4.10 WATER RESOURCES

This section of the Subsequent EIR provides an analysis of the water resources impacts of the proposed Resource Recovery Project. The following four technical studies were prepared to assess water resource impacts (drainage/flooding, hydrogeology/water supply, and water quality) of the proposed project and alternatives:

- Tajiguas Resource Recovery Project, Final Hydrology and Hydraulic Analysis Report (HDR Engineering, Inc., September 2013, see Appendix L);
- Tajiguas Resource Recovery Project, Hydrology Assessment of Project Alternatives Technical Memorandum (HDR Engineering, Inc., revised July 14, 2014, see Appendix M);
- Tajiguas Resource Recovery Project Surface Water Quality Technical Report (John Kular Consulting, October 2013, see Appendix N).
- Tajiguas Resource Recovery Project Hydrogeologic and Water Supply Impact Analysis Report (Geosyntec Consultants, October 4, 2013, see Appendix O).

A summary of the findings of these studies is provided below.

4.10.1 Setting

Detailed information on the hydrologic/hydrogeologic setting at the Tajiguas Landfill is provided in the Environmental Documents prepared for the Tajiguas Landfill Project. That information is incorporated by reference and the setting information included below summarizes the information and focuses on relevant changes to the water resources setting since completion of those documents, additional information provided by technical studies prepared for the project, and additional data relevant to the current project.

4.10.1.1 Surface Water and Drainage

The Tajiguas Landfill is located within the Cañada de la Pila watershed (approximately 468 acres), which lies within the South Coast Hydrologic Unit as delineated in the Central Coast Region Water Quality Control Plan. The Cañada de la Pila watershed is flanked to the west by the Arroyo Hondo watershed (approximately 2,640 acres) and to the east by the Arroyo Quemado watershed (approximately 1,940 acres) (see Figure 3-2). As compared to the adjacent watershed the Cañada de la Pila watershed is relatively small and does not extend to the crest of the Santa Ynez Mountains. The watershed is divided into three areas for analysis purposes, the upper undeveloped watershed, the landfill area, and downstream of the landfill.

Pila Creek is an ephemeral stream that drains the Cañada de la Pila watershed to the Pacific Ocean. The natural channel has been modified on the landfill site and downstream by construction of U.S. Highway 101 and the Union Pacific Railroad. In the upper watershed area, the northerly reaches of the creek remain in a natural condition. North of the operations deck, as a part of the approved Tajiguas Landfill Reconfiguration Project, Pila Creek has been modified and constructed as a concrete-lined trapezoidal channel[1].

Surface flow in Pila Creek presently terminates 1,800 feet north of the operations deck, at which point, flows are routed around the landfill disposal area in a 48-inch diameter buried pipe culvert. A second existing buried 48-inch diameter culvert is located above the primary culvert at a higher inlet elevation to provide back up drainage conveyance capacity. Surface flow reemerges in the natural channel of Pila Creek at the southern limit of the landfill, south of the existing LFG energy facility.

Two out-of-channel sedimentation basins (north and south sedimentation basins) capture sediment from storm water via a network of on-site storm drains.

With improvements constructed as a part of the Tajiguas Landfill Reconfiguration Project, the north sedimentation basin removes about 94 percent of incoming sediment from the tributary area (primarily the disturbed landfill area), and 92 percent of the total sediment from the entire watershed. The north sedimentation basin functions as one of many best management practices used at the landfill to minimize discharge of sediment to Pila Creek. The south sedimentation basin is located at the downstream boundary of the waste disposal area, and captures storm run-off and entrained sediment from the southeastern portion of the landfill area. Storm water is discharged from the lower 48-inch pipe culvert and the south sedimentation basin into the earthen Pila Creek channel south of the waste disposal area. Storm flows in the creek then pass through three in-channel trash racks and an access road culvert (prior to leaving the landfill property) and culverts under U.S. Highway 101 and the Union Pacific Railroad tracks before reaching the Pacific Ocean.

4.10.1.2 Groundwater Management

Current landfill operations include a groundwater extraction system located near the Pila Creek channel north of the operations deck. The extraction system is referred to as the North Groundwater Management System and consists of a subdrain system under the west perimeter channel fill. The subdrain system extends from the northern limits of the west perimeter channel fill to the limit of waste at the south. A pump located within a sump removes the water from the subdrain system.

[1] The Pila Creek concrete-lined trapezoidal channel and related drainage improvements have only been partially installed under existing conditions. The channel has not been completed at the southern end of the creek north of the operations deck.

The purpose of the North Groundwater Management System is to pump groundwater from the thin alluvial zone and reduce the potential for shallow groundwater to migrate southward from the Pila Creek channel area and into the current unlined landfill waste footprint. The extraction system is part of the Waste Discharge Requirements (WDRs) for the current landfill issued by the Regional Water Quality Control Board (RWQCB).

Surface water run-off infiltrating into and coming into contact with waste can produce leachate. The formation of leachate at the Tajiguas Landfill is limited by the semi-arid climatic conditions, the requirements for placement of daily and the periodic intermediate cover on the landfill surface, and the expected low moisture content of the disposed waste. However, to prevent leachate from migrating into the underlying groundwater and producing potential impacts to groundwater quality, the landfill expansion areas include a groundwater protection system which consists of landfill liners and a leachate collection and recovery system. The leachate is contained and collected by the composite liner and the leachate collection and recovery system. The composite liner and leachate collection and recovery system are described in detail in 01-EIR-05 and have been extended into the reconfigured waste footprint as described in 08EIR-00000-00007.

Landfill gas is generated by the decomposition of solid waste at the landfill, and may become dissolved in groundwater (dissolution). The dissolution of landfill gas into groundwater can adversely impact groundwater quality. The Tajiguas Landfill includes a landfill gas collection system, which collects about 80 percent of the gas generated. The landfill gas collection system is described in detail in 01-EIR-05 and has been extended into the reconfigured waste footprint.

As required by the California Code of Regulations (CCR) Title 27, the performance of the leachate collection and recovery system and landfill gas collection system is currently monitored and would continue to be monitored at the landfill.

4.10.1.3 Groundwater/Water Supply

Hydrogeologic Setting

The Tajiguas Landfill (including the proposed project) is located on the southern slope of the Santa Ynez Mountains. The project area is underlain by moderately to steeply south-dipping sections of consolidated sedimentary units including from oldest to youngest: Gaviota Formation, Sespe-Alegria Formation, Vaqueros Formation, Rincon Formation, and Monterey Formation (see Figure 4.10-1).

The Gaviota and Vaqueros Formation are consolidated sandstone units, the Sespe-Alegria is an interbedded sandstone and siltstone/claystone unit, and the Rincon and Monterey Formations generally consist of mudstones and shales. Most of the groundwater in these formations is believed to occur in fractures but some intergranular groundwater is also likely to occur in the sandstone units. Groundwater flow direction is generally to the southwest in the landfill area, although local flow deviations likely occur due to the fractured nature of the aquifer units and the fact that the finer-grained formations, such as the Rincon and Monterey, act as hydraulic boundaries.

Locally, the Vaqueros and Gaviota Formations are generally considered to be important groundwater sources. The groundwater yield and quality (dissolved general minerals) in these sandstone units is generally considered to be higher compared to the finer-grained Sespe-Alegria, Rincon, and Monterey formations. However, the Sespe-Alegria Formation has previously been an important water source at the landfill (former Well no. 4) and some of the water wells at the adjacent Baron Ranch are also completed in the Sespe-Alegria Formation. The Monterey Formation is also a water source for the landfill (Well no. 3) and the community of Arroyo Quemado located south of the landfill along the coastline. The water quality in the Monterey Formation is generally considered poor. The concentration of total dissolved solids (TDS) in Well no. 3 was measured at 2,500 milligrams per liter (mg/L) in May 2012. The water supply well for the project, Well no. 6, is proposed to be completed in the Sespe-Alegria Formation.

Landfill Water Supply

The landfill currently uses a mixture of pumped groundwater, groundwater extracted from a Groundwater Leachate Collection Recovery System (GLCRS) Interceptor Trench, and water from the leachate collection systems for its water supply (see Table 4.10-1). Pumped groundwater supplies currently consist of a Vaqueros Formation well (Aera Well)[2] located in Cañada de la Huerta (canyon directly west of the landfill), Well no. 3 completed in the Monterey Formation southwest area of the landfill property, and Well no. 5 completed in the Vaqueros Formation on the east side of the landfill property. Well no. 5 is currently the only Vaqueros Formation well located in the landfill watershed area (see Figure 4.10-1). Landfill groundwater collection systems that currently provide a water supply to the landfill include the GLCRS Interceptor Trench, the North Groundwater Management System, Pila Creek In-Channel Sump Pump (ICSP), and leachate collection systems which include the Horizontal Well Dewatering System (HWDS), the Leachate Collection Recovery System no. 5, and various dewatering wells. The water from these collection systems is used for construction and dust control and is not suitable for domestic water uses due to elevated levels of TDS, volatile organic compounds (VOCs), metals and minerals.

[2] Use of this well is through an agreement with the property owner.

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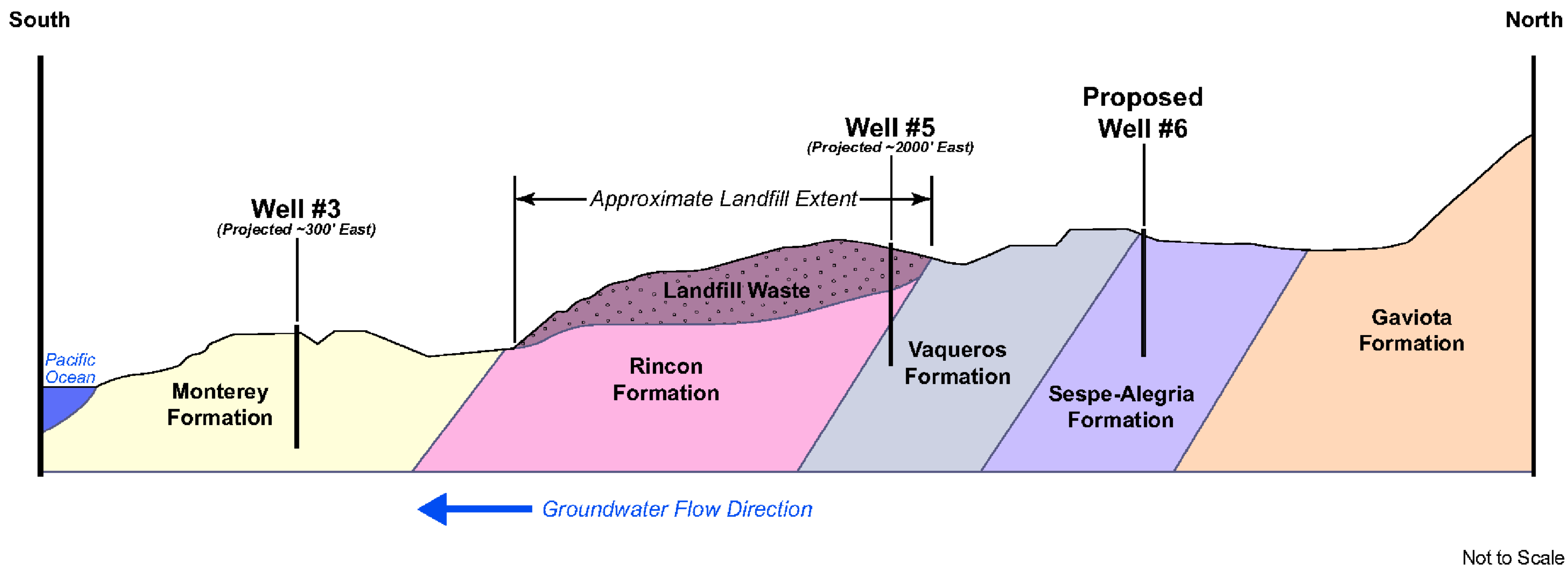

Source: Geosyntec Consultants
Notes: This map was created for informational and display purposes only

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Tajiguas Resource Recovery Project

GENERALIZED SCHEMATIC OF GROUNDWATER FORMATIONS
FIGURE 4.10-1

Back of Figure 4.10-1

As noted above, two prior landfill groundwater supply wells (Wells no. 2 and no. 4) were properly destroyed. Well no. 2 was completed in the Vaqueros Formation and Well no. 4 was completed in the Sespe-Alegria Formation. Well no. 2 was destroyed as a result of stockpiling activity to create the operations deck, and Well no. 4 was destroyed as a result of the landfill reconfiguration.

