NRG EL SEGUNDO OPERATIONS INC.
EL SEGUNDO POWER, LLC

STATION PROCEDURE EL 8-12

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

EL SEGUNDO GENERATING STATION

301 VISTA DEL MAR BOULEVARD
EL SEGUNDO, CALIFORNIA 90245
(310) 615-6387

NPDES PERMIT CA0001147

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AUGUST 2009

Plan Approval and Certification Statement

"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 properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering 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."

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Title: Plant Manager

Signature: _____ Date: 9/27/09

El Segundo Power, LLC
By: NRG El Segundo Operations, Inc.
Its Authorized Agent

TABLE OF CONTENTS

SECTION 1.0 INTRODUCTION 1
1.1 Referenced Facility Plans and Procedures 1
SECTION 2.0 PLAN ADMINISTRATION 3
2.1 Review and Amendments 3
2.2 Pollution Prevention Team 3
SECTION 3.0 FACILITY DESCRIPTION 4
3.1 Site Location 4
3.2 Site Layout and Map 5
3.3 Site Drainage 5
SECTION 4.0 POTENTIAL POLLUTANT SOURCES AND SOURCE-SPECIFIC BMP 8
4.1 List of Significant Materials 8
4.2 Oil Storage & Handling 8
4.3 Ammonium Hydroxide Tank & Delivery System 9
4.4 Sodium Hypochlorite Tank 10
4.5 Boiler Water Treatment Totes 10
4.6 Chemical and Hazardous Waste Containers 11
4.7 Significant Spills and Leaks 11
4.8 Non-Storm Water Discharges 11
4.9 Soil Erosion 12
SECTION 5.0 GENERAL STATION-WIDE BMPS 13
5.1 Drainage Systems 13
5.2 Personnel Training 13
SECTION 6.0 STORM WATER MONITORING PROGRAM 17
6.1 Sediment Generating Activities 17
SECTION 7.0 REPORTING AND RECORDKEEPING 20

TABLES

TABLE 1 Generating Units 3

Figures and Appendices Attached

FIGURES

FIGURE 1 Site Location Map
FIGURE 2 Site Layout showing SPCC and Storm Water Features

APPENDICES

APPENDIX A List of Significant Materials
APPENDIX B Assessment of Potential Pollution Sources and Corresponding Best Management Practices Summary
APPENDIX C Storm Water Sampling Procedures

SECTION 1.0 INTRODUCTION

El Segundo Power, LLC owns and operates the El Segundo Generating Station (ESGS), a fossil-fuel electric power generating station located at 301 Vista Del Mar Boulevard in El Segundo, California. ESGS discharges storm water and wastewater to the Pacific Ocean as authorized by the California Regional Water Quality Control Board, Los Angeles Region (RWQCB) National Pollutant Discharge Elimination System (NPDES) Permit Number CA0001147, Order No. 00-084 (the Site-Specific Permit). This permit authorizes discharges of both storm water and process wastewater (once through cooling water and low-volume waste) under the federal storm water effluent limitations guidelines for Steam Electric Power Generating Point Source Category (40 Code of Federal Regulations [CFR] Part 423). As a condition of the Site-Specific Permit, this Storm Water Pollution Prevention Plan (SWPPP) has been developed in general conformance with the applicable requirements of the 1997 NPDES storm water permit issued by the State Water Resources Control Board (SWRCB) (97-13-WQ/ CAS000001: *Storm Water Associated with Industrial Activities Excluding Construction Activities* (General Permit).

This SWPPP was developed to minimize the potential discharge of pollutants in storm water discharges from ESGS, to consolidate information provided in the permit application, and to ensure compliance with the terms and conditions of the General Permit. This SWPPP has been specifically designed to parallel and otherwise reflect the content and structure of the General Permit. This structure is preferred so that all elements mandated by the General Permit are covered, and that ease of assessing plan compliance is assured. This SWPPP identifies potential sources of pollution that may affect the quality of storm water discharges associated with industrial activity at ESGS, and presents the management practices that will be used for reducing pollutants in storm water discharges.

The two major objectives of this SWPPP are as follows:

- Identify and evaluate sources of pollutants associated with industrial activities that may affect the quality of storm water prior to it commingling with the Station's non-storm water discharge.
- Identify and implement best management practices (BMPs) to reduce or prevent pollutants associated with industrial activities from contacting storm water. BMPs may include a variety of pollution prevention measures or other low-cost and pollution control measures. They are generally categorized as *non-structural* BMPs (activity schedules, training, staging of spill cleanup materials, prohibitions of practices, maintenance procedures, and other low-cost measures) and as *structural* BMPs (treatment measures, run-off controls, secondary containment, overhead coverage).

1.1 Referenced Facility Plans and Procedures

The following plans and procedures are incorporated by reference and intended to be used in conjunction with this Plan:

- Station Procedure EL 8-1: *Spill Prevention, Control and Countermeasures (SPCC) Plan*
- Station Procedure EL 8-2: *Hazardous Materials & Hazardous Waste Management Plan*
- Station Procedure EL A-122: *Chemical and Oil Transfers and Deliveries*
- Station Order EL 7-1: *Emergency Preparedness and Emergency Response Plan*
- Station Order EL O6: *Oil and Hazardous Substance Spill Contingency Plan*

- Station Order EL O-103, *Locking of Critical Valves*
- Unified Program Hazardous Materials Business Plan

SECTION 2.0 PLAN ADMINISTRATION

2.1 Review and Amendments

A copy of the SWPPP shall be retained on site in the ESGS Environmental Supervisor's Office and made available upon request.

This plan will be reviewed and, if necessary, modified, whenever:

- Re-issuance of the Industrial General Permit by the RWQCB.
- Conditions at the site change that: 1) could significantly increase the quantities of pollutants in storm water runoff; 2) cause a new area of industrial activity at the Facility to be exposed to storm water or authorized non-storm water discharges, or 3) start-up of an industrial activity that would introduce a new pollutant source at a facility.

The SWPPP must be revised and implemented in a timely manner, but in no case more than 90 days after a facility operator determines that the SWPPP is in violation of any requirement(s) of the General Permit.

2.2 Pollution Prevention Team

The Plant Manager, Ken H. Riesz, Sr., has overall responsibility for compliance with the SWPPP. The Environmental Supervisor, Alex Sanchez, is responsible for conducting all monitoring program activities, as well as assisting the Plant Manager in the development and implementation of the SWPPP.

SECTION 3.0 FACILITY DESCRIPTION

Name:	El Segundo Generating Station
Address:	301 Vista Del Mar Blvd.., El Segundo, California 90245
Telephone:	(310) 615-6387
Type:	Electric Power Generation
Hours of Normal Operation:	24 hours daily
Date of Initial Operation:	1955
Owner:	El Segundo Power, LLC
Operator:	NRG El Segundo Operations, Inc.
Primary Contact:	Ken H. Riesz, Sr., Plant Manager

ESGS is a fossil-fuel electric generation station that was built in 1955 by Southern California Edison (SCE), who owned it until acquired by El Segundo Power LLC in 1998. ESGS currently consists of four natural gas-fired, hydrogen cooled, combined-cycle electric generating units, two of which have been removed from service as noted in Table 1 below. Electricity generated by ESGS is delivered to the SCE substation located on the adjoining separate parcel of property that is physically within the fenced boundary of the site. From SCE's 230 kilovolt (kV) substation, electricity is transmitted to users by the existing transmission and distribution network.

Table 1: Generating Units

Generation Unit	Date of Initial Operation	Fuel Source	Generation Capacity (MegaWatts, MW)
1	May 25, 1955	Retired	N/A
2	August 27, 1956	Retired	N/A
3	July 31, 1964	Natural Gas	335
4	March 31, 1965	Natural Gas	335

3.1 Site Location

Figure 1 provides a site location map for ESGS, which is located in the County of Los Angeles at Township 3 South, Range 15 West on the Venice USGS Quadrangle Map. ESGS is bordered by Vista Del Mar to the east and, opposite, the Chevron Refinery, 45th Street residential neighborhood in the City of Manhattan Beach on the south, Santa Monica Bay of the Pacific Ocean on the west, and Chevron U.S.A. facility on the north.

The region is characterized as an arid climate with warm, dry summers and mild winters. Winter precipitation in the area is associated with storms migrating inland from the Pacific Ocean. Nearly 90 percent of the annual rainfall occurs during the period from November to April with a mean annual rainfall of about 13 inches.

