DRAFT

Storm Water Pollution Prevention Plan

Risk Level 3

Prima Deshecha Sanitary Landfill

Zone 1-Phase C3 Composite Liner System

Construction General Permit (2009-0009-DWQ)

Project Address:
32250 La Pata Avenue
San Juan Capistrano, CA 92675

Prepared For:

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Legally Responsible Person:
Orange County Waste and Recycling
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Preparation Date
February 17, 2012

Estimated Project Dates:

Start of Construction **July/August 2012** Completion of Construction **February 28, 2013**

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FOCUSED SUMMARY

FS-1 STORM WATER COMPLIANCE QUICK REFERENCE

FS-1.1 Project Overview

The Focused Summary is intended to provide Site compliance personnel, as well as County personnel and the Regional Water Quality Control Board – San Diego Region (RWQCB), with a central location to find a summary of storm water compliance information related to Storm Water Pollution Prevention Plan (SWPPP) implementation for the subject project. This information includes the following: (i) Owner/Operator/ Contractor Certification of Compliance and Contact Information, as well as Qualified SWPPP Developer Certification (Section FS-1.2); and (ii) Summary of Best Management Practices (BMPs) used at the site to attain compliance with storm water regulations (including map) (Section FS-1.3).

This section may be extracted from the document as a quick reference guide during internal site inspections and agency inspections, as appropriate. It will be updated annually, or as needed as the project progresses. The remainder of this SWPPP provides details on the implementation of storm water compliance at the Prima Deshecha Sanitary Landfill (Prima) - Zone 1-Phase C3 Composite Liner System Project site. Prima is located in the City of San Juan Capistrano, 3 miles east of the intersection of the San Diego Freeway and Ortega Highway.

This document contains the SWPPP for the Zone 1-Phase C3 Composite Liner System located in the County of Orange, California. It should be noted that the landfill site complies with the current storm water regulations associated with Industrial Activities (i.e., the Industrial General Permit or IGP) and has an existing SWPPP. This SWPPP for construction activities was prepared in accordance with the requirements of Water Quality Order No. 2009-0009-DWQ (Waste Discharge Requirements (WDRs) for Discharge of Storm Water Associated with Construction and Land Disturbance Activities issued by the California State Water Resources Control Board (SWRCB) under the National Pollutant Discharge Elimination System (NPDES) General Permit, the Construction General Permit or (CGP). This document was prepared in general accordance with the CGP and under the supervision of the Qualified SWPPP Developer indicated on the following pages.

FS-1.2.2 Owner/Developer Approval and Certification of SWPPP

Project Name:	Prima Deshecha Sanitary Landfill – Zone 1-Phase C3 Composite Liner System
Project Number:	

"I certify under a penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure 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, to the best of my knowledge and belief, the information submitted is 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."

Owner Signature	Date
Jess A. Carbajal, Director of OC Public Works	(714) 834 - 2300
Owner Name	Telephone Number

FS-1.2.3 QSD Approval and Certification of SWPPP

Project Name: Landfill Site – Zone 1-Phase C3 Composite Liner System

Project Number:

"I certify under a penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure 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, to the best of my knowledge and belief, the information submitted is 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."

Qualified SWPPP Developer Signature	Date
QSD Name, Title, and Affiliation	Telephone Number

FS-1.3 BMP Quick List

FS-1.3.1 BMP Description Table

The Prima Project Zone 1-Phase C3 Composite Liner System is taking place at an active landfill facility. The primary sources of potential pollutants to storm water at the site are areas where soil has been or is disturbed as part of earth moving activities and/or areas having steep grades or exposure to high surface water flow. These areas may be prone to soil erosion. This section provides a brief description of the BMPs used at the site primarily to control soil erosion and control sediment before it leaves the site. The BMP descriptions are provided in Table FS-1 found at the end of this Focused Summary. The construction activities and potential pollutant sources are included in Table FS-2, along with the BMP descriptions listed in Table FS-1. Tables FS-1 and FS-2 provide general BMP categories and inspection guidance for each of the BMPs.

Landfill Site: Prima Deshecha Sanitary Landfill

Project Name: Zone 1-Phase C3 Composite Liner System

TABLE FS-1
BEST MANAGEMENT PRACTICES – CORRECTIVE ACTION GUIDANCE
STRUCTURAL AND NON-STRUCTURAL BMP INSPECTIONS
PRIMA PROJECT ZONE 1-PHASE C3 COMPOSITE LINER SYSTEM
ORANGE COUNTY, CALIFORNIA

NUMBER	TYPE	NAME	APPLICATION / INSTALLATION GUIDANCE	INSPECTION ELEMENT (problem)	REPAIR ACTION	CASQA REF
EC-1	Erosion Control	**Scheduling**	Throughout land disturbing activities	Is work progressing in accordance with the schedule?	Amend schedule when changes are warranted. Amend schedule prior to rainy season to show updated information on the deployment and implementation of construction site BMPs.	
EC-4 EC-5		**Grading, hydroseeding, vegetative maintenance, and soil binders**	Allow sufficient time for vegetation to become established	Are there bare patches or erosion within the vegetated areas?	Reapply hydroseed,, if needed, fertilizer and mulch. Add soil binder if insufficient time exists to allow vegetation to become established prior to rain; add vegetative layer to provide substrate.	EC-4 – Hydroseeding EC-5 – Soil Binder
				Are there areas where there is not sufficient time for vegetation to become established prior to rain events?	Use a combination of temporary soil binders with the approved hydroseed	
				Are areas where grading operations are focusing potential drainage to an area with limited BMPs?	Extend temporary BMPs to critical areas, notify Landfill manager	
EC-15				Do seeded slopes have signs of erosion rills and gullies?	Fill areas slightly above grade, then reseed and mulch as soon as possible.	EC-15 – Soil Preparation Roughening
EC-9		**Earth Dikes and Drainage Swales**	Divert flows around construction areas and to slow flows (concentrated and sheet).	Are there any washouts.	Repair and replace lost rip rap, damaged linings, or soil stabilizers.	EC-9 – Earth Dikes and Drainage Swales
EC-11		**Corrugated metal pipe slope drains**	Choose rip-rap or concrete aprons for energy dissipation instead of asphalt. Asphalt is a potential source of contaminants to storm water runoff	Is the pipe inlet undercut by inflows or has the pipe moved from its anchored position?	Repair the pipe inlet structure to be securely entrenched and compacted; Replace or repair anchors; Check if pipe sizing is appropriate for drainage area	EC-11 – Slope Drains
				Are outflow structures not completed downstream; or is the outflow causing erosion or scour downstream?	Install energy dissipater and temporary retention devices	
				Has the energy dissipater at the pipe outflow (rip-rap or concrete apron) been damaged or washed away?	Repair energy dissipater or replace with an appropriate device.	
				Is the pipe or inlet area clogged with sediment or debris?	Remove sediment or debris from pipe and inlet area. Install a debris rack at the inlet.	
				Are there leaks or other damage to the pipe?	Repair or replace pipe. Check if pipe sizing is appropriate for drainage area	
				Are inlet flows ponding behind the slope drain?	Check for sediment or debris clogs; pump water as needed to remove potential for water accumulation in the landslide debris. Check if pipe sizing is appropriate for drainage area.	
SE-1 SE-4 SE-5 SE-8 SE-9	Sediment Control	**Silt fences** **Sand bags** **Fiber rolls** **Check dams**	Inspect and maintain regularly	Are fiber rolls displaced or washed away?	Replace or reposition bales. Check if bales are properly staked to the ground and to each other.	SE-5 – Fiber Rolls
				Are fiber rolls degraded or coming apart?	Replace bales	
				Have fiber rolls been placed without stakes though the bales tying them to ground and to each other?	Provide proper staking of bales to the ground and to each other.	
				Has sediment accumulated behind fiber rolls?	Remove sediment	
				Are silt fences undercut (fabric pulled out of the ground such that water can pass underneath)?	Repair the fence	SE-1 – Silt Fence
				Are silt fences split, torn, slumping or have weathered or weakened fabric?	Replace fabric or entire fence as necessary. Check that fence has been installed properly.	
				Has excessive amount of sediment accumulated behind the fence?	Remove sediment	
				Are sandbags or gravel bags (used in conjunction with silt fences) damaged or washed out?	Replace bags or reposition	SE-8 - Sandbag Barrier
				Has excessive amount of sediment accumulated behind the sandbags or gravel bags?	Remove sediment	
				Are sandbags used within vehicle traffic pathways?	Replace sand bags with a rock “hump check dam”	SE-4 – Check Dams

Landfill Site: Prima Deshecha Sanitary Landfill

Project Name: Zone 1-Phase C3 Composite Liner System

TABLE FS-1 (Continued)
BEST MANAGEMENT PRACTICES – CORRECTIVE ACTION GUIDANCE (Continued)
STRUCTURAL AND NON-STRUCTURAL BMP INSPECTIONS
PRIMA PROJECT ZONE 1-PHASE C3 COMPOSITE LINER SYSTEM
ORANGE COUNTY, CALIFORNIA