Landfill operations require, and supplies include, both potable and non-potable water sources. For example, dust control and construction activities can use either potable or non-potable water. However, only potable supplies can be used for employee's domestic use (e.g., hand washing, emergency showers and eye wash, etc.).

The current baseline water use and supply of the landfill is summarized below and in Table 4.10-1. The water demand has been updated from the prior Landfill Environmental Documents based on actual recorded use during 2012. Based on information obtained from landfill operations data, an estimated 31 acre-feet of water was required for construction (i.e., liner construction), landfill operation (i.e., dust control), and domestic use in 2012, while a total water supply of 36.5 acre-feet was available for use. Of the available water supplies, approximately 13.5 acre-feet are available for landfill operations and construction projects only, while 23 acre-feet are available for operations and domestic water supply.

Sources of water for landfill operations and construction projects include the GLCRS, the ICSP, and the HWDS systems. Water collected from these systems is not suitable for domestic use or for use by the proposed project, but are suitable, and will continue to be used, for landfill operations such as construction and dust control. The available domestic supplies include the Aera Well, Well no. 3, and Well no. 5. It should be noted that water supply from the Aera Well is not always available since it may be required for remediation activities on the Aera property, and the water quality in Well no. 3 is poor.

The difference in overall water supply and water use results in an estimated surplus of 5.5 acre-feet/year available for usage at the landfill (baseline). Based on data provided by RRWMD operating staff, the annual water use for year 2012 represents the expected highest water demand through closure of the landfill, as the year 2012 data included a major groundwater protection system (liner) construction project. In future years, some reduction in landfill demand would occur since remaining construction projects are smaller and are anticipated to generate a reduced water demand. In addition, less water will be required for dust control as phased closure of the landfill progresses.

Table 4.10-1. Tajiguas Landfill Water Use and Supply (acre-feet/year)

Water Category	Current (2012)	Proposed
Landfill domestic use	3	3
Landfill operation use	18	18
Landfill construction use	10	10
Resource Recovery Project use	-	11.5
Total Estimated Water Use	**31**	**42.5**
GLCRS interceptor trench	11	11
Canada de la Huerta (Aera well)	3	3
Groundwater collection system (ICSP)	1	1
Well no. 3 (Monterey Formation)	16	16
Well no. 5 (Vaqueros Formation)	4	4
HWDS, leachate collection system	1.5	1.5
Well no. 6 (replacement for Well no. 4, Sespe-Alegria Formation)	-	6.3-20*
Total Estimated Water Supply	**36.5**	**42.8-56.5**
Water Balance (supply minus use)	**5.5**	**0.3-14**

*Lower value of 6.3 is based on well production data from Well no. 4 for 2006-2011, the higher value of 20 is one-half of the maximum sustainable pumping rate of Well no. 4 (25 gallons/minute).

4.10.1.4 Surface Water Quality

California's Porter-Cologne Water Quality Control Act (1969) establishes the responsibilities and authorities of the nine Regional Water Quality Control Boards and the State Water Resources Control Board (SWRCB). Each Regional Board is directed to "...formulate and adopt water quality control plans for all areas within the region." A water quality control plan is defined as having three components: beneficial uses which are to be protected, water quality objectives which protect those uses, and an implementation plan which accomplishes those objectives.

The Water Quality Control Plan for the Central Coast Basin (Basin Plan) was last updated in June 2011 and presents a list of 22 beneficial use categories for surface water bodies within the region (including both ocean and inland waters), and identifies which uses apply to individual surface water bodies. The Basin Plan is augmented by the Water Quality Control Plan for Ocean Waters of California (updated in 2009) prepared by the SWRCB.

Arroyo Hondo, Arroyo Quemado and the Pacific Ocean are all listed in the Basin Plan as having a variety of beneficial uses. While Pila Creek is not specifically listed in the Basin Plan, the Basin Plan indicates that surface water bodies not specifically listed are assigned beneficial uses for “domestic and municipal water supply” (MUN) and “protection of recreation and aquatic life”. Designated beneficial uses are regarded as existing whether a water body is perennial or ephemeral, or the flow is intermittent or continuous.

The Basin Plan also includes water quality objectives, which may be in numeric form, or more typically, narrative standards considered necessary to protect designated beneficial uses. Water quality objectives are achieved through enforcement of, and compliance with, the RWQCB’s permit actions (i.e., the landfill’s General Industrial Permit and WDRs) and through the implementation of the Basin Plan. Water quality objectives for ocean waters are defined in the Ocean Plan for bacterial, physical, chemical, and biological characteristics, as well as radioactivity.

The Basin Plan also identifies water quality objectives for inland surface waters/enclosed bays/estuaries for color, tastes and odors (water and edible aquatic resources), floating material, suspended material, settleable material, oil & grease, biostimulatory substances, sediment, turbidity, pH, dissolved oxygen, temperature, toxicity, pesticides, chemical constituents, organic substances and radioactivity.

Section 303(d) of the Clean Water Act requires states to identify waterbodies that do not fully support beneficial uses (impaired) and (in some cases) establish total maximum daily pollutant loads for these water bodies. Neither the ocean water in the project vicinity nor the surface water in Pila Creek, are listed as impaired by the SWRCB.

Surface water quality at the landfill is regulated under two programs administered by the Central Coast RWQCB, WDR Order No. R3-2010-0006 and the Industrial Storm Water General Permit (SWRCB Order No. 2014-0057-DWQ ~~97-03-DWQ~~ and National Pollutant Discharge Elimination System [NPDES] General Permit No. CAS00001). WDR Order no. R3-2010-0006 requires RRWMD to complete four storm water sampling events per reporting period ~~collect two (twice per year) storm water samples within one hour of the first storm event of the wet season (October 1 through April 30) within normal business hours, and during at least one other storm event of the wet season, following a minimum of three working days without a storm water discharge from the first storm event~~.

To meet the requirements of both permits, storm water samples must be analyzed for specific conductance, nitrate, nitrite, pH, total organic carbon, total suspended solids, oil and grease, and iron[3]. In addition, sediment samples must be collected each year from sedimentation basins and analyzed for metals.

Under the Storm Water General Permit the landfill is monitored for pH, total suspended solids, specific conductance, oil and grease, total organic Four storm water sampling locations have been established along Pila Creek, including up-gradient of the landfill activities (SW-1), combined discharge from the northern sedimentation basin and undisturbed area (SW-3), downstream of the property boundary (SW-4), and downstream of the south sedimentation basin (SW-5)[4].

Recent storm water sampling test results (see Table 2 of Appendix N) indicate that the run-off from the landfill contains detectable concentrations of all of the constituents tested. In general, the concentration of these constituents increases with an increase in contributing area from the landfill. Prior to the adoption of the new General Permit, there were ~~are currently~~ no numeric limitations for storm water quality under the Industrial Storm Water General Permit. The General Permit requires facility operators to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges through the development and implementation of Best Management Practices (BMPs) which constitute compliance with Best Available Technology and Best Control Technology.

~~If receiving water quality standards are exceeded, facility operators are required to submit a written report providing additional BMPs that will be implemented to achieve water quality standards.~~

This General Permit requires Dischargers to develop and implement Exceedance Response Actions (ERAs), when an annual numeric action levels (NAL) or instantaneous maximum NAL exceedance occurs during a reporting year. The first time an annual NAL or instantaneous maximum NAL exceedance occurs for any one parameter, a Discharger’s status is changed from Baseline to Level 1 status, and the Discharger is required to evaluate and revise, as necessary, its BMPs (with the assistance of a Qualified Industrial Storm Water Practitioner [QISP]) and submit a report prepared by a QISP.

[3] Additional monitoring parameters under Subchapter N of Title 40 Code of Federal Regulations include biological oxygen demand, total suspended solids, ammonia, [alpha]-Terpinel, benzoic acid, p-cresol, phenol, zinc and pH.

[4] SW-2 is no longer used.

The second time an annual NAL or instantaneous maximum NAL exceedance occurs for the same parameter in a subsequent reporting year, the Discharger's status is changed from Level 1 to Level 2 status, and Dischargers are required to submit a Level 2 ERA Action Plan and a Level 2 ERA Technical Report. Unless the demonstration is not accepted by the State Water Board or a Regional Water Board, the Discharger is not required to perform additional ERA requirements for the parameter(s) involved if the Discharger demonstrates that: 1. Additional BMPs required to eliminate NAL exceedances are not technologically available or economically practicable and achievable; or, 2. NAL exceedances are solely attributable to non-industrial pollutant sources; or, 3. NAL exceedances are solely attributable to pollutants from natural background sources. Information supporting the above demonstrations must be included in QISP-prepared Level 2 ERA Technical Reports.

Potential surface water pollution sources associated with landfill operations are managed by both structural and non-structural methods at the Tajiguas Landfill. A summary of BMPs currently implemented for each activity is provided in Tables 4.10-2 and 4.10-3, and is taken from the landfill's Storm Water Pollution Prevention Plan, dated June 2015 ~~May 2013~~.

