

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL COAST REGION**

**WASTE DISCHARGE REQUIREMENTS ORDER NO. R3-2014-0024**  
Waste Discharger Identification No. 3 420214528

**For**

**SANTA MARIA INTEGRATED WASTE MANAGEMENT FACILITY  
LOS FLORES RANCH CLASS III LANDFILL  
SANTA BARBARA COUNTY**

The California Regional Water Quality Control Board, Central Coast Region (Water Board), finds that:

**SITE OWNER AND LOCATION**

1. The City of Santa Maria (Discharger) owns and operates the Santa Maria Integrated Waste Management Facility Los Flores Ranch Class III Landfill (Landfill).
2. The Landfill is located approximately eight miles south of the Santa Maria city center and one mile east of Highway 101 as shown on Location Map, **Figure 1**, and Site Map, **Figure 2**. The Discharger plans to develop a new access road off Highway 101 to access the Landfill from the freeway.
3. The Landfill is located in Section 22, Township 9 North, Range 33 West, San Bernadino Baseline and Meridian. The Landfill latitude is 34°49'20" North and the longitude is 120°20'54" West. The Landfill occupies Assessor's Parcel Nos. 101-030-010, 101-030-013, 010-030-014, and 101-060-002.

**PURPOSE OF ORDER**

4. The Discharger submitted a Joint Technical Document (JTD) on June 11, 2011, followed by JTD revisions dated January 25, 2012 and October 18, 2012, to facilitate the development of new Waste Discharge Requirements for the Landfill. The JTD documents the Discharger's proposal to construct and operate the new Landfill.
5. The purpose of Waste Discharge Requirements Order No. R3-2014-0024 (hereafter "Order" or Order No. R3-2014-0024) is to provide requirements for design, construction, and operation of the new Landfill. Landfill construction is expected to begin in 2014 followed by operation in 2016.
6. Order No. R3-2014-0024 reflects the Landfill's new, to-be-constructed status, and establishes requirements pursuant to California Code of Regulations Title 27, Solid Waste (CCR Title 27), effective July 18, 1997, and pursuant to Code of Federal Regulations Title 40, Parts 257 and 258 (40 CFR Parts 257 and 258), Solid Waste Facility Disposal Criteria.

7. Order No. R3-2014-0024 includes the following key elements:
  - a. A detailed review of the Landfill site.
  - b. Expected waste stream information.
  - c. Language that requires compliance with CCR Title 27 and 40 CFR Parts 257 and 258.
  - d. A Monitoring and Reporting Program.

## **LANDFILL SITE DESCRIPTION AND HISTORY**

8. The Landfill's property boundary encompasses approximately 1,774 acres, within which the Discharger plans to construct a waste management facility. Title 27 §20164 defines a "waste management facility" as the entire parcel of property at which waste discharge operations are conducted. The waste management facility will cover approximately 617 acres and includes an approximate 286-acre waste management unit (WMU) that will span two adjacent canyons, landfill associated infrastructure, and soil stockpile areas. Title 27 §20164 defines a "waste management unit" as an area of land, or a portion of a waste management facility, at which waste is discharged. The term includes containment features and ancillary features for precipitation and drainage control and for monitoring. For the Landfill, the waste management unit includes the disposal area, storm water conveyance ditches and culverts, and sediment retention basins.
9. The 286-acre WMU will be constructed as two lined units (one unit per canyon), connected at a hinge point, and constructed in eight distinct phases or modules with phases 1, 5, 7, and 8 further divided into parts a and b.
10. The 286-acre WMU has a total airspace of 133.4 million cubic yards (mcy) with an effective air space of approximately 130.9 mcy depending on the volume consumed by the future liner, leachate collection and removal system (LCRS), and final cover. Assuming a waste to soil ratio of 5 to 1 and an initial waste density of 1,350 pounds per cy, the total estimated waste volume and weight is approximately 108.6 mcy and 73.3 million tons, respectively. Site life is approximately 90 years based on estimated disposal tonnages, which are influenced by factors such as other landfills closing, waste generation rates, waste diversion rates, and development activity that are generally beyond the Discharger's control. The Discharger also has the ability to preserve waste capacity through the use of alternative daily cover (ADC) to increase the waste to soil ratio, improved disposal methods to increase initial waste density, and aggressive recycling or recovery of wastes to increase waste diversion.
11. The Landfill is located in a sparsely populated area of northern Santa Barbara County. Land use within 1,000 feet of the Landfill property is primarily agricultural and oil production.
12. The Landfill property has historically been used for free-range livestock grazing and for oil exploration and production activities. Active oil wells and transmission pipelines are located on the property.
13. A portion of the Landfill property, located north of the proposed WMU, is leased to an oil production company. The City expects this lease arrangement to continue into

the future. Additionally, the City has established passive recreational uses on portions of the site, which the City will abandon and/or relocate to prevent conflicts between recreational users and landfill construction/operation, to provide a safe working environment.

14. The Landfill property will include ancillary facilities for the waste disposal and recovery operations including scales and a scale house, an administration office building, an equipment shop building, hazardous waste facility storage, a water supply well, and areas reserved for resource recovery activities including concrete and asphalt processing, agricultural plastics processing, and green waste processing. In addition to these facilities, there will be parking areas and access roads to support the various site activities.
15. The majority of land within a one-mile radius of the 286-acre WMU is within the 1,774-acre Landfill property. The land within a one-mile radius of the Landfill property is agriculturally zoned, except for an area zoned for open/grazing (north of the landfill property), and includes property used for oil production to the east and north, Highway 101 to the southwest, and Dominion Road to the North. Highway 101 is approximately one mile from the WMU and runs adjacent to the Landfill property boundary, and Dominion Road is approximately ¼ mile from the WMU.

#### **WASTE TYPE & CLASSIFICATION**

16. The Landfill is classified by the Water Board as a Class III WMU and it may accept non-hazardous residential, commercial, and industrial solid waste as classified by CCR Title 27, §20220(a), as Class III wastes.
17. The waste type allowed to be discharged at a Class III landfill, per CCR Title 27 §20220, is generally limited to “Nonhazardous Solid Waste”, defined as:

“All putrescible and non-putrescible solid, semi-solid, and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction waste, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semi-solid wastes and other discarded waste (whether of solid or semi-solid consistency); provided that such wastes do not contain waste which must be managed as hazardous wastes, or wastes which contain soluble pollutants in concentrations which exceed applicable water quality objectives, or could cause degradation of water of the state (i.e., designated waste).”
18. The Landfill may accept treated medical wastes. Treated medical wastes are medical wastes that have been sterilized prior to delivery to the Landfill and appropriately bagged/identified. All infectious medical wastes will be rendered non-infectious by treatment in accordance with §118215 et seq. of the California Health and Safety Code.
19. The Landfill may accept treated wood waste. Treated wood contains a chemical preservative for purposes of protecting the wood against attacks from insects, microorganisms, fungi, and other environmental conditions that can lead to decay of

the wood and the chemical preservative is registered pursuant to the Federal Insecticide, Fungicide, and Rodenticide Act (7 United States Code, Sec. 136 and following). This may include but is not limited to waste wood that has been treated with chromated copper arsenate, pentachlorophenol, creosote, acid copper chromate, ammoniacal copper arsenate, ammoniacal copper zinc arsenate, or chromated zinc chloride. Existing law regulates the control of hazardous waste, but exempts from the hazardous waste control laws, wood waste that is exempt from regulation under the federal Resource Conservation and Recovery Act (RCRA) of 1976, as amended if the wood waste is disposed of in a municipal landfill that meets certain requirements imposed pursuant to the Porter-Cologne Water Quality Control Act for the classification of disposal sites, and the Landfill meets other specified requirements outlined in §25143.1.5 and §25150.7 of the Health and Safety Code. §25150.8 of the Health and Safety Code also provides that if treated wood waste is accepted by a solid waste landfill that manages and disposes of the treated wood waste in the manner specified, the treated wood waste must be deemed to be a solid waste, and not a hazardous or designated waste. The Discharger has indicated that all treated wood waste accepted at the facility will be handled and disposed of in accordance with the provisions outlined in §25143.1.5, §25150.7, and §25150.8 of the Health and Safety Code.

20. The Landfill may accept dewatered sewage sludge (biosolids) at the Landfill for disposal or use as soil amendment or alternative daily cover in accordance with Title 27 CCR §20690.
21. The Landfill may accept dead animals for disposal provided nuisance conditions are prevented and stability of the waste mass is preserved.
22. The Landfill may accept friable asbestos, wastes containing greater than one percent (>1%) friable asbestos are classified as hazardous under CCR, Title 22. Since such wastes do not pose a threat to water quality, §25143.7 of the Health and Safety Code permits their disposal in any landfill, providing waste discharge requirements specifically permit the discharge and the wastes are handled and disposed of in accordance with other applicable State and Federal statutes and regulations.
23. The Landfill will receive waste primarily from urban and rural areas of northern Santa Barbara County including the communities of Santa Maria, Guadalupe, Los Alamos, Casmalia, Sisquoc, Garey, Orcutt, Buellton, Solvang, and Los Olivos. The Landfill will also receive waste from a small portion of southern San Luis Obispo County including the community of Nipomo. The Landfill may also receive waste from southern Santa Barbara County and Vandenberg Air Force Base.

24. The anticipated waste disposal tonnage for the first five years of Landfill operation is:

Year	Daily Average (tons per day)	Peak Day (Tons per day)
2016	500	1,600
2017	510	1,600
2018	520	1,600
2019	531	1,600
2020	541	1,600

## GEOLOGY

25. **Setting** – The Landfill is located in northern Santa Barbara County in the Solomon Hills, which form the southern edge of the Santa Maria Valley. The Landfill property is comprised of fairly gentle canyon land, bounded by a north-south trending ridgeline on the western side of the proposed WMU. The WMU encompasses two adjacent canyons east of the ridgeline that are referenced as the North Canyon in the northern portion of the WMU and the South Canyon in the southern portion of the WMU as shown on Site Map, **Figure 2**. The Landfill property also includes a canyon, west of the ridgeline, between the North and South Canyon, which drops down to Highway 101 where the Discharger plans to construct a new WMU access road.

26. **Topography** – The Landfill property has been modified by historic oil field operations including: numerous road cuts, oil well pads, and canyon fills that generally altered the gentle, rounded nature of the original topography. The elevations at the site range from 1,250 feet mean sea level (ft-msl) along the southern perimeter of the WMU and along parts of the ridgeline, to 850 feet in the northeastern perimeter of the WMU. The North Canyon slopes to the northeast to an elevation of 850 ft-msl and South Canyon slopes generally to the east to an elevation of 975 ft-msl.

27. **Geologic Structure and Stratigraphy** – The WMU is directly underlain almost entirely by the Pliocene/Pleistocene-age Paso Robles Formation, though the Pleistocene-age Orcutt Sand crops out in the northeastern portion of the property. In addition to these two units, artificial fill/drilling mud, recent alluvium and colluvium, landslide debris, and the Careaga Formation have been encountered during geotechnical investigations.

The geologic units below the WMU and surrounding Landfill property are described as follows (from oldest to youngest):

- a. *Careaga Formation*. The Pliocene-age Careaga Formation is not exposed within the Landfill property and was encountered at depths of over 500 feet below the ground surface in each of the monitoring well borings and in the piezometer P-2 boring. This formation includes an upper Graciosa Member – a coarse-grained sandstone, and a lower Cebada Member – a fine-grained sandstone. The Careaga Formation appears dark gray with fine to medium grained silty sandstone and mudstone with zones of scattered mega fossils (typically bivalve mollusks) and rare wood fragments. Though not observed during onsite investigations the Careaga Formation may contain local tar deposits.

- b. *Paso Robles Formation.* The late Pliocene to Pleistocene-age Paso Robles Formation directly underlies approximately 90 percent of the WMU, and is expected to directly underlie 95 percent of the WMU once excavation and grading is complete. The Paso Robles Formation was encountered in all exploratory borings, drilling of monitoring wells, and in the majority of the test pit excavations. The Paso Robles Formation is poorly indurated and erosion of the unit forms rounded hills and broad valleys. Outcroppings are rare, occurring only in the more resistant beds (cemented sandstones and conglomerates). This formation is undifferentiated and has a maximum exposed thickness of about 2,000 feet in the region, but is no more than 700 feet thick within the Landfill property.

The Paso Robles Formation is typically a light brown to yellowish brown quartzofeldspathic sandstone and chert-rich conglomerate. Sandstones range from fine- to coarse-grained, and are generally poorly cemented, though well-cemented marly sandstone beds up to four feet thick crop out along the western ridgeline. Conglomerate beds range from one to ten feet thick, are internally massive with poor imbrication, and are typically clast-supported with a poorly sorted, fine to coarse sand matrix. Clast size ranges from pebble to cobble, and clasts are nearly always very well rounded and spherical to roller in shape. Conglomerates are dominated by chert clasts, but also contain minor quantities of various porphyritic plutonic and aphanitic volcanic rocks. Few claystone beds were encountered in the Paso Robles Formation, and these were typically less than six inches thick.

Bedding in the Paso Robles Formation is poorly developed in outcrops and in the subsurface. The formation is primarily cross bedded, though the position of the WMU on the eastern limb of the Los Flores-Cat Canyon anticline results in a northeasterly dip despite the cross bedding.