3.2 Site Layout and Map

Figure 2 illustrates the physical layout of ESGS that consists of approximately 32.8 fenced acres. This is the boundary of the facility for purposes of this Plan with the exception of the following:

- SCE owns and operates an electrical switchyard that is located within ESGS's perimeter fence line on a separate, adjoining, fenced, 2.2 acre parcel of property.
- Plains Marketing L.P. owns and operates a 1,806,000-gallon cutter oil aboveground storage tank (AST) and pipeline within a separately diked area east of the out-of-service fuel oil tanks.
- The Southern California Gas Company owns and operates an onsite gas pipeline and metering station system located northeast of the Retention Basin that runs alongside the main access road.
- Chevron USA, Inc. installed a system of wells and piping at ESGS for extracting hydrocarbons from the soil and groundwater beneath the site that was impacted by their operations on the adjacent property. The system was shut down in 1996 but the components of the system are still in place at ESGS and remain the responsibility of Chevron USA, Inc.

The predominant structures at ESGS include the two power blocks (each containing two natural gas-fired, combined-cycle, electric generating units), two ocean water intake structures, out-of-service Fuel Oil Tanks and Delivery System, administration building and adjacent office trailers, warehouse and shop buildings; paved roadways and parking areas, and the oil/water separators and retention basin. Each power block contains two turbines on the second floor concrete deck, a control building, a turbine lube system primarily on the ground level, multi-level steel boiler structures and electrical transformers.

3.3 Site Drainage

Station drainage includes both storm water and non-storm water that is collected and discharged to the Pacific Ocean through two concrete outfall tunnels (Outfalls No. 001 and 002) that extend from each of the two discharge structures located on the west side of ESGS to approximately 2,100 feet offshore in the Pacific Ocean. The discharge, including storm water, is regulated under ESGS's Site-Specific Permit. ESGS's Site Specific Permit incorporates the requirements of the General Industrial Storm Water Permit.

Surface water drainage is collected by a system of drains and sumps that discharge through one of three oil/water separators and into one of the two outfall tunnels to the Pacific Ocean. Surface water drainage is commingled in the outfall tunnels with ESGS's in-plant wastewater and cooling water being discharge to the Pacific Ocean. The impact that the quality of storm water has on the overall quality of the water discharged from ESGS will generally be insignificant. Nonetheless, this SWPPP is designed to specifically address the quality of the storm water component of the total discharge from the ESGS. The non-storm water components are addressed by the conditions of ESGS's Site-Specific Permit.

Two main drainage systems consisting of catch basins, floor drains, pipelines and oil/water separators are provided at the ESGS. In addition, there is a storm water easement that runs along the surface on the southern property boundary that is not associated with the activities at the ESGS. Figure 1 illustrates the site layout, drainage systems and the location and routing of yard drains. A description of each drainage system is provided below.

3.3.1. Storm Water Drainage System

Surface and roof drain water flow by gravity along surface contours into drop inlet storm water catch basin drains. These drains are connected by underground piping to either of three concrete, in-ground, oil/water separators located adjacent to, and discharging into, the two Intake Structures.

- Each separator has a manually-operated gate valve on the outlet that is normally chain-locked closed. In the event of a storm event, the valves will be opened only after the inspection of the contents confirms that there is no visible oil present. Following the storm event, the outlet valves will be closed and locked. Release events are documented on the *Daily Environmental Inspection Report*.
- Each separator has a bypass valve that is normally chain-locked closed. In the event of an unusually intense rain event, the Shift Supervisor may order the bypass valves opened to divert heavy flows directly to the Intake Structures.

3.3.2. In Plant Wastewater System

Each power block foundation, concrete floors, turbine deck, pits, and adjacent concrete-paved areas, have a system of floor and equipment drains and sumps. The Units 1-2 power block system drains into the 1P sump (located adjacent to the 1P Intake Structure) that is pumped to the 3P oil/water separator; Units 3-4 power block drains directly to the 3P oil/water separator and, following treatment, pumped to the Retention Basin.

- The 1P sump has two pumps, each providing a backup to each other, and can be shut off in response to a spill.
- A manually-activated oil skimmer floats on the Retention Basin and pumps floating oil into the adjacent Retention Basin Skimmer Separator that retains the oil and returns the water back to the Retention Basin.
- The 837,000-gallon Retention Basin is lined with 6 inches of asphalt concrete topped with 80 millimeters (mm) of high-density polyethylene. At least 2 feet of freeboard are maintained in the basin during normal operations. Oil is prevented from leaving the Retention Basin by an inlet and outlet weir. The outlet weir contains a vertical standpipe that maintains the water level in the weir above the exit point of the standpipe. This prevents any oil on the surface from leaving the weir.

3.3.3. Storm Water Easement

A storm water easement to the City of El Segundo is located along the non-industrial, southern portion of ESGS. Storm water from Vista Del Mar Boulevard enters ESGS from an underground pipeline located at the southeast boundary of ESGS that discharges into a paved surface swale that conveys the storm water to its ultimate discharge to the Pacific Ocean on the southwest corner of ESGS. This discharge is regulated under the NPDES permit for discharges from municipal separate storm sewers (MS4s) issued to Los Angeles County and the cities in Los Angeles County by the RWQCB. Since this storm water discharge does not come into contact with ESGS's industrial processes nor is it under the control or the responsibility of ESGS, and is separately permitted by the RWQCB, it is not addressed by this SWPPP.

3.3.4. Outfall Tunnel

The Storm Water Drainage System discharges thorough the two Intake Structures (1P and 3P), each with two concrete outfall tunnels (Outfalls No. 001 and 002) that discharge approximately 2,100 feet offshore in the Pacific Ocean.

The In-Plant Wastewater System flows are pumped into the Retention Basin. Once deemed acceptable, the Retention Basin discharges through an underground pipeline to the 3P Intake Structure where it is commingled with single-pass ocean cooling water and, if present, storm water, prior to its discharge through the outfall tunnel (Outfall No. 002) to the Pacific Ocean.

SECTION 4.0 POTENTIAL POLLUTANT SOURCES AND SOURCE-SPECIFIC BMP

This section describes the industrial activities and significant materials that may be potential pollutant sources that could impact storm water. Following each source description, the specific BMPs that have been implemented to minimize the likelihood that pollutants contact storm water are identified. BMPs are the practices, controls, and devices that are implemented to prevent or minimize pollutants coming in contact with precipitation, storm water runoff, or non-storm water flows. Section V identifies site-wide (non-specific) BMPs. Appendix B offers an assessment of potential pollution sources and BMPs.

4.1 List of Significant Materials

There are a number of "significant materials" used at ESGS that have the potential to be exposed to precipitation, either directly or indirectly. "Significant materials" include metallic products, and any chemical the facility is required to report under Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) that have the potential to be released with storm water discharges. These commonly include stored metal structures and equipment, cutting/lubricating oils, water softening/treating chemicals, paints, and metal shaving waste.

Significant materials that are routinely present at the ESGS are identified on Figure 2 and in Appendix A. A complete list of hazardous materials is contained within the Unified Program Hazardous Business Plan and onsite records in the Environmental Supervisor Office (Administration Building).

4.2 Oil Storage & Handling

Oil-containing tanks, drums, equipment and transformers with capacities equal to or greater than 55 gallons at ESGS are identified and described in the *Spill Prevention, Control, and Countermeasures (SPCC) Plan* located in the Administration Building (Environmental Supervisor Office).

4.2.1. Structural BMPs

- The Retention Basin Oil Skimmer Tanks and piping are constructed of carbon steel and are compatible with the operating pressures and temperatures; secondary containment in excess of the largest tank plus freeboard to contain rain water from a 25-year, 24-hour storm event is provided by the concrete walled dike; two high-level sensors in the Return Water Tank automatically starts the discharge pumps; the storm water catch basin south of the truck loading area on east side of the dike has a flapper valve that remains shut.
- Drums meet U.S. Department of Transportation (DOT) standards for hazardous materials; drums are stored on spill pallets and/or within concrete secondary containment dikes.
- Turbine Lube Systems are constructed of carbon steel and are compatible with the operating pressures and temperatures; secondary containment is provided by the power block floors and In-Plant Wastewater Drainage System; each system's hydraulic controls incorporate oil pressure, temperature and level alarms and trips that will shut off the system in the event of excessive conditions. During truck transfers to the system reservoirs, the nearby storm water drains are temporarily plugged and/or a temporary secondary containment area for the truck is constructed.