~~**Table 4.10-2. Summary of BMPs Implemented at the Tajiguas Landfill**~~

~~Area~~	~~Activity~~	~~Pollutant Source~~	~~Pollutant~~	~~Best Management Practices~~
~~General~~	~~Disposal and Recycling, Circulation, Earthwork, Maintenance and Fueling~~	~~Refuse, Erosion, Spill, Leak~~	~~Refuse, sediment, fuel and chemicals~~	~~Good Housekeeping, Preventive Maintenance, Employee Training~~
~~Active Disposal Area~~	~~Refuse Disposal~~	~~Refuse~~	~~Refuse, litter, sediment~~	~~Daily Cover, Fiber Rolls, Straw Bales, Grading~~
~~Temporary Slopes and Decks (Refuse Filled)~~	~~Grading~~	~~Erosion~~	~~Sediment~~	~~Benches, Fiber Rolls, Surface Treatment, Swales~~
~~Earthwork - Borrow Cut~~	~~Grading~~	~~Erosion~~	~~Sediment~~	~~Fiber Rolls, Silt Trap, Surface Treatment~~
~~Earthwork- Stockpile~~	~~Grading~~	~~Erosion~~	~~Sediment~~	~~Fiber Rolls, Surface Treatment, Silt Fence~~
~~Inactive Disposal~~	~~Intermediate Cover~~	~~Erosion~~	~~Sediment~~	~~Benches, Surface Treatment~~
~~Wind Susceptible Areas~~	~~Windblown litter~~	~~Paper, floatables~~	~~Varies~~	~~Litter patrols, Permanent & Temporary Fence, Inlet Protection~~
~~Drainage Inlets~~	~~Convey Flows~~	~~Erosion~~	~~Sediment~~	~~Inlet Protection~~
~~Paved Roads~~	~~Vehicle Circulation~~	~~Erosion~~	~~Sediment~~	~~Street Sweeper, Corrugated Steel Tire Plate, Stabilized Road Entrance~~
~~Unpaved Roads~~	~~Vehicle Circulation~~	~~Erosion~~	~~Sediment~~	~~Stabilize surface, Swale, Traps~~

~~Table 4.10-2. Continued~~

~~Area~~	~~Activity~~	~~Pollutant Source~~	~~Pollutant~~	~~Best Management Practices~~
~~Green Waste Area~~	~~Chipping~~	~~Mulch~~	~~Organics~~	~~Inlet Protection~~
~~Vehicle Maintenance Shop & Vehicle Wash~~	~~Oil change, lube~~	~~Spills~~	~~Vehicle fluids~~	~~Roof, Good Housekeeping, Training, Recordkeeping~~
~~Fueling Area~~	~~Vehicle Fuel~~	~~Spill, Leak~~	~~Diesel~~ ~~Gasoline~~	~~Double-Walled Tanks, Good Housekeeping, Training~~
~~Waste Oil Storage~~	~~Oil Storage~~	~~Spill, Leak~~	~~Oil~~	~~Double-Walled Tank, Canopy, Good Housekeeping, Training~~
~~New Oil Shed~~	~~Oil Storage~~	~~Spill, Leak~~	~~Oil~~	~~Double-Walled Tank, Roof, Good Housekeeping, Training~~
~~Hydraulic Fluid Storage~~	~~Chemical Storage~~	~~Spill, Leak~~	~~Chemical~~	~~Canopy, Good Housekeeping, Training~~
~~Vehicle Maintenance Supply Shed~~	~~Supplies Storage~~	~~Spill, Leak~~	~~Hydraulic Fluid~~	~~Roof, Good Housekeeping, Training~~
~~White Goods Recycling~~	~~Appliance Storage~~	~~Spills~~	~~Freon~~	~~Dry Clean Up Methods~~
~~Household Hazardous Waste Collection~~	~~Temporary Storage~~	~~Spills, Leak~~	~~Paint, Batteries, Miscellaneous~~	~~Double-Containment, Locker, Good Housekeeping, Training~~
~~LCRS Tanks~~ ~~1 - 4~~	~~Groundwater storage~~	~~Spills, Leak~~	~~Non-hazardous material~~	~~Not Required~~
~~LCRS Tanks~~ ~~A - D~~	~~Landfill Dewatering Well storage~~	~~Spills, Leak~~	~~Non-hazardous material~~	~~Double Walled Tank, Double-Containment, Training~~
~~Special Liner Projects~~	~~Liner Construction~~	~~Erosion~~	~~Sediment~~	~~Project specific SWPPP By Contractor~~

Table 10-2. Storm Event Best Management Practices

Area	Activity	Pollutant Source	Pollutant	Storm Event Best Management Practice	CASQA Fact Sheet
All	All	Refuse, erosion, spill, leak	Refuse, sediment, fuel and chemicals	Good housekeeping, preventive maintenance, employee training	EC-1
Upstream undisturbed area	None	Erosion	Sediment, Fe	Do not disturb	EC-2
Active disposal area	Refuse disposal	Refuse	Refuse, litter, sediment	Minimize operational area, surface treatment	SE-5, SE-9, TC-22
Temporary slopes and decks (refuse-filled); earthwork (cut/fill/soil stockpile)	Grading	Erosion	Sediment, Fe	Minimize operational area, surface treatment	SC-40, EC-3, EC-4, EC-5, EC-6, EC-7, EC-8
Inactive disposal	Intermediate cover	Erosion	Sediment, Fe	Do not disturb established vegetation	EC-2
Wind susceptible areas	Windblown litter	Paper, floatables	Varies	Litter patrols, permanent & temporary fence, apply water	WE-1
Drainage inlets	Convey flows	Erosion	Sediment	Treat flows prior to entering drainage inlets, inlet protection	SE-5, SE-14
Vehicle circulation-paved roads	Vehicle circulation	Erosion	Sediment	Source controls, street sweeper, minimize tracking	SE-7, TC-1 to TC-3
Vehicle circulation-unpaved roads	Vehicle circulation	Erosion	Sediment	Minimize operational area, surface treatment	SC-40, EC-8

Table 10-3. Non-Storm Event Best Management Practices

Area	Activity	Pollutant Source	Pollutant	CASQA Fact Sheet
Green-waste area	Chipping	Mulch	Organics	SC-32, SE-5, SE-14
Vehicle maintenance	Oil change, lube	Spills	Vehicle fluids	SC-22, SC-21
Fueling area	Vehicle fuel	Spill, leak	Diesel, gasoline	SC-20, SC-11
Waste oil storage	Oil storage	Spill, leak	Oil	SC-11, SC-31
New oil shed	Oil storage	Spill, leak	Oil	SC-11, SC-31
Hydraulic fluid storage	Chemical storage	Spill, leak	Chemical	SC-11, SC-31
Vehicle maintenance supply shed	Supplies, storage	Spill, leak	Hydraulic fluid	SC-11, SC-34
White goods recycling	Appliance storage	Spills	Metals, freon	Define source of metal in storm water

Table 4.10-3. Continued

Area	Activity	Pollutant Source	Pollutant	CASQA Fact Sheet
Household hazardous waste collection	Temporary storage	Spill, leak	Paint, batteries, miscellaneous	SC-11, SC-34
LCRS Tanks 1-4	Groundwater storage	Spill, leak	Non-hazardous material	SC-11, SC-31
LCRS Tanks A-D	Landfill dewatering well storage	Spill, leak	Non-hazardous material	SC-11, SC-31
Final cover projects	Cover construction	Erosion	Sediment	Project-specific SWPPP by contractor

4.10.1.5 Water Quality Regulatory Setting

Overview

Surface water quality is affected by agricultural, urban, and industrial sources of pollution. Point sources, which are defined as specific outfalls discharging into natural waters, are easily identified and are regulated by California's RWQCBs and the U.S. Environmental Protection Agency (EPA). Nonpoint sources, including polluted runoff from urban and agricultural sources, are more challenging to identify. Nonpoint sources generally drain into a river or waterway over an extended area, or via many individual inlets.

Common classes of water quality pollutants that are regulated under state and federal regulations include inorganics, pathogens, and pesticides and other organic compounds. Inorganics include nutrients (phosphorus and various forms of nitrogen including nitrate), salts, and metals (aluminum, antimony, arsenic, copper, cyanide, lead, mercury, nickel, etc.). Pathogens include total coliforms and fecal coliforms, as well as viruses, protozoa, and other microorganisms. Pesticides include herbicides and insecticides. Other organic compounds include VOCs, and petroleum products (fuels, oils, greases, etc.). Water quality physical parameters such as dissolved oxygen are also regulated.

Federal - Clean Water Act

The federal Clean Water Act (CWA) established the basic structure for regulating discharges of pollutants into "waters of the United States." The CWA specifies a variety of regulatory and non-regulatory tools to sharply reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. The CWA includes the following sections:

- Sections 303 and 304, which provide for water quality standards, criteria, and guidelines.

- Section 401, which requires every applicant for a federal permit or license for any activity that may result in a discharge to a water body to obtain a water quality certification that the proposed activity will comply with applicable water quality standards.
- Section 402, which regulates point- and nonpoint-source discharges to surface waters through the NPDES program.
- Section 404, which establishes a program to regulate the discharge of dredged and fill material into waters of the U.S., including some wetlands.

The NPDES permit program was established by the CWA to regulate municipal and industrial discharges to surface waters of the United States. Federal NPDES permit regulations have been established for broad categories of discharges, including point-source municipal waste discharges and nonpoint-source storm water runoff. NPDES permits generally identify the following:

- Effluent and receiving-water limits on allowable concentrations and/or mass emissions of pollutants contained in the discharge;
- Prohibitions on discharges not specifically allowed under the permit; and
- Provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities.

In November 1990, EPA published regulations establishing NPDES permit requirements for municipal and industrial storm water discharges. Phase 1 of the permitting program applied to municipal discharges of storm water in urban areas where the population exceeded 100,000 persons. In California, the EPA has delegated its NPDES permitting functions to the SWRCB and the regional boards.

State of California

California State Non-Degradation Policy. In 1968, as required under the federal anti-degradation policy described above, the SWRCB adopted Resolution No. 68-16 a “Statement of Policy with Respect to Maintaining High Quality of Waters in California.” Resolution 68-16 states that the disposal of wastes into state waters shall be regulated to achieve the highest water quality consistent with maximum benefit to the people of the state and to promote the peace, health, safety, and welfare of the people of the state, and provides as follows:

- *"Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies."*

- *"Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained."*

California Toxics Rule. In May 2000, the SWRCB adopted and EPA approved the California Toxics Rule, which establishes numeric water quality criteria for approximately 130 priority pollutant trace metals and organic compounds. The SWRCB subsequently adopted its State Implementation Policy of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries (SIP). The SIP outlines procedures for NPDES permitting for toxic-pollutant objectives that have been adopted in Basin Plans and in the California Toxics Rule.

Waste Discharge Requirements (WDRs). California's regional boards also oversee permitting as authorized under the Porter-Cologne Water Quality Control Act. If a project does not require federal permitting, it may still require a state permit found in Division 7 of the California Water Code, the Porter-Cologne Act requires persons who discharge waste that could affect the quality of waters of the State to file a Report of Waste Discharge with the appropriate regional board.

