releases of diesel, motor oil, and Bunker C-oil. Elevated levels of lead and arsenic are also most likely present in the soil and groundwater.

No soil amendments will be used on the project site that have the potential to change the chemical properties, engineering properties, or erosion resistance of the soil.

The project has the potential to receive stormwater run-on with the potential to contribute non-visible pollutants to stormwater discharges from the project.

- Soil and groundwater contamination with diesel, motor oil, Bunker C-oil, lead, and arsenic constituents has been discovered at the adjacent MUNI Operations and Maintenance Center location to the west.

Sampling for non-visible pollutants will be conducted when (1) a breach, leakage, malfunction, or spill is observed; and (2) the leak or spill has not been cleaned up prior to the rain event; and (3) there is the potential for discharge of non-visible pollutants to surface waters or drainage system.

6.2.2 Monitoring Strategy

Sampling Schedule

Samples for the applicable non-visible pollutant(s) and a sufficiently large uncontaminated background sample shall be collected during the first two hours of discharge from rain events that result in a sufficient discharge for sample collection. Samples shall be collected during daylight hours (sunrise to sunset) and shall be collected regardless of the time of year, status of the construction site, or day of the week.

In conformance with the U.S. Environmental Protection Agency definition, a minimum of 72 hours of dry weather will be used to distinguish between separate rain events.

Collection of discharge samples for non-visible pollutant monitoring will be triggered when any of the following conditions are observed during the required inspections conducted before or during rain events:

- Materials or wastes containing potential non-visible pollutants are not stored under watertight conditions. Watertight conditions are defined as: (1) storage in a watertight container, (2) storage under a watertight roof or within a building, or (3) protected by temporary cover and containment that prevents stormwater contact and runoff from storage area.
- Materials or wastes containing potential non-visible pollutants are stored under watertight conditions, but: (1) a breach, malfunction, leakage, or spill is observed, (2) the leak or spill is not cleaned up prior to the rain event, and (3) there is the potential for discharge of non-visible pollutants to surface waters or a storm sewer system.

- An operational activity with the potential to contribute non-visible pollutants: (1) was occurring during or within 24 hours prior to the rain event, (2) applicable BMPs were observed to be breached, malfunctioning, or improperly implemented, and (3) there is the potential for discharge of non-visible pollutants to surface waters or storm sewer system.
- Soil amendments that have the potential to change the chemical properties, engineering properties, or erosion resistance of the soil have been applied, and there is the potential for discharge of non-visible pollutants to surface waters or a storm sewer system.
- Stormwater runoff from an area contaminated by historical usage of the site has been observed to combine with stormwater runoff from the site, and there is the potential for discharge of non-visible pollutants to surface waters or a storm sewer system.

Sampling Locations

Considerations for determining sampling locations will be proximity to the non-visible pollutant of concern, accessibility for sampling, personnel safety, and other factors in accordance with the applicable requirements in the Permit.

- Sampling locations for the collection of samples of runoff that drain areas contaminated by historical usage of the site will be identified at a later date.
- Sampling locations for the collection of samples of run-on to the project site with the potential to combine with discharges being sampled for non-visible pollutants will be identified at a later date. These samples will be intended to identify sources of potential non-visible pollutants that originate off the project site.
- A background sample location for comparison with the samples being analyzed for non-visible pollutants will be selected such that the sample will not have come in contacted with: (1) operational or storage areas associated with project materials, wastes, and activities; (2) potential non-visible pollutants due to historical use of the site; (3) areas in which soil amendments that have the potential to change the chemical properties, engineering properties, or erosion resistance of the soil have been applied; or (4) disturbed soil areas.

If an operational activity or stormwater inspection conducted 24 hours prior to or during a rain event identifies the presence of a material storage, waste storage, or operations area with spills or the potential for the discharge of non-visible pollutants to surface waters or a storm sewer system that was an unplanned location, sampling locations will be selected using the same rationale as that used to identify planned locations.

6.2.3 Monitoring Preparation

The person collecting samples on the project site will be selected at a later date.