- Transformers are constructed of carbon steel and are compatible with the operating pressures and temperatures; secondary containment in excess of the stored oil capacity provided; each is equipped with oil temperature, vacuum and pressure gauges.
- Secondary containment drains are either plugged or have manually-controlled valves that remain locked in accordance with Station Order EL A-122, *Locking of Critical Valves*.

4.2.2. Operational BMPs

- Daily inspections occur at least every 12 hours of oil-filled tanks, drum areas, lube systems and transformers are completed using the *Daily Environmental Inspection Report*. Noted concerns are reported to the Shift Supervisor and promptly corrected.
- Routine inspection and integrity testing of the Retention Basin Oil Separator is completed by an American Petroleum Institute (API)-certified tank inspector.
- Oil transfers occur only with trained operations personnel present to monitor gauges, truck delivery personnel, and to immediately report any leaks or spill per Station Procedure EL A-122, *Chemical & Lube Oil Deliveries.*
- Storm water accumulations in secondary containment areas are drained only after visual inspection for evidence of pollutants using the *Environmental Daily Inspection Report*.

4.3 Ammonium Hydroxide Tank & Delivery System

A 28 percent ammonium hydroxide underground storage tank (UST) and pipeline delivery system supports the air pollution control device (SCR units) for each unit's exhaust system. A complete description of the tank and delivery system is provided in the *Risk Management Plan* located in the Administration Building (Environmental Supervisor Office).

4.3.1. Structural BMPs

- There is a 20,000-gallon, dual-wall, fiberglass UST equipped with pressure relief valves, interstitial leak detectors, temperature and pressure reference level indicators and overfill protection.
- The piping system is stainless steel and is predominantly above ground to the injection skids located at each unit. Pipeline extensions below ground consist of double-walled stainless steel piping with interstitial continuous leak detection. The delivery of ammonium hydroxide is by tanker truck from off-site sources.

4.3.2. Operational BMPs

- Daily inspections of the tank, skids and piping systems occur at least every 12 hours using the Daily Environmental Inspection Report. Noted concerns are reported to the Shift Supervisor and promptly corrected.
- Monthly inspections of UST monitoring system by a California Designated UST Operator certified by the International Code Council (ICC).
- Annual monitor testing and triennial secondary containment testing in accordance with the California Underground Storage Tank Regulations (23 California Code of Regulations [CCR] Chapter 16).

- Ammonia transfers occur only with trained operations personnel present to monitor gauges, truck delivery personnel and to immediately report any leaks or spill per Station Order EL A-122, *Chemical & Lube Oil Deliveries.*
- *Emergency Preparedness and Response Plan, EPRP* (Station Procedure 7-1) that outlines hazard communication and response procedures/ requirements to ensure effective management of an accidental release.
- Annual Environmental Training of affected employees on spill prevention and required storm water management controls.

4.4 Sodium Hypochlorite Tank

Sodium hypochlorite is used to treat the circulating water system (seawater) that provides cooling to the generating units. The tank is located inside a metal building at the north side of the 3P circulating water pump pit.

4.4.1. Structural BMPs

- A 3,700-gallon high-density polyethylene (HDPE) tank located inside a metal building.
- The tank is contained within a HDPE secondary containment structure designed to contain the total contents of the tank in the event of a release.
- The material is received by tanker truck from off-site sources and is loaded from the asphalt road alongside the building.

4.4.2. Operational BMPs

- Daily Inspections occur at least every 12 hours using the Daily Environmental Inspection Report. Noted concerns are reported to the Shift Supervisor and promptly corrected.
- Transfers occur only with trained operations personnel present to monitor gauges, truck delivery personnel and to immediately report any leaks or spill per Station Order EL A-122, *Chemical & Lube Oil Deliveries.*
- *Emergency Preparedness and Response Plan, EPRP* (Station Procedure 7-1) that outlines hazard communication and response procedures/ requirements to ensure effective management of an accidental release.
- Annual Environmental Training of affected employees on spill prevention and required storm water management controls.

4.5 Boiler Water Treatment Totes

Four portable, 220-gallon totes are located on the ground floor under the Unit 3 boiler provide water treatment feed chemicals (Nalco Elimin-Ox oxygen scavenger, Nalco 7330, 8338, LCS-20, BT-3000) to the boilers:

4.5.1. Structural BMPs

- Carbon steel portable totes meeting U.S. DOT hazardous material packaging specifications
- Steel or HDPE secondary containment
- Concrete floor of power block under turbine deck and In-Plant Wastewater System

4.5.2. Operational BMPs

- Daily Inspections occur at least every 12 hours using the Daily Environmental Inspection Report. Noted concerns are reported to the Shift Supervisor and promptly corrected.
- U.S. DOT routine integrity testing by vendor
- *Emergency Preparedness and Response Plan, EPRP* (Station Procedure 7-1) that outlines hazard communication and response procedures/ requirements to ensure effective management of an accidental release.
- Annual Environmental Training of affected employees on spill prevention and required storm water management controls.

4.6 Chemical and Hazardous Waste Containers

Similar to oil drums, chemicals stored and used at ESGS are received by truck from off-site sources primarily in drums. An inventory of these materials is contained within the Hazardous Materials and Hazardous Waste Management Plan located in the Administration Building.

4.6.1. Structural BMPs

- Containers meet U.S. DOT standards for hazardous materials;
- Containers are stored on spill pallets and/or within concrete secondary containment dikes or in plastic drum enclosures.

4.6.2. Operational BMPs

- Daily Inspections occur at least every 12 hours of containers and containment areas using the *Daily Environmental Inspection Report*. Noted concerns are reported to the Shift Supervisor and promptly corrected.
- Drum transfers occur only with trained operations personnel present to monitor truck delivery personnel and to immediately report any leaks or spill per Station Order EL A-122, *Chemical & Lube Oil Deliveries*.
- Storm water accumulations in secondary containment areas and spill pallets drained only after visual inspection for evidence of pollutants and only as authorized by the Shift Supervisor.
- *Emergency Preparedness and Response Plan, EPRP* (Station Procedure 7-1) that outlines hazard communication and response procedures/ requirements to ensure effective management of an accidental release.
- Annual Environmental Training of affected employees on spill prevention and required storm water management controls.

4.7 Significant Spills and Leaks

There has not been a spill or a leak of a reportable quantity (RQ) of oil or hazardous substance into the storm water discharge since the reporting date specified in the SWPPP regulation (April 17, 1994).

4.8 Non-Storm Water Discharges

The General Permit defines a non-storm water discharge as any discharge or flow to a storm water drainage system that is not composed entirely of storm water runoff. Storm water is not separate from

non-storm water discharges at ESGS and there are no discharges that are not authorized by the Site-Specific NPDES Permit.

The ESGS discharges up to 607 million gallons per day (mgd) of water consisting primarily of once-thru cooling water. The non-storm water sources are identified and described in ESGS's Site Specific Permit and includes the following:

- Once-through cooling water;
- Treated wastes from the retention basin;
- In-plant wastewater, including power block floor drain wastes, boiler blowdown, retention basin waste, air preheater wastes, hydrostatic test waters, condenser sump water, and laboratory drains; and
- Secondary treated sanitary waste from the Station's wastewater treatment unit.

Authorized non-storm water discharges that are authorized by the General Permit include fire hydrant flushing, potable water sources and landscape irrigation, atmospheric condensate (i.e. air conditioning), and seawater intrusion.

During routine maintenance, these discharges are sometimes allowed to drain to the ground because they do not pose a potential pollution problem for storm water. However, standard protocol at ESGS is to minimize and otherwise prevent *any* non-storm water discharges to the ground. When these discharges do occur, they are infrequent, typically of low volume, and evaporate in a short time. In addition, these discharges either are from a potable water source supplied by the City of El Segundo or are otherwise known not to contain substances that pose a threat to storm water quality.

4.9 Soil Erosion

The contour of ESGS is predominantly flat and is paved with either asphalt or concrete. Non-industrial portions are shown on Figure 2 as predominantly landscaped to minimize the potential for soil erosion entering the storm drain system.

SECTION 5.0 GENERAL STATION-WIDE BMPS

Section IV identifies BMPs that are implemented in specific areas where there are potential pollutant sources. This section identifies BMPs that will be implemented throughout the site.