Each RWQCB can adopt WDR General Orders or individual WDR orders to regulate such discharges, and a given discharger will be subject to WDRs either under a General Order or a project specific state permit. WDRs usually include discharge prohibitions and discharge specifications including flow volumes and water quality constituent limitations to which a discharger must adhere. WDRs usually impose water quality monitoring requirements, and may require liner systems or other engineered features. The limitations imposed by WDRs vary from region to region and from project to project, depending upon proposed discharge characteristics, and sensitivities of affected resources. In this manner, WDRs protect waters of the State from significant water quality degradation. Alternatively, if no degradation of water quality is anticipated from a proposed discharge, the regional board may issue a conditional waiver of WDRs.

With regard to composting operations, the current practice is to issue individual WDRs for larger composting facilities. Currently, the SWRCB are developing statewide general WDRs that would address water quality protection at composting facilities that currently exist or may be constructed. Use of the general WDR or an individual WDR would be up to the discretion of the RWQCBs.

Construction Storm Water NPDES Permit. The federal CWA prohibits discharges of storm water from construction projects unless the discharge is in compliance with an NPDES permit. The SWRCB is the permitting authority in California and adopted a statewide General Permit for Storm Water Discharges Associated with Construction Activity (Order No. 99-08) for construction projects that disturb one or more acres of soil. Effective July 1, 2010, all dischargers are required to obtain coverage under the updated Construction General Permit Order 2009-0009-DWQ (the Construction General Permit), adopted on September 2, 2009, which was amended effective July 17, 2012 (Order no. 2012-0006-DWQ). Construction activities include clearing, grading, excavation, stockpiling, and reconstruction of existing facilities (removal or replacement).

The Construction General Permit requires a risk-based permitting approach, dependent upon the likely level of risk imparted by a project. The Construction General Permit contains several additional compliance items, including (1) additional mandatory BMPs to reduce erosion and sedimentation; (2) sampling and monitoring for non-visible pollutants; (3) effluent monitoring and annual compliance reports; (4) development and adherence to a Rain Event Action Plan; (5) requirements for the post construction period; (6) numeric action levels and effluent limits for pH and turbidity; (7) monitoring of soil characteristics on site; and (8) mandatory training under a specific curriculum.

Industrial Storm Water NPDES Permit. The federal CWA prohibits discharges of storm water from industrial projects unless the discharge is in compliance with an NPDES permit. The SWRCB is the permitting authority in California and adopted a statewide General Permit for Storm Water Discharges Associated with Industrial Activities (Order No. 2014-0057-DWQ ~~97-03-DWQ~~) ~~from~~ addressing numerous sources and ~~10 different~~ categories of industrial facilities including recycling facilities. The General Industrial Permit requires the implementation of management measures that will achieve the performance standard of best available technology economically achievable and best conventional pollutant control technology. The General Industrial Permit also requires the development of a Storm Water Pollution Prevention Plan (SWPPP) and a monitoring plan. Through the SWPPP, sources of pollutants are to be identified and the means to manage the sources to reduce storm water pollution are described. The General Industrial Permit requires that an annual report be submitted each July 15. ~~The General Industrial Permit is currently being updated and a new version of the permit is projected to be released in 2014.~~

County of Santa Barbara Water Quality Protection Policies

Policies regarding the protection of water quality in the unincorporated areas of Santa Barbara County are provided in the Comprehensive Plan Land Use Element, various Community Plans, and the Local Coastal Plan. The overarching policy which applies to both construction and post-construction is Land Use Element Hillside and Watershed Protection Policy 7 (Coastal Plan Policy 3-19), which states:

"Degradation of the water quality of groundwater basins, nearby streams, or wetlands shall not result from development of the site. Pollutants, such as chemicals, fuels, lubricants, raw sewage, and other harmful waste shall not be discharged into or alongside coastal streams or wetlands either during or after construction."

Project approval requires a finding of consistency with this and all other applicable water quality policies in the Comprehensive and Community Plans.

4.10.2 Impact Analysis and Mitigation Measures

4.10.2.1 Thresholds of Significance

Significance criteria for water resources were determined based on the State CEQA Guidelines (Appendix G), the County's Environmental Thresholds and Guidelines Manual (Groundwater Thresholds and Surface and Storm Water Quality Significance Guidelines) and CCR Title 27.

State CEQA Guidelines - Water Quality

- Violate any water quality standards or waste discharge requirements.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface run-off in a manner which would result in flooding on- or off-site.
- Create or contribute run-off water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted run-off.

- Otherwise substantially degrade water quality.

State CEQA Guidelines - Drainage and Flooding

- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows.
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.
- Inundation by seiche, tsunami, or mudflow.

County's Environmental Thresholds and Guidelines Manual (Groundwater Thresholds)

- New groundwater production that would result in overdraft of a bedrock aquifer.
- Adverse environmental effects associated with overdraft of an alluvial groundwater basin including water quality degradation, saltwater intrusion, land subsidence, loss of well yield, well interference, and reduction in surface water available to support biological resources.

County's Environmental Thresholds and Guidelines Manual (Surface and Storm Water Quality Significance Criteria)

A significant water quality impact is presumed to occur if the project:

- Is located within an urbanized area of the County and the project construction or redevelopment individually or as part of a larger common plan of development or sale would disturb 1 or more acres of land.
- Increases the amount of impervious surfaces on a site by 25 percent or more.
- Results in channelization or relocation of a natural drainage channel.
- Results in removal or reduction in riparian vegetation or other vegetation from the buffer zone of any streams, creeks or wetlands.
- New industrial facility regulated under NPDES Phase I Industrial Storm Water Regulations.
- Discharges pollutants that exceed water quality standards set forth in the applicable NPDES permit, Basin Plan, or otherwise impairs beneficial uses.

- Results in a discharge of pollutants into an impaired waterbody as designated under Section 303(d) of the CWA,
- Results in a discharge of pollutants of concern to a receiving waterbody, as identified by the RWQCB.

CCR Title 27

Impacts would be considered significant if they would result in one or more of the following effects:

- Contaminate a public water supply;
- Substantially deplete groundwater supplies;
- Allow wastes to come within 5 feet of the highest anticipated groundwater level;
- Interfere substantially with groundwater recharge;
- Exceed groundwater threshold criteria as set forth in water quality protection standards;
- Interfere with flood flows in a 100-year flood hazard area;
- Expose persons or structures to a significant risk of flooding;
- Substantially alter existing drainage patterns resulting in adverse effects to downstream properties;
- Substantially increase run-off, resulting in adverse effects to downstream properties;
- Violate surface water quality standards;
- Violate water discharge requirements; and
- Substantially degrade surface water quality.

4.10.2.2 Approved Tajiguas Landfill Expansion Project

The following is a summary of the water resources impacts identified for the approved and permitted Tajiguas Landfill Expansion Project in 01-EIR-05 (see Section 3.3.3).

1. Run-off volumes associated with the Front Canyon Configuration were calculated to be 28.6 acre-feet per year, which is less than pre-landfill conditions (46 acre-feet per year). Therefore, drainage and flooding impacts were identified as less than significant (Class III).

2. The long-term average annual soil loss (contributing to surface water turbidity and total suspended solids) associated with the approved and permitted expansion was estimated to be 382.3 tons per year at closure, which is less than pre-landfill conditions (718 tons per year). The water quality analysis assumed continuing implementation of best management practices to minimize erosion, divert storm water, capture sediment and prevent storm water contact with waste. Therefore, impacts to surface water quality due to sedimentation were identified as an adverse but less than significant impact (Class III).
3. Water quality impacts due to surface water coming in contact with waste were determined to be less than significant (Class III).
4. Based on extensive water quality sampling, surface water discharges from Pila Creek to the Pacific Ocean were determined not to be the source of high bacterial levels at Arroyo Quemado Beach (Class III).
5. With construction and operation of the composite liner and leachate collection and removal system, continued implementation of the existing Storm Water Pollution and Prevention Plan and ongoing groundwater monitoring, potential impacts to groundwater quality were considered less than significant (Class III).
6. 01-EIR-05 identified a water demand of approximately 50 acre-feet per year at the landfill used primarily for dust control and soil compaction. The landfill water sources identified include the in-channel sedimentation basins, the out-of-channel sedimentation basin, two groundwater wells, the leachate collection and removal system and groundwater collection north of the landfill. The water use analysis identified an excess of available supply, therefore impacts to groundwater quantity were determined to be less than significant (Class III).
7. Impacts associated with post-closure landfill conditions related to surface water, groundwater contamination and water use were determined to be less than significant (Class III).

4.10.2.3 Approved Tajiguas Landfill Reconfiguration and Baron Ranch Restoration Project

The following is a summary of the water resources impacts identified for the approved Tajiguas Landfill Reconfiguration and Baron Ranch Restoration Project in 08EIR-00000-00007 (currently under implementation).

1. The EIR identified that landfill drainage patterns would be modified by removing the in-channel basins, reconfiguring the waste footprint across the Pila Creek channel, realigning and channelizing Pila Creek, and installation of a skimmer to allow the north (out-of-channel) sedimentation basin to drain freely after storm events. Based on hydraulic modeling conducted by HDR Engineering (2008), drainage modifications associated with landfill reconfiguration were determined to not exceed the capacity of drainage channels and culverts downstream of the landfill (Class III).

2. The EIR identified that removal of the two in-channel basins associated with landfill reconfiguration could increase the amount of sediment that reaches Pila Creek. Post-closure sediment discharge rates for landfill reconfiguration would be higher than for the Tajiguas Landfill Expansion Project, but would be substantially less than pre-landfill conditions. Overall, sediment-related impacts to water quality were considered less than significant (Class III).

3. Sediment accumulated in the concrete-lined Pila Creek channel could impact downstream pipes and culverts if accumulated sediment is not removed and is allowed to wash downstream in a single large slug. Because sediment from the active landfill area (which represents the majority of the sediment yield) would be directed to the out-of-channel basin, impacts were expected to be less than significant (Class III).

4. Landfill reconfiguration may increase the potential for degradation of groundwater quality through contact with buried waste and/or landfill gas. The leachate collection and recovery system and landfill gas collection system, together with the composite liner system would be extended into the reconfiguration area, and would minimize the potential for groundwater quality impacts associated with the reconfigured waste footprint (Class III).

5. Water supply well No. 4, and monitoring wells MW-10 and MW-13 are located within or near the disturbance area and would be removed. Improper removal of wells can produce vertical conduits for water migration below ground and possible groundwater contamination and/or degradation. All wells would be properly destroyed in accordance with California Department of Water Resources requirements under permits obtained from the Santa Barbara County Environmental Health Services Division. Groundwater quality impacts associated with removal of the wells would be less than significant (Class III).

6. Filling of the Pila Creek channel would reduce potential surface water infiltration to groundwater, but this would be partially offset by additional direct recharge of precipitation to native soil due to the reduced disturbance footprint associated with soil stockpiled in the North Slope stockpile area. Overall, the impacts associated with the potential reduction in recharge along upper Pila Creek are considered less than significant (Class III).