- c. *Orcutt Sand.* The Pleistocene-age Orcutt Sand occurs on the ridge tops in the northeastern portion of the proposed Landfill property and is well exposed in road cuts along Dominion Road northeast of the North Canyon and crops out near the intersection of the road that joins the North Canyon with the South Canyon. The Orcutt Sand is a tan to rusty brown colored, poorly cemented, sand and gravel terrace deposit. Orcutt Sand exposures indicate limited thickness (no more than five feet thick) and lateral extent at the WMU.
- d. *Landslide Deposits.* Two large potential landslide features (“A” and “B”) and several small debris flows have been identified in the North Canyon and two potential landslide features identified in the South Canyon. Landslide “A” is located on the southern slope of the North Canyon, is a failure in the Paso Robles Formation, and will be completely removed during subgrade excavation. Landslide “B” appears to be a large displaced block of Paso Robles Formation that is located near the northeastern corner of the Landfill property in the North Canyon but outside of the WMU. In the South Canyon, borings indicated two possible historical landslides, which will be removed by the proposed grading of the WMU.

The site's historical development as an oil field resulted in extensive alterations of the native terrain, which resulted in removal of many of the geomorphic features that geologists use to identify the presence of landslides. Therefore, other historical landslides may exist within the WMU.

- e. *Alluvium*. Alluvium is found at the bottom of both the North and South Canyon and ranges from 20 to 30 feet thick along the upper reaches of the natural channel line of the canyon, deepening to about 75 feet. The Alluvium is described as very dark brown to dark olive brown, poorly sorted fine to coarse sand with silt and scattered organic matter, and includes local layers of gravel, pebbles, and cobbles.
- f. *Topsoil*. Topsoils throughout the site are derived from the underlying alluvium or bedrock and are typically very dark brown to dark grayish brown, dry to damp, silty to clayey sand with mixed roots, organic matter, and cow manure. Where soils developed over conglomeratic bedrock, the topsoil contained highly weathered, angular fragments of pebbles and cobbles.
- g. *Drilling Mud / Artificial Fill*. Historical drilling and construction of oil wells resulted in the generation and disposal of large quantities of drilling mud throughout the Landfill property including the bottom of both the North and South Canyon. Although not always distinguishable from alluvial soils, drilling muds up to 27 feet thick were observed in the upper reaches of the South Canyon. These upper South Canyon drilling muds were dark brown, well sorted, rounded to subrounded sand with some silt. Rills eroded through this deposit revealed blebs of tar and vegetation entrained in the soil.

Small artificial fills were encountered along existing roadways and barrage dams across the natural channel line of the South Canyon. The artificial fill for the roadways are composed of reworked bedrock mixed with asphalt or tar. The barrage dams are typically three to eight feet in height and approximately 10 feet wide, and are composed of reworked drilling mud mixed with native soil and bedrock. Four barrage dams were observed in the South Canyon, however the North Canyon floor has been extensively reworked and the distinction between native alluvium and drilling mud is not clear.

28. The natural geologic materials between the base of WMU and groundwater do not adequately protect against degradation of beneficial uses or water quality. Therefore, this Order requires an engineered liner system to contain the waste and protect groundwater. The Discharger will remove the majority of the Orcutt Sand, landslide deposits, alluvium, topsoil, and drilling mud/artificial fills in the North and South Canyon as the WMU is excavated and graded for construction of the engineered liner system.

29. **Faulting** – The Landfill is situated in the Solomon Hills, which are among the southernmost ranges of the Coastal Ranges Geomorphic Province. The Solomon Hills are the surface expression of an “upfold” or anticline uplifted along the fault zone extending along the northern flanks of this topographic highland. Seismicity in this region is usually associated with translational breakage along numerous strike-slip faults that are generally parallel to the San Andreas Fault. The San Andreas Fault is

located approximately 42 miles east of the site at its closest approach. There are also antithetic reverse/thrust faults located within distances that could affect the Landfill.

There is no evidence of Holocene-age faulting on the Landfill property and the Landfill is not located within or near any State of California Earthquake Fault Zones; however, several active or potentially active faults are located within a distance that could affect the Landfill site, including the Casmalia-Orcutt Frontal Fault, San Luis Range Fault, Los Alamos-West Baseline Fault, Lion's Head Fault, offshore North Channel Slope Fault, and San Andreas Fault. The larger active regional faults (North Channel Slope Fault and San Andreas Fault) are at a much greater distance from the Landfill and therefore pose a lesser threat than the smaller Casmalia-Orcutt Frontal Fault, San Luis Range Fault, Los Alamos-West Baseline Fault, and the Lion's Head Fault; which govern the seismic hazard at the Landfill and are described as follows:

- a. *Casmalia-Orcutt Frontal Fault.* The Casmalia-Orcutt Frontal Fault is a northeast-southwest trending reverse fault located 1.8 miles east of the Landfill, is approximately 17.5 miles long, has a slip rate of 0.01 inch per year, and is classified as potentially active (having movement from 11,000 to 2 million years ago). The Casmalia-Orcutt Frontal Fault has a maximum credible earthquake (MCE) magnitude of 6.5 and an estimated maximum probably earthquake (MPE) magnitude of 5.5.
- b. *San Luis Range Fault.* The San Luis Range Fault is a northwest-southeast trending thrust fault 4.7 miles northeast of the Landfill, is approximately 38.5 miles long and has a slip rate of 0.01 inch per year. The San Luis Range Fault has a MCE magnitude of 7.0 to 7.2 and an estimated MPE of 5.3.
- c. *Los Alamos-West Baseline Fault.* The Los Alamos-West Baseline Fault is 5.0 miles south of the Landfill, has a slip rate of 0.03 inch per year, and is classified as active (having Holocene movement with the last 11,000 years). The Los Alamos-West Baseline Fault has a MCE magnitude of 6.7 to 6.9 and an estimated MPE magnitude of 5.5.
- d. *The Lion's Head Fault.* The Lion's Head Fault is an extension of the Casmalia Fault and lies 6.5 miles south of the Landfill. This reverse fault is 24.5 miles long and is identified as potentially active. The Lion's Head Fault has an MCE magnitude of 6.6 and an estimated MPE magnitude of 5.5.

30. **Seismicity** – CCR Title 27 §21750 requires a Class III WMU to withstand the ground motion associated with the MPE, which is defined as the maximum earthquake event that appears to be reasonably expectable within a 100-year period or the maximum historic earthquake event. The Discharger evaluated the Landfill's seismicity based on the probable ground acceleration (PGA) associated with three different events including: MPE, 10 percent in 50-year earthquake, and maximum historic earthquake. The controlling fault for the MPE event is the Casmalia Orcutt Frontal Fault with an MPE magnitude of 5.5, which resulted in a PGA of 0.27g. The 10 percent in 50-year earthquake is not based on a specific fault, but influenced by the nearby Casmalia, San Luis Range, and Los Alamos Faults and resulted in a PGA of 0.28g. Based on available historic data, the site experienced a maximum ground acceleration of 0.24g



during a magnitude 5.7 earthquake that occurred on December 12, 1902 at a distance of about 4.0 miles. Preliminary WMU design is based on the more conservative PGA of 0.28g associated with the 10 percent in 50-year earthquake.