NUMBER	TYPE	NAME	APPLICATION / INSTALLATION GUIDANCE	INSPECTION ELEMENT (problem)	REPAIR ACTION	CASQA REF
SE-2	Sediment Control	**Existing Sediment Basin**	This structure integrated within the diversion systems	Is there evidence of erosion or damage at the sediment trap/basin outlet?	Stabilize / repair outlet	SE-2 – Sediment Basin
				Is there evidence of seepage, instability or damage to the trap/basin banks or spillway?	Stabilize / repair banks	
				Is the trap/basin outlet obstructed by sediment or debris?	Clear sediment or debris from the outlet	
				Is there standing water in the trap/ basin that has been there for more than 72 hours?	Pump dry; Check for sediment accumulation and remove as necessary. Check if trap/basin is properly sized for the area draining to it.	
				Has excessive amount of sediment accumulated within the trap/basin?	Remove sediment from the trap/basin	
				Is vegetation growing in the trap/basin, or is there excessive vegetation around the perimeter?	Remove vegetation	
				Is the protective fencing around the trap/basin damaged or missing?	Repair or replace fencing	
				Are sandbags or gravel bags (used as part of a trap or filtration barrier/check dam) damaged or washed out?	Replace bags and/or reposition	SE-4 – Check Dams
SE-10		**Storm Drain Inlet Protection**	Around or upstream of storm drain, drop inlet, or curb inlet.	Are there storm drain inlets without inlet protection?	Provide inlet protection using gravel filters or silt fences.	SE-10 – Storm Drain Inlet Protection
				If gravel filters are used as inlet protection, is the gravel clogged with sediment?	Remove gravel filters and clean or replace	
				If silt fences are used as inlet protection, see section on silt fences	Refer to SE-1 above	SE-1 – Silt Fence
EC-3 EC-7 EC-8	Erosion Control	**Geotextiles and Mats** **Soft Armored, Turf Reinforced Drainage**	Avoid using jute rope mats. Follow manufacturer's instructions to ensure proper initial and terminal anchor trenches, correct frequency and placement of fasteners, and sufficient overlap of layers. Avoid using mulch with significant fines and/or small mulch particles.	Is erosion present in areas reinforced with mats or geotextiles?	Repair erosion and re-seed disturbed areas	EC-3 – Hydraulic Mulch EC-7 - Geotextiles and Mats EC-8 – Wood Mulching
				Has the mat or geotextile been damaged or broken?	Repair or replace mat or geotextile. Refer to installation guidance and the manufacturer's instructions.	
				Is the mat or geotextile undermined or folded such that it is no longer in uniform contact with the soil?	Repair or replace mat or geotextile. Refer to installation guidance and the manufacturer's instructions.	
				Are there gaps between sections of the mat or geotextile, resulting in unprotected areas?	Repair or replace mat or geotextile. Refer to installation guidance and the manufacturer's instructions.	
				Are the areas of wood mulching exhibiting erosion? Is the wood mulching migrating from the designated area?	Consider material that may be staked in place (e.g., erosion mats), and/or provide silt fencing around mulched areas.	
TC-1 TC-2	Tracking Control	**Stabilized Construction Entrance/Exit and Access Road**	Construction Access Road and Entrance/Exit	Are rumble strips needed?	Order and set rumble strips	TC-1 – Stabilized Construction Entrance TC-2 – Stabilized Construction Roadway
				Is surrounding material adequately stabilized?	Replace aggregate or re-compact	
				Are there other areas within the facility where rumble strips or stabilization could be used as a BMP?	Place strips or stabilize area as appropriate	
SE-7	Sediment Control	**Street Sweeping and Vacuuming**		Is there any tracked for spilled sediment?	Remove tracked or spilled sediment at least daily. Be careful not to sweep up any unknown substance or any object that may be potentially hazardous. Adjust brooms frequently; maximize efficiency of sweeping operations. After sweeping, properly dispose of sweeper wastes.	SE-7 – Street Sweeping and Vacuuming
NS-1	Non-Stormwater	**Water Conservation Practices**	Dust control	Is water equipment in good working condition? Is water truck filling area stabilized? Are there any leaks? Is construction runoff directed to areas where it can soak into the ground or be collected and reused?	Stabilize water truck filling area. Repair equipment as needed to prevent unintended discharges (i.e., water trucks, water reservoirs, irrigation systems and hydrant connections). Lock water tank valves to prevent unauthorized use. Use water during construction in a manner that avoids causing erosion and the transport of pollutants offsite.	
NS-2		**Dewatering Operation**	Where non-storm and storm water have accumulated.	Is dewatering equipment in-place and functioning? Is discharge causing offsite discharge or erosion?	Place dewatering equipment. Follow unit specific maintenance requirements.	NS-2 – Dewatering
NS-9		**Vehicle and Equipment Fueling**	Contractor Staging Area	Are there any leaks?	Repair leaks immediately and remove problem vehicles or equipment from project. Keep ample supplies of spill cleanup materials onsite to clean up spills immediately and properly dispose of contaminated soil cleanup materials.	NS-9 – Vehicle and Equipment Fueling
NS-12 NS-13		**Concrete Curing and Finishing**	During Concrete Work and Road Construction	Inspect cure containers and spraying equipment for leaks.	Repair damage or replace equipment.	NS-12 – Concrete Curing NS-13 – Concrete Finishing
				Inspect containment structures for damage prior to use and prior to onset of forecasted rain.	Repair damage. Sweep or vacuum up debris from sandblasting at the end of each shift. At the end of each work shift, remove and contain liquid and solid waste from containment structures, if any, and from the general work area.	
NS-3		**Paving and Grinding Operations**		Is machinery leaking or dripping?	Keep ample supplies of drip pans or absorbent materials onsite. Inspect and maintain machinery regularly to minimize leaks and drips.	NS-3 – Paving and Grinding Operation
NS-6		**Illicit Connection Discharge**	Throughout construction and connections and discharges	Is there any illegal dumping or discharge?	Prohibit employees from and subcontractors from disposing of non-job related debris or materials at the construction site. Notify owner of any illicit connections and illegal dumping or discharge incidents at the time of discovery.	NS-6 – Illicit Connection/Discharge
WE-1 EC-1 EC-8 EC-14	Wind Erosion Control	**Wind Erosion Control**	During earthwork	Apply water to minimize dust. Implement wood mulching or compost blankets on areas susceptible to wind erosion.	Implement dust control measures.	WE-1 – Wind Erosion Control EC-1 – Scheduling EC-8 – Wood Mulching EC-14 – Compost Blankets

Landfill Site: Prima Deshecha Sanitary Landfill

Project Name: Zone 1-Phase C3 Composite Liner System

TABLE FS-1 (Continued)
BEST MANAGEMENT PRACTICES – CORRECTIVE ACTION GUIDANCE (Continued)
STRUCTURAL AND NON-STRUCTURAL BMP INSPECTIONS
PRIMA PROJECT ZONE 1-PHASE C3 COMPOSITE LINER SYSTEM
ORANGE COUNTY, CALIFORNIA

NUMBER	TYPE	NAME	APPLICATION / INSTALLATION GUIDANCE	INSPECTION ELEMENT (problem)	REPAIR ACTION	CASQA REF
WM-01	Pollution Control Materials Management Pollution Control Materials Management	**Material Delivery and Storage**	Contractor Staging Area	Is material under cover or in sheds (ex: treated woods and metals)? Are there perimeter control around stockpiles?	Cover material and implement perimeter controls.	WM-01 – Material Delivery and Storage
WM-02		**Material Use**		Provide containment for material use areas such as masons' areas to prevent materials/pollutants from entering stormwater.	Materials should be covered and/or bermed. Keep an ample supply of spill cleanup material near use areas. Train employees in spill cleanup procedures.	WM-02 – Material Use
WM-03		**Stockpile Management**	Contractor Staging Area and Soil Stockpile Area	All stockpiles should be covered and protected with a temporary linear sediment barrier prior to the onset of precipitation. Stockpiles of "cold mix" and treated wood, and basic materials should be placed on and covered with plastic sheeting or comparable material and surrounded by a berm prior to the onset of precipitation. The downstream perimeter of an active stockpile should be protected with a linear sediment barrier or berm and runoff should be diverted around or away from the stockpile on the upstream perimeter.	Repair and/or replace perimeter controls and covers as needed to keep them functioning properly. Sediment shall be removed when it reaches one-third of the barrier height.	WM-03 – Stockpile Management
WM-4		**Secondary Containment**	In contractor's staging area for Fueling, Hydraulic Oils and/or Chemical Storage Areas. Avoid compromising the integrity of secondary containment by perforating the walls/floor	Are there perforations in the containment walls/floor (e.g., pipes, cracks)?	Document and recommend removing perforations.	WM-4 – Secondary Containment
				Are the perforations sealed?	Remove or seal perforations (permanently).	
				Is the volume adequate to contain tank contents + anticipated rainfall?	Add volume or reduce volume stored within the area.	
				Has accumulation of liquid from recent rainfall been removed from secondary containment?	Remove accumulated liquid by vacuum truck.	
				Are debris/miscellaneous chemicals stored within secondary containment?	Remove accumulated debris; appropriately store miscellaneous chemicals.	
				Are alarm / diversion switching mechanisms in working order?	Repair or replace malfunctioning equipment.	
WM-05		**Solid Waste Management**	Contractor Staging area	Are dumpsters closed, drain holes plugged, recycling bins covered? Solid waste storage areas should be located at least 50 ft from drainage facilities and watercourses and should not be located in areas prone to flooding or ponding.	Arrange for regular waste collection. Dumpsters of sufficient size and number should be provided to contain the solid waste generated by the project.	WM-05 – Solid Waste Management
WM-06		**Hazardous Waste Management**		Are hazardous materials and wastes stored in covered containers and protected from vandalism? Are containers in secondary containment?	Perimeter controls, containment structures, covers, and liners should be repaired or replaced as needed to maintain proper function.	WM-06 – Hazardous Waste Management
WM-08		**Concrete Waste Management**	Where concrete work required	Does concrete rinse out have adequate capacity for rain? Are wash-out bins covered?	Temporary concrete washout facilities should be maintained to provide adequate holding capacity with a minimum freeboard of 4 inches for above-grade facilities and 12 inches for below-grade facilities. Maintaining temporary concrete washout facilities should include removing and disposing of hardened concrete and returning the facilities to a functional condition. Hardened concrete materials should be removed and properly disposed or recycled in accordance with federal, state or local regulations. Washout facilities must be cleaned, or new facilities must be constructed and ready for use once the washout is 75% full.	WM-08 – Concrete Waste Management
WM-09		**Sanitary Septic Waste Management**	Contractor's staging area	Are sanitary stations bermed and protected from tipping?	Arrange for regular waste collection. If high winds are expected, portable sanitary facilities must be secured with spikes or weighed down to prevent over turning. Berm stations and protect from tipping.	WM-09 – Sanitary Septic Waste Management
WM-10		**Liquid Waste Management**	Water from line testing after relocation	Liquid wastes should be contained in a controlled area such as a holding pit, sediment basin, roll-off bin, or portable tank. Containment devices must be structurally sound and leak free. Containment areas or devices should not be located where accidental release of the contained liquid can threaten health or safety or discharge to water bodies, channels, or storm drains.	Provide containment devices of sufficient quantity or volume to completely contain the liquid wastes generated. Remove deposited solids in containment areas and capturing devices as needed and at the completion of the task. Dispose of any solids as described in WM-5, Solid Waste Management.	WM-10 – Liquid Waste Management

TABLE FS-2
SUMMARY OF SITE ACTIVITIES
POTENTIAL POLLUTANT SOURCES AND ASSOCIATED BMPs
PRIMA PROJECT ZONE 1-PHASE C3 COMPOSITE LINER SYSTEM
ORANGE COUNTY, CALIFORNIA

SOURCE AREA[(1)]	ACTIVITY	POLLUTANT SOURCE	NON-STRUCTURAL	STRUCTURAL
• Equipment Staging (Miscellaneous Areas, Incl. Temporary Lube/Fueling Area)	Vehicle/equipment parking Operational materials storage Diesel fuel tank storage area Liquid storage Ground water drainage Material Storage Sanitary Facilities	Rainfall run-off Fugitive dust Spills/leaks from drums, tank equipment, or vehicles	NS-9 – Vehicle and Equipment Fueling WM-01 – Material Delivery and Storage WM-02 – Material Use WM-04 – Spill Prevention and Control WM-05 – Solid Waste Management WM-06 – Hazardous Waste Management WM-09 – Sanitary-Septic Waste Management NS-6 – Illicit Connection Discharge NS-9 – Vehicle and Equipment Fueling SE-7 – Street Sweeping and Vacuuming	TC-1 – Stabilized Construction Entrance/Exit TC-2 – Access Road
• Excavation, Fill, and Haul Road	Earth moving	Rainfall run-off Fugitive dust Spills/leaks from vehicles Seeps encountered during excavation	EC-1 – Scheduling EC-2 – Preservation of Existing Vegetation NS-1 – Water Conservation Practices NS-2 – Dewatering NS-6 – Illicit Connection Discharge WE-1 – Wind Erosion Control WM-04 – Spill Prevention and Control WM-10 – Liquid Waste Management	EC-3 – Hydraulic Mulch EC-4 – Hydroseeding EC-5 – Soil Binders EC-6 – Straw Mulch EC-7 – Geotextiles and Mats EC-8 – Wood Mulching EC-9 – Earth Dike and Drainage Swales EC-11 – Slope Drains EC-14 – Compost Blankets EC-15 – Soil Preparation Roughening SE-1 – Silt Fences SE-5 – Fiber Rolls SE-6 – Gravel Bag Berm SE-8 – Sandbag Barrier SE-10 – Storm Drain Inlet Protection
• Landfill and Construction Access Roads	Vehicular traffic Road maintenance	Rainfall run-off Fugitive dust Spills/leaks from drums, tank equipment, or vehicles	WM-04 – Spill Prevention and Control WE-1 – Wind Erosion Control SE-7 – Street Sweeping	TC-1 – Stabilized Construction Entrance and Exit TC-2 – Stabilized Construction Roadway SE-1 – Silt Fences SE-5 – Fiber Rolls SE-10 – Storm Drain Inlet Protection
• Drainage Structures and Conveyances	Drainage Channel Maintenance Drainage Structure Construction Concrete Work	Rainfall run-off Fugitive dust Sealant Curing Compounds Ash, slag, sand	EC-1 – Scheduling WM-08 – Concrete Waste Management NS-12 – Concrete Curing NS-16 – Temporary Batch Plants	EC-11 – Corrugated Metal Pipe Slope Drains SE-1 – Silt Fences SE-5 – Fiber Rolls SE-9 – Straw Bales SE-10 – Storm Drain Inlet Protection SE-8 – Sandbag Barrier
• Soil Stockpiles and Pipe/BMP Materials Storage Area	Soil processing and storage Materials storage	Rainfall run-off Fugitive dust	WM-01 – Material Storage and Delivery WM-02 – Material Use WM-03 – Stockpile Management WE-1 – Wind Erosion Control EC-1 – Scheduling EC-2 – Preservation of existing vegetation	EC-4 – Hydroseeding EC-15 – Soil Preparation-Roughening SE-1 – Silt Fences SE-5 – Fiber Rolls SE-10 – Storm Drain Inlet Protection
• Earthwork	Waste removal at liner tie-in	Solid Waste	WM-05 – Solid Waste Management	
• Landscaping	Soil Preparation for Hydroseeding Hydroseeding	Fertilizers Gypsum Tackifier	WM-01 – Material Delivery and Storage WM-02 – Material Use WM-03 – Stockpile Management	EC-5 – Soil Binders EC-15 – Soil Preparation Roughening
• Groundwater seep	Excavation	Groundwater constituents		WM-10 – Liquid Waste Management EC-11 – Slope Drain
• Water line relocation	Pipe construction/installation. Utility Line Testing and Flushing.	Solder, flux, pipe fitting, potable water		WM-10 – Liquid Waste Management