7. As part of the landfill reconfiguration, four sources of water supply would be lost, the north and south in-channel basins in Pila Creek, the out-of-channel basin, and Well No. 4. Comparison of projected water demand to projected water supplies for the Landfill Reconfiguration project shows a positive water balance of approximately 8 acre-feet/year. The landfill Reconfiguration Project would be more reliant on groundwater supplies for landfill operations and construction, but would be mostly offset by the decreased groundwater usage at Baron Ranch over the duration of the project. Consequently, the increased use of groundwater in the Pila Creek watershed was considered less than significant (Class III).

8. Restoration activities at Baron Ranch would require temporary irrigation which may affect groundwater supplies. However, substantially less groundwater would be used by the restoration project than the current agricultural operations in the restoration area. Consequently, it is expected that there will be a decrease in groundwater pumping as a result of the project and a net increase in available groundwater supplies. Therefore, landfill reconfiguration (including restoration at Baron Ranch) is expected to have a beneficial impact on groundwater supplies in the Arroyo Quemado watershed area (Class IV).

9. Restoration activities at Baron Ranch would increase the amount of surface water used by riparian plants, and may affect groundwater recharge. Slower run-off and fog capture associated with restoration plantings would allow for more percolation or recharge of surface water into the subsurface soils producing overall increases in soil moisture. The increase in soil moisture should over the long-term produce a net increase of deeper recharge to the groundwater aquifers (Class IV).

10. Groundwater pumping associated with restoration activities at Baron Ranch may impact base flow or spring flow in the vicinity of wells. The predicted overall decrease in groundwater pumping at Baron Ranch and increase in recharge, is expected to generate an increase in the average groundwater table elevation in the aquifers underlying the ranch and the creek corridor. Consequently, the proposed project may result in increased base flow in Arroyo Quemado, which would be a beneficial impact (Class IV).

4.10.2.4 Proposed Tajiguas Resource Recovery Project

Impact TRRP WR-1: The proposed project would introduce impervious surfaces and modify drainage patterns, but would not result in a flooding impact or damage downstream drainage structures – Class III Impact.

The proposed project involves changes to the existing operations deck consisting of the replacement of the existing administration facilities (office trailers, dirt parking lot, and asphalt parking lot) with a MRF, AD Facility, asphalt parking areas and related facilities (e.g., percolate storage tanks, energy facility, etc.). The existing administration facilities would be temporarily moved to a deck northeast of the landfill top deck and/or south of the green-waste pad. In addition, a composting area is proposed to be located on the top deck of the landfill, once the top deck reaches capacity/final elevations and is closed through the installation of a final landfill cover system. Both the MRF/AD Facility site and composting area would be virtually 100 percent impervious, which would prevent infiltration of rainfall and storm run-off[5]. Run-off generated at the composting area would be diverted to the proposed composting area run-off collection tank. However, run-off exceeding the estimated flows generated by a 24-hour, 25-year storm event may be conveyed to the north sedimentation basin by a pipe culvert.

As noted above, HDR Engineering (2013) prepared a Hydrology and Hydraulic Analysis Report for the project (Appendix L), using the HEC-HMS model. Based on the results of this study (see Table 4.10-4 ~~3~~), peak storm flows from the 24-hour, 100-year event under existing + project conditions would be 404 cfs at the southern boundary of the Tajiguas Landfill property, which is less than existing conditions (409 cfs). However, peak storm flows from the 100-year event under future + project conditions (357 cfs) would be slightly greater than future (no project) conditions (353 cfs).

The landfill access road culvert and the U.S. Highway 101 culvert appear to have been adequately sized for a 100-year event under existing and future + project conditions. The Union Pacific Railroad culvert appears to have been adequately sized for a 25-year event under pre-landfill conditions, but appears to have adequate capacity for the 100-year event under both existing + project and future + project conditions (HDR Engineering, 2013). In addition, the project-related addition of impervious surfaces would be much less than 25 percent of the landfill site (County threshold). Impervious surfaces and drainage modifications associated with proposed project would result in a less than significant impact to drainage facilities and would not result in flooding.

[5] It should be noted that CCR Title 27 regulations and the existing WDRs prohibit ponding and infiltration of storm water into the landfill.

Table 4.10-4 ~~3~~. Comparison of Peak Storm Flow Rates

Landfill Condition	Peak Flow, 100-year Event (cfs)		
	Access Road Culvert	U.S. Highway 101 Culvert	Union Pacific Railroad Culvert
Pre-landfill	566	568	609
Existing (interim spillway and basin in Pila Creek channel)	409	451	493
Existing + project	404	447	488
Future (final contours, interim spillway removed)	353	399	442
Future + project	357	403	445

Impact TRRP WR-2: Increased water demand and project-related increases in groundwater pumping would result in an adverse but less than significant impact to local groundwater supplies – Class III Impact.

Table 4.10-1 presents the landfill's water demands and supplies under existing conditions (2012) and the proposed project. The total water demand for the project is estimated to be 11.5 acre-feet/year and includes:

- 3.1 acre-feet/year for MRF and AD Facility operations, including process water and domestic water[6];
- 7.8 acre-feet/year to maintain moisture levels in the bio-filters used at the MRF and AD Facility for odor control; and
- 0.6 acre-feet/year for use at the composting area to maintain moisture levels in compost windrows.

The water demand for the MRF and AD Facility is planned to be derived from a new supply well (Well no. 6) installed in the Sespe-Alegria Formation, located approximately 800 feet north of the MRF/AD Facility site (see Figure 3-4). Proposed Well no. 6 would replace former Well no. 4 which was destroyed as part of landfill reconfiguration and is not included in the baseline landfill water supply estimate (Table 4.10-1).

Water demand for proposed composting operations would primarily be provided from the reuse of collected storm water and any excess moisture conditioning water collected within the composting area. During the summer months, some supplemental water may be required to offset evaporation (0.6 acre-feet/year), which would be supplied by Well no. 5 located in close proximity to the proposed composting area. Overall, the estimated total landfill (with project) water demand (42.5 acre-feet/year) would be less than the estimated total water supply (with proposed Well no. 6) (42.8 to 56.5 acre-feet/year).

[6] The water usage estimate of 3.1 acre-feet/year for the MRF/ADF includes the 20 CSSR employees. The demand for these employees is 0.34 acre-feet/year.

Similar to Well no. 4, proposed Well no. 6 is proposed to be completed in the Sespe-Alegria Formation. Yield for Well no. 4 was estimated by the RRWMD to be 20 acre-feet/year. Between 2006 and 2011, Well no. 4 was pumped at an average annual rate of 6.3 acre-feet/year with no substantial changes in groundwater pumping levels[7]. Consequently, it is assumed that proposed Well no. 6, as a replacement well for Well no. 4, will have a similar yield (20 acre-feet/year (of which 6.3 acre-feet/year was pumped), and groundwater level response from pumping will be similar, i.e., no significant change in groundwater pumping level.

Supplemental water required for the composting area would be supplied by existing Well no. 5, completed in the Vaqueros Formation. The Vaqueros is considered an important water source in the area. Geosyntec (2008) estimated a safe yield value of 4 acre-feet/year for the Vaqueros Formation[8] located within the landfill watershed. Since the water demand of 0.6 acre-feet/year is far less than the 4 acre-feet/year safe yield for the Vaqueros Formation and the landfill would have a water supply surplus; no significant impacts are expected associated with project-related increase in groundwater pumping from Well no. 5. Overall, increases in groundwater production required to meet project demands would not significantly impact local groundwater supplies.

Impact TRRP WR-3: Project-related increases in groundwater pumping would not significantly degrade groundwater quality – Class III Impact.

Groundwater pumping can potentially degrade groundwater quality if wells are over pumped or if safe yields are exceeded. Over pumping an aquifer can potentially produce groundwater level declines (head loss in the aquifer) that cause deeper saline waters to intrude into fresher portions of the aquifer and, in the case of the Gaviota coast, sea water intrusion.

Available water quality data, although limited, for Well no. 4 (destroyed Sespe-Alegria well) and Well no. 5 indicate that the salinity or total dissolved solids concentrations did not increase substantially during initial pumping of these wells. Furthermore, sea water intrusion into the bedrock aquifers is highly unlikely because the Vaqueros and Sespe-Alegria Formations are not hydraulically connected to the ocean as the formations lie stratigraphically below the Rincon and Monterey Formations which are shale formations and act as hydraulic boundaries to ocean water intrusion.

[7] While the maximum yield of well no. 4 is estimated to 20 acre-feet/year, on average over the 5 year period only 6.3 acre-feet/year of groundwater was pumped from the well.

[8] Assumed that recharge in the Vaqueros Formation occurred as direct recharge. 01-EIR-05 estimated that 11.5% of average rainfall recharged the Vaqueros aquifer over approximately 33 acres. A revised safe yield used EIR methodology and calculated recharge over 22 acres based on landfill reconfiguration and low permeability material placement.

As discussed under **Impact TRRP WR-2** above, the amount of groundwater to be pumped to supply the proposed project would be relatively small, such that over pumping and substantial declines in groundwater levels are not expected. Consequently, the potential for increased project-generated groundwater pumping to impact groundwater quality is considered low and impacts would be less than significant.

Impact TRRP WR-4: Project-related increases in groundwater pumping would not result in significant interference or adversely affect groundwater production of other wells – Class III Impact.

Groundwater pumping in a well has the potential to drawdown groundwater levels in neighboring wells. If the drawdown is large then there is potential to significantly increase pumping costs (i.e., electrical consumption) or even dry up a well. Hydraulic connection between the bedrock aquifers beneath the project area is generally considered low because of the interlayered shale, mudstone, and claystone layers in the bedrock formations. These interbedded shale and claystone/mudstone layers act as hydraulic boundaries. Wells completed in one bedrock formation or bedrock aquifer should not significantly impact groundwater levels in other adjacent formations or aquifers. A geologic cross-section schematically showing the well locations is presented on Figure 4.10-1. The highest potential for well interference is for pumping in any one well to impact groundwater levels in a well installed in the same bedrock aquifer.

Proposed increased pumping in Well no. 5 (Vaqueros Formation) equates to an additional 0.4 gallons per minute (gpm). The nearest Vaqueros well is the Aera Well located in Cañada de la Huerta, located approximately 2,500 feet west of Well no. 5. The County's Environmental Thresholds and Guidelines Manual indicates that a reasonable radius of influence for a Vaqueros Formation well is 800 feet. Based on the low estimated demand for the project (additional 0.4 gpm) and the fact that the closest neighboring well is located greater than 800 feet away from Well no. 5, well interference is not anticipated.

Proposed pumping in new Well no. 6 to be completed in the Sespe-Alegria Formation equates to a long-term pumping rate of approximately 6.75 gpm. The nearest neighboring Sespe-Alegria wells are located within Baron Ranch (wells A and C) and are approximately 3,500 feet away. The County's Environmental Thresholds and Guidelines Manual does not indicate a reasonable radius of well influence for the Sespe-Alegria Formation.