31. **Slope Stability** – The Discharger’s October 2007, Geotechnical Investigation Report evaluated slope stability for the proposed Landfill and found that the static factor of safety for each subgrade cross section exceeds 1.5 and seismically-induced permanent displacement is negligible. The slope analysis resulted in the following recommendations to ensure slope stability:

- a. The long-term stability of the slopes and liner sections are predicated on maintenance of drained slope conditions, and implementation of a fill sequencing plan that ensures fill is placed in single lifts (plus or minus 20 feet) across a development area.
- b. Waste geometry should be at least six times as wide as it is high.
- c. Interim waste fill slopes should be no steeper than 3 to 1 (horizontal to vertical).
- d. Specific design considerations to ensure adequate factor of safety for the final refuse fill in both the South and North Canyon including Geosynthetic Clay Liner (GCL) encapsulation near the canyon toe and soil stability berm, soil stability berm height specifications, and final refuse slope from the top of the stability soil berm to the topdeck should not be steeper than 2.5H:1V (2 to 1 with benches).
- e. As phasing plans are developed, the stability of each phase should be analyzed.
- f. As soil stockpiling plans are developed, the stability of soil stockpiles should be analyzed.

Due to revised fill sequencing, Golder Associates, Inc. conducted additional slope stability analysis in May 2010, which resulted in additional recommendations:

- a. Interim waste slopes (after accounting for benches) should not exceed 3.5H:1V (also the waste side slopes between the benches should not exceed 3H:1V).
- b. In Phase 6, the maximum waste envelope should be limited to 1,055 feet.
- c. In Phase 8, the maximum waste envelope should be limited to 970 feet.
- d. Shear strength of the liner system should be verified during selection of liner materials to ensure a minimum residual shear strength envelope represented by a friction angle of 12 degrees.
- e. Slope stability should be verified during the design of individual phases.

32. **Hydrogeology** – Groundwater is observed in three hydrogeologic units in the vicinity of the Landfill and includes perched groundwater in the canyon alluvium, groundwater seeps in the Paso Robles Formation, and regional groundwater in the Careaga Formation, which are described as follows:

- a. *Alluvial Groundwater.* Alluvial groundwater in the North Canyon appears to be unconfined and perched above thin limestone layers at or just below the contact with the underlying Paso Robles Formation and does not extend down-canyon. North canyon alluvial groundwater is likely recharged from direct infiltration of precipitation onto the canyon bottom, runoff from adjacent slopes, and possibly seepage from the adjacent Paso Robles Formation. Alluvial groundwater has not been observed in the south canyon. The Discharger expects to remove nearly all

of the alluvium in both the north and south canyon based on the conceptual Landfill design.

- b. *Paso Robles Formation Groundwater.* Both subsurface and surface groundwater seeps have been observed in the Paso Robles Formation throughout the Landfill site. Observed seeps do not appear to represent contiguous zone of saturation in the Paso Robles Formation since they are limited to small localized zones of moisture or puddles near the contact of sandstone or conglomerate layers over cemented sandstone/limestone layer. Observed seeps have been too small to measure but may increase following prolonged wet weather. WMU design and construction will address potential groundwater seeps in the Paso Robles Formation.
- c. *Careaga Formation Groundwater.* The most significant groundwater occurrence below the Landfill is in the Careaga Formation, which correlates to the regional groundwater table in the Santa Maria Valley to the east of the site. Hydraulic conductivity in the Careaga Formation ranges from 0.0203 feet/day to 0.00178 feet/day based on bail-down and recovery testing in on-site monitoring wells and piezometers.

## **GROUNDWATER, SURFACE WATER, AND STORMWATER**

33. **Groundwater** – Groundwater beneath the Landfill is located at depths ranging from 500 to 712 feet bgs (Careaga Formation). Groundwater potentiometric surface contours developed from static water levels suggest that groundwater flows in a northeast direction at a gradient of approximately 0.05 to 0.07 feet/feet and a velocity ranging from 0.0003 feet/day to 0.0016 feet/day.
34. **Groundwater Quality** – Groundwater quality from monitoring wells indicates that chloride, sulfate, and total dissolved solids exceed their respective median groundwater quality objectives for the Santa Maria Sub-basin and Orcutt Sub-area in at least one monitoring well.
35. **Groundwater Separation** – Proposed excavation grades and liner design provide for more than approximately 360-foot separation between groundwater and waste, thus meeting the CCR Title 27 requirement for maintaining a minimum five-foot separation.
36. **Supply Wells** – There are six water supply wells within approximately one mile of the Landfill, and numerous active and abandoned wells related to historical and current oil exploration and production, which are shown on Regional Well Map, **Figure 3**.
37. **Surface Water** – Development and operation of the Landfill has the potential to impact unnamed surface water drainages in the North and South Canyon, and several western canyons, as related to the north south ridgeline running through the Landfill property. The North Canyon and South Canyon will be affected by the construction and operation of the WMU, these canyons drain to the northeast and are tributaries to Bradley Canyon and Cat Canyon, respectively. Bradley Canyon and Cat Canyon drain to the Santa Maria Valley and the Sisquoc River, which flows into the Santa Maria River. The western canyons will be affected by a new access road, potential ancillary landfill facilities, and soil stockpiles. The western canyons drain to the west

and southwest to Solomon Canyon, which drains to Solomon Creek south of Orcutt and ultimately to Orcutt Creek.

38. **Wetlands** – The Discharger’s April 2010 Environmental Impact Report identifies a total of 1.71 acres of jurisdictional non-wetland waters of the U.S., 3.09 acres of jurisdictional wetland waters of the U.S, and 0.57 acres of non-jurisdictional wetland throughout the Landfill property. The Army Corps of Engineers, Water Board, and California Department of Fish and Wildlife jurisdictional areas are very similar due to the narrow and steeply incised drainage areas. Depending on future policies, the non-jurisdictional wetland areas identified may fall under the jurisdiction of the Water Board. The Discharger must obtain permits from the Army Corps of Engineers (§404 Permit), the Water Board (§401 Water Quality Certification), and California Department of Fish and Wildlife (§1602 Lake and Streambed Agreement) to develop in these areas. Order No. R3-2014-0024 requires the Discharger to submit a Design Report for Executive Officer approval before constructing the WMU. The Design Report must address wetlands to comply with 40 CFR §258.12(a).
39. **Stormwater** – The Landfill will have six proposed discharge points with four impacted by WMU development that will include stormwater conveyance systems flowing to sedimentation retention basins, and two other discharge points that are not likely to require sediment removal because flows will be less than or similar to pre-development. The WMUs drainage system will be comprised of, but not limited to, diversion berms, downdrains, and concrete lined perimeter ditches. The Landfill’s drainage facilities including sediment retention ponds that will be designed to handle the runoff from a 100-year, 24-hour storm consistent with CCR Title 27, §21750(e).
40. **Precipitation** – Average rainfall for the Solomon Hills area is 14 inches per year primarily between the months of November and April. Based on information from the National Oceanic and Atmospheric Administration the 100-year, 24-hour precipitation storm event for area is approximately 5.5 inches.
41. **Floodplain** – The Federal Emergency Management Agency Flood Insurance Rate Map for Santa Barbara County and Incorporated Areas (Numbers 06083C0480F and 06083C0490F, September 30, 2005), shows that the Landfill is entirely outside the 100-year flood plain.