Prior to the rainy season, all sampling personnel and alternates will review the SAP. Qualifications of designated personnel describing environmental sampling training and experience will be provided as an Attachment in this SWPPP.

An adequate stock of monitoring supplies and equipment for monitoring non-visible pollutants will be available on the project site prior to a sampling event. Monitoring

supplies and equipment will be stored in a cool-temperature environmental that will not come into contact with rain or direct sunlight. Sampling personnel will be available to collect samples in accordance with the sampling schedule.

Supplies maintained at the project site will include, but are not limited to, surgical gloves, sample collection equipment, coolers, appropriate number and volume of sample bottles, identification labels, re-sealable storage bags, paper towels, personal rain gear, ice, Sampling Activity Log forms, and Chain of Custody (COC) forms. Field equipment will be obtained and maintained for analyzing samples in the field.

6.2.4 Analytical Constituents

Identification of Non-Visible Pollutants

Table 6.2-1 lists common potential sources and types of non-visible pollutants on a project site and the applicable water quality indicator constituent(s) for that pollutant. The table will be updated with the onsite materials at a later date.

TABLE 6.2-1
Potential Non-Visible Pollutants and Water Quality Indicator Constituents

Pollutant Source	Pollutant	Water Quality Indicator Constituent
Sealant	Methyl Methacrylate, Cobalt, Zinc	Methyl Methacrylate, Cobalt, Zinc
Solvents/Thinners	VOC	COD, VOC
Adhesives	Phenols, SVOC	COD, Phenols, SVOC
Batteries	Sulfuric acid, Lead	Sulfuric acid, Lead, pH
Herbicides	Herbicide	Herbicide

6.2.5 Sample Collection and Handling

Procedures

Samples of discharge will be collected at the designated sampling locations for observed breaches, malfunctions, leakages, spills, operational areas, soil amendment application areas, and historical site usage areas that triggered the sampling event.

Grab samples will be collected and preserved in accordance with the methods identified in the Table included in the Sample Analysis Section. Only personnel trained in proper water quality sampling will collect samples.

Samples will be collected by placing a separate lab-provided sample container directly into a stream of water downgradient and within close proximity to the potential non-visible pollutant discharge location. This separate lab-provided sample container will be used to collect water, which will be transferred to sample bottles for laboratory analysis. The upgradient and uncontaminated background samples shall be collected first prior to collecting the downgradient to minimize cross-contamination. The sampling personnel will collect the water upgradient of where they are standing. Once the separate lab-provided

sample container is filled, the water sample will be poured directly into sample bottles provided by the laboratory for the analyte(s) being monitored.

To maintain sample integrity and prevent cross-contamination, sampling collection personnel will:

- Wear a clean pair of surgical gloves prior to the collection and handling of each sample at each location.
- Not contaminate the inside of the sample bottle by not allowing it to come into contact with any material other than the water sample.
- Discard sample bottles or sample lids that have been dropped onto the ground prior to sample collection.
- Not leave the cooler lid open for an extended period of time once samples are placed inside.
- Not sample near a running vehicle where exhaust fumes may impact the sample.
- Not touch the exposed end of a sampling tube, if applicable.
- Avoid allowing rainwater to drip from rain gear or other surfaces into sample bottles.
- Not eat, smoke, or drink during sample collection.
- Not sneeze or cough in the direction of an open sample bottle.
- Minimize the exposure of the samples to direct sunlight, as sunlight may cause biochemical transformation of the samples to take place.
- Decontaminate sampling equipment prior to sample collection using a TSP-soapy water wash, distilled water rinse, and final rinse with distilled water.
- Dispose of decontamination water/soaps appropriately; i.e., not discharge to the storm drain system or receiving water.

Sample Handling Procedures

Immediately following collection, sample bottles for laboratory analytical testing will be capped, labeled, documented on a COC form provided by the analytical laboratory, sealed in a re-sealable storage bag, placed in an ice-chilled cooler, at as near to 4 degrees Celsius as practicable, and delivered within 24 hours to a California state-certified laboratory to be identified at a later date.