To estimate the potential well interference of the proposed Well no. 6 on the Baron Ranch wells A and C, drawdown was estimated using the Theis equation, based on the average hydraulic conductivity (0.032 feet/day), a long term pumping rate of 6.75 gpm, and a screen interval or aquifer thickness of 450 feet at the planned Well no. 6 location. It is estimated that after 20 years of pumping, groundwater level drawdown (well interference) would be approximately 6.5 feet at the Baron Ranch well locations. Wells A and C are 585 and 561 feet deep, respectively and have 411 and 226 feet of water column above the reported pump depths, respectively. Therefore, the estimated drawdown from the pumping of proposed Well no. 6 would not substantially impact the water column (and related groundwater production) in the Baron Ranch Sespe-Alegria wells. Overall, the potential for well interference is low, and considered a less than significant impact.

Impact TRRP WR-5: Project-related increases in groundwater pumping would not significantly impact rising groundwater at springs, and stream baseflow – Class III Impact.

Natural springs/seeps were historically present in the Pila Creek watershed and are currently present in the Arroyo Quemado watershed. As a part of the landfill reconfiguration project and modification of the Pila Creek channel, springs/seeps located within Pila Creek were covered with low permeability material and a subdrain was installed to collect the seepage water. Within Pila Creek, low permeability material was placed over the entire Vaqueros Formation and portions of the Sespe-Alegria Formation. No additional seeps or springs are known to exist in Pila Creek within the Vaqueros or Sespe-Alegria Formations.

Pumping from proposed Well no. 6 is not expected to substantially affect springs or stream base flow at Arroyo Quemado on Baron Ranch because there are no reported springs in the Sespe-Alegria Formation, the bedded nature of the Sespe-Alegria Formation would impede the vertical communication of groundwater and surface water, and low amount of drawdown predicted. Therefore, impact to springs/seeps and stream baseflow from groundwater pumpage would be less than significant.

Impact TRRP WR-6: Construction and operation of proposed Well no. 6 may enable landfill gas migration into groundwater which could significantly degrade groundwater quality – Class II Impact.

The construction and operation of proposed Well no. 6 has the potential to enable landfill gas migration to the groundwater table. Landfill gas migration can potentially degrade groundwater quality of an aquifer by landfill gas interacting with groundwater at the capillary fringe (top of groundwater table), causing gas constituents (such as volatile organic compounds) to dissolve, and the casing of the well may provide a conduit for landfill gas migration to groundwater.

The potential for groundwater pumping in Well no. 6 to enable gas migration and degrade groundwater quality is expected to low because:

- To meet state water well setback requirements, Well no. 6 would be located at least 150 feet to the west of a lined portion of the landfill (see Figure 3-4), and approximately 800 feet north of an unlined portion of the landfill. The landfill liner, where present, and existing and proposed landfill gas collection system would reduce the potential for landfill gas to migrate westward to the proposed well location.
- Groundwater pumping in the proposed well would decrease groundwater levels, thus increasing the distance from the bottom of the landfill to the top of the groundwater table. The increased distance between the groundwater table and the bottom of the landfill would reduce the potential for landfill gas to interact with groundwater.

However, the potential exists for the new well casing to facilitate landfill gas migration into adjacent groundwater. This impact is considered potentially significant.

Mitigation Measures:

MM TRRP WR-1: Compliance with Well Construction Standards. The following measure shall be implemented to avoid groundwater contamination from well construction and operation.

- The screened portion of the well shall be installed below the top of the groundwater table, and below the base of the landfill liner system adjacent to the well. The well screen shall be installed to a depth sufficiently below the top of the groundwater table so that the well screen is not exposed if water levels decline from pumping. In addition, the well sanitary seal (which is required per California Well Standards) shall be installed so it extends through the unsaturated portion of the formation (vadose zone) and to at least the top of the static groundwater table.

Plan Requirements and Timing. The well design shall be submitted and approved to the RWQCB and LEA prior to well construction.

Monitoring: RRWMD shall review and approve the well design, well completion and development reports, and review groundwater monitoring reports.

Residual Impacts: Implementation of this mitigation measure would reduce water resources **Impact TRRP WR-6** to a level of less than significant.

Impact TRRP WR-7: Storm run-off from proposed facility sites during the construction period may significantly degrade surface water quality - Class II impact.

Construction of the MRF/AD Facility building pad would require 107,000 cubic yards of grading over a 6 acre area on and adjacent to the operations deck. Additional ground disturbance would also be required for installation of new fire water storage tank, relocated landfill maintenance facilities, reclaimed water storage tanks, Well no. 6 and the connecting pipelines and power lines, the composting area run-off collection tank and other ancillary facilities. Construction would occur over ~~an 18-month~~ a 16-month period which may include construction during the rainy season. Construction could potentially result in erosion-induced sedimentation in Pila Creek.

In addition, potential construction related contaminants may include incidental spills of petroleum products (e.g., fuels and lubricants) from excavation and grading equipment, concrete washout, construction chemicals, cleaning solvents, pesticides, trash and construction debris. These contaminants could potentially impact surface waters through direct contact with storm water run-off or through spills into the on-site storm drain system which ultimately discharges to Pila Creek. All of these contaminants have the potential to impair surface water quality.

The project would exceed one acre of disturbance and would require coverage under the NPDES Construction General Storm Water Permit. Compliance with the Construction General Storm Water Permit requires preparation of a SWPPP that would include the following measures to reduce off-site water quality impacts during construction:

- Implementation of erosion control measures, including slope drains, silt fences, fiber rolls, gravel bag berms, use of soil binders and post construction stabilization of disturbed slopes using hydroseeding;
- Implementation of standardized BMPs, including stabilized construction entrance/exit, exit tire wash, wind erosion control, stockpile management, controlled areas for vehicle and equipment cleaning, fueling, and maintenance; specifications for concrete curing and finishing; proper hazardous materials storage and use; spill prevention and control; and control of solid waste, hazardous waste, sanitary/septic waste, and liquid waste; and
- Implementation of non-storm water management and materials/waste management activities, including general site clean-up, spill control, and ensuring that no materials (unless otherwise permitted) other than storm water are discharged from the construction site.

Implementation of construction BMPs and compliance with the Construction General Storm Water Permit could reduce construction impacts to surface water quality to less than significant levels. However, the following mitigation measures are provided to ensure BMPs are fully implemented and maintained during the construction period.

Mitigation Measures:

MM TRRP WR-2: Construction Storm Water Quality BMPs. The following measures shall be fully implemented to ensure that project construction activities are in compliance with RWQCB storm water quality standards:

1. All discharges of storm water from construction activities are prohibited unless covered under the General Construction Storm Water Permit issued by the RWQCB. A Notice of Intent (NOI) to obtain coverage under the General Construction Storm Water Permit shall be filed and a construction SWPPP shall be prepared.
2. An Erosion and Sediment Control Plan (ESCP) shall be prepared as a part of the SWPPP and designed to control erosion and sedimentation during construction. The ESCP shall be implemented for the duration of the grading period and until re-graded areas have been stabilized by structures, long-term erosion control measures or permanent landscaping.
3. Water contamination shall be prevented during construction by implementing the following construction site measures:
    - All entrances/exits to the construction site shall be stabilized using methods designed to reduce transport of sediment off site. Stabilizing measures may include but are not limited to use of gravel pads, steel rumble plates, temporary paving, etc. Any sediment or other materials tracked off site shall be removed the same day as they are tracked using dry cleaning methods. Entrances/exits shall be maintained until graded areas have been stabilized by structures, long-term erosion control measures or landscaping.
    - Apply concrete, asphalt, and seal coat only during dry weather.
    - Cover storm drains and manholes within the construction area when paving or applying seal coat, slurry and fog seal.
    - Store, handle and dispose of construction materials and waste such as paint, mortar, concrete slurry, and fuels in a manner which minimizes the potential for storm water contamination.

- Designate a washout area(s) for the washing of concrete trucks, paint, equipment, or similar activities to prevent wash water from discharging to storm drains, streets, drainage ditches, creeks, or wetlands. Polluted water and materials shall be contained in this area and removed from the site as needed to prevent over-spilling. The area shall be located at least 100 feet from any storm drain, waterbody or sensitive biological resources.
- Straw wattles (or equivalent measures) shall be used to trap suspended sediment around work areas containing disturbed soils.
- Construction materials and soil piles shall be placed in designated areas to prevent spillage or erosion into Pila Creek or storm drains.
- Waste and debris generated during construction shall be stored in designated waste collection areas and containers away from Pila Creek, and shall be disposed of regularly.
- All fueling of heavy equipment shall occur in a designated area at least 100 feet from Pila Creek, such that any spillage would not enter surface waters. The designated area shall include a drain pan or drop cloth and absorbent materials to clean up spills.
- Vehicles and equipment shall be maintained properly to prevent leakage of hydrocarbons and coolant, and shall be examined for leaks on a daily basis. All maintenance shall occur in a designated area at least 100 feet from Pila Creek. The designated area shall include a drain pan or drop cloth and absorbent materials to clean up spills.
- Any accidental spill of hydrocarbons or coolant that may occur on the construction site shall be cleaned immediately. Absorbent materials shall be maintained on the construction site for this purpose.

Plan Requirements and Timing: The NOI shall be submitted, and the SWPPP prepared prior to the start of construction and BMPs contained in the SWPPP and ECSP shall be in place prior to and throughout construction. The ESCP including BMPs to stabilize the site, protect natural watercourses/creeks, prevent erosion, convey storm water run-off to existing drainage systems keeping contaminants and sediments onsite shall be a part of the SWPPP required for compliance with the General Construction Storm Water Permit. A copy of the SWPPP shall be kept at the project site during grading and construction activities.

Monitoring: RRWMD shall regularly inspect each project facility site during construction for compliance with the SWPPP and ESCP.

Residual Impacts: Implementation of these mitigation measures would reduce water resources **Impact TRRP WR-7** to a level of less than significant.

Impact TRRP WR-8: Operation of the proposed project may significantly impact surface water quality through discharge of contaminated storm water, inadvertent discharge of AD Facility percolate, wastewater disposal, and leaks or spills from fueling activities - Class II Impact.

The landfill maintenance facility is currently located in the front canyon area of the landfill property near the property entrance and would be relocated to an existing disturbed area northeast of the top deck. No new storm water quality impacts are expected to occur in association with operation of the relocated facility. Activities potentially impacting storm water conducted at this facility (e.g., vehicle and equipment maintenance) are conducted under cover and are currently, and would continue to be, addressed under the landfilll's SWPPP prepared as a part of compliance with the Industrial Storm Water Permit Program. The relocated landfill administration facility and fuel tanks would also be located in an existing disturbed area and subject to compliance with the Industrial Storm Water Permit Program and BMPs included in the SWPPP.

MSW would be tipped and processed within the MRF to extract recyclable materials and organics. The incoming MSW could contain high levels of organic matter (which could have high biological oxygen demand [BOD]), sediment, nutrients, inorganic salts, plastic and paper. Other potential water quality pollutants may be present in small quantities, including heavy metals, pathogens, hydrocarbons, and other contaminants. The MSW may also have a high liquid content associated with materials such as partially empty beverage or food containers.