5.1 Drainage Systems

As discussed in Section III.C., ESGS drainage is engineered to direct surface flow into either three drainage systems that pump into the Retention Basin and discharge through the channel bank outfall structure in accordance with the Site-Specific NPDES Permit: 1) Yard Drain System; 2) Plant 2 Sump System; or 3) Well Point Dewatering System.

- The pumps in each drainage sump may be manually shut off to contain identified contaminants until cleaned up.
- Storm water is pumped to the Retention Basin. Similar to the sumps, the pumps from the Retention Basin may be manually shut off if known contaminants are present.

5.2 Personnel Training

5.2.1. Annual Environmental Training

Employees receive initial and annual training to ensure the employee understands their role in the operation and maintenance of ESGS facilities. The training approach relies on a combination of both on-the-job training and familiarity with the operating procedures as written. Specifically, employees receive the following training: Environmental Training Module, Hazardous Waste Module, and Hazardous Waste Contingency Plan Module. Topics covered include the following:

- Immediately reporting all spills
- Picking up litter and never spilling or discarding anything to the outside grounds
- Keeping containers labeled as to their general contents
- Immediately cleaning up water, oil, or other spills and reporting the condition to maintenance;
- Placing waste materials and recyclables into the designated containers
- Never performing work or storing materials outside buildings unless specifically authorized by the Environmental Supervisor, including cleaning anything outside
- Never dumping any material down any drain, sink or toilet (other than sanitary waste) unless specifically authorized
- Never bringing any chemical on-site, in any quantity, without prior approval from Environmental

5.2.2. Operations & Maintenance Personnel

In addition to the annual Environmental Training, operations and maintenance personnel annually receive training on the following procedures:

- Environmental Daily Inspection Report Form
- Station Procedure El 8-2, Hazardous Materials & Hazardous Waste Management Plan
- Station Procedure EL 8-12, Storm Water Pollution Prevention Plan
- Station Order El A-122, Chemical/Oil Transfers & Deliveries
- Station Order El A-116, Medical Treatment & Major Emergencies

- Station Order EL O-6, Oil and Hazardous Substances Spills Contingency Plan
- Station Order EL O-103, Locking of Critical Valves
- Station Procedure 7-1, Emergency Preparedness & Emergency Response Plan
- Hazardous Materials Uniform Program Business Plan

5.2.3. Storm Water Monitoring Team

The Storm Event Monitoring Team is trained by Environmental Health and Safety (EH&S) on the SWPPP Appendix A Inspection and Sampling Procedure, when sampling and inspections are required; when, where and what signs of pollutants to look for; use of the sampling kit and sample collection; sample refrigeration and use of the Chain-of-Custody form; sample labeling and completion of the monitoring observation form.

5.2.4. Contractor Requirements

Contractors received training prior to performing work onsite and, depending on the type of work, are required to:

- Conduct pre-work environmental assessments, as needed, of the project site and providing for the necessary controls and equipment to protect the environment from harm, including reasonably foreseeable emergencies.
- Ensure workers report all chemical spills or leaks, fire, or other perceived emergency conditions immediately to their NRG Contract Administrator or Security (no matter how slight).
- Keep materials and equipment brought onsite, in addition to any waste and scrap generated, in the area(s) designated by ESGS.
- Maintain work areas in a neat, orderly manner without excess paper or materials.
- Keep containers labeled as to their general contents and keep closed.
- Never store materials, spill or discard anything to the outside grounds that can end up in the storm drains – they lead directly to the ocean.
- Keep chemicals stored outdoors fully protected from exposure to storm water and secured from unauthorized tampering.
- Notify the Shift Supervisor and respond to and cleaning up all spills.
- Provide spill control and cleanup supplies suitable to the types and quantities brought onsite and make it immediately available where required.
- Provide storm water pollution prevention controls to prevent contaminants from leaving the site by either the drains or run-off.

5.2.5. Good Housekeeping

Proper traditional "housekeeping" practices will be performed by station personnel so the facility is kept in a clean and orderly condition. This element of the storm water pollution prevention program is an ongoing task and is continually implemented to minimize the exposure of significant materials to storm water. Proper housekeeping practices include:

- Periodic clean up and maximization of parts storage under roofed or covered areas
- Sweeping of impervious surfaces
- Proper disposal and rainfall protection techniques for spent paint cans, waste oils, etc

- Maintenance of oil-absorbing materials in areas of potential spillage
- Proper storage and rainfall protection techniques for potential contaminants
- Brief employees and contractors on SWPPP efforts and potential storm water issues

5.2.6. Preventive Maintenance

Maintenance is responsible for the maintenance of the facility structures, outside grounds, and site utilities. Preventive maintenance BMPs include regular inspections and maintenance intended to minimize storm water pollution by performing maintenance activities before problems arise. This includes the following:

- Clearing of debris from grate drains, catch basins, diversion ditches, sumps and drainage pipes
- Maintenance and inspection of secondary containment structures and associated drain valves
- Periodic inspection and maintenance of pumping equipment as needed
- Periodic maintenance of the oil/water separator to remove oil and accumulated sludge.
- Inspection and maintenance of rainfall protection coverings for waste storage bins and receptacles.
- Inspection and maintenance of trash dumpsters, waste and recyclable containers and the general outdoor grounds in a manner that is free of accumulated debris, trash, litter, leaks or signs of excessive deterioration that could lead to a leak.
- Continuous inspection and maintenance of the various pumps, piping, electrical systems, building air conditioning units, and other facilities equipment so that they are properly maintained to be free of leaks or signs of excessive deterioration that could lead to a leak.

5.2.7. Material Storage, Maintenance and Construction Activities

Intermittent maintenance such as corrosion, paint and structure repair and construction activities may intermittently generate dust and other forms of pollutants. Temporary storm water diversionary structures are required to be installed whenever a project has the potential storm water pollution.

- Maintenance is responsible for thorough review and establishment of project storm water controls prior to the start of work (e.g., chemical use and storage, material storage, good housekeeping, employee awareness, etc.).
- Routine preventative maintenance painting of exposed structures, as needed, to minimize corrosion.
- Exposed materials and storage piles covered with plastic leak-proof tarps, as needed.
- Sand bags or absorbent booms/pads installed around the perimeter of exposed work area and materials, as needed.
- Drain covers or plugs installed to protect affected drains to the Storm Water Oil Water Separators, as needed.
- Waste bins, roll-off containers, etc. with closed lids.
- Storm water accumulations in temporary secondary containment areas drained only after visual inspection for evidence of pollutants and only as authorized by the Shift Supervisor.

5.2.8. Vehicles and Forklifts

Forklifts, cranes and other vehicles are routinely used to transfer materials and waste along the asphalt roadways.

- The asphalt paving and Yard Drain System provides secondary containment in the event of a vehicle fluid leak (e.g., lead-acid battery fluid, radiator coolant, oil, gasoline, etc.).
- Industrial truck operators (e.g. forklifts, cranes, heavy equipment, etc.) are responsible for maintaining the vehicles in good operating condition and for daily inspections of equipment for signs of damage and leaks, how to secure loads to prevent spillage, etc.
- ESGS forklifts are serviced quarterly by a specialty service contractor.

5.2.9. Spill Prevention and Response

Spills and the resulting residues pose a significant source of potential pollutants if not immediately and thoroughly cleaned up. The *Emergency Preparedness and Response Plan, EPRP* (Station Procedure 7-1) outlines hazard communication and response procedures/ requirements to ensure effective management and cleanup of an accidental release.

Site supervision shall ensure the following for their respective operations and areas of responsibilities:

- Monitoring and enforcement of the requirements and practices identified in the Environmental Training.
- Clean up of non-emergency material spills or leaks so that there are no residues that may cause storm water to contact pollutants.
- The ESGS will conduct routine outdoor day sweeping of paved surfaces to allow for easy detection, control, and cleanup of spills.

5.2.10. Sediment Generating Activities

Emission particulate matter from the generation units is strictly regulated by the ESGS air quality permit and would not be expected to deposit any significant quantities of dust within ESGS. Non-routine maintenance and construction activities may intermittently generate dust and sediment, as well as from the natural deterioration and corrosion of ESGS's surfaces and equipment.

SECTION 6.0 STORM WATER MONITORING PROGRAM

ESGS will perform visual inspections of the site and collect storm water samples during storm events as described in this section.

- Results from this monitoring program shall be documented and reported to the RWQCB by July 1 of every year as part of the Annual Report for General Industrial Storm Water Discharges using the most current forms or online reporting format of the SWRCB.
- Monitoring includes visual inspections of the facility as described in this procedure.
- The State "General Permit" requires that facilities subject to Federal Storm Water Effluent Limitation Guidelines (NPDES guidelines) shall analyze for applicable pollutants as specified in 40 CFR 423 (Subchapter N).