FS-1.3.2 BMP Location Map

The general locations of the primary BMPs identified in Table FS-1 are shown in Figures in Appendix B. Copies of these figures have been included in this Focused Summary for use in site inspections of BMP performance.

1. SWPPP REQUIREMENTS

1.1 Introduction

The Landfill Project Zone 1-Phase C3 Composite Liner System (Project) will take place at the Prima Deshecha Landfill Site ("Site") in Orange County, California (Figure 1, Appendix B). The Site is located in the City of San Juan Capistrano, 3 miles east of the intersection of the San Diego Freeway and Ortega Highway at 32250 La Pata Avenue. This Site is owned by the County of Orange and operated by the OC Waste & Recycling division.

This Storm Water Pollution Prevention Plan (SWPPP) has been prepared to comply with California's General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (General Permit) Order No. 2009-0009-DWQ (NPDES No. CAS000002) issued by the State Water Resources Control Board (SWRCB) (see Appendix A). In accordance with the CGP and local municipal separate storm sewer system (MS4) permit, this SWPPP is designed to address the following:

- Pollutants and their sources, including sources of sediment associated with construction, construction site erosion and other activities associated with construction activity, are controlled;
- Non-storm water discharges are identified and either eliminated, controlled, or treated as required by the CGP where not otherwise required to be under the Regional Water Quality Control Board (RWQCB) MS4 permit;
- Site Best Management Practices (BMPs) are effective and result in the reduction or elimination of pollutants in storm water discharges and authorized non-storm water discharges from construction activity to the Best Available Technology Economically Achievable/Best Conventional Pollutant Control Technology (BAT/BCT) standard;
- Site run-on is addressed and controlled;
- Stabilization BMPs are installed to reduce or eliminate pollutants after construction is completed; and
- Methods for implementation of BMP inspections, visual monitoring, and the Construction Site Monitoring Program (CSMP) and Rain Event Action Plan (REAP) are identified and provided.

This SWPPP was prepared using guidance based on the annotated outline provided in Appendix B of the California Construction BMP Handbook from the California Storm water Quality

Association (CASQA, 2010). This SWPPP has been prepared to comply with the Risk Level 3 requirements found in Attachment E of the CGP.

1.2 Permit Registration Documents

The required Permit Registration Documents (PRDs) were submitted to the SWRCB via the Storm water Multi Application and Report Tracking System (SMARTS) on __Insert Date__ by the Owner's Legally Responsible Person (LRP) or personnel under the direction of the LRP. The project-specific PRDs include:

- Notice of Intent (NOI).
- Risk Assessment (Construction Site Sediment and Receiving Water Risk Determination).
- Site Map.
- SWPPP.
- Annual Fee.
- Certification.

The NOI, WDID confirmation, Risk Assessment, and Site Maps can be found in Appendix B.

1.3 SWPPP Availability and Implementation

The SWPPP shall be readily available on-site for the duration of the project and shall be made available upon request to a Federal, State or Municipal inspector. It shall be kept in the construction trailer and/or in the site Construction Manager's office, as appropriate.

The SWPPP shall be implemented concurrently with the start of ground disturbing activities.

1.4 SWPPP Amendments

This SWPPP shall be amended by the Qualified SWPPP Developer (QSD):

- When there is a change in construction or operations which may affect the discharge of pollutants to surface waters, groundwater(s), or a municipal separate storm sewer system (MS4) (e.g., significant change in total disturbed acreage); and/or

- If a Permit condition is violated or the general objective of reducing or eliminating pollutants in storm water discharges has not been achieved. If the RWQCB determines that a violation of the CGP has occurred, the SWPPP shall be amended and implemented within 14-calendar days after notification by the RWQCB; and/or

- When there is a change in the project duration or change in the project's calculated risk level; and/or

- When there is a change in the LRP or QSD; and/or

- When deemed necessary by the Owner/Contractor and/or QSD.

- Within two business days (48 hours) after each qualifying rain event, dischargers shall conduct post rain event visual observations (inspections) to (1) identify whether BMPs were adequately designed, implemented, and effective, and (2) identify additional BMPs and revise the SWPPP accordingly". (General Permit, Attachment E, part I.3.G).

- This General Permit requires dischargers with NAL and NEL exceedances to immediately implement additional BMPs and revise their Stormwater Pollution Prevention Plans (SWPPPs) accordingly to either prevent pollutants and authorized non-stormwater discharges from contaminating stormwater, or to substantially reduce the pollutants to levels consistently below the NALs or NELs." (General Permit Section I, Part H No. 57 and 59).

The following items will be included in each amendment:

- The location of proposed change;
- The reason for change;
- The original BMP proposed, if any; and
- The new BMP proposed.

Amendment request documentation for this SWPPP, along with the QSD's approval, can be found in Appendix C.

1.5 Retention of Records

Paper or electronic records shall be retained for a minimum of three (3) years from the date generated or date submitted, whichever is later, for the following items:

- This SWPPP, including amendments and updates;
- The Annual Report;

- Inspection reports; and
- Laboratory results.

These records shall be available at the Site until construction is complete. Records assisting in the determination of compliance with the CGP shall be made available, within a reasonable time, to the RWQCB, SWRCB, municipal agency, or U.S. Environmental Protection Agency (EPA) upon request. Requests by the RWQCB for retention of records for a period longer than three (3) years shall supersede this requirement.

1.6 Required Non-Compliance Reporting

If a discharge from the project exceeds the Numeric Action Levels (NAL) or the Numeric Effluent Levels (NEL) at sampling location C3-1 or if the project receives a written notice of non-compliance, then the Contractor shall: (i) immediately notify the County; and (ii) submit a written NAL Exceedance Report or a NEL Violation Report to the County (Appendix H). These reports will be submitted to the County no later than three days after the conclusion of the storm event. Corrective measures will be implemented as soon as practicable following the discharge or notice. Discharges will be documented in the Site Inspection Report Form (Appendix G).

These reports prepared by the Contractor and submitted to the County will contain the following items:

- The analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter;
- The date, time, and location of sampling;
- Visual observations and attached photos, if applicable;
- Sample results and measurements including precipitation;
- The date, time, location, nature of operation, and type of unauthorized discharge, including the cause or nature of the notice or order;
- The control measures (BMPs) deployed before the discharge event, or prior to receiving notice or order;
- The date of deployment and type of control measures (BMPs) deployed after the discharge event, or after receiving the notice or order, including additional measures installed or planned to reduce or prevent re-occurrence; and
- An implementation and maintenance schedule for affected BMPs.

For Risk Level 3 sites, exceedances of NAL and/or NEL shall be reported per the CSMP.

Sampling records for all monitoring points shall be submitted the County. The County will upload sampling records using the SMARTS program for run-on and run-off at C3-2 and C3-3 as identified in Figure 1 of Appendix B.

1.7 Annual Report

The CGP requires that an Annual Report be prepared, certified, and electronically submitted, via SMARTS, no later than September 1 of each year. Reporting requirements are identified in Section XVI of the General Permit and in Section 7.8 of this report.

1.8 Changes to Permit Coverage

The CGP allows for the reduction or increase of the total acreage covered under the CGP when: a portion of the project is complete and/or conditions for termination of coverage have been met; when ownership of a portion of the project is purchased by a different entity; or when new acreage is added to the project.

Modified PRDs shall be filed electronically within 30 days of a reduction or increase in total disturbed area if a change in Permit covered acreage is to be sought. The SWPPP shall be modified appropriately, with revisions and amendments recorded in Appendix C. Updated PRDs submitted electronically via SMARTS can be found in Appendix D.

1.9 Notice of Termination

A Notice of Termination (NOT) must be submitted electronically by the LRP via SMARTS to terminate coverage under the CGP. The NOT is required to include a final Site Map and photos. It shall be submitted within 90 days of completion of construction. Completion of construction is defined in the CGP as the following:

- All elements of the SWPPP have been completed.
- The Site is in compliance with local storm water management requirements.
- Construction related equipment, materials, and any temporary BMPs no longer needed are removed from the Site and disposed of properly.

The Permit specifies runoff reduction requirements for sites not covered by a Phase I or Phase II Municipal Separate Storm Sewer Systems (MS4) NPDES permit, to avoid, minimize and/or mitigate post-construction storm water runoff impacts. The post-construction water balance performance standard is not applicable to this project because it is located within an area covered

by Waste Discharge Requirements for Discharges of Runoff from the MS4 Order No. R9-2009-0002.

The NOT must demonstrate through photos that the site meets stabilization criteria of the site's Industrial Permit, which the project area will be subject to upon completion of construction. By filing the NOT, the LRP is certifying that the construction completion requirements outlined in the CGP and listed above have been met. A blank NOT can be found in Appendix L.

2. PROJECT INFORMATION

2.1 Background and Site Description

The construction project will take place at the Prima Deshecha Landfill Site in Orange County, California (Figure 1, Appendix B). The Project Site for Zone 1-Phase C3 Composite Liner System, which encompasses approximately 63.9 acres, is entirely within the Landfill Site boundary.

The Prima Deshecha Landfill is located in the City of San Juan Capistrano, 3 miles (4.8 kilometers) east of the intersection of the San Diego Freeway and Ortega Highway. The site is approximately 1,530 acres.