## CONTROL SYSTEMS AND MONITORING

42. **Liner Design** – The October 2012 JTD includes a conceptual liner design for the WMU that consists of the following (from bottom to top):
  - a. *Base Composite Liner.*
    - i. Prepared subgrade.
    - ii. Minimum 1-foot thick compacted fine grained soil layer (30 percent passing the #200 sieve and maximum particle size of 3/8 inch).
    - iii. GCL [Encapsulated with High Density Polyethylene (HDPE) below the GCL towards the toe of the WMU in the North and South Canyon]
    - iv. Minimum 60-mil thick HDPE geomembrane

- b. *Slope Composite Liner.*
  - i. Prepared subgrade.
  - ii. GCL
  - iii. Minimum 60-mil thick HDPE geomembrane

Order No. R3-2014-0024 does not approve the conceptual liner design above as an engineered alternative to the prescriptive liner requirements, and requires the Discharger to submit a WMU Design Report to be approved by the Executive Officer. The Discharger submitted a Geotechnical Feasibility Study dated November 20, 2012 to explore the potential for improving the minimum 1 foot thick compacted fine grained soil layer to a maximum hydraulic conductivity of  $1 \times 10^{-7}$  cm/sec. The Discharger is also evaluating other alternatives to improve their composite liner design for the required WMU Design Report.

43. **Landfill Leachate Control** – The October 2012 JTD includes a conceptual leachate collection and removal system (LCRS) design for the WMU that consists of the following (from bottom to top, above the base composite liner):

- a. A geotextile cushioning between the composite liner and the high permeability layer may be incorporated depending on the material used for the granular drainage layer.
- b. 12-inch thick granular drainage layer.
- c. Filter geotextile.
- d. Minimum 2-foot thick soil operations layer.

In addition, the conceptual LCRS design includes gravel-wrapped perforated pipe placed in trenches in the base liner and along interior slope benches to facilitate leachate collection and removal. The base and bench collectors interconnect to convey leachate by gravity flow to permanent or temporary sumps at low spots in the landfill. The conceptual LCRS design also includes a secondary liner (HDPE geomembrane) and drainage layer below the main leachate collection lines to provide for a secondary sump/vadose zone monitoring. Collected leachate will either gravity flow or be pumped to storage tanks and will likely be used for dust control in the WMU, or transported to City's wastewater treatment plant or other approved facility. Order No. R3-2014-0024 requires the Discharger to submit a WMU Design Report to be approved by the Executive Officer, which will include LCRS design.

44. **Landfill Gas Control** – The decomposition of organic wastes within a WMU generates landfill gas consisting of methane, carbon dioxide, and traces of other constituents. The generation of landfill gas is a flammability concern, air pollutant, and can contaminate groundwater. Approximately three years after landfill operations begin, or sooner if necessary, the Discharger will construct a landfill gas collection and control system to collect and destroy landfill gas, limit emissions to the atmosphere, and minimize the potential for landfill gas to migrate to groundwater.

45. **Monitoring and Reporting Program (MRP)** – MRP Order No. R3-2014-0024 requires the Discharger to monitor and report on landfill observations, rainfall data, stormwater, leachate collection and disposal, landfill gas collection and disposal, soil vapor, and groundwater. Landfill monitoring points are shown in Monitoring Location

Map, **Figure 4.**

46. **Groundwater Monitoring** – The Discharger constructed five groundwater monitoring wells (MW-1, MW-2, MW-3, MW-4, and MW-5) and two piezometers (P-1 and P-2) to evaluate groundwater conditions at the Landfill and the City will use these wells to monitor groundwater during operation of the landfill.
47. **Leachate Monitoring** – The Discharger will routinely monitor and analyze the leachate generated by the landfill in order to adequately characterize the leachate for proper disposal and to identify constituents of concern to facilitate groundwater and stormwater monitoring for early release detection.
48. **Surface Water Monitoring** –The Discharger will periodically collect stormwater runoff samples from the Landfill's various discharge points, which discharge to unnamed drainages onsite.
49. **Stormwater Permitting** - In addition to this Order, the Discharger will be covered under a Statewide General Storm Water Permit, which requires the Discharger to perform stormwater monitoring in accordance with the General Permit's Monitoring and Reporting Program and required Stormwater Pollution Prevention Plan. At a minimum, stormwater samples are collected during scheduled operating hours, twice per year, during the first storm event of the year and a second event, preceded by at least three days without a stormwater discharge. The Discharger collects samples at all stormwater discharge locations impacted by Landfill operations during the first hour of runoff.
50. **Unsaturated Zone Monitoring** – The Discharger will routinely monitor the unsaturated zone for early detection of a release from the WMU.
51. **Landfill Gas Monitoring** – Based on the size of the WMU, waste disposed, and Landfill development, the Discharger will construct soil-pore gas vapor probes that monitor for landfill gas migration. If landfill gas generation and migration become an issue then the Discharger will be required to implement/improve landfill gas collection and additional gas monitoring.

## **BASIN PLAN**

52. The Water Quality Control Plan, Central Coast Basin (Basin Plan), was adopted by the Water Board on September 8, 1994, and approved by the State Water Resources Control Board (State Water Board) on November 17, 1994. The Basin Plan incorporates statewide plans and policies by reference and contains a strategy for protecting beneficial uses of State Waters. This Order implements the water quality objectives stated in that Plan.
53. The Basin Plan identifies the following present and anticipated beneficial uses of the Sisquoc River (downstream):
  - a. Municipal Supply;
  - b. Agricultural Supply;

- c. Industrial Process Supply;
- d. Groundwater Recharge;
- e. Water contact recreation;
- f. Non-contact water recreation;
- g. Wildlife habitat;
- h. Cold Fresh Water Habitat;
- i. Warm fresh-water aquatic habitat;
- j. Migration of Aquatic Organisms;
- k. Spawning, Reproduction, and/or Early Development;
- l. Commercial and sport fishing.

54. The Basin Plan identifies the following present and anticipated beneficial uses of Orcutt Creek:

- a. Municipal Supply;
- b. Agricultural Supply;
- c. Industrial Service Supply;
- d. Groundwater Recharge;
- e. Water contact recreation;
- f. Non-contact water recreation;
- g. Wildlife habitat;
- h. Cold Fresh Water Habitat;
- i. Rare, threatened, or endangered species;
- j. Estuarine Habitat
- k. Freshwater Replenishment
- l. Commercial and sport fishing.

55. The Basin Plan establishes the following surface water quality objectives for the Sisquoc River:

- a. Total Dissolved Solids, 600 milligrams per liter (mg/L);
- b. Chloride, 20 mg/L;
- c. Sulfate, 250 mg/L;
- d. Boron, 0.2 mg/L;
- e. Sodium, 50 mg/L.