6.1 Sediment Generating Activities

6.1.1. Quarterly Dry Inspections

In accordance with Section B.3 of the General Permit, "facility operators" must visually observe all drainage areas within their facilities for the presence of unauthorized non-storm water discharges and must visually observe the facility's authorized non-storm water discharges and their sources.

Visual inspections of the outside grounds of the ESGS shall be performed at least once each quarter during dry conditions and during daylight hours. The inspector shall document the presence of any of the following conditions on the Annual Report "FORM 3 – Quarterly Visual Observations of Unauthorized Non-Storm Water Discharge":

- Any non-storm water discharge in the Yard Drain System (i.e., asphalt paving, storm drains, sumps, etc.) for the presence of any discoloration, stains, odors, floating materials, liquids, oil or other visual evidence of anything except storm water. Note: there are no "unauthorized" non-storm water discharges at ESGS; non-storm water discharges are authorized by a Site-Specific Permit as discussed in the SWPPP.
- Staining, discoloration, and other signs of material releases on equipment, structures and/or pavement within the storm water drainage areas.
- Immediately report any concerns to the Shift Supervisor.

6.1.2. Monthly Storm Event Inspections

Visual inspections of at least one *qualified storm event* each month during the wet season (i.e., October 1 through May 30) are required during the first hour that flow occurs into the storm drain. Visual inspections are only required if the event occurs during daylight hours that are preceded by at least three (3) working days without a storm water discharge.

- The inspector shall complete the Annual Report "FORM 4 – Monthly Visual Observations of Storm Water Discharges":
- Inspect the flow into each storm drain and the outfall structure for the presence of any floating and suspended material, oil and grease, discolorations, turbidity, odor, and other indications of pollutants in the storm water.
- Immediately report any concerns to the Shift Supervisor.

6.1.3. Storm Water Release from Yard Sumps, Diked Areas and Spill Pallets

Visual inspections of impounded water shall be performed prior to releasing it from diked areas, spill pallets, or yard drainage sumps. The inspector shall document on the *Daily Environmental Inspection Report* each release and whether or not there was any discoloration, stains, odors, floating materials, oil sheen, turbidity, or other signs of pollutants. The drain valves may be opened to release accumulated storm water to the storm water drain system with approval of the Shift Supervisor.

6.1.4. Storm Water Sampling

This section outlines the routine storm water sampling requirements. ESGS has previously collected and tested two storm water samples for the priority pollutants identified in Appendix A to Part 423 of the CFR. Based on the concentrations detected, the estimated volume of storm water and mass of each regulated pollutant has been determined.

6.1.4.1. Storm Water Sampling Frequency

- Sampling is required of storm water discharges that occur during scheduled facility operating hours and that are preceded by at least three (3) working days without a storm water discharge. In addition, sampling is not required due to dangerous weather conditions (e.g., flooding, electrical storm, etc.). A total of two storm events each wet season must be sampled.
- Sampling shall be performed during the first hour of the first storm event of the wet season (i.e., October 1 through May 30) that a discharge is visibly evident. If samples are not collected during the above time, the reason that no samples were collected shall be recorded on the appropriate SWRCB Annual Report forms.

6.1.5. Storm Water Sampling Locations

After inspecting the ESGS for non-permitted storm water discharges and reviewing available NPDES permit information, preferred sampling locations that adequately represent storm water prior to it's commingling with other non-storm water sources have been identified. In conformance with these recommendations, storm water sampling shall be performed at the easement drain at the southwest portion of the ESGS.

6.1.6. Storm Water Sampling Procedures

Appendix C identifies specific procedures for collection of samples and pH analysis to be performed by facility personnel.

6.1.7. Storm Water Analysis

- Storm water samples shall be tested by a laboratory accredited for the required tests by the Department of Health Services (DHS) Environmental Laboratory Accreditation Program (ELAP).
- Sampling, preservation and testing shall be in accordance with "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association).
- Storm water samples shall be tested according to the test procedures under 40 CFR Part 136 for the following parameters:

Total suspended solids (TSS)

pH
Specific conductance
Total organic carbon (TOC)
Oil and grease
Total iron

6.1.8. Annual Site Compliance Evaluation

In accordance with Section A.9 of the General Permit, a comprehensive site compliance evaluation must be conducted at least once per year. Evaluations are to be conducted within 8 to 16 months of each other. A formal site inspection shall be conducted annually by a member of the Pollution Prevention Team to verify that the controls to reduce pollutants in storm water discharges identified in this SWPPP are adequate and properly implemented. If it is determined that existing control measures are not adequate, additional control measures will be recommended and implemented within 90 days of the evaluation.

The site evaluation will include a review of all visual observation records, inspection records, and monitoring records. Site inspection and corrective action records produced under this program shall be retained for 5 years. Inspections will be used to verify that BMPs are in place, including structural and nonstructural controls. Recommendation of additional or modifications to storm water controls, evaluation of good housekeeping techniques, and verification of erosion prevention will also be included as part of the annual compliance evaluation. The annual review of the SWPPP and changes made as a result of the annual compliance evaluation should be recorded on the most recent Annual Report "FORM 5 – Annual Comprehensive Site Compliance Evaluation."

This SWPPP will be reviewed and compliance with it determined based on the annual compliance evaluation. If conditions throughout the facility comply with the SWPPP, a certification to that effect will be signed by the Plant Manager or other principal executive officer. Should the management status of the facility change either by retirement, promotion, or otherwise, a new authorization must be attached to the SWPPP prior to submittal of any reports, certifications, or information signed by the person responsible.