Any samples for field analysis will be tested immediately following collected in accordance with the field instrument manufacturer's instructions and results recorded on a Sampling Activity Log.

Sample Documentation Procedures

All original data documented on sample bottle identification labels, COC forms, Sampling Activity Logs, and Inspection Checklists will be recorded using waterproof ink. These will be considered accountable documents. If an error is made on an accountable document, the

individual will make corrections by lining through the error and entering the correct information. The erroneous information will not be obliterated. All corrections will be initialed and dated.

Sampling and field analysis activities will be documented using the following:

Sample Bottle Identification Labels. Sampling personnel will attach an identification label to each sample bottle. At a minimum, the following information will be recorded on the label, as appropriate:

- Project name
- Project number
- Unique sample identification number and location
- [Project Number]-[Six digit sample collection date]-[Location]
- Quality assurance/quality control (QA/QC) samples shall be identified similarly using a unique sample number or designation
- Collection date/time (No time applied to QA/QC samples)
- Analysis constituent

Sampling Activity Logs. A log of sampling events will identify:

- Sampling date
- Separate times for collected samples and QA/QC samples recorded to the nearest minute
- Unique sample identification number and location
- Analysis constituent
- Names of sampling personnel
- Weather conditions (including precipitation amount)
- Field analysis results
- Other pertinent data

Chain of Custody (COC) forms. All samples to be analyzed by a laboratory will be accompanied by a COC form provided by the laboratory. Only the sample collectors will sign the COC form over to the lab. COC procedures will be strictly adhered to for QA/QC purposes.

Stormwater Quality Construction Inspection Checklists. When applicable, the Contractor's stormwater inspector will document on the checklist that samples for non-visible pollutants were taken during a rain event.

6.2.6 Sample Analysis

Samples will be analyzed for applicable constituents using the analytical methods identified in Table 6.2-2. The table will be updated once the onsite materials have been identified. For samples collected for field analysis, collection, analysis, and equipment calibration and maintenance will be in accordance with the field instrument manufacturer's specifications.

TABLE 6.2-2
Sample Collection, Preservation and Analysis for Monitoring Non-Visible Pollutants

Constituent	Analytical Method	Minimum Sample Volume	Sample Bottle	Sample Preservation	Reporting Limit	Maximum Holding Time
VOCs – Solvents	EPA 8260B	3 x 40 mL	VOA – glass	Store at 4º C, HCl to pH < 2	1 microgram/L	14 days
SVOCs	EPA 8270C	1 x 1 L	Glass – amber	Store at 4º C	10 micrograms/L	7 days
COD	EPA 410.4	1 x 250 mL	Glass – amber	Store at 4º C, H_2SO_4 to pH < 2	5 mg/L	28 days
pH	EPA 150.1	1 x 100 mL	Polypropylene	None	Unitless	Immediate
metals	EPA 6010B/7470A	1 x 250 mL	Polypropylene	Store at 4º C, HNO_3 to pH < 2	0.1 mg/L	6 months
Herbicides	EPA 8151A	1 x 1 L	Glass – amber	Store at 4º C	Check lab	7 days

The instrument(s) will be calibrated before each sampling and analysis event. Maintenance and calibration records will be maintained with the SWPPP.

6.2.7 Quality Assurance/Quality Control

For an initial verification of laboratory or field analysis, duplicate samples will be collected at a rate of 10 percent or 1 duplicate per sampling event. The duplicate sample will be collected, handled, and analyzed using the same protocols as primary samples. A duplicate sample will be collected at each location immediately after the primary sample has been collected. Duplicates will be collected where contamination is likely, not on the background sample. Duplicate samples will not influence any evaluations or conclusions; however, they will be used as a check on laboratory quality assurance.

6.2.8 Data Management and Reporting

A copy of all water quality analytical results and QA/QC data will be submitted to the Owner/Developer within 5 days of sampling (for field analyses) and within 30 days (for laboratory analyses).

Lab reports and COCs will be reviewed for consistency between lab methods, sample identifications, dates, and times for both primary samples and QA/QC samples. All data, including COC forms and Sampling Activity Logs, shall be kept with the SWPPP.