56. Present and anticipated beneficial uses of groundwater in the Landfill vicinity include:

- a. Agricultural supply;
- b. Municipal and domestic supply; and
- c. Industrial use.

57. The Basin Plan establishes the following groundwater quality objectives for the Santa Maria Sub-basin and Orcutt Sub-area:

- a. Total Dissolved Solids, 740 mg/L;
- b. Chloride, 65 mg/L;
- c. Sulfate, 300 mg/L;

- d. Boron, 0.1 mg/L;
- e. Sodium, 65 mg/L;
- f. Nitrogen, 2.3 mg/L.

## **CALIFORNIA ENVIRONMENTAL QUALITY ACT**

58. The City of Santa Maria filed a Notice of Preparation of an Environmental Impact Report (EIR) for the Santa Maria Integrated Waste Management Facility on September 14, 2006 and circulated the notice until October 13, 2006. The City of Santa Maria held an EIR scoping meeting on October 5, 2006 from 6:00 pm to 7:30 pm at the Santa Maria Library.
59. Environmental impacts from the proposed Landfill were evaluated in a Santa Maria Integrated Waste Management Facility Project EIR (SCH# 2006091069), during 2009 with a public comment review period from June 6, 2009 to August 3, 2009. To facilitate review of the EIR, the City of Santa Maria held workshops on June 25, 2009 and July 23, 2009.
60. The City of Santa Maria filed a Notice of Completion of the Final EIR with the State Clearing house on April 2, 2010. On April 20, 2010, the City of Santa Maria adopted Resolution No. 2010-42 certifying the Final EIR, making CEQA findings, adopting a Statement of Overriding Considerations, and adopting a Mitigation Monitoring Program for the Santa Maria Integrated Waste Management Facility Project.
61. The City of Santa Maria filed a Notice of Determination approving the Santa Maria Integrated Waste Management Facility Project with the County of Santa Barbara on April 27, 2010.
62. The Water Board is a responsible agency for purposes of CEQA. Consistent with CEQA Guidelines §15096, the Water Board has considered the Final EIR prepared by the City of Santa Maria and has considered the environmental impacts of the project. The Final EIR did not identify any significant effect on the environment with respect to water quality. The Final EIR stated that the Discharger must comply with the waste discharge requirements issued by the Water Board. Because the Final EIR did not identify significant environmental impacts with respect to water quality, the CEQA Guidelines do not require the Water Board to make findings under CEQA Guidelines §15091. This Order requires compliance with all applicable water quality requirements, including Title 27 CCR Division 2 and the Basin Plan and compliance with those requirements will be protective of water quality. The project as approved by the Water Board will not have a significant impact on water quality.

## **GENERAL FINDINGS**

63. In accordance with CCR Title 27 §20260(b)(1) and 40 CFR 258.40, the Water Board finds that all new WMUs constructed at the Landfill must have prescriptive composite liners, except for engineered alternatives as provided in CCR Title 27 §20080(b) and 40 CFR 258.40(a)(1) and (c).

64. In accordance with California Water Code (CWC) §13263(g), no discharge into waters of the state, whether or not the discharge is made pursuant to waste discharge requirements, must create a vested right to discharge. All discharges of waste into waters of the state are privileges, not rights. Authorization to discharge waste is conditioned upon the Discharger complying with provisions of Division 7 of the CWC and with any more stringent limitations necessary to implement the Basin Plan, to protect beneficial uses, and to prevent nuisance. Compliance with Order No. R3-2014-0024 should assure conditions are met and mitigate any potential changes in water quality attributed to the Landfill.
65. The proposed Landfill meets the criteria of CCR Title 27 and 40 CFR 258 for a Class III landfill suitable to receive non-hazardous solid waste. Order No. R3-2014-0024 implements, but is not limited to, the prescriptive standards and performance goals of CCR Title 27 and 40 CFR 258.
66. The Landfill is also regulated by the Santa Barbara County Environmental Health Services, which is designated as the Local Enforcement Agency (LEA) by the California Department of Resources Recycling and Recovery (CalRecycle). The LEA issued a Solid Waste Facilities Permit No. 42-AA-0076 on May 30, 2012, with the concurrence of CalRecycle. The Solid Waste Facilities Permit is periodically amended.
67. **Antidegradation** – State Water Board Resolution No. 68-16 Statement of Policy with Respect to Maintaining High Quality of Waters in California (Resolution No. 68-16) requires Regional Water Boards, in regulating the discharge of waste, to maintain high quality waters of the State until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in a Regional Water Board's policies (e.g., quality that exceeds applicable water quality standards). Resolution No. 68-16 also states, in part:
- 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 best practicable treatment and 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.*
68. The discharges regulated by this Order are required to comply with the land disposal regulations contained in CCR Title 27, which are intended to prevent discharges of waste to waters of the state, preventing degradation of waters of the state. The discharge is subject to waste discharge requirements which will result in best practicable treatment or control.
69. The Discharger has not demonstrated availability of financial resources to conduct closure and post-closure maintenance activities, or corrective action for a reasonably foreseeable release at the Landfill. On January 26, 2012 Water Board staff approved a present worth cost for reasonably foreseeable release corrective actions of \$859,000, which will require periodic inflation adjustments. Order No. R3-



2014-0024 requires the Discharger to establish and document the financial assurance mechanisms with CalRecycle prior to discharging waste at the Landfill.

70. On **February 26, 2014**, the Water Board notified the Discharger and interested agencies and persons of its intention to issue the Landfill Waste Discharge Requirements and has provided them with a copy of the proposed Order and an opportunity to submit views and comments.

71. After considering all comments pertaining to this discharge during a public hearing on **May 22, 2014**, this Order was found consistent with the above findings.

**IT IS HEREBY ORDERED** pursuant to authority in §13263 of the California Water Code, the City of Santa Maria, its agents, successors, and assigns may discharge wastes at the Santa Maria Integrated Waste Management Facility Los Flores Ranch Class III Landfill, providing compliance is maintained with the following:

**A. COMPLIANCE WITH OTHER REGULATIONS, ORDERS AND STANDARD PROVISIONS**

1. Discharge of waste, operations, and monitoring shall comply with all applicable requirements contained in CCR Title 27 and 40 CFR Parts 257 and 258. If any applicable regulation requirements overlap or conflict in any manner, the most water quality protective requirement must govern in all cases, unless specifically stated otherwise in this Order, or as directed by the Executive Officer.
2. The Discharger shall control stormwater runoff releases from the Landfill by complying with all requirements contained in the General Storm Water Permit for Industrial Activities.