OC Waste & Recycling has operated the Prima Deshecha Landfill as a Class III waste disposal facility since 1976. The Prima Deshecha Landfill is permitted to receive municipal solid waste and sewage sludge. The site consists of two separate waste management units. The western waste management unit (WMU1) is currently the active fill area and the eastern waste management unit (WMU2) serves as an emergency/backup waste disposal area. An engineered artificial liner with a Leachate Collection and Recovery System (LRCS) has been constructed for the WMU1 Expansion Area (east of WMU1). A groundwater extraction system, commonly referred to as a leachate control system, has been installed by OC Waste & Recycling downgradient (south) of WMU1 in compliance with Title 27, Chapter 3, Article 4, Section 20340 of the California Code of Regulations, which requires landfills that receive sewage sludge to be equipped with a leachate control system. OC Waste & Recycling has plans to expand landfilling activities in both WMU1 and WMU2 areas.

> "The PDL is predominantly underlain by sedimentary bedrock units of marine origin ranging in age from early to late miocene, and by quaternary-age alluvial deposits. The San Onofre Breccia and Monterey Formations are exposed in the eastern portion of the site, and the Capistrano Formation is exposed in the western portion of the site. Alluvial deposits are predominantly limited to canyon drainage channels. The site is transected by various faults. The Prima Deshecha Landfill is located in the Prima Deshecha hydrogeologic subarea in the northern portion of the San Clemente hydrologic area subunit of the San Juan Hydrologic Unit (Basin). Groundwater in this region is classified into two categories, including: 1) shallow, low-yield groundwater; and 2) deep bedrock groundwater." (Semi-Annual Water Quality Monitoring Report April 2010-September 2010 dated October 29, 2010, prepared by Geosyntec Consultants).

The existing storm water program and construction activities are described in the following subsections.

2.1.1 Existing Site Storm Water Program

Currently the storm water program at the Site is managed based on the existing industrial SWPPP for the Site under the Industrial General Permit No. CAS000001 (WDID 9 30I005260). This section describes the existing storm water features of the Site.

The Site includes a network of drainage channels to manage storm water discharges from landfilling activity areas and surrounding run-on. The general on-site surface drainage direction is down-canyon or to the southwest. Currently the storm water discharges are directed to an on-site sedimentation basin. The basin serves to reduce sediments and associated pollutants in Site discharge. The basin discharges to Prima Deshecha Canada natural channel. The natural channel flows to a biomitigation area, and then enters MO-1 reinforced concrete box drainage channel in the City of San Clemente. From here the flows continue through the San Clemente Drainage system to the Pacific Ocean (see Figure 1 in Appendix B). The Pacific Ocean shoreline in San Clemente is a 303(d) listed waterbody impaired for indicator bacteria. In the San Diego Region, Prima Deshecha Creek is 303(d) listed as impaired for phosphorous and turbidity. Turbidity is considered a subcategory of sediment.

Annual precipitation near the Landfill Site averages approximately 12.9 inches (OC Public Works Summary Station 186). The majority of this rainfall (68%) occurs during the winter from January through April.

During the anticipated construction time of 200 days from July/August 2012 through February 2013, the average precipitation is approximately 9.61 inches, accounting for 74.5 percent of the total annual rainfall. Hydrology information is included in Appendix B.

Storm water runoff which exits the southwest Site discharge point is sampled as part of the existing Industrial SWPPP.

2.1.2 Construction Activities

The objectives of the Construction Activity are to:

- Install a groundwater protection system and relocate a water line to provide capacity for continued landfill operations under the existing permits.

The construction project will consist of:

- Construction design elements include the excavation, remedial grading, subdrain system, subgrade preparation, composite liner system, leachate collection and removal system (LCRS), operations layer, and surface water drainage control system. Grading work within the Phase C3 area includes mass excavation of native materials to the design

subgrade. Potential over-excavation of unsuitable compressible materials (such as undocumented fill, unsuitable landslide debris, alluvium, and colluvium) is recommended, should they be encountered. Grades will be established in areas largely underlain by previously mapped native deposits and some engineered fill. The proposed cut slope at the southern boundary of the Phase C3 area will be developed mainly in remnant deposits of Landslide A and undifferentiated fill along the current access road. Nearly all of the undifferentiated fill will be removed by grading.

- Grading of the northern slope and floor of Phase C3 will expose both "Mark's shear" and a bentonitic zone below. These deposits will be mapped by a qualified geologist during construction, and any areas of unsuitable materials will be removed and replaced with engineered fill. Although the calculated factors of safety for potential failures along these zones during buttress construction are all greater than 1.2, GLA has recommended that excavation and subsequent replacement to remediative grade with engineered fill be performed in incremental slots. The exact location of the BMPs during construction may vary depending on the incremental slot location.

- Groundwater seeps may be revealed by excavation to design grades. Each occurrence should be evaluated during construction and sub-drain improvements should be designed based on field conditions. Dewatering and slope drains may be necessary to divert seepage around construction.

- The approximate area to be disturbed during the Construction Activity will be approximately 63.9 acres. This includes the limit of disturbance for the Phase C3 excavation area is approximately 37.5 acres, of which approximately 11.2 acres are to be lined; and stockpile areas, which are approximately 22.6 and 3.8 acres. A paved haul road, stand pipe and existing 36-inch corrugated steel pipe (CSP) along with ancillary drainage features within the Phase C3 area will need to be removed as part of the construction project (see Figures 3 and 4, Appendix B).

- Flows along the northern slopes of Phase C3 will be directed in a series of benches with V-ditches to the proposed eastern perimeter storm drain system.

- A portion of an existing City of San Juan Capistrano Water Main will need to be relocated outside of grading limits along the north slope of Phase C3. Excavated material from Phase C3 will be placed in three stockpile locations. The approximate outline of the disturbed area is included in Figures 2 and 7 in Appendix B.

- The Site is located at 33.48654 degrees latitude and -117.62491 degrees longitude.

- There will be no change in the pervious/impervious area as this site will be operated as a landfill upon completion. Any liquids that percolate through the MSW will be captured in a liquid collection and removal system and then treated. Surface water flows will continue to be captured in a permanent drainage system. Any affect the landfill final design may have on existing drainage patterns has already been evaluated in previous hydrology studies to design drainage structures and support technical permits and approvals.

- The Phase C3 slope areas will be drained by a series of V-ditches located along benches and the eastern perimeter of excavation. The drainage control system for the Phase C3 is considered interim until future filling operations proposed to the east of Phase C3 are implemented. The drainage channel system is designed to direct all flows through a dendritic system of channels above the perimeter access road to a trapezoidal channel. The trapezoidal channel will direct flows easterly to an existing culvert that connects to an existing 48-inch steel pipe located in Phase C2, which ties into an existing interim desilting basin located to the east of the Phase C1 liner. Grades will be set at an elevation that will drain at a grade of not less than one-half percent to the existing perimeter storm drain.

- BMP's to be left in place upon completion include: hydroseed, tackifier, sandbag chevrons, turf reinforcement mat in some areas, earthen berms, and fiber rolls.

2.1.3 Permits and Governing Documents

In addition to the CGP, the following documents are applicable to the water quality provisions of the Construction Activity:

- Waste Discharge Requirements, San Diego Regional Water Quality Control Board Order No. R9-2003-0306.
- General Permit for Discharges of Storm Water Discharges Associated with Industrial Activities National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000001.
    - Storm Water Pollution Prevention Plan and Monitoring Program and Reporting Requirements WDID 9 30I005260, revised May 25, 2011.
- Waste Discharge Requirements for Discharges of Runoff from the Municipal Separate Storm Sewer Systems (MS4s), Order No. R9-2009-0002, NPDES No. CAS0108740.
- Water Quality Control Plan Report, San Diego Region (Basin Plan), adopted September 8, 1994 and subsequent revisions.
- Dust Control Plan – South Coast Air Quality Management District Rule 403

- Excavation Permit – South Coast Air Quality Management District Rule 1150.1
- Federal Endangered Species Act
- National Historic Preservation Act/Requirements of the State Historic Preservation Office
- State of California Endangered Species Act
- Clean Water Act Section 401 Water Quality Certifications, File No. 01C-112
- Clean Water Act Section 404, Permit 980065200-ESL
- CA Department of Fish and Game 1601 Streambed Alteration Agreement (R5-2001-0301)

2.2 Storm Water Run-On from Offsite Areas

The Landfill Site generally receives run-on from native side slopes. The perimeter site drainage channel which encircles most of the Site generally prevents run-on from coming into contact with disturbed soil areas or waste.

- The construction project includes a perimeter drainage system to prevent run-on from significantly affecting the project. The perimeter stormwater channel is sized to handle peak flows from a 100-year, 24-hour storm event in final closure configuration.
- BMP's to be implemented during construction are listed in Table FS-1 and FS-2.
- A hydrology analysis was performed as part of the design of this project.

2.3 Findings of the Construction Site Sediment and Receiving Water Risk Determination

The risk posed by storm waters from a construction site to the environment is categorized through risk determinations per the CGP to enable greater focus on sites that pose greater risk to storm water quality. Therefore the risk determinations were carried out for the sake of establishing minimum permit requirements for the Construction Activity. The project's overall risk is broken up into two elements: 1) project sediment risk (the relative amount of sediment that is expected to be generated from the Construction Activity project in an uncontrolled condition, given the project and location details); and 2) receiving water risk (the sensitivity of receiving waters to sediment and turbidity impacts).

Project Sediment Risk is determined by multiplying the rainfall erosivity factor (R), the soil erodibility factor (K), and the slope length and steepness factor (LS) from the Revised Universal Soil Loss Equation (RUSLE) to obtain an estimate of project-related bare ground soil loss, expressed in tons per acre. The site-specific option was used to predict the overall sediment loss

from the project. Values, assumptions, and results from this analysis are summarized in Table 2-1.

Table 2-1: Summary of Sediment Risk

Factor	Value	Methods/Assumptions
R	28.25	Based on the EPA Rainfall Erosivity Factor Calculator [http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm] for Small Construction Sites, assuming construction period from July 2012 through February 2013
K	0.32	Based on- California map of surficial soils
LS	60.84	Slope of 50% and flow path length of 1,000 feet were estimated using existing topographic data and project-specific grading information from the Site. This is the longest slope length and steepest project slope to provide the most conservative estimate.
Total Predicted Sediment Loss (tons/acre)		550
Overall Sediment Risk Low Risk < 15 tons/acre Medium Risk >= 15 and <75 tons/acre High Risk >= 75 tons/acre		High

Receiving water risk is based on whether a project drains (directly or indirectly) to a sediment-sensitive water body. A sediment-sensitive water body is either:

- On the most recent 303(d) list for water bodies impaired for sediment;
- Has a USEPA-approved Total Maximum Daily Load implementation plan for sediment; or
- Has the beneficial uses of COLD, SPAWN, and MIGRATORY.

Prima drains to Prima Deshecha Creek which is on the most recent 303(d) list as impaired for turbidity, which is a subcategory of sediment. Therefore, it has a high receiving water risk.

The Site includes a network of drainage channels to manage storm water discharges from landfilling activity areas and surrounding run-on. The general on-site surface drainage direction is down-canyon or to the southwest. Currently the storm water discharges are directed to treatment controls including an on-site sedimentation basin. The basin serves to reduce

sediments and associated pollutants in Site discharge. The basin discharges to Prima Deshecha Canada natural channel. The natural channel flows to a biomitigation area, and then enters MO-1 reinforced concrete box drainage channel in the City of San Clemente. From here the flows continue through the San Clemente Drainage system to the Pacific Ocean.

According to the CGP, a site with a High Sediment Risk and High Receiving Water Risk has an overall Risk Level of 3. The calculations supporting this conclusion can be found in Appendix B. This SWPPP has been prepared to comply with the Risk Level 3 requirements found in Attachment E of the CGP. Risk Level 3 sites are subject to both narrative effluent limitations and numeric effluent standards. The narrative effluent limitations require storm water discharges associated with construction activity to minimize or prevent pollutants in storm water and authorized non-storm water through the use of controls, structures and best management practices. Discharges from Risk Level 3 site are subject to NALs and NELs for pH and turbidity shown in Table 2-2.