6.2.9 Data Evaluation

An evaluation of the water quality sample analytical results, including figures with sample locations, will be submitted to the Owner/Developer with the water quality analytical results and the QA/QC data.

Should the runoff/downgradient sample show an increased level of the tested analyte relative to the background sample, the BMPs, site conditions, and surrounding influences will be assessed to determine the probable cause for the increase. As determined by the site and data evaluation, appropriate BMPs will be repaired or modified to mitigate discharges of non-visual pollutant concentrations. Any revisions to the BMPs will be recorded as an amendment to the SWPPP.

6.2.10 Change of Conditions

Whenever SWPPP monitoring, pursuant to Section B of the General Permit, indicates a change in site conditions that might affect the appropriateness of sampling locations or introduce additional non-visible pollutants of concern, testing protocols will be revised accordingly. All such revisions will be recorded as amendments to the SWPPP.

SECTION 7

Non-Stormwater Management

7.1 General

Non-stormwater management at the construction sites mainly involves prevention of contamination in runoff. Non-stormwater discharges from the project site are not anticipated due to effective implementation of control practices.

7.2 Inventory for Pollution Prevention Plan

The following substances are expected to be present onsite during construction:

- Portland Concrete Cement and masonry products
- Paints
- Detergents
- Fuels
- Lubricants
- Lumber
- Solvents
- Asphalt products
- Adhesives

Contractors are required by state and federal law to have inventories of hazardous materials. If the use of other types of hazardous materials at the site becomes necessary, the SWPPP will be amended as needed.

7.3 Hazardous Materials Management Plan

A variety of chemicals will be stored and used during construction of the facility. Hazardous materials to be used during construction include unleaded gasoline, diesel fuel, oil, lubricants (i.e., motor oil, transmission fluid, and hydraulic fluid), solvents, adhesives, paint materials, and building materials such as asphalt, sealants, and concrete. There are no feasible alternatives to these materials for construction or operation of construction vehicles and equipment, or for painting and caulking buildings and equipment.

In general, construction contractors will use lubricating oils, solvents, and other hazardous materials during construction of SFERP. The contractor will be responsible for assuring that the use, storage and handling of these materials will comply with applicable federal, state, and local LORS, including licensing, personnel training, accumulation limits, reporting requirements, and recordkeeping.

All equipment will be maintained to prevent leaks and spills, and fueling will only be conducted within contained areas. Spill containment equipment will be available if it is

needed. Any contaminated soils resulting from spills will be dug up as quickly as possible, and then removed from the site for proper disposal.

7.4 Prevention of Non-Stormwater Discharges

There will be specific designated temporary waste storage areas onsite. These areas will be contained within earthen berms or an equivalent barrier measure. Non-hazardous construction wastes (trash and construction debris) will be collected and placed into commercial disposal containers as soon as possible.

BMPs that will be implemented to prevent non-stormwater discharges include:

- Monitor all vehicle and equipment fueling and maintenance activities; fuel offsite wherever possible (BMPs NS-9 and NS-10)
- Use secondary containment for hazardous material delivery and storage areas to prevent spills or leakage of liquid material from contaminating soil or soaking into the ground (BMP WM-1)
- Train employees on the proper use of materials such as fuel, oil, asphalt and concrete compounds, paints, solvents, etc. (BMP WM-2)
- Store all liquid wastes in covered containers (BMP WM-4)
- Regularly remove construction wastes (BMP WM-5)
- Educate employees, subcontractors, and suppliers on concrete waste management techniques (BMP WM-8)
- Use portable toilet facilities managed and regularly serviced by a licensed contractor (BMP WM-9)
- Keep water equipment in good working condition; do not use water to clean pavement (BMP NS-1)
- Use practices for conducting paving operations to minimize the transport of pollutants to the stormdrain system (BMP NS-3)
- Recognize and report illicit connections or discharges (BMP NS-6)
- Restrict vehicle and equipment washing to designated areas (BMP NS-8)
- Use proper procedures to minimize pollution of runoff during concrete curing and finishing (BMPs NS-12 and NS-14)

7.4.1 Good Housekeeping

The following good housekeeping practices will be followed on all construction sites during the construction project:

- An effort will be made to store only enough product required to do the job.
- All materials stored onsite will be stored in a neat, orderly manner in their appropriate containers, and, if possible, under a roof or other enclosure.