**B. PROHIBITIONS**

1. Discharge of waste to areas outside the approved and permitted WMU as identified in Monitoring Location Map, **Figure 4**, is prohibited.
2. Discharge of the following types of waste is prohibited:
  - a. Radioactive wastes.
  - b. Designated waste.
  - c. Hazardous waste, except waste that is hazardous due only to its asbestos content. Asbestos containing greater than one percent (>1 percent) friable asbestos material is considered hazardous but may be discharged as allowed by **Specification C. 6**.
  - d. Chemical and biological warfare agents.
  - e. Waste solvents, dry cleaning fluids, paint sludge, pesticides, phenols, and acid and alkaline solutions.
  - f. Oils or other liquid petroleum products.
  - g. Wastes that have the potential to reduce or impair the integrity of containment structures or which, if commingled with other wastes in the unit, could produce

violent reaction, heat or pressure, fire or explosion, toxic by-products, or reaction products.

- h. Wastes that require a higher level of containment than provided by the Landfill.
  - i. Liquid or semi-solid waste containing less than 50 percent solids by weight. This includes landfill leachate and gas condensate, except as allowed by **Specification C. 10**, and sludge, except as allowed by **Specification C.9**.
3. Discharge of liquid waste, meaning any waste materials that are determined to contain free liquids through visual inspection, or as defined by Method 9095 (Paint Filter Liquids Test), is prohibited.
  4. Discharge of waste within 50 feet of the property line, 100 feet of surface waters, or 100 feet of domestic water supply wells is prohibited, unless approved by the Executive Officer.
  5. Discharge of wastes within five (5) feet of the highest anticipated elevation of underlying groundwater, including the capillary fringe, is prohibited, except as allowed under CCR Title 27, §20080 (b) and (c).
  6. Discharge of waste or leachate to ponded water, drainage way(s), or waters of the State, including groundwater, is prohibited.
  7. Ponding of liquids over solid waste fill areas is prohibited.
  8. Discharge of waste to the WMU is prohibited until the following tasks are completed by the Discharger and approved by the Executive Officer:
    - a. Submittal and approval of a WMU Design Report is required prior to construction of each phase of the WMU (**Provision E.21**) including updated/revised seismic design and stability analyses as required by CCR Title 27.
    - b. Submittal and approval of a construction quality assurance report for WMU construction (**Provision E.7**).
    - c. Installation of WMU leachate, soil vapor/vadose zone, groundwater, and stormwater monitoring systems (**Provision E.2**).
    - d. Establishment of Financial Assurance funds for corrective action, unit closure, and post-closure maintenance (**Provision E.15**).

## **C. SPECIFICATIONS**

### **General Specifications**

1. The Discharger shall operate the Landfill and configure the final Landfill contours, in conformance with the most recent Executive Officer-approved Operations Plan, and/or Report of Waste Discharge/Joint Technical Document (collectively Plan) except where the Plan conflicts with this Order. The most recently updated Plan is the Discharger's October 2012 "Joint Technical Document." In the event of conflict, this Order shall govern in cases where it is more protective of water quality. Any change to the Plan that may affect compliance with this Order shall be approved in writing by the Executive Officer prior to the change being implemented.

2. Discharge of waste shall not cause slope failure or damage landfill containment structures.
3. Discharge of waste shall not cause a condition of pollution or contamination to occur through a statistically significant release of pollutants, contaminants, and/or waste constituents, as indicated by the most appropriate statistical [or non-statistical] data analysis method and retest method described in MRP No. R3-2014-0024.
4. Discharge, collection, and treatment of waste shall not create nuisance, as defined by CWC §13050(m).
5. The Discharger shall prevent formation of a habitat for carriers of pathogenic microorganisms.
6. Wastes containing greater than one percent (>1 percent) friable asbestos are classified as hazardous under CCR Title 22. Since such wastes do not pose a threat to water quality, §25143.7 of the Health and Safety Code permits their disposal in any landfill, providing waste discharge requirements specifically permit the discharge. Asbestos may be discharged in the Landfill only if it is handled and disposed of in accordance with §25143.7 of the Health and Safety Code, CCR, Title 14, §17897 "Standards for Handling and Disposal of Asbestos-Containing Waste," and all other applicable Federal, State, and local statutes and regulations.
7. "Treated wood" wastes may be discharged only to a WMU equipped with a composite liner and LCRS, and shall be handled in accordance with California Health and Safety Code §25143.1.5 and §250150.7.
8. The Discharger may dispose contaminated soil if all the following criteria are met:
  - a. Discharges are in accordance with a waste acceptance plan approved by the Executive Officer.
  - b. Discharges are to a WMU equipped with a composite liner and LCRS in accordance with **Specification C.23 and C.24**.
  - c. The materials are non-hazardous and compatible with containment structures in accordance with **Prohibition B.2**.
  - d. The materials meet the criteria for no free liquids in accordance with **Prohibition B.2 and B.3**.
9. Sewage sludge or water treatment sludge with greater than 50 percent moisture content may be discharged at the Landfill if all of the following criteria are met:
  - a. The Discharger shall discharge sludge only to WMUs that have a LCRS designed such that leachate gravity drains to a collection point/sump and is removed through gravity or pumping to a holding tank or sanitary sewer for volume measurement, testing and disposal.
  - b. A daily minimum solids-to-sludge ratio of 5 to 1, based on weight, shall be maintained when co-disposing (burying) sludge with solid waste.

- c. Primary and mixtures of primary and secondary sewage sludge shall contain at least 20 percent solids by weight.
- d. Secondary sewage sludge and water treatment sludge shall contain at least 15 percent solids by weight.

10. Discharge of condensate or leachate shall comply with the following:

- a. The Discharger may only return liquids to a WMU equipped with a containment system that meets or exceeds the performance standard of CCR Title 27, CFR 40 Part 258.40(a)(2), or the standard set in this Order, whichever is more protective of water quality;
- b. The Discharger shall measure liquids by volume and record the volume on a monthly basis. The Discharger shall include the monthly volume records in the monitoring submittals required in MRP No. R3-2014-0024;
- c. A secondary containment system sized to hold 100 percent of the primary containment system holding capacity;
- d. The Discharger may not discharge leachate within 48 hours of any forecasted rain event, during any rain event, or 48-hours after any rain event; and,
- e. An approved alternate method of leachate disposal (e.g., wastewater treatment plant), that is acceptable to the Executive Officer.

11. All waste that is wind-blown outside the WMU and waste collection areas shall be collected regularly and disposed of in the Landfill. If wind-blown litter threatens water quality, the Discharger will implement best management practices (such as wind fencing or mobile screens) to prevent windblown migration of waste.

12. The Discharger shall cover waste daily by at least six inches of soil cover material or in accordance with an Executive Officer accepted alternative daily cover and cover frequency.

13. The Discharger shall provide all Landfill areas that have not reached final fill elevation, but will remain inactive over one-year, with an Executive Officer-approved long-term intermediate cover. The thickness and permeability of the long-term intermediate cover shall be based primarily on Landfill-specific conditions including, but not limited to: length of exposure time, volume of underlying material, soil permeability, thickness and composition of existing cover, amount of yearly rainfall, depth to groundwater, beneficial uses of underlying groundwater, Landfill-specific geologic and hydrogeologic conditions, and effectiveness of existing monitoring systems.