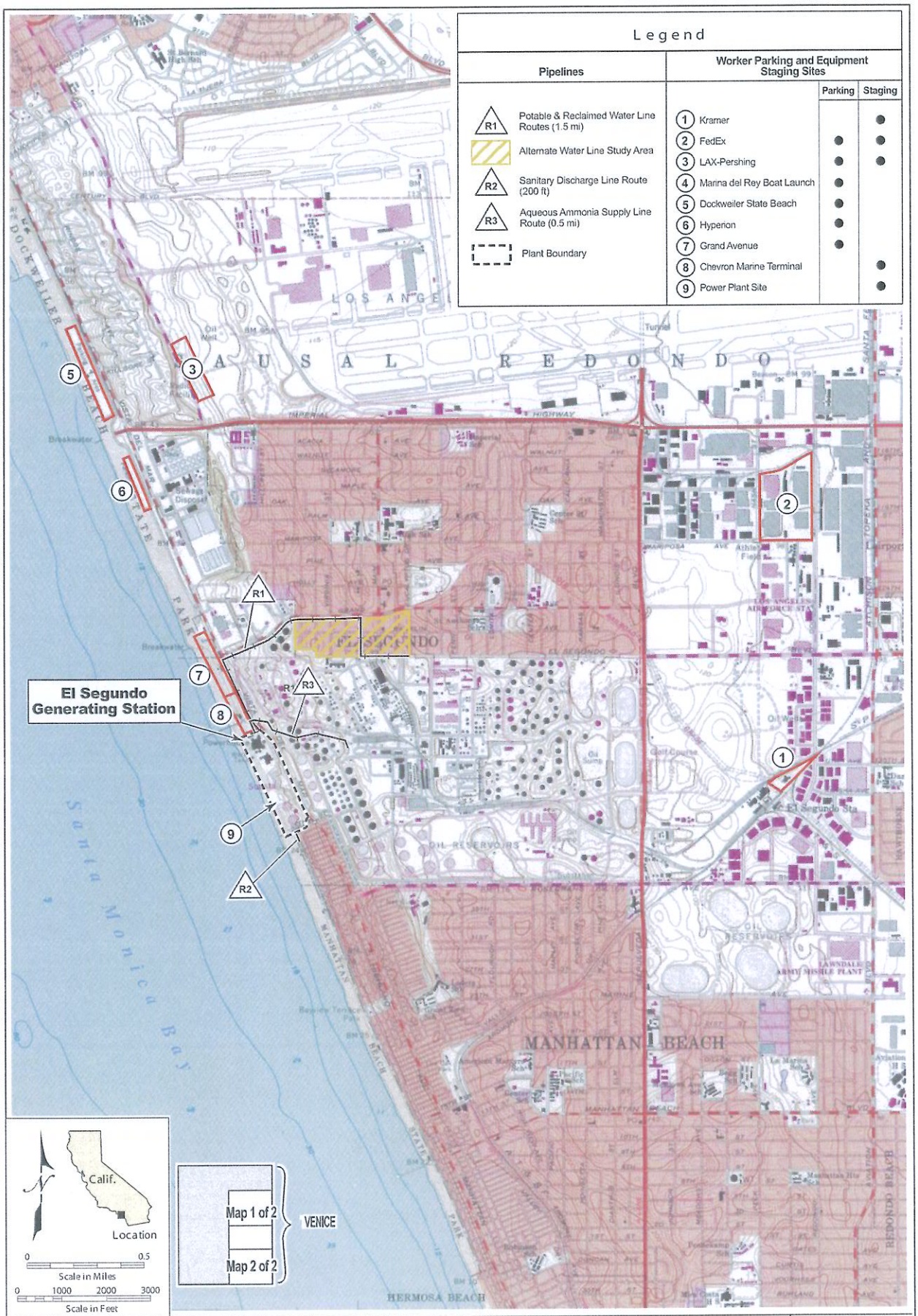
SECTION 7.0 REPORTING AND RECORDKEEPING

The following documents shall be maintained in the Environmental Supervisor's office for a period of at least 5 (five) years:

- Annual Report. The Plant Manager is responsible for certifying and submitting an Annual Report by July 1 of each year to the RWQCB using the forms for that reporting year or through the online reporting system.
- The Environmental Supervisor is responsible for obtaining completed copies of the required monitoring forms needed to complete the Annual Report.
- Personnel Training. The Environmental Supervisor is responsible for maintaining training records of affected employees and contractors.
- Daily Environmental Reports. The Environmental Supervisor is responsible for maintaining copies of completed daily inspection forms.
- Compliance concerns discovered and corrective actions taken, including SWPPP reviews and updates.

FIGURE 1

SITE LOCATION MAP

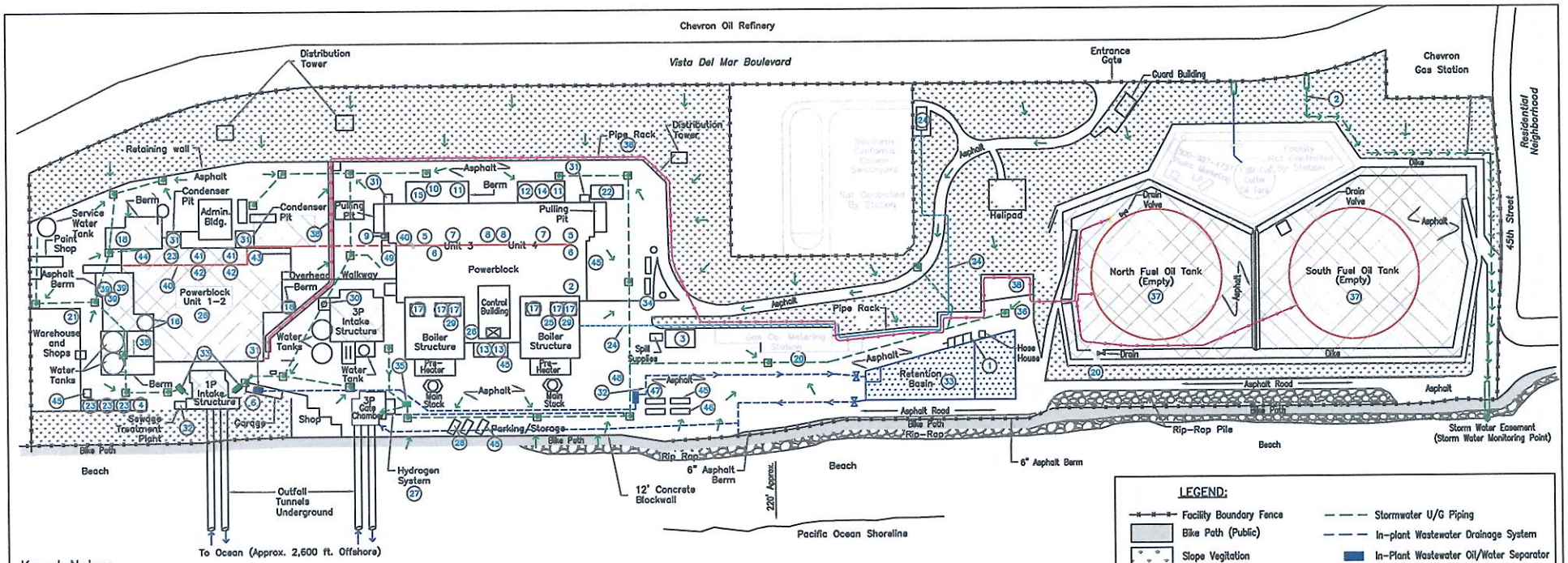


El Segundo Power Redevelopment Project El Segundo Power II LLC	**Source:** Base Map from U.S.G.S. 7.5 Minute Topographic: Venice, CA 1964 (Photorevised 1981)	**Figure 3.2-1.** LOCATION MAP AT SCALE OF 1:24,000	Map 2 of 2 2000

S:\00PROJ\00000030 NRG\1000-182 Rev 12/00

FIGURE 2

SITE LAYOUT SHOWING SPCC AND STORM WATER FEATURES



Keyed Notes:

Fixed Oil Storage Tanks
1. Retention Basin Skimmer Separator (4,308G oil/water separator tank + 2,154G oil waste tank + 1,122G water return tank in concrete walled dike)

Portable Oil Containers
2. Unit 4 Drum Storage (3P ground floors <30 x 55G, Lube Oil, Simple Green)
3. Hazardous Waste Storage Area (<80 x 55G drums of water/oil mixtures, oil debris, asbestos, lead paint, lead sand blast, mercury thiocyanate, sodium hydroxide, aerosol cans, acid solutions)
4. Hazardous Materials Storage Area (<20 x 55G drums of oil, diesel, mercury thiocynate, 5G Gasoline)
20. Portable Drum Location (may vary) (55G drum oil on spill pallet)
21. Hazardous Waste Accumulation Drum (55G drum on spill pallet – contents vary – see Hazardous Waste Storage Area)
22. Drum Shed (steel building) (20 x 55G drums oil on spill pallets and empty drum storage)

Turbine Lube System
5. Reservoir (8,000G steel tank, 3P ground floor)
6. Bowser (1,850G steel tank on 3P ground floor)
7. Hydrogen Seal Oil Tank (150G steel tank on 3P ground floor)
8. Hydrogen Coupling Reservoir (900G steel tank inside turbine enclosure)
9. Turbo Toc Conditioner (250G skid mounted HDPE unit and secondary containment within shed enclosure)

Electrical Transformers
10. Unit 3 Main Transformer (11,325G mineral oil within concrete dike)
11. Auxiliary Transformer (3,300G mineral oil within concrete dike)
12. Unit 4 Main Transformer (13,850G mineral oil within concrete dike)
13. Unit 3-4 Station Service Transformer (650G mineral oil within concrete dike)
14. Unit 3-4 Neutral Transformer (750G mineral oil within concrete dike)
15. Unit 3-4 Reserve Transformer (3,625G mineral oil within concrete dike)

Electrical Transformers (continued)
16. Unit 1-2 Station Service Transformer (560G mineral oil within asphalt dike)
17. Boiler Pump Transformer (412G mineral oil within concrete dike)
18. Unit 1 Reserve Auxiliary Transformer (2,632G mineral oil within concrete dike)

Hazardous Materials (not including in Portable Oil Containers)
23. Compressed Gas Cylinder Storage Area (Acetylene, Propane, Oxygen, Argon, Helium, Nitric oxide, Nitrogen within concrete dike)
24. Ammonium Hydroxide UST and Pipeline Delivery System (20,000G 29 % ammonium hydroxide and aboveground and underground pipeline systems Cal/ARP See Risk Management Plan)
25. SCR Ammonium Hydroxide Vaporization Skid (see Cal/APR Risk Management Plan)
26. Lead-Acid Battery Room (110 x 17 lb. batteries containing lead and sulfuric acid + 147 x 118 lb. flooded lead batteries)
27. Hydrogen Gas System (12 x 3,500 cubic foot cylinders and pipeline system)
28. Waste Asbestos Containing Debris (3 x 20 yard roll-off box)