- Products will be kept in their original containers with the original manufacturer's label.
- Substances will not be mixed with one another unless recommended by the manufacturer.
- Whenever possible, all of a product will be used before disposing of the container.
- Manufacturer and/or State and local recommendations for proper use and disposal will be followed.
- Storage areas including equipment storage will be inspected for visible signs of oil or other spillages.

7.4.2 Product Specific Practices

The following product-specific practices will be followed onsite:

- **Petroleum Products:** All onsite vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the potential for leakage. Petroleum products will be stored in tightly sealed containers that are clearly labeled. Asphalt substances used onsite will be applied according to the manufacturers' recommendations.
- **Paints:** Containers will be tightly sealed and stored when not required for use. Excess paint will not be discharged to the storm sewer system but will be disposed of properly according to manufacturers' instructions and State and local regulations.
- **Concrete:** Equipment used for concrete mixing and transport will not be allowed to wash out or discharge surplus concrete or drum wash water on the site except in areas specifically designated for rinse out as indicated in Section 3.2.3. Wash water will be contained in a temporary pit where waste concrete can harden for later removal. Fresh concrete washing will be avoided unless runoff can be drained to a bermed or level area, away from waterways and storm drain inlets.

7.4.3 Spill Prevention Practices

In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be followed for spill prevention and cleanup:

- Manufacturers' recommended methods for spill cleanup will be clearly posted and personnel will be made aware of the procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area onsite, and will include, but not limited to brooms, dustpans, mops, rags, gloves, goggles, absorbents (e.g., kitty litter, sand, sawdust), and plastic and metal trash containers specifically for this purpose.
- Spills will be cleaned up immediately after discovery.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from and contact with a hazardous substance.

- The Project Manager (or designee) will be the spill prevention and cleanup coordinator. The names of additional responsible spill personnel and authorized contractors will be posted in various areas.
- Spills of toxic or hazardous materials will be reported to the Project Supervisor (or designee) regardless of the size.
- Spills of hazardous materials that exceed their reportable quantities will be reported to all appropriate local, state and federal government agencies.

Contaminated soil or debris that cannot be recycled, reused or salvaged, will be collected and stored in securely lidded dumpsters rented from a licensed solid waste management company. The dumpsters will meet all local and State solid waste management regulations. Potentially hazardous wastes will be separated from known non-hazardous wastes. This includes the segregation of storage areas and proper labeling of containers. All waste will be removed from the site by licensed contractors in accordance with applicable regulatory requirements and disposed of at either local or regional approved facilities. No waste materials will be buried onsite. All personnel will be instructed regarding the correct procedures for waste disposal. Notices stating these procedures will be posted in various areas.

The Project Manager (or designee) will be responsible for investigating spills and determining whether the reportable quantity has been exceeded. Regulations defining the reportable quantity levels for oil and hazardous substances are found in 40 CFR Part 110, Part 117 or Part 302. Should a release occur during construction activities that exceeds the reportable quantity, the following steps should be taken:

- Notify Local Emergency Response Agency at 9-1-1
- Notify the National Response Center immediately at 800-424-8802
- Notify Governor's office of Emergency Services Warning Center at 805-852-7550

A written description of the release should be submitted to the USEPA Regional Office providing the date, circumstances of the release, and the preventative measures taken to prevent further releases.

7.4.4 Isolation of Potentially Hazardous Materials

A supply of drums will be available in the event of spills of known materials or if potentially hazardous materials are found during project construction. The contaminated material will be placed in the drums, labeled, sealed and placed in a storage area to await proper characterization and disposal. The sealed drums should be further placed in a lined roll-off container with a tarpaulin cover. In this case, the potentially hazardous materials are stored in a marked covered area that has secondary containment. In the event that a larger amount of material needs to be isolated, it will be placed directly into a lined roll-off container from a licensed hazardous waste transporter. The roll-off container will be placed out of the flow of construction traffic and equipment, in a bermed area to contain and isolate possible leaks and rainwater. In the unlikely event that even larger volumes of potentially hazardous material must be temporarily held awaiting disposition, a containment area will be constructed. Plastic sheeting will be laid on the ground prior to placement of the contaminated material and the material itself will be covered. A berm will surround the covered material to keep any rainwater from leaving the site.