14. The Discharger shall remove or relocate wastes discharged in violation of this Order.

15. Vectors shall be controlled to minimize and prevent, to the extent feasible, on and off-site impacts to water quality.

### **Wet Weather Specifications**

16. Daily cover shall prevent impacts to stormwater, minimize infiltration and leachate generation, and promote lateral runoff of rainfall away from the active disposal area and waste.
17. The Discharger shall stockpile daily cover material during favorable weather to ensure that adequate daily cover material is accessible during inclement weather.
18. The Discharger shall grade and operate all Landfill surfaces and working faces to minimize precipitation/surface water from infiltrating into waste, to prevent ponding of water, and to resist erosion. The Discharger shall repair erosion rills greater than six inches in depth, or when rills leave insufficient cover to prevent infiltration of precipitation/surface water. The Discharger shall provide positive drainage to divert precipitation/surface water runoff from areas containing waste.
19. Pursuant to the General Storm Water Permit, the Discharger shall use best management practices to maintain the capacity of stormwater retention facilities and thereby reduce or prevent pollutants in stormwater from discharging into receiving waters to the best available technology standard. CCR Title 27 §20365 requires that the Discharger periodically a) remove accumulated sediment from the stormwater retention facilities and b) empty or otherwise manage the facilities to maintain their capacity.
20. The Discharger shall maintain a minimum of two feet of freeboard in all stormwater sediment containment basins. Freeboard is defined as the distance between the water surface within the sedimentation basin and the top of the impoundment.
21. To prevent erosion and percolation through the waste, permanent drainage ditches crossing over Landfill areas shall be lined with either a synthetic liner, or a one-foot thick layer of soil having an in-place conductivity of  $1 \times 10^{-6}$  cm/sec or less, or an alternative material that restricts infiltration of surface waters into the underlying waste as approved by the Executive Officer.
22. Collected stormwater may be used over the WMU in minimum amounts necessary for dust control, cover compaction, or irrigation of cover vegetation provided:
  - a. Water does not infiltrate past the vegetation root zones or past a depth where effective evaporation can occur.
  - b. Water does not contain or carry waste constituents.

### **Design Specifications**

23. The solid waste disposal areas within the WMU shall be equipped with an Executive Officer-approved containment system (composite liner) consisting of the following components:
  - a. A well-prepared subgrade engineered to support the Landfill and associated structures.
  - b. A layer of compacted soil that is at least two feet thick that has a hydraulic conductivity of no more than  $1 \times 10^{-7}$  centimeters per second (0.1 feet/year);

- c. A synthetic flexible membrane liner at least 40-mil thick (or at least 60-mil thick if the liner is high-density polyethylene) that is installed in direct and uniform contact with the low permeability layer (b);
- d. An LCRS designed to minimize leachate head buildup over the liner in accordance with **Specification C.24**.
- e. A protective soil layer or operations layer at least 12 inches thick; or
- f. An engineered alternative design that satisfies the performance criteria in 40 CFR 258.40(a)(1) and (c), and satisfies the criteria for an engineered alternative to the Prescriptive Design, as provided by CCR Title 27 §20080(b), where the Discharger receives written concurrence from the Executive Officer that the performance of the alternative composite liner's components, in combination, is equal to, or exceeds, the waste containment capability of the regulatory Prescriptive Design.

24. The LCRS shall:

- a. Be designed and constructed to prevent more than 12 inches of static hydraulic head on the liner.
- b. Be designed and operated to function without clogging through the scheduled closure of the WMU and during the post-closure maintenance period.
- c. Convey to a sump, or other appropriate collection area, all leachate that reaches the liner. The depth of leachate in any significant collection area shall be kept at a minimum needed to ensure efficient pump operation.
- d. Be designed so that short and long term system performance can be monitored and evaluated, pursuant to CCR Title 27 §20340 (d).
- e. Above ground storage facilities shall have a secondary containment system sized to hold 100 percent of the primary containment system capacity.
- f. Sumps shall be constructed with double liners with leak detection capability.

:

25. Unsaturated zone monitoring that is designed and constructed to meet the requirement for determining the earliest possible detection of a release(s), as specified in CCR Title 27 §20414(d); or,

26. Waste management units, containment structures, and drainage facilities shall be designed, constructed, and maintained to limit, to the greatest extent possible, ponding, infiltration, inundation, erosion, slope failure, washout, overtopping, and damage resulting from natural disasters (e.g., floods with a predicted frequency of once in 100 years, the maximum probable earthquake, and severe wind storms).

27. New landfill units and lateral expansions shall not be located in wetlands, as defined in 40 CFR §232.2(r), unless the owner or operator can make demonstrations pursuant to 40 CFR §258.12(a) that the discharge of waste will not cause or contribute to significant degradation of wetlands and associated ecological resources.

### **Closure Specifications**

28. The Discharger shall implement final closure activities as the site operation progresses, in accordance with requirements consistent with the closure of the

entire site as approved by the Executive Officer, LEA, and CalRecycle in accordance with the most recently approved closure plan.

29. Partial closure shall be accomplished by implementing closure activities, including but not limited to: placement of final cover, final grading, maintenance, revegetation, and installation of environmental monitoring control systems consistent with the closure the entire site. Units closed in accordance with a Closure Plan approved by the Executive Officer, LEA, and CalRecycle, are not subject to future regulatory changes unless monitoring data indicates measurably significant evidence of release.
30. All Landfill waste disposal areas at final elevations shall receive final cover pursuant to CCR Title 27, §21090, which meets either a. or b. below:
  - a. A final cover system consisting of the following components:
    - i. Minimum two-foot foundation layer placed over waste, compacted to maximum density obtainable at optimum moisture conditions [CCR Title 27, §21090 (a)(1)].
    - ii. For units that have not been equipped with a Subtitle D composite liner system, a low hydraulic conductivity layer, consisting of compacted clay with a hydraulic conductivity of  $1 \times 10^{-6}$  cm/sec or less. Compacted clay may not be suitable for Landfills located in semi-arid environments. In such cases an engineered alternative [described in (b) below] utilizing a geosynthetic clay layer and/or geomembrane may be more appropriate.
    - iii. For units equipped with a Subtitle D composite liner system, a low hydraulic conductivity layer equal to or less than the hydraulic conductivity of the bottom liner system.
    - iv. At least one foot of soil capable of supporting vegetation, resisting erosion, and protecting the underlying low hydraulic conductivity layer.
  - b. An engineered alternative design that satisfies the performance criteria in 40 CFR 258.40(a)(1) and (c), and satisfies the criteria for an engineered alternative to the Prescriptive Design, as provided by CCR Title 27 §20080(b), where the Discharger receives written concurrence from the Executive Officer that the performance of the alternative composite cover's components, in combination, is equal to, or exceeds, the waste containment capability of the regulatory Prescriptive Design.

#### **D. WATER QUALITY PROTECTION STANDARDS**

1. The compliance period, pursuant to CCR Title 27 §20380(d)(1) and §20410, is estimated to be the year 2135 [based on the Landfill estimated