Table 2-2: Risk Level 3 Summary of Numeric Action Levels\Numeric Effluent Level

Parameter	**Unit**	**Numeric Action Level Daily Average**	**Numeric Effluent Level**
pH	pH units	Lower NAL = 6.5 Upper NAL = 8.5	Lower NAL = 6.0 Upper NAL = 9.0
Turbidity	NTU	250 NTU (See Table 2-3 for Basin Plan limit)	500 NTU (See Table 2-3 for Basin Plan limit)
Suspended Sediment Concentration (ASTM Method D3997-97), if NEL exceeded	Mg/L	N/A	N/A

The Basin Plan established the following water quality objectives (Table 2-3) for ground waters and surface water of the San Clemente Hydrologic Area (1.30) not to be exceeded more than 10 percent of the time. The following constituents are from Waste Discharge Requirement Order No. R9-2003-0306, Condition No. 21 and 22.

Table 2-3: Water Quality Objectives for Ground Water and Surface Water of the San Clemente Hydrologic Area

Constituent	San Clement HA Groundwater	Surface water
Total Dissolved Solids	500 mg/L	500 mg/L
Chloride	250 mg/L	250 mg/L
Percent Sodium	60%	60%
Sulfate	250 mg/L	250 mg/L
Nitrogen and Phosphorus	N/A	(see note 2
Iron	0.3 mg/L	0.3 mg/L
Manganese	0.05 mg/L	0.05 mg/L
Methyl Blue Active Substances	0.5 mg/L	0.5 mg/L
Boron	0.5 mg/L	0.5 mg/L
Odor	None	None
Turbidity	5 NTU	20 NTU
Color	15 Units	20 Units
Fluoride	1.0 mg/L	1.0 mg/L

Notes: 1) mg/L – milligrams per liter, NTU = Nephelometric Turbidity Units

2) Concentrations of nitrogen and phosphorus, by themselves or in combination with other nutrients, shall be maintained at levels below those which stimulate algae and emergent plant growth. Threshold total Phosphorus (P) concentrations shall not exceed 0.05 mg/l in any stream at the point where it enters any standing body of water and 0.025 mg/l in any standing body of water. A desired goal in order to prevent plant nuisances in streams and other flowing waters appears to be 0.1 mg/L total P. These values are not to be exceeded more than 10 percent of the time unless studies of the specific body in question clearly show that water quality objective changes are permissible and changes are approved by the Regional Board. Analogous threshold values have not been set for nitrogen compounds; however, natural ratios of nitrogen to phosphorus are to be determined by surveillance and monitoring and upheld. If data are lacking, a ratio of N: P = m 10:1 shall be used.

Additional storm water sampling parameters from Prima's Industrial General Permit are in Table 2-4.

Table 2-4: Industrial General Permit Storm Water Sampling Parameters

(WDID 9 30I005260)

Constituent	Test Reporting Units	Test Method Used	Method Detection Limit
Total Suspended Solids	mg/L	Lab to provide	Lab to provide
Specific Conductance	umhos/cm	Lab to provide	Lab to provide
Oil and Grease	mg/L	Lab to provide	Lab to provide
Biochemical Oxygen Demand	mg/L	Lab to provide	Lab to provide
Chemical Oxygen Demand	mg/L	Lab to provide	Lab to provide
Total Kjeldahl Nitrogen	mg/L	Lab to provide	Lab to provide
Ortho Phosphate	mg/L	Lab to provide	Lab to provide
Copper	mg/L	Lab to provide	Lab to provide
Iron	mg/L	Lab to provide	Lab to provide
Lead	mg/L	Lab to provide	Lab to provide
Zinc	mg/L	Lab to provide	Lab to provide

2.4 Construction Schedule

The Construction Activities are anticipated to take place from July/August through February 2012. As identified in the CGP, the four phases of construction (and their associated timeframes) are included below:

- Grading Phase (from_____through _____);
- Linear Feature Phase (may involve precise grading, waterline relocation) (from_____through _____);
- Final Site Stabilization Phase (from_____through _____).

The estimated schedule for the Construction Activities can be found in Appendix E.

2.5 Construction Activities and Potential Pollutant Sources

The list of Construction Activities and associated materials that are anticipated to be used on site is included as Table 2-5. These activities and associated materials could potentially contribute pollutants, including sediment, to storm water runoff. BMPs were selected based on Table 2-5. The BMPs are included on the Site Maps in Appendix B and are described in Section 3.

Table 2-5: Construction Activity and Associated Pollutants

PHASE	ACTIVITY	ASSOCIATED POLLUTANTS
Grading Phase	Vehicle/Equipment Parking, batteries	VOC's, TPH, Oil and grease, sulfuric acid, lead, pH
	Excavation	Turbidity, TSS
	Operational materials storage and delivery	Turbidity, TSS
	Diesel fuel tank storage area	VOC's
	Dust control, water truck loading with reclaimed water	Subject to NDPES General Permit No. CAS000001
	Solid Waste (removal at liner tie-in)	BOD
	Sanitary Facilities	BOD
Linear Feature Phase	Excavation	Turbidity, TSS
	Vehicle/Equipment Parking	VOC's, TPH, Oil and grease, sulfuric acid, lead, pH
	Operational materials storage and delivery	Turbidity, TSS
	Diesel fuel tank storage area	VOC's
	Dust control, water truck loading with reclaimed water	Subject to NDPES General Permit No. CAS000001
	Sanitary Facilities	BOD
	Solid Waste	BOD
	Concrete drainage structures - Concrete Work, Concrete rinse water, sealant, curing compounds, slag, sand.	pH, Al, Ca, Va, Zn, VOCs, SVOCs
	San Juan Capistrano Water Line Relocation and LCRS - Solder, flux, pipe fitting	Cu, Pb, Zn
	Utility Line Testing	Chlorine, Chloramines
Final Stabilization Phase	Hydroseed, fertilizer, gypsum, lime amendment	TKN, NO_3, BOD, COD, DOC, sulfate, NH_3, Phosphate, Potassium, pH
	Sediment	Turbidity, TSS
	Vehicle/Equipment Parking, batteries	VOC's, TPH, Oil and grease, sulfuric acid, lead, pH
	Diesel fuel tank storage area	VOC's
	Solid Waste	BOD
	Sanitary Facilities	BOD

The list may be amended as appropriate following changes or amendments in BMPs or other Site conditions. Accordingly, this SWPPP will be amended to reflect such changes.

2.6 Identification of Non-Storm Water Discharges

Non-storm water discharges consist of discharges to a municipal storm water conveyance which do not originate from precipitation events (i.e., discharges from a conveyance system other than storm water). The CGP allows for specified non-storm water discharges that do not precipitate erosion or carry other pollutants; however, non-storm water discharges into storm drainage systems or waterways, which are not authorized under the CGP or authorized under a separate NPDES permit, are prohibited. Unauthorized non-storm water discharges which may be applicable to the Landfill Site include:

- Vehicle and equipment cleaning, fueling, and maintenance operations;
- Vehicle and equipment wash water; and
- Sanitary and septic wastes (e.g., from portable toilet facilities).
- Extracted groundwater shall drain into an underdrain system designed to maintain a 5-foot separation between groundwater and refuse. It functions to drain local perched zones of groundwater intersecting the excavated subgrade, and to minimize accumulation of hydrostatic pressure from beneath the composite liner system. Liquids will be conveyed to one of two 15,000 gallon leachate collection tanks, where samples can be collected. Underdrain liquids are used for dust control.

Steps will be taken, including the implementation of appropriate BMPs, to control such discharges. Discharges of construction materials and wastes, such as fuel or paint, resulting from dumping, spills, or direct contact with rainwater or storm water runoff, are also prohibited.

The only Permit authorized non-storm water discharges that may occur at the Site are due to controlled irrigation which may be used to establish vegetation in select areas, as well as dust control applications of water or dust inhibitors. These discharges will be mitigated with the storm water BMPs described in Section 3 of this SWPPP, and will be controlled by personnel who conduct the regular watering.

3. BEST MANAGEMENT PRACTICES

3.1 Introduction and Schedule for BMP Implementation

This section describes the BMPs that shall be implemented at the Site to control the discharge of potentially impacted storm water and authorized non-storm water discharges from the Site. A complete list of selected BMPs for the project is provided in Appendix F along with applicable BMP factsheets from the CASQA Construction Handbook. BMPs are shown on Figures in Appendix B.

BMPs shall be implemented according to a schedule that allows for the placement of BMPs at the appropriate time to control discharges from the identified construction activity. The BMP Implementation Schedule is included along with the Construction Schedule described in Section 2.4 and in Appendix E. A general summary of the BMP Implementation Schedule is provided in Table 3-1 below:

Table 3-1 BMP Implementation Schedule Summary

	BMP	Implementation	Duration
Erosion Control	EC-1, Scheduling	Prior to Construction	Entirety of Project
	EC-2, Preservation of Existing Vegetation	Start of Construction	Entirety of Project
	EC-3, Hydraulic Mulch	As needed and end of construction	Entirety of Project
	EC-4, Hydroseeding	As needed and end of construction	Entirety of Project
	EC-5, Soil Binders	As needed and end of construction	As Needed
	EC-6, Straw Mulch	As Needed	As Needed
	EC-7, Geotextiles and Mats	As Needed	As Needed
	EC-8, Wood Mulch	As Needed	As Needed
	EC-9, Earth Dike and Drainage Swales	As Needed	As Needed
	EC-11, Slope Drains	As Needed	As Needed
	EC-14, Compost Blankets	As Needed	As Needed
	EC-15, Soil Preparation-Roughening	As Needed	As Needed
	EC-16, Non-Vegetated Stabilization	As Needed	As Needed
	WE-1, Wind Erosion Control	Start of Construction	Entirety of Project
Sediment Control	SE-1, Silt Fence	As needed and end of construction	Entirety of Project
	SE-2, Sediment Basin	Already in Place	Entirety of Project
	SE-5, Fiber Rolls	As needed and end of construction	As Needed
	SE-6, Gravel Bag Berm	As Needed	Entirety of Project
	SE-7, Street Sweeping and Vacuuming	As Needed Start of Construction	Entirety of Project
	SE-8, Sandbag Barrier	As Needed	Entirety of Project
	SE-10, Storm Drain Inlet Protection	As Needed	Entirety of Project
Tracking Control	TC-1, Stabilized Construction Entrance/Exit	Prior to Construction	Entirety of Project
	TC-2, Stabilized Construction Roadway	Prior to Construction	Entirety of Project
Materials Management	WM-01, Material Delivery and Storage	As Needed	Entirety of Project
	WM-02, Material Use	As Needed	Entirety of Project
	WM-03, Stockpile Management	As Needed	Entirety of Project
	WM-04, Spill Prevention and Control	Prior to Construction	Entirety of Project
	WM-05, Solid Waste Management	Prior to Construction	Entirety of Project
	WM-06, Hazardous Waste Management	Prior to Construction	Entirety of Project
	WM-08, Concrete Waste Management	As Needed	Entirety of Project
	WM-09, Sanitary-Septic Waste Management	As Needed	Entirety of Project
	WM-10, Liquid Waste Management	As Needed	Entirety of Project
Non-Storm Water Management	NS-1, Water Conservation Practices	During Construction	Entirety of Project
	NS-2, Dewatering Operations	As Needed	Entirety of Project
	NS-3, Paving and Grinding Operation	As Needed	Entirety of Project
	NS-6, Illicit Connection Discharge	Prior to Construction	Entirety of Project
	NS-9, Vehicle and Equipment Fueling	During Construction	Entirety of Project
	NS-12, Concrete Curing	As Needed	Entirety of Project
	NS-13, Concrete Finishing	As Needed	Entirety of Project
	NS-16, Temporary Batch Plants	As Needed	Entirety of Project

The remainder of this section includes a description of:

- Erosion and sediment control approaches;
- Non-storm water controls and materials management; and
- Post-construction storm water management.