SECTION 8

Waste Management and Disposal

All wastes (including waste oil and other equipment maintenance waste) from the SFERP construction shall be disposed of in compliance with federal, state, and local laws, regulations, and ordinances. Specific waste management and disposal procedures have been addressed in previous sections of this plan (see Section 3.3.2).

SECTION 9

Annual Review and Certification

Annually, the Project Manager (or designee) will review performance under the SWPPP and certify that construction activities are in compliance with the requirements of the Storm Water General Permit and the SWPPP. This Certification shall be based upon knowledge of construction activities and the site inspections conducted in accordance with the General Permit. The certification must be completed by July 1 of each year, and maintained for at least 3 years. If necessary, amendments to the SWPPP will be prepared and submitted at this time.

SECTION 10

SWPPP Administration

The Project Manager (or designee) will be identified in this SWPPP as the qualified person(s) assigned responsibility to ensure full compliance with the permit and implementation of all elements of the SWPPP, including the preparation of the annual compliance evaluation and the elimination of all unauthorized discharges.

The following lists required as part of the SWPPP will be maintained by the Project Manager:

- List of authorized contractors who have signed certifications that they understand and will comply with the SWPPP will be maintained in Appendix G. Additional information including current and emergency telephone numbers, address, contractor's responsibilities, and the specific names of individuals responsible for implementation of the SWPPP will also be maintained.
- List the name and telephone number of the qualified person(s) who have been assigned responsibility for pre-storm, post-storm, and storm event inspections (Appendix H).
- List of amendments will be maintained from the date of the first amendment prepared to the date of the most recent amendment (Appendix J). The SWPPP and each amendment will be certified by the Project Manager (or designee).

SECTION 11

Contractors/Subcontractors

The prime construction contractor will be included in this SWPPP upon award of the construction contract. Portions of the work are likely to be subcontracted to various specialty contractors. All subcontractors will be required to comply with the requirements of this permit. A list of authorized contractors/subcontractors will be maintained in Appendix G.

SECTION 12

SWPPP Certification

The contractor who is authorized to implement and amend this SWPPP will be required to sign and certify that the SWPPP is in conformance with the General Permit. The Contractor is designated as the responsible party for the overall stormwater management at the site. By signing the Certification, the Contractor agrees to the following:

> *I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel prepared the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for preparing the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

SECTION 13

SWPPP Approval

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel prepared the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for preparing the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____ _____

Signed ***Position***

_____

Date

SECTION 14

Notice of Intent

A copy of a blank Notice of Intent (NOI) Form to obtain coverage under the State General Construction Activity Storm Water Permit is included in Appendix C. The Notice of Intent will be filed prior to initiation of project construction as required.

SECTION 15

References

AGS, Inc. 1999. *Final Geotechnical Study Report-MUNI Metro East Light Rail Vehicle Maintenance and Operation Facility*. Prepared for the City and County of San Francisco Public Transportation Department.

AGS, INC.2000. *Final Risk Management Plan and Site Management Plan, MUNI Metro East Light Rail Vehicle Maintenance and Operation Facility San Francisco Municipal Railway. February.*

California Stormwater Quality Association. 2004. *California Stormwater Best Management Practices Handbooks: Construction Handbook.*

Natural Resources Conservation Service (NRCS formerly Soil Conservation Service). 1992. *Soil Survey of San Joaquin County*.

State of California Department of Transportation (Caltrans). 2003. *Caltrans Storm Water Quality Handbooks*.

Storm Water Quality Task Force. 1993. *California Stormwater Best Management Practices Handbooks.* Volume 2: Commercial/Industrial Handbook.