During tipping and handing operations, the MSW, and associated contaminants, could be accidentally released from the project facilities or discharged during storm events, and enter surface waters and adversely affect water quality.

The organic waste recovered from the MSW would be separated and stored for processing in the AD Facility. The organic waste may be a source of BOD, pathogens, sediment and other contaminants if the material were to come in contact with storm water.

Liquid "percolate" would be sprayed into the top of the digesters within the AD Facility, and contains anaerobic microorganisms necessary for the production of bio-gas. The percolate would pass through the organic waste and has the potential to contain contaminants such as coliform bacteria. The percolate would be stored in one 204,000 ~~150,000~~ gallon and one ~~two~~ 341,700 ~~75,000~~ gallon tank~~s~~. Contamination of storm water and/or surface water may occur if a leak developed in the storage tanks or in the piping system between the tanks and the digesters.

The proposed project includes the installation and operation of an advanced septic treatment system to treat water from employee domestic use and facility wash down water. The treated wastewater would be disposed through irrigation of the slope west of the MRF/AD Facility site, and not discharged to Pila Creek. However, run-off of irrigation water, system leaks or inadequate treatment may result in contamination of surface waters with BOD, nutrients and pathogens.

The mobile equipment would be fueled from a single 10,000 gallon above-ground diesel storage tank, with secondary containment. Additionally, a ~~7,500 gallon~~ diesel fuel tank would be provided under the standby generator. Organic compounds, petroleum hydrocarbons and heavy metals could potentially contact surface waters through fuel leakage or spills during fuel transfer.

Paved areas surrounding the MRF and AD Facility would be used for parking, equipment storage, and baled recyclable storage. A number of pollutants could accumulate within the parking areas including antifreeze, oil, hydrocarbons, metals, rubber particles from vehicle and equipment operations and use, sediment from equipment transiting between the project facilities and the landfill, and fugitive trash from operation of the MRF. Proposed storm drains installed within the operations deck could carry materials accumulated in the parking areas to Pila Creek during storm events resulting in an adverse impact to surface water quality.

The following features and measures have been included in the proposed project to avoid or minimize contamination of storm water and/or surface water:

- Unloading of MSW indoors at the MRF to reduce the potential for contact of rainwater and storm run-off with the MSW and to contain windblown plastic and paper.
- Trench drains at MRF and AD Facility door thresholds to intercept liquids found in waste and direct them to the domestic wastewater treatment system.
- Chain link fence around MRF and AD Facility to collect wind-blown plastic and paper that may escape from delivery vehicles or the MRF.
- Pavement sweeping and vacuum clean-up to remove dust, heavy metals in parking lots, driveways and composting area.
- Treatment of wastewater from employee domestic use and facility wash down in an advanced septic treatment system to reduce BOD, ultra-violet treatment of the effluent to kill pathogens and controlled discharge to the irrigation system during dry periods to maximize evapotranspiration and nutrient uptake in the landscaped disposal areas.
- Double walled tanks and spill containment asphalt dike to contain potential spills or leaks at re-fueling areas.

- Spill containment wall with manual release valve around the percolate tanks to contain potential spills or leaks.
- Hydrodynamic separators on storm drain system to trap oily residue, floatable trash, coarse sediment and fine sediment down to the 10 micron particle size.
- Continuous, fused high-density polyethylene pipe on storm drainage and sanitary sewer systems to prevent storm water and sewage leakage.
- Sediment traps in concrete swales to intercept sediment from slopes and driveways surrounding the MRF and AD Facility.

Although numerous features and measures have been incorporated into the project to minimize surface water contamination, the potential exists for surface water impacts if proper installation, maintenance and monitoring of these measures is not conducted.

Mitigation Measures:

MM TRRP WR-3: Industrial Storm Water Permit Compliance and Spill Prevention. The following measures shall be fully implemented to minimize surface water contamination associated with waste handling, processing and related activities.

1. The project facilities shall obtain coverage under the General Industrial Storm Water Permit and an Industrial SWPPP shall be prepared (either a new SWPPP or a modification to the existing Tajiguas Landfill SWPPP). The SWPPP shall include the following elements: identification of potential pollutant sources that may affect the quality of the storm water discharges; proposed design and placement of structural and non-structural BMPs to address identified pollutants; proposed inspection and maintenance program; method for ensuring maintenance of all BMPs over the life of the project and monitoring and reporting procedures. Records of maintenance of the BMPs shall be kept onsite.

2. A Spill Prevention, Control, and Countermeasure (SPCC) Plan shall be prepared to minimize water quality degradation associated with accidental spills. The SPCC Plan shall contain measures to prevent, contain, and otherwise minimize potential spills of pollutants (wastewater, percolate, fuels, etc.) during facility operation, in accordance with federal, state, and local requirements. The SPCC Plan shall provide for installation and monitoring of secondary containment and/or leak detection systems to ensure that pollutants are not accidentally discharged to the storm drain system or directly to Pila Creek. Monitoring of these systems shall be in accordance with SPCC Plan requirements. Additionally, the project shall adhere to the requirements and recommendations of WDRs identified in the Industrial Storm Water Permit.

Plan Requirements and Timing: The Notice of Intent (NOI) shall be submitted to the RWQCB, and the SWPPP prepared prior to the start of operations. A copy of the SWPPP shall be kept at the project site through the life of the project. All measures specified in the Industrial SWPPP shall be constructed and in place prior to operations. Annual training on the SWPPP and BMP implementation shall be provided to staff operating project facilities. Training shall occur prior to the start of the rainy season (October 1st). Maintenance records shall be kept on site. The SPCC Plan shall be prepared prior to initiating operations at the project facilities, and updated annually at a minimum to address any changes in operations that may affect the type or nature of spills that could occur from the facilities.

Monitoring: RRWMD shall inspect each facility following completion of construction to ensure measures are constructed in accordance with the approved Industrial SWPPP and SPCC Plan. Operating staff shall conduct regular inspections and prepare annual monitoring reports over the life of the project.

Residual Impacts: Implementation of these mitigation measures would reduce water resources **Impact TRRP WR-8** to a level of less than significant.

Impact TRRP WR-9: Run-off from the composting area could significantly impact surface water quality - Class II Impact.

Storm run-off from the composting area could be generated during large rain events, and inadvertent application of excess water for moisture conditioning the compost windrows. The composting area would be constructed with a pavement system (consisting of multiple constructed layers) over the closed landfill cover system and supplied with berms and piping to collect run-off (see Figure 3-12).

Storm events up to, and including the 24-hour, 25-year storm event would be collected in two portable tanks to remove sediment, and then pumped to a 325,000 gallon composting area run-off collection tank (see Figure 3-4). The collected run-off water would be reused on the compost windrows to maintain proper moisture content in the windrows, and supplemented with well water only as needed. Run-off generated by rainfall events exceeding the 24-hour, 25-year storm would be diverted through an overflow system to the existing north sedimentation basin, and to Pila Creek via the existing sedimentation basin skimmer system.

Large-scale municipal composting of anaerobically digested MSW is relatively new in California. Therefore, the types and potential concentrations of contaminants in runoff from anaerobically-digested compost windrows have not been specifically studied. Table 4.10-5 4 provides water quality data from composting facilities in California, Oregon and Washington. However, feedstock for these facilities was primarily composed of green-waste and wood waste, with a few including manure or food waste. None of these facilities involved anaerobic digestion prior to composting. As a default beneficial use applicable to Pila Creek, water quality objectives specified in the Basin Plan for municipal and domestic water supply (MUN) are included in Table 4.10-5 4. The Basin Plan also designates protection of both recreation and aquatic life as a default beneficial use, which also applies to Pila Creek. Therefore, water quality objectives for aquatic life habitats (cold freshwater [COLD] and warm freshwater habitats [WARM]) are included in Table 4.10-5 4.

Based on the available data, storm run-off from composting facilities may exceed water quality objectives for aluminum, arsenic, copper and zinc. Although data is unavailable to determine potential concentrations of organic chemicals in composting facility run-off, it is possible that MUN water quality objectives for these compounds may also be exceeded.

Table 4.10-5 4. Composting Facility Run-off Water Quality Data

Constituent	Water Quality Objective (MUN)	Water Quality Objective (COLD, WARM)	Composting Facility Concentration Range	Pila Creek Storm Water[1]
Aluminum (mg/l)	1.0	--	1.99-48.6	Not tested
Arsenic (mg/l)	0.05	--	<0.02-0.088	Not tested
Lead (mg/l)	0.05	0.03	<0.01-0.018	Not tested
Copper (mg/l)	--	0.03	<0.05-5.69	Not tested
Nickel (mg/l)	--	0.4	0.008-0.34	Not tested
Zinc (mg/l)	--	0.2	<0.15-6.9	0.40
Nitrate (mg/l)	45	--	Not detected-9.0	9.7

[1] Sample taken at landfill downstream boundary on January 25, 2013

Runoff from the proposed composting area is anticipated to have lower concentrations of potential contaminants as compared to traditional composting facilities, for the following reasons:

- Prior to anaerobic digestion and subsequent composting, the MSW would be processed by manual sorting and mechanized sorting devices (trommels, blowers, magnets, shredders) which are designed to remove glass, metals, plastics and other inorganic contaminants.
- The anaerobic digestion process would remove about ~~95~~ 97 percent of waste materials that may produce volatile organic compounds during composting.
- The high temperatures and long duration (28 days) of the anaerobic digestion process would eliminate most pathogens, and additional pathogen reduction would occur during the aerobic composting of the digestate.

In addition, the volume of storm runoff, potential contact of runoff with the compost material and frequency of discharge to surface waters would be minimized by proposed operating practices:

- Storm water run-off from events up to and including the 25-year, 24-hour event would be collected, filtered and reapplied to the compost windrows, and not discharged.
- Discharge of storm water from the composting area (to the north sedimentation basin, and ultimately to Pila Creek) would be limited to rainfall events exceeding the 25-year, 24-hour storm.
- During the rainy season, the aisles between compost windrows would be swept regularly between storm events with a vacuum sweeper to minimize the amount of loose compost residue that could come in contact with storm water.
- To prevent excess application of water for moisture conditioning and resulting run-off from the windrows, the composting area operator would be equipped with a moisture probe to determine when water would be applied.
- Prior to and during heavier or longer duration rainfall events, the operator would also use the moisture probe to determine moisture levels in the compost windrows. When the moisture level two feet below the compost surface approaches 65 percent, the operator would cover the windrows with plastic tarpaulins.
- To prevent storm water run-on into the composting area, the composting area would be located on an asphalt pad bounded by a 1-foot high asphalt-surfaced berm on three sides and a 6-inch high asphalt curb on the highest side.

The composting activities would be included in the Tajiguas Landfill WDRs issued by the Regional Water Quality Control Board and the composting area would also be subject to compliance with the General Industrial Storm Water Permit program.