3.2 Erosion Control and Sediment Control

Erosion and sediment controls are required by the CGP to provide effective reduction or elimination of sediment related pollutants in storm water discharges and authorized non-storm water discharges from the Site. Applicable BMPs are identified in this section for erosion control, sediment control, tracking control, and wind erosion control. The landfill contains an existing network of drainage features (e.g., channels, swales, and two detention basins), as well as site operating procedures designed to control erosion (e.g., vegetation preservation and maintenance, dust control).

In addition to these control measures, several erosion and sediment control approaches will be implemented during the course of the Construction Activity (meeting or exceeding the minimum requirements of the CGP). These are described in the following sections.

3.2.1 Erosion Control

Erosion control, also referred to as soil stabilization, consists of source control measures that are designed to prevent or reduce the likelihood of soil particles from detaching and becoming transported in storm water runoff. Erosion control BMPs protect the soil surface by covering and/or binding soil particles. This project shall incorporate erosion control measures required by the contract documents and other measures, as selected by the Contractor.

Implementation and locations of temporary and permanent erosion control BMPs are shown on Figures in Appendix B. BMPs to be left in place upon completion are shown on the Drawings. Post-construction BMPs are described in Section 3.1.3. BMPs that shall be implemented and/or maintained to control erosion on the construction Site include:

- EC-1, Scheduling
  - Construction is scheduled to avoid the rainy season.
- EC-2, Preservation of Existing Vegetation
- EC-3, Hydraulic Mulch
- EC-4, Hydroseed
- EC-5, Soil Binders
- EC-6, Straw Mulch
- EC-7, Geotextiles and Mats

- EC-8, Wood Mulching
- EC-9, Earth Dike and Drainage Swales
- EC-11, Slope Drains
- EC-14, Compost Blankets
- EC-15, Soil Preparation-Roughening
- WE-1, Wind Erosion Control

These temporary erosion control BMPs shall be implemented in conformance with the BMP Implementation Schedule included in Appendix E and with the following guidelines and as outlined in the BMP Factsheets provided in Appendix F.

3.2.2 Sediment Control

Sediment controls are temporary or permanent structural measures that are intended to complement the selected erosion control measures and reduce sediment discharges from active construction areas. Sediment controls are designed to intercept and settle out soil particles that have been detached and transported by the force of water. This project shall incorporate sediment control measures required by the contract documents, and other measures selected by the Owner or Contractor.

Sufficient quantities of temporary sediment control materials shall be maintained on-site throughout the duration of the project, to allow for implementation of temporary sediment controls in the event of predicted rain, and for rapid response to failures or emergencies, in conformance with other CGP requirements and as described in this SWPPP.

Implementation and locations of temporary and permanent sediment control BMPs are shown on Figures in Appendix B. Post-construction BMPs are described in Section 3.1.3. BMPs that shall be implemented and/or maintained to control sediment on the construction Site include:

- SE-1, Silt Fence
- SE-5, Fiber Rolls
- SE-6, Gravel Bag Berm
- SE-7, Street Sweeping
- SE-8, Sandbag Barrier
- SE-10, Storm Drain Inlet Protection
- TC-1, Stabilized Construction Entrance and Exit
- TC-2, Stabilized Construction Roadway

These sediment control BMPs shall be implemented in conformance with the BMP Implementation Schedule included in Appendix E and with the following guidelines and as outlined in the BMP Factsheets provided in Appendix F.

3.3 Non-Storm Water Management

Non-storm water discharges consist of discharges which do not originate from precipitation events. Non-storm water discharges into storm drainage systems or waterways, which are not authorized under the CGP or authorized under a separate NPDES permit, are prohibited. Non-storm water discharges which may be applicable to the Landfill Site include:

- WM-01, Material Delivery and Storage
- WM-02, Material Use
- WM-03, Stockpile Management
- WM-04 Spill Prevention and Control
- WM-05, Solid Waste Management
- WM-06, Hazardous Waste Management
- WM-08, Concrete Waste Management
- WM-09, Sanitary-Septic Waste Management (See section 3.4 for BMPs)
- WM-10, Liquid Waste Management
    - Water from groundwater seeps shall not be directly discharged. This water shall be directed to the existing subdrain system where the water drains into a holding tank and can then be reused for dust control.
- Vehicle and equipment cleaning, fueling and maintenance operations to be conducted offsite to the maximum extent possible.
- Vehicle and equipment wash to be conducted offsite or in pre-existing designated equipment wash areas onsite.

Discharges of construction materials and wastes, such as fuel, resulting from dumping, spills, or direct contact with rainwater or storm water runoff, are also prohibited and are addressed in Section 3.3, Waste Management and Materials Pollution Control. An inventory of construction activities and potential non-storm water discharges is included in Section 2 and listed in Table FS-2. This project shall incorporate non-storm water management measures required by the contract documents, and other measures selected by the Owner or Contractor.

BMPs that shall be implemented and/or maintained to control non-storm water discharges from the construction Site include:

- NS-1, Water Conservation Practices
- NS-2, Dewatering Operation

- NS-3, Paving and Grinding Operation
- NS-6, Illicit Connection/Illegal Discharge Detection and Reporting
- NS-9, Vehicle and Equipment Fueling
- NS-12, Concrete Curing
- NS-13, Concrete Finishing

3.4 Material Management

Materials management (materials handling, including wastes) consist of implementing procedural and structural BMPs for handling, storing and using construction materials to limit or prevent the release of those materials into storm water discharges. The amount and type of construction materials to be utilized at the Site will be dependent upon the type of construction and the length of the construction period. The materials may be used continuously, such as fuel for vehicles and equipment, or the materials may be used for a discrete period, such as fertilizer for post-construction vegetation maintenance.

This project shall incorporate non-storm water management measures required by the contract documents, and other measures selected by the Owner or Contractor. Waste management, for example, will be handled according to the waste acceptance practices at the landfill. Materials management BMPs shall be implemented to limit storm water contact with construction materials, wastes and service areas, and to prevent materials and wastes from being discharged off-site. The primary mechanisms for storm water contact that shall be addressed include:

- Direct contact with precipitation;
- Contact with storm water run-on and runoff;
- Wind dispersion of loose materials;
- Direct discharge to the storm drain system through spills or dumping; and
- Extended contact with some materials and wastes, such as asphalt cold mix and treated wood products which can also leach pollutants into storm water.

BMPs that shall be implemented and/or maintained to manage materials at the construction Site include:

- WM-1, Material Delivery and Storage
- WM-2, Material Use
- WM-3, Stockpile Management
- WM-4, Spill Prevention and Control

- WM-5, Solid Waste Management
- WM-6, Hazardous Waste Management
- WM-8, Concrete Waste Management
- WM-9, Sanitary/Septic Waste Management

The Contractor shall be familiar with the Site's Spill Prevention Control and Countermeasures Plan (SPCC Plan). Materials managed as part of the Construction Activity shall be managed according to the SPCC, at a minimum. Hazardous wastes used/stored by the Contractor at the site shall be managed according to the following minimum requirements:

- All generated hazardous material shall be appropriately placarded and stored within a bermed (ideally covered) storage area.
- Liquid hazardous waste, if generated, shall be placed in appropriate holding tanks or containers.
- Liquid hazardous waste containers shall be placed within secondary containment.
- Hazardous wastes shall be transported offsite in appropriate and clearly marked containers and segregated from other non-waste materials. WM-6, Hazardous Waste Management and WM-10, Liquid Waste Management, shall be implemented to minimize contact of hazardous wastes with storm water.

3.5 Post-Construction Storm Water Management Measures

Post-construction BMPs are permanent measures installed during construction, designed to reduce or eliminate pollutant discharges from the site after construction is completed. Since the landfill lies within an area covered by a Municipal Separate Storm Sewer System (MS4) Permit, the post-construction management measures shall comply with the provisions of the MS4 Permit. Post construction runoff reduction requirements have been satisfied through the MS4 program, therefore, this project is exempt from provision XIII A of the General Permit.

The following are the post-construction BMPs that shall be used at this construction site after construction is complete:

- Existing sedimentation basins.
- Existing drainage channels and swales.
- Hydroseeding and tackifier.
- Earthen berms.
- Fiber rolls, silt fence, and sandbag chevrons to be left in place per Plans.
- Erosion control blanket for terrace drain and V-ditches.

The post-construction BMPs that are described above shall be funded and maintained by the LRP/Owner.

4. BMP INSPECTION, MAINTENANCE, AND REAPs

4.1 BMP Inspection and Maintenance

The CGP requires routine daily inspections of immediate access roads, weekly inspections of BMPs, along with inspections before, during, and after qualifying rain events. An inspection checklist must be filled out for inspections and maintained on-site with the SWPPP. A blank inspection checklist can be found in Appendix G.

BMPs shall be maintained regularly to ensure proper and effective functionality. At a minimum daily (when necessary) and prior to any rain event, the discharger shall remove any sediment or other construction activity-related materials that are deposited on the roads (by vacuuming or sweeping). If necessary, corrective actions shall be implemented within 72 hours of identified deficiencies and accompanying amendments to the SWPPP shall be prepared by the QSD. Table FS-1 includes a summary of inspection items and repair actions for specific BMPs. Additional details for maintenance, inspection, and repair of Construction Site BMPs can be found in the BMP Factsheets in Appendix F.

4.2 Rain Event Action Plans

Rain Event Action Plans (REAPs) are required for Risk Level 3 project site dischargers; REAPs are not required for Risk Level 1. The REAP is written document designed to be used as a planning tool by the Qualified SWPPP Practitioner (QSP) to protect exposed portions of project sites and to confirm that the discharger has adequate materials, staff, and time to implement erosion and sediment control measures. These measures are intended to reduce the amount of sediment and other pollutants that could be generated during the rain event. It is the responsibility of the QSP to be aware of precipitation forecast and to obtain and print copies of forecasted precipitation from NOAA's National Weather Service Forecast Office.

The SWPPP includes a REAP template but the QSP will need to customize them for each rain event. Site-specific REAP templates for each applicable project phase can be found in Appendix H. The QSP shall maintain a paper copy of completed REAPs in compliance with the record retention requirements.

The QSP will develop an event specific REAP 48 hours in advance of any precipitation event forecast to have a 50% or greater chance of producing precipitation in the project area. The REAP will be on site and be implemented 24 hours in advance of any the predicted precipitation event.

At minimum the REAP must include the following site and phase-specific information:

1. Site address;
2. Calculated Risk Level (3);

3. Site storm water manager information including the name, company and 24-hour emergency telephone number;
4. Erosion and sediment control provider information including the name, company and 24-hour emergency telephone number;
5. Storm water sampling agent information including the name, company, and 24-hour emergency telephone number;
6. Activities associated with each construction phase;
7. Trade contractor information for trades active on the construction site during each construction phase; and
8. Recommended actions for each project phase.
9. Document housekeeping BMPs in accordance with nature and phase of the project (see CGP, Attachment E, Section B.7, page 4).