Hazardous Materials (continued)
29. NALCO Water Treatment Feed Tanks (4 x 400G water treatment portable steel tanks with steel dike or HDPE dike pallet)
30. Sodium Hypochlorite Solution (2,500G diked polyethylene AST within concrete walled enclosure with metal roof)
49. Liquid Nitrogen Tank (1,500G)

In-plant Waste Drainage
31. Oil/Water Sump Pump to Drains Oil/Water Separator (See Drawing 537112-2)
32. Oil/Water Separator (See Drawing 537121-10)
33. Retention Basin (837,000G Discharges Thtough underground Pipeline to 3-4 outfall)

Storm Water Drainage
35. Oil/Water Separator (in-ground discharging to outfall tunnels)
36. Storm Water Catch Basin with Closed Manually Operated Flapper Valve

Out-of-Service Oil
37. Fuel Oil Storage Tanks (SPCC empty and closed)-(2 x 13,440,000G ASTs blank flanged from pipeline)
38. Fuel Oil Pipeline Delivery System (Out-of-service, disconnected, aboveground fuel oil 6 pipeline delivery system)
39. Lube Oil Storage Tanks (SPCC empty and closed) (2 x 8,000G + 1 x 10,000G ASTs blank flanged from pipeline)
40. Lube Oil Delivery Pipeline (Out-of-service, disconnected, aboveground/underground pipeline)
41. Unit 1 and Unit 2 Lube Reservoirs (SPCC empty and closed)
42. Unit 1 and 2 Conditioners (SPCC empty and closed)
43. Unit 1 and 2 Hydrogen Seal Oil Tanks (SPCC empty and closed)
44. Unit 1 and 2 Lube Oil Centrifuge (SPCC empty and closed)

Other Storm Water Potential Pollutant Sources
45. Trash Bin / Roll Off Container
46. Scrap Metal Roll Off Container
47. Recyclables Roll Off Container
48. Shed Containing Spill Cleanup Supplies

LEGEND:
- Facility Boundary Fence
- Bike Path (Public)
- Slope Vegitation
- Out-Of-Service Area
- Stormwater Flow Direction
- Storm Water Drain
- Storm Water Oil/Water Separator
- Stormwater U/G Piping
- In-plant Wastewater Drainage System
- In-Plant Wastewater Oil/Water Separator
- Out-Of-Service Fuel Oil Pipeline
- Out-Of-Service Lube Oil System
- Ammonia Pipeline (Stainless Steel)

0 165 330
APPROXIMATE SCALE IN FEET
(SPCC and Storm Water features not-to-scale)

El Segundo Power LLC

SITE LAYOUT
SPCC and Stormwater Features
301 Vista Del Mar Boulevard
El Segundo, California 90245

Proj. No.: 06-023-001	Date: August 2009
Project: SPCC Update Rev 6.0	Figure: 2
CAD ID.: ESGS.SPCC.2009	

APPENDIX A
LIST OF SIGNIFICANT MATERIALS [1], [2]

LIST OF SIGNIFICANT MATERIALS					
Material[1], [2]	Location - Purpose	Typical Quantity	Exposed Since 1998	Likelihood of Contact with Storm Water	Past Significant Spill or Leak[3]
Turbine Lube Oil	Plant 2 Lube Oil Storage Tanks, Turbine Lube Systems (Units 1-4), Gas Compressor Lube Systems	~30,000 Gal	No	Low – Turbine Lube Systems within Plant 2; Gas Compressors sumps and truck transfer area with secondary containment	No
Transformer Oil	Transformer insulator	~33,000 Gal	Yes	Low – small leaks can occur into secondary containment structure	No
Sodium hypochlorite	Circulating water treatment	3,700	No	Low – tank with secondary containment covered by metal building	No
Diesel Fuel	Fuel Drum Area (inside drum enclosure)	~ 100 Gal	No	Low – drums contained within secondary containment enclosures	No
Batteries, Lead-Acid	Asphalt Roads - Forklifts Plant 2 Battery Rooms	~50,000 lbs	No	Low – potential for battery leaks during vehicle use; secondary containment in Battery Rooms	No
Empty Chemical Tanks (former water treatment)	Plant 2 southwest corner, water treatment area	Residuals only	No	Low – empty with secondary containment still intact	Yes (See Spill History)
Fire Extinguishant (CARDOX)	Inside Building - Handheld Fire Extinguishers	11,000 lbs	No	Minimum – emergency use discharge	No
Fluorescent Bulbs	Chemical Storage Yard – Cardboard Boxes	200 lbs	No	Low – truck loading area exposed / cardboard boxes not liquid tight.	No
Hydraulic Oil	Forklifts, Cranes, Heavy Equipment on asphalt pavement	~ 400 Gal	Yes[4]	Moderate – small leaks and drippings during operation on equipment and asphalt roads	No
Scrap Paper & Cardboard	Metal roll-off containers northeast of Plant 2	40 Yards	Yes	Moderate – containers have covers	No
Universal Waste (computers, lighting, batteries, etc.)	Hazardous Waste Storage Area	100 lbs	No	Low – stored under roof within secondary containment dike	No

LIST OF SIGNIFICANT MATERIALS					
Material[1], [2]	Location - Purpose	Typical Quantity	Exposed Since 1998	Likelihood of Contact with Storm Water	Past Significant Spill or Leak[3]
Hazardous Waste (oil, paint, debris, asbestos, aerosol cans, cleaners, etc.)	Hazardous Waste Storage Area	20 x 55 Gal Drums	No	Low – stored under roof within secondary containment dike	No
Ammonium Hydroxide	Aboveground tank southeast of Plant 2 and pipeline into Plant 2 injection skids	~ 7,000 Gal	No	Low – AST within secondary containment dike, piping dual wall	No
Sodium Hypochlorite	Aboveground tank inside building	~3,700	No	Low – AST within secondary containment dike, and within metal building	No
Boiler Water Treatment Totes	Portable totes with secondary containment dikes under the Unit 3 boilers inside power block	1,500 – 2,500	No	Low – containers within secondary containment	No
Gasoline	Onsite vehicles, heavy equipment, 5-gallon containers	Varies	No	Low – vehicle fuel leaks rare; containers stored within drum enclosure	No
Scrap Metal	Metal roll-off containers or covered pile on asphalt northeast of Plant 2	40 Yards	Yes[4]	Low – containers with covers and plastic tarps used to cover piles	No
Scrap Paper	Metal Dumpsters (tarp covering)	6 Yards	No	Low – open dumpsters covered by tarp.	No
Trash	Metal bins or roll-off containers	20 Yards	Yes[4]	Low – trash containers covered	No
Compressed gas cylinders (acetylene, oxygen, helium, argon, and hydrogen)	Plant 2, Warehouse, Gas Storage Area northwest of the Shops	6,000 ft^3	Yes	Minimal – gases not likely to solute into rain water	No
Facility maintenance cleaners, lubricants, and paints	Plant 2, Warehouse, Shops	300 Gal	No	Minimal – stored inside buildings, typically in flammable liquid storage cabinets	No

Table Notes:

(1) For a complete listing of hazardous materials, see the Unified Program Hazardous Materials Business Plan.
(2) The Site Layout illustrates the locations of the significant materials.

APPENDIX B

ASSESSMENT OF POTENTIAL POLLUTION SOURCES AND CORRESPONDING BEST MANAGEMENT PRACTICES SUMMARY (1), (2)

(1) The Site Layout Showing SPCC and Stormwater Features identifies the location of the significant materials
(2) BMPs common to all pollutant sources are not identified in the table below and include the following: Storm water catch drains, sumps and Retention Basin; Security and locking of critical valves; Good housekeeping and preventative maintenance of facility, equipment and structures; Routine inspections; Prompt clean up of material spills; Employee training and written procedures to minimize material spills; Storm water inspection and monitoring program.