Overall, the project has been designed to collect, treat and re-use runoff from the composting area to the extent feasible and BMPs have been incorporated into the project design to limit contact of the compost with storm water. However, given the absence of water quality data specifically for digestate/compost from anaerobically digested MSW, a potentially significant impact to water quality could occur if proper implementation, maintenance and monitoring of these measures is not conducted.

***Mitigation Measures**:*

MM TRRP WR-4: Water Quality Monitoring and Corrective Action Plan. The composting area shall be included in the SWPPP prepared for the Tajiguas Resource Recovery Project facilities. The SWPPP shall include identification of potential pollutant sources at the composting area that may affect the quality of the storm water discharges; proposed design and placement of structural and non-structural BMPs to address identified pollutants; proposed inspection and maintenance program; employee training, method for ensuring maintenance of all BMPs over the life of the project and monitoring and reporting procedures. Records of maintenance of the BMPs shall be kept onsite. Annual training on the SWPPP and BMP implementation shall be provided to project employees. Training shall occur prior to the start of the rainy season (October 1st). In addition, a water quality monitoring program shall be developed for the composting area. Each runoff discharge event shall be monitored at the point of discharge of the composting area overflow (greater than 25 year event) (location CW-1).

Consistent with the landfill's existing monitoring requirements, the discharge shall be tested for pH, specific conductance, total suspended solids, ammonia, BOD, total organic carbon, oil & grease, nitrate and nitrite as nitrogen, aluminum, arsenic, copper, iron, nickel, zinc, alpha-terpineol, benzoic acid, p-cresol, and phenol.

Other sampling locations and constituents may be identified by the RWQCB as a part of compliance with the General Industrial Storm Water Permit or as a part of the issuance of new or modified WDRs for the composting operations.

The discharge shall not exceed water quality standards set forth in the General Industrial Storm Water Permit or established in the Landfill WDRs. If any of the constituents of concern measured at sample location CW-1 are found to exceed these levels, the following action shall be taken:

- Evaluation of the composting area management/operating measures to further identify water quality best management practices such as earlier covering of stockpiles during heavy rainfalls, use of filters on the composting area storm drain inlets, and/or more frequent sweeping of aisles between stock piles.

Plan Requirements and Timing: The Water Quality Monitoring and Corrective Action Plan shall be prepared prior to initiating operations at the composting area.

Monitoring: Operating staff shall ensure water quality sampling and analysis is conducted, review testing results, and ensure corrective actions are taken if necessary to protect water quality. Additional monitoring and reporting shall be conducted as required by the WDRs issued under the Industrial Storm Water Program.

Residual Impacts: Implementation of these mitigation measures would reduce water resources **Impact TRRP WR-9** to a level of less than significant.

Relocated Landfill Facilities

Operations facilities (primarily portable offices) may be temporarily relocated during the project construction period to an area north of the landfill top deck or to the southern portion of the landfill. Landfill equipment maintenance facilities would be relocated to the area north of the landfill top deck (see Figure 3-4). The water demand of the relocated landfill maintenance facility and temporary landfill administration trailers is part of the existing landfill water demand and no increase would occur as a part of the project. Water to these facilities would be provided by existing Well no. 5. Surface water quality impacts associated relocated landfill facilities are addressed under **Impact TRRP WR-7** and **Impact TRRP WR-8**.

4.10.2.5 Proposed Resource Recovery Project with Optional Comingled Source Separated Recyclables (CSSR) Component

The optional CSSR element would add an additional 10,000 square feet of sorting facilities to the proposed MRF building (see Figure 3-8). Additionally, the number of employees on the site would increase by 20 during the day and there would be additional deliveries of recyclable materials and transport of sorted materials off-site after processing. CSSR tipping, processing and loading would occur within the proposed MRF building, with no increase in water use or storm water run-off. Water demand associated with the 20 additional employees is included in **Impact TRRP WR-2**. Any liquids unloaded with the CSSR would be handled by the drainage system proposed for the MRF building, with no increase in discharge to surface waters. Overall, implementation of the optional CSSR element would not alter the significance of water resources impacts as identified in Section 4.10.2.4 above.

4.10.2.6 Extension of Landfill Life Impacts

Due to the project-related increase in diversion of MSW, the active life of the landfill would be extended approximately 10 years. This scenario would also result in extending the time period during which existing water resources impacts associated with landfill operations (see Sections 4.10.2.2 and 4.10.2.3) would continue to occur as discussed below.

Impact TRRP WR-10: Project-related extension of life of the Tajiguas Landfill would extend less than significant landfill drainage impacts further in time - Class III Impact.

Storm drain systems would be extended as needed as new disposal cells are constructed, and connected to the existing storm drain system. The north sedimentation basin (or equivalent) would be maintained over the life of the landfill to minimize siltation of Pila Creek. Based on hydraulic modeling conducted for landfill expansion and reconfiguration, as revised for the proposed project, drainage structures within and downstream of the landfill are adequately sized for future landfill + project conditions. No new impacts would occur as a result of the extension of the life of the landfill; however, previously identified less than significant drainage impacts associated with landfill operations (see Section 4.10.2.2) would be extended further in time.

Impact TRRP WR-11: Project-related extension of life of the Tajiguas Landfill would extend less than significant groundwater and water supply impacts further in time - Class III Impact.

With implementation of the project, groundwater extractions necessary to meet landfill operations (construction, dust control, domestic use) would continue for approximately 10 additional years. However, because most of the landfill liner construction projects would be completed in the current landfill life (approximately 2026) and because phased closure of landfill would occur (which would reduce water demand for dust control), landfill water demand would begin to decline and would likely be lower than analyzed in this Subsequent EIR. In addition, other non-potable landfill water sources would continue to be available to meet landfill operational demand. As discussed above, water supply and groundwater protection impacts associated with operation of the Tajiguas Resource Recovery Project would be less than significant and the extended duration of ground pumping water pumping due to the extension of the landfill life would continue to be less than significant (Class III).

Impact TRRP WR-12: Project-related extension of life of the Tajiguas Landfill would extend less than significant surface water quality impacts further in time - Class III Impact.

Exposed areas of the landfill would continue to be a source of sediment and water coming in contact with residual waste could also be source of other storm water contaminants. However, the landfill working face would be reduced in size due to lower disposal rates, and the residual waste would be largely inert due to the removal of the recyclables and the organic matter. Storm water would continue to be diverted away from the active working face, landfill closure would continue as areas of the landfill reach final fill elevations and existing erosion/sedimentation BMPs (storm drain inlet protection, hydroseeding, soil cement, sedimentation basins, etc.) would continue to be implemented.

The landfill would continue to be covered under the General Industrial Storm Water Program, which requires continued implementation of BMPs, and monitoring and reporting. In addition, the paper and light plastics that are currently subject to being windblown would be removed from the waste stream by the MRF and either digested or recycled. Therefore, storm water quality impacts associated with the extended landfill operational life would be less than significant (Class III).

4.10.2.7 Decommissioning Impacts

Impact TRRP WR-13: Decommissioning activities would not significantly degrade surface water quality – Class III Impact.

Ground disturbance associated with decommissioning would be minimal, as building pads, foundations and paving would remain in place. Therefore, erosion and sedimentation impacts are not expected to be significant. Decommissioning activities would be conducted in compliance with storm water quality regulations in effect at the time of decommissioning including the implementation of a best management practices such as prevention of non-storm water discharges, ensuring construction equipment is free of leaks and properly fueled and maintained, dry season construction, etc. All tanks planned for removal would be fully emptied prior to decommissioning and tank containment systems would remain in place during decommissioning. Therefore, the potential for surface water degradation would be minimal and impacts considered less than significant.

4.10.2.8 Cumulative Impacts of the Tajiguas Resource Recovery Project

The proposed project would incrementally contribute to cumulative water resources impacts when considered with other planned projects in the region (see Section 3.6).

Impact TRRP WR-CUM-1: The proposed project combined with other cumulative projects could increase impermeable surfaces, resulting in a less than significant increase in runoff and less than significant increase in drainage/flooding impacts – Class III Cumulative Impact; Project Contribution – Not Considerable (Class III).

The Cañada de la Pila watershed is a small, isolated coastal watershed which is largely occupied by the existing Tajiguas Landfill. The proposed project would increase the amount of impermeable surfaces within the watershed, increasing runoff; however, with existing and proposed drainage management at the landfill, project-specific drainage impacts would not be significant. With the exception of the proposed Hart Single Family Dwelling, none of the other projects listed in Section 3.6 are located within the Pila Creek watershed and would therefore not contribute to cumulative drainage impacts. Considering the small amount of additional impervious surfaces and the large parcel area associated with the proposed Hart residence, cumulative drainage/flooding impacts would not be significant. The Resource Recovery Project's project-specific impact would not be significant and contribution to cumulative impacts would not be considerable.

Impact TRRP WR-CUM-2: Increased groundwater production from the proposed project combined with groundwater demands associated with the cumulative projects would result in an adverse but less than significant impact on regional groundwater supplies - Class III Cumulative Impact; Project Contribution – Not Considerable (Class III).

The proposed project would require additional process and domestic water, to be supplied by groundwater from the Sespe-Alegria Formation. Groundwater in the Sespe-Alegria Formation is not considered to be an important regional groundwater supply source, and there are no cumulative projects that are located in the Pila Creek watershed where Well no. 6 is proposed to be located or within an approximate three mile radius. Therefore, no cumulative impacts to this groundwater source are expected.

A small amount of groundwater would be used at the composting area from the Vaqueros Formation. Implementation of some of the projects listed in Section 3.6 would require increased groundwater production, most likely from the Monterey Formation or Vaqueros Formation. As the project would not exceed the safe yield of the Vaqueros Formation or significantly impact other local wells completed in this formation, the cumulative impact would not be significant and the proposed project's incremental contribution to Vaqueros Formation groundwater impacts would not be cumulatively considerable.

Impact TRRP WR-CUM-3: Project-related construction activities and post-construction use of the proposed project combined with other cumulative projects may result in significant surface water quality impacts in the Pila Creek watershed – Class II Cumulative Impact; Project Contribution – Not Considerable with Mitigation (Class II).

From a cumulative standpoint, Pila Creek and the nearshore environment in the vicinity of the proposed project are not identified as impaired. With the exception of the construction and use of the proposed Hart residence, no other cumulative projects would be located within the Pila Creek watershed and would therefore not contribute to cumulative water quality impacts. The construction and operation of the various Resource Recovery Project facilities would result in significant but mitigable project-specific surface water quality impacts. Given The limited construction disturbance area and implementation of anticipated site-specific requirements for storm water management during construction, as well as design review of the wastewater treatment system for because the Hart residence would be subject to site-specific requirements for storm water management during construction, as well as design review of the wastewater treatment system, would avoid significant cumulative water quality impacts are not expected. The incremental contribution of the proposed project (as mitigated) to cumulative surface water impacts would not be considerable.