If the Project Risk Level is changed during the construction phase, the site-specific REAP template may be modified and the QSP will customize them for each rain event. The QSD shall update this section of the SWPPP to detail the actions necessary to properly prepare and implement the REAP.

5. TRAINING

The Qualified SWPPP Practitioners (QSPs) identified for the Construction Activity are included in Appendix K. To promote storm water management awareness specific for this project, periodic training of job-site personnel (responsible for: all activities associated with compliance with the permit; BMP installation, inspection, maintenance, and repair; overseeing revisiting, and amending the SWPPP) shall be included as part of routine project meetings. The QSPs shall be responsible for providing this information at the meetings, and subsequently completing the training logs shown in Appendix I, which identifies the site-specific storm water topics covered as well as the names of site personnel who attended the meeting. Tasks may be delegated to trained employees by the QSP provided adequate supervision and oversight is provided. Training shall include, but not be limited to, SWPPP implementation, BMP inspection and maintenance, and record keeping. Documentation of training activities shall be retained in the SWPPP.

6. RESPONSIBLE PARTIES AND OPERATORS

6.1 Responsible Parties

Authorized representatives, or "Approved Signatories," who are responsible for SWPPP implementation and have authority to sign permit-related documents, are included in Appendix K.

The QSP shall have primary responsibility and significant authority for the implementation, maintenance, inspection, and notifying the QSD when a SWPPP amendment is needed. The QSP will be available throughout the duration of the project. Duties of the QSP include but are not limited to:

- Achieving compliance with the SWPPP and the CGP;
- Implementing the SWPPP, including but not limited to:
  - Implementation of prompt and effective erosion and sediment control measures;
  - Implementing non-storm water management, and materials management activities such as: monitoring discharges, general site clean-up, vehicle and equipment cleaning, fueling and maintenance, spill control, confirming that no materials other than storm water are discharged in quantities which will have an adverse effect on receiving waters or storm drain systems, etc.
- Pre-storm inspections 48 hours prior to a qualifying rain event;
- Inspections at least once each 24-hour period during an extended storm event;
- Post-storm inspections within 48 hours after a qualifying rain event and routine inspections;
- Eliminating unauthorized discharges;
- The QSPs shall be assigned authority by the LRP/Owner/Contractor to mobilize crews in order to make immediate repairs to the control measures;
- Coordinate with the Owner/Contractor to make the necessary corrections/repairs are made immediately, and that the project complies with the SWPPP, the Permit and approved plans; and

- Notifying LRP or Authorized Signatory of non-compliant events and preparing Notices of Discharge and reports of Illicit Connections or Illegal Discharges (to be submitted by the LRP or Authorized Signatory).

6.2 Contractor List

The construction contractor for the Landfill Project is _____. There will also be sub-contractors for the work. See list below.

Contractor Name:	
Address:	
Telephone Number:	
Point of Contact:	

7. CONSTRUCTION SITE MONITORING PROGRAM

7.1 Purpose

The CGP requires a written site specific Construction Site Monitoring Program (CSMP) be developed prior to the commencement of construction activities. The CSMP shall be developed to meet the requirements and objectives identified in CGP Attachment E, Risk Level 3 requirements. In addition to the CSMP elements described below, the Risk Level 3 dischargers are required to meet the NALs (see Table 2-2). The CSMP shall be revised by the QSD as necessary to reflect project revisions.

The objectives of this CSMP are as follows:

- To demonstrate that the site is in compliance with Discharge Prohibitions and applicable Numeric Action Levels (NALs)/Numeric Effluent Limitations (NELs) of this General Permit;

- To evaluate whether non-visible pollutants are present at the construction site and are causing or contributing to exceedances of water quality objectives;

- To evaluate whether immediate corrective actions, additional BMP implementation, or SWPPP revisions are necessary to reduce pollutants in storm water discharges and authorized non-storm water discharges; and

- To evaluate whether BMPs included in the SWPPP/REAP are effective in preventing or reducing pollutants in storm water discharges and authorized non-storm water discharges.

7.2 Applicability of Permit Requirements

Monitoring requirements described in this CSMP are consistent with the Risk Level 3 monitoring requirements described in Attachment D of the CGP. These monitoring requirements include: the provisions of the REAP (Appendix H), visual monitoring (inspection) of qualifying rain events, defined as a storm producing 0.5 inches or more of cumulative rainfall with a 48-hour period between rain events; visual monitoring (inspection) of BMPs on a weekly basis and drainage areas prone to non-storm water discharges on a quarterly basis; and non-visible pollutant monitoring in the event of a BMP failure, breach, or spill. Table 7-1 summarizes the Risk Level 3 monitoring requirements.

Table 7-1: Summary of Monitoring Requirements

Type of Monitoring		When
Sampling & Analysis	Non-visible pollutants: spill/BMP failure based on pollutant source assessment	Within first two hours of discharge from site. Collect samples of runoff affected by the spilled or released material(s) and runoff that is unaffected by the spilled or released material(s).
	Effluent Sampling: Turbidity	Collect minimum of three samples per day. Collect runoff samples representative of discharges.
	Effluent Sampling: pH	During construction phases with high risk of pH discharge. Collect minimum of three samples per day. Collect runoff samples representative of discharges.
	Contained rain water	At time of discharge
	Non-storm water	At locations where discharged offsite
	Particle size	When sediment basins are used. If needed justify site specific sediment risk using RUSLE.
Visual Inspections	Non-storm water inspection	Quarterly for each drainage area
	Qualifying rain event: Pre-rain inspection	All drainage areas, BMPs, and storm water containments within two business days of each qualifying rain event.
	Qualifying rain event: During storm	Daily inspection
	Qualifying rain event: Post-rain inspection	All discharge locations and BMP's within two business days after each qualifying rain event. Visually observe discharge of contained storm water when discharged and condition of BMP's. Identify additional BMP's and revise SWPPP accordingly.
	REAP and during rain inspection	See REAP requirements and BMP inspection below.
	BMP's	Weekly and every 24 hours during extended storm events.
	Immediate Access Roads	Daily inspection

Sections 7.5 and 7.6 describe the detailed requirements for visual monitoring and water quality sampling. Monitoring shall be conducted until these minimum requirements are completed. Visual observations are not required during dangerous weather conditions such as flooding and

electrical storms, as well as outside of scheduled Site business hours. If observations are not performed due to these exceptions, an explanation shall be included in the Field Observation Logs (Appendix I) and the Annual Report.

7.3 Monitoring Locations

Non-visible pollutant monitoring is described in the REAP. In this case, sampling shall occur at C3-1, C3-2, and C3-3. Data from C3-2 and C3-3 will be uploaded to SMARTS by the County.

The sampling location has been selected based on proximity to planned non-visible pollutant storage, occurrence, or use, historic site uses, potential BMP "breach" areas, accessibility for sampling, personnel safety, and other factors in accordance with the applicable requirements in the CGP.

C3-2 shown on Figure 1 in Appendix B is the location for the collection of an uncontaminated sample of runoff as a 'background' sample for comparison with the samples being analyzed for non-visible pollutants. A location should be representative of uncontaminated storm water which would not have come in contact with either: 1) operational or storage areas associated with the materials, wastes, and activities identified in Section 2.5; 2) potential non-visible pollutants due to historical use of the site as identified in Section 2.5; 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 soils areas.

In addition, if run-on is occurring, the contractor shall select a sample location in the area where the run-on is occurring.

Visual monitoring (inspections) shall take place at drainage areas, BMPs, and storm water storage and containment areas.

7.4 Safety

Onsite personnel, including contractors, truck drivers, project and construction management, construction oversight, quality assurance/quality control and documentation personnel, shall be trained in safety procedures for working with hazardous materials and active construction. A Site Health and Safety Officer shall document that personnel have been trained appropriately.

Table 7-2 summarizes potential Site hazards related to Site monitoring as well as safety information related to each potential hazard. This project is not required to collect samples or conduct visual observations (inspections) outside of scheduled site business hours.

Table 7-2 Potential Site Safety Hazards

Site Hazard	Related Safety Information
Inclement weather, including flooding and electrical storms	Monitoring shall not be conducted in drainages or near water bodies under severe weather circumstances
Construction traffic and landfill traffic	Inspectors shall be familiar with the traffic/haul route plan which establishes trucking routes. Inspectors shall exercise standard safety practices when crossing roads and working near construction traffic and construction equipment.

7.5 Visual Monitoring (Inspections)

To evaluate selected BMP performance, visual monitoring (inspections) including inspections of BMPs, inspections before, after, and during qualifying rain events, and inspection for non-storm water discharges are required for the duration of the project. A Site-specific inspection checklist shall be filled out for visual monitoring. An example checklist can be found in Appendix G.

Specific requirements for BMP inspections include:

- Daily inspections of immediate access roads.
- Weekly inspections, inspections each 24-hour period during extended storm events, one inspection before each qualifying rain event, and one inspection after each qualifying rain event.
- Documentation of observations, with particular attention given to operating efficiency of each BMP.
- If deficiencies are identified, repairs or design changes shall be initiated within 72 hours of identification and shall be completed as soon as possible.

A qualifying rain event is defined by the CGP as one that produces 0.5 inches or more of precipitation with a 48 hour or greater period between rain events. Specific requirements for visual monitoring of qualifying rain events include:

- Within 2 business days (48 hours) prior to each qualifying rain event, the following shall be visually observed (inspected):

- Storm water drainage areas to identify spills, leaks, or uncontrolled pollutant sources. If needed, the discharger shall implement appropriate corrective actions.

- BMPs to identify whether they have been properly implemented in accordance with the SWPPP. If needed, the discharger shall implement appropriate corrective actions.

- Storm water storage and containment areas to detect leaks and ensure maintenance of adequate freeboard.

- The presence or absence of floating and suspended materials, a sheen on the surface, discolorations, turbidity, odors, and source(s) of observed pollutants within stored storm water.

Weather forecasts from the National Oceanographic and Atmospheric Administration (NOAA) must be used for rainfall prediction. Pre-event inspections shall be initiated after consulting NOAA for a qualifying rain event with 50% or greater probability of precipitation. These forecasts can be obtained at http://www.srh.noaa.gov/.

Within two business days (48 hours) after each qualifying rain event, the following shall be visually observed:

- Visual observations of storm water discharges at discharge locations.

- Visual observation of the discharge of stored or contained storm water that is derived from and discharged subsequent to a qualifying rain event. Stored or contained storm water that will likely discharge after operating hours due to anticipated precipitation shall be observed prior to the discharge during operating hours.

    - Visual observation of BMPs shall be conducted to (1) identify whether BMPs were adequately designed, implemented, and effective, and (2) identify additional BMPs and revise the SWPPP accordingly.

- Records of visual observations (inspections), personnel performing the observations, observation times and dates, weather conditions, locations observed, and corrective actions taken in response to the observations shall be maintained on Site. Rain gauge readings of qualifying rain events shall be observed using the onsite gauge and recorded.

- Visual observations (inspections) shall be conducted during business hours only.

The Site shall be inspected quarterly for the presence of non-storm water discharges. Specific requirements for visual monitoring of non-storm water discharges include:

- Visual observation of each drainage area for the presence of, or indications of, prior unauthorized and authorized non-storm water discharges and their sources.

- Visual observations (inspection) shall be conducted at least once quarterly in each of the following periods: January- March, April-June, July-September, and October-December (as appropriate considering the Construction Activity schedule). Visual observation (inspections) are only required during daylight hours (sunrise to sunset).