Activity/Area	Pollutant Source	Pollutant	Best Management Practice (BMP)
General Outside Surfaces	Deterioration of site structures and equipment	▪ Metal ▪ Particulates ▪ Debris	▪ Daily inspections ▪ Routine housekeeping, preventative and repair maintenance ▪ Routine painting of steel structures ▪ Routine repair of paved surfaces ▪ Routine removal of scrap materials and wastes
	Erosion and sediment from offsite	▪ Oil	▪ Landscape maintenance ▪ Site paving and drainage systems ▪ Routine housekeeping
Retention Basin Oil Separator	▪ Leaks ▪ Overfill ▪ Truck delivery hose failure	▪ Oil	▪ Daily inspections ▪ Concrete secondary containment wall dike ▪ Routine visual inspections and integrity testing of tanks ▪ High level trips ▪ Tank and reservoir drains chain-locked in closed position ▪ Local storm water drain with flapper valve
Turbine Lube Systems	▪ Leaks ▪ Overfill ▪ Truck delivery hose failure	▪ Oil	▪ Daily inspections ▪ Power block concrete foundation and In-Plant Drainage System provides secondary containment ▪ Routine visual inspections of piping systems ▪ Equipped with oil pressure and temperature alarms and automatic shutoff trips ▪ Operator manual shut-off and remote from Control Room ▪ Tank and reservoir drains chain-locked in closed position ▪ Retired Units 1-2 drained of oil
Drum Storage Areas	▪ Leaks ▪ Overfill ▪ Truck delivery hose failure	▪ Various oils ▪ Hazardous Waste ▪ Universal Waste	▪ Daily inspections ▪ Hazardous waste storage area provided with metal roof and secondary containment curbing ▪ Drums meet U.S. DOT specifications for hazardous materials that they contain ▪ Miscellaneous drum storage outside diked areas on spill pallets or within plastic drum enclosures ▪ Employee training on proper drum labeling, filling and closure
Electrical Transformers	▪ Leaks ▪ Overheating	▪ Oil	▪ Daily inspections ▪ Concrete or asphalt foundation and curbing with plugged or locked drains ▪ Oil temperature, pressure and vacuum gauges

APPENDIX B

ASSESSMENT OF POTENTIAL POLLUTION SOURCES AND CORRESPONDING BEST MANAGEMENT PRACTICES SUMMARY (1), (2)

Activity/Area	Pollutant Source	Pollutant	Best Management Practice (BMP)
Ammonium Hydroxide Tank and Delivery System	▪ Leaks ▪ Overfill ▪ Truck delivery hose failure	▪ pH	▪ Daily inspections ▪ Dual wall fiberglass underground storage tank with continuous interstitial leak detection ▪ Stainless steel aboveground piping; underground piping dual wall with interstitial leak detection ▪ Monthly inspections of the monitoring system by a California Designated UST operator ▪ Truck unloading area provided with secondary containment curb ▪ Ammonia vapor sensors on tank and at SCR skids will activate alarms and forwarding pump trips ▪ Pressure and liquid sensors placed within interstitial space of dual wall piping underground
Sodium Hypochlorite Tank	▪ Sodium hypochlorite	▪ pH ▪ Chlorine	▪ Daily Inspections ▪ HDPE tank enclosed in metal building ▪ HDPE secondary containment skirt around tank
Boiler Water Treatment Totes	▪ Leaks ▪ Overfill & Upsets	▪ pH ▪ Sediment	▪ Daily inspections ▪ Portable totes meet U.S. DOT hazardous material packaging standards ▪ Secondary containment dikes or pallets provided; concrete floor drains to In-Plant Wastewater System ▪ Storage area under the concrete turbine deck of Unit 3
Battery Rooms	▪ Battery leaks	▪ Lead ▪ Sulfuric acid	▪ Daily inspections ▪ Rooms provided with secondary containment curb
Plant Vehicles	▪ Forklifts ▪ Cranes ▪ Heavy Equipment	▪ Oil , Radiator fluid ▪ Battery acid ▪ Gasoline or diesel	▪ Daily inspections by operator ▪ Routine preventative maintenance
Trash, Scarp and Recyclables	▪ Spills/litter ▪ Poor housekeeping	▪ Litter ▪ Sediment ▪ Metal particulates/rust ▪ Oil	▪ Daily inspections ▪ Contains provided with closed lids or covered ▪ Storage piles covered when rain forecasted ▪ Routine removal offsite
Steam Cleaning Area	▪ Overspray ▪ Draining of area	▪ Oil ▪ Metals ▪ Other	▪ Use of bag house to capture particulates ▪ Daily cleanup after use ▪ Prohibition of water in booth
Portable Sand Blasting *(intermittent)*	▪ Overspray	▪ Sediment ▪ Metals	▪ Use of temporary enclosures to capture particulates ▪ Use of CARB approved blast materials ▪ Daily cleanup of work area ▪ Cover storm drains as necessary

APPENDIX B

ASSESSMENT OF POTENTIAL POLLUTION SOURCES AND CORRESPONDING BEST MANAGEMENT PRACTICES SUMMARY (1), (2)

Activity/Area	Pollutant Source	Pollutant	Best Management Practice (BMP)
Warehouse/Shop Chemicals	▪ Leaks	▪ Small containers of paint, lubricants, cleaners, etc.	▪ Good housekeeping ▪ Storage in flammable liquid storage cabinets with secondary containment pans ▪ Labeling and material safety data sheets on file
Construction & Maintenance Activities	▪ Sand Blasting ▪ Painting/ coating ▪ Cleaning ▪ Welding	▪ Litter ▪ Sediment ▪ Metal particulates/rust ▪ Oil	▪ Daily inspections of affected areas ▪ Good housekeeping ▪ Affected drains temporarily plugged or barricaded when storm water threat ▪ Exposed equipment and storage piles covered when rain forecasted ▪ Temporary plastic containments installed to contain wastewater or other liquids, as needed ▪ Cleanup of area at end of day

APPENDIX C

STORM WATER SAMPLING PROCEDURE

1. Six pollutants will be determined in the storm water runoff samples. Because the pollutants to be tested for require a variety of preservatives and containers, five sample bottles are needed.

2. The pollutants to be tested for and the bottles required for each sample point are described below.

Pollutant	Quantity	Capacity[1]	Bottle Type (plastic or glass)
pH	1	1,000 ml	plastic
Conductivity and Total Suspended Solids	2	500 ml	plastic
Total Organic Carbon	2	250 ml	glass
Total Iron	2	250 ml	plastic
Oil and Grease	4	1,000 ml	glass

Note: [1] ml = milliliter

The sample bottles contain the appropriate preservatives, and they must NOT be rinsed before use. The sample bottles for total organic carbon, total iron, and oil and grease contain a small amount (approximately 2 ml) of concentrated mineral acid. Sample bottles shall be requested to be provided to ESGS by the contract laboratory for the required tests.

3. Handle the sample bottles containing concentrated acid carefully. Do not allow the acid to contact your skin or eyes. If concentrated acid does get on your skin or in your eyes, flush with large amounts of water for at least 10 minutes. If the contact involves your eyes, get medical attention.

4. The general permit for discharges of storm water from industrial facilities issued by the state requires dischargers to determine both the quality of the initial flush of runoff and the average quality of the runoff after the first flush has passed. The initial discharge of storm water is expected to contain a much higher level of pollutants than the subsequent flow. To allow these estimates to be made, a formal sampling procedure is necessary.

   a. Do not sample the runoff unless the storm is producing significant runoff, and the storm has been preceded by at least 72 hours of dry weather.

   b. Use a glass or Teflon container to sample the runoff. Divide the water collected among the five sample bottles. Sample the stream again, and split the sample among the bottles. Continue in this fashion until all five bottles have been filled to the appropriate level (see 4c through 4f). If possible, take the sample for oil and grease directly in the sample bottle.

APPENDIX C

STORM WATER SAMPLING PROCEDURE

c. Take a grab sample of the runoff at each sample point during the first 30 minutes of flow. If it is not possible to get a sample during the first 30 minutes, it is permissible to take the sample during the first 60 minutes of flow. The grab sample will be analyzed for pH, total suspended solids, conductivity, total organic carbon, total iron, and oil and grease. Since many of these pollutants require a separate sample bottle, five sample bottles must be filled.

5. Keep careful records of how, when, and where the samples were taken.

   a. The sample bottles have labels affixed, and the labels contain the following information.

      i. Name of station
      ii. Identity of sample point
      iii. Pollutant to be test for
      iv. Nature of the sample: grab or composite

   b. To aid in identifying the bottles when they are viewed from above, items ii), iii), and iv) are also present on a second label placed on the shoulder of each bottle.

   c. To complete the label, write the date and time the sample was taken on the label. Use a ball point pen or an indelible ink marker. Do not use pencil and do not use fiber pens with water soluble ink.

   d. In addition to writing sampling information on the label, record the same information on the sample chain-of-custody form provided by the laboratory.

6. Store samples in the laboratory refrigerator and/or an ice-filled cooler.

7. Contact the contract laboratory for sample pickup or delivery instructions as soon as possible.