- Visual observations (inspections) shall document the presence or evidence of non-storm water discharge (authorized or unauthorized), pollutant characteristics (floating and suspended material, sheen, discoloration, turbidity, odor, etc.), and source. On-site records indicating the personnel performing the visual observation (inspections), the date and approximate time each drainage area and non-storm water discharge was observed, and the response taken to eliminate unauthorized non-storm water discharges and to reduce or prevent pollutants from contacting non-storm water discharges shall be maintained.

7.6 Water Quality Sampling and Analysis

The CGP requires Risk Level 3 dischargers to monitor runoff in accordance with the REAP. Specific non-visible pollutant monitoring requirements include:

- Collection of one or more samples during a breach, malfunction, leakage, or spill observed during a visual inspection which could result in the discharge of pollutants to surface waters that would not be visually detectable in storm water;

- Water samples shall be large enough to characterize the site conditions;

- Samples shall be collected at discharge locations that can be safely accessed;

- Samples shall be collected during the first two hours of discharge from rain events that occur during business hours and which generate runoff;

- Samples shall be analyzed for non-visible pollutant parameters indicative of pollutants identified in the pollutant source assessment;

- A sample of storm water that has not come in contact with the disturbed soil or the materials stored or used on-site (uncontaminated sample) shall be collected for comparison with the discharge sample; and

- Compare uncontaminated sample to the samples of discharge using field analysis or through laboratory analysis;

- Sampling records for all monitoring points shall be submitted the County and kept in the SWPPP document. The County will upload sampling records using the SMARTS program for run-on and run-off at C3-2 and C3-3 identified in Figure 1 of Appendix B.

Table 7-3 lists the specific sources and types of potential non-visible pollutants on the project site and the applicable water quality indicator constituent(s) for that pollutant.

Table 7-3
Potential Non-Visible Pollutants and Water Quality Indicator Constituents

Pollutant Source	Pollutant	Water Quality Indicator Constituent(s)
Soil erosion	Sediment, dust	Total Settleable Solids, Total Suspended Solids, Turbidity
Municipal solid waste	Debris, dust	BOD
Portable toilets	Sanitary Waste	BOD, Total/Fecal coliform
Soil preparation and hydroseeding	Vegetation stockpiles, fertilizers, soil amendment, tackifier	TKN, NO_3, BOD, COD, DOC, sulfate, NH_3, Phosphate, Potassium, gypsum
Water line relocation	Solder, flux, pipe fitting	Cu, Pb, Sn, Zn
Water line testing	Potable water	Residual chlorine, chloramines
Concrete	Sealant	SVOCVOC
	Curing Compounds	SVOC, VOC, pH
	Ash, Slag, Sand	pH, Al, Ca, Va, Zn
Equipment maintenance, fueling, batteries	Oil and fuel	VOCs, TPH, Oil/grease, Sulfuric acid; Pb, pH

Sample Collection Procedures

Samples of site runoff discharges will be collected at the designated sampling location shown on Figures 1 and 2 in Appendix B to evaluate the pollutant concentrations associated with observed breaches, malfunctions, leakages, or spills which triggered or contributed to the discharge.

Grab samples will be collected and preserved in accordance with the methods identified in Table 7-4, "Sample Collection, Preservation and Analysis for Monitoring Non-Visible Pollutants." Personnel who collect, maintain, and ship water quality samples shall do so in accordance with the Surface Water Ambient Monitoring Program (SWAMP) 2008 Quality Assurance Program

Plan (QAPrP). This document is available from the SWRCB at http://www.swrcb.ca.gov/water_issues/programs/swamp/tools.shtml#qa.

Samples shall be collected in a separate lab-provided sample container. Each sample container shall be filled using the sample port provided at the discharge sampling location. This separate lab-provided sample container will be used to collect water, which will be transferred to sample bottles for laboratory analysis.

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 Nitrile 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 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 park vehicles in the immediate sample collection area.
- 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, cough, or breathe 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 sample to take place.
- Avoid collecting samples from ponded, sluggish, or stagnant water.

- Avoid collecting samples directly downstream from a bridge as the samples can be affected by the bridge structure or runoff from the road surface.

- 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

Following collection, sample bottles for laboratory analytical testing will be capped, labeled, documented on a Chain of Custody form provided by the analytical laboratory, sealed in a re-sealable storage bag, placed in an ice-chilled cooler, kept between 0-6 degrees Celsius, and delivered within 24 hours to the following California state-certified laboratory:

Laboratory Name:	
Address:	
Telephone Number:	
Point of Contact:	

Following collection, samples for field analysis will be tested in accordance with the field instrument manufacturer's instructions and results recorded on the Sampling Activity Log. Laboratory analysis shall be conducted in accordance with the analytical procedures specified in 40 Code of Federal Regulations (CFR) Part 136, unless other analytical procedures have specified in the CGP or by the RWQCB.

Table 7-4
Sample Collection, Preservation and Analysis for Monitoring Non-Visible Pollutants

PARAMETER	TEST METHOD	DETECTION LIMIT[1]	REPORTING UNITS	BASIS FOR INCLUSION
pH[2]	Lab to provide	Lab to provide	Lab to provide	Non-visible pollutants
Turbidity[2]	Lab to provide	Lab to provide	Lab to provide	
Total Settleable Solids	Lab to provide	Lab to provide	Lab to provide	
BOD	Lab to provide	Lab to provide	Lab to provide	
Total/fecal coliform	Lab to provide	Lab to provide	Lab to provide	
TKN	Lab to provide	Lab to provide	Lab to provide	
NO_3	Lab to provide	Lab to provide	Lab to provide	
COD	Lab to provide	Lab to provide	Lab to provide	
DOC	Lab to provide	Lab to provide	Lab to provide	
Sulfate	Lab to provide	Lab to provide	Lab to provide	
NH3	Lab to provide	Lab to provide	Lab to provide	
Phosphate	Lab to provide	Lab to provide	Lab to provide	
Potassium	Lab to provide	Lab to provide	Lab to provide	
Gypsum	Lab to provide	Lab to provide	Lab to provide	
Copper	Lab to provide	Lab to provide	Lab to provide	
Lead	Lab to provide	Lab to provide	Lab to provide	
Va	Lab to provide	Lab to provide	Lab to provide	
Zinc	Lab to provide	Lab to provide	Lab to provide	
Residual Chlorine	Lab to provide	Lab to provide	Lab to provide	
Chloramines	Lab to provide	Lab to provide	Lab to provide	
VOC's	Lab to provide	Lab to provide	Lab to provide	
TPH	Lab to provide	Lab to provide	Lab to provide	
Sulfuric Acid	Lab to provide	Lab to provide	Lab to provide	
Total Suspended Solids (TSS)	Lab to provide	Lab to provide	Lab to provide	
Oil and Grease (TOG), Total	Lab to provide	Lab to provide	Lab to provide	
Iron, Total	Lab to provide	Lab to provide	Lab to provide	SIC Code-Specific Pollutant

Notes:

[1]Method detection limits may vary.

[2]Minimum parameters required by the CGP.

SM – Standard Methods for the Examination of Water and Wastewater, 18th edition

EPA – EPA test methods; SIC – Standard Industrial Classification; N/A – Not Applicable

Sample Documentation Procedures

Original data documented on sample bottle identification labels, Chain of Custody 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 deleted or made illegible. 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.
  - 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: 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.

- Storm Water Quality Construction Inspection Checklists: when applicable, the Contractor's storm water inspector will document on the checklist that samples for non-visible pollutants were taken during a rain event.

7.7 Quality Assurance and Quality Control (QA/QC)

QA/QC will involve accurately documenting monitoring using appropriate field logs, following clean sampling techniques, and properly using COC forms for laboratory analyses. These procedures shall be implemented in accordance with this SWPPP. Additionally, analytical results will be verified to ensure that samples were analyzed completely and accurately. This data verification will include:

- Checking that requested analyses were performed and samples are accounted for.
- Checking that hold times were met and that the reporting levels meet or are lower than reporting levels stated by the laboratory.
- Checking data for outlier values, including typographical errors, unit reporting errors, or incomplete results. In these cases, the laboratory shall be followed up with to identify, clarify, and/or correct relevant errors.
- Comparing results with QA/QC results to check for contamination, precision, and accuracy. In cases when QA/QC criteria are not met, a written statement from the laboratory regarding the validity of the sample results shall be obtained. When deemed necessary, sample re-analysis shall be performed.

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 data evaluations or conclusions; however, they will be used as a check on laboratory quality assurance.

Should the runoff/downgradient sample result in an elevated concentration for an analyte relative to its relevant receiving water quality objective, the BMPs, site conditions, and surrounding influences will be assessed to determine the probable cause for the elevated level. As determined by the site and data evaluation, appropriate BMPs will be repaired or modified to mitigate discharges of non-visual pollutant concentrations, or if necessary and feasible, contain runoff on-site. Revisions to the BMPs will be recorded as an amendment to the SWPPP.

7.8 Reporting Requirements and Records Retention

The Annual Report shall contain relevant information from the CSMP. This information shall include:

- General statement of adherence to narrative requirements of the CGP;
- Date, time, place, and name(s) of the inspector(s) for sampling, inspections, and field measurement activities;
- Training documentation of personnel responsible for the CGP compliance activities;
- A summary and evaluation of sampling and analysis results, including original laboratory reports;
- The analytical method(s), method reporting unit(s), and MDL(s) of each analytical parameter. Analytical results that are less than the MDL must be reported as "less than the MDL" or "<MDL";
- A summary of corrective actions taken during the compliance year;
- Identification of compliance activities or corrective actions that were not implemented;
- A summary of violations of the CGP;
- The individual(s) who performed facility inspections, sampling, visual observation (inspections), and/or measurements;
- The date, place, time of facility inspections, sampling, visual observation (inspections), and/or measurements, including precipitation; and
- The visual observations and sample collection exception records and reports.
- Documentation of training for individuals: a) responsible for all activities associated with compliance with the Permit; b) responsible for BMP install, inspection, maintenance, and repair; and c) responsible for overseeing, revising, and amending the SWPPP (See CGP, Section XVI, E).

Storm water monitoring information and copies of reports shall be retained for a period of three (3) years from the date of submittal or longer if required by the RWQCB. Records shall be kept on Site while construction is ongoing.

Records to be retained include:

- The date, place, and time of inspections, sampling, visual observations, and/or measurements, including precipitation;
- The individual(s) who performed the inspections, sampling, visual observation, and/or field measurements;
- The date and approximate time of field measurements and laboratory analyses;
- The individual(s) who performed the laboratory analyses;
- A summary of all analytical results, the method detection limits and reporting limits, and the analytical techniques or methods used;
- Rain gauge readings from site inspections;
- QA/QC records and results;
- Calibration records;
- Visual observation and sample collection exemption records;
- The records of any corrective actions and follow-up activities that resulted from analytical results, visual observations, or inspections;
- NAL Exceedance Reports; and
- NEL Violation Reports.

7.9 Bioassessment Monitoring

This project will disturb 30 acres or more	☒ Yes ☐ No
This project directly discharges runoff to a freshwater wadeable stream (or streams).	☐ Yes ☒ No

This project is not subject to bioassessment monitoring because it does not meet both of the permit specified trigger requirements.

8. REFERENCES

California State Water Resources Control Board, 2009. National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities. Order No. 2009-0009-DWQ. NPDES No. CAS000002.

California Storm Water Quality Association, 2010. Storm Water Best Management Practice Handbook Portal: Construction.

Water Environment Federation (WEF) and American Society of Civil Engineers (ASCE), 1998. Urban Runoff Quality Management, WEF Manual of Practice No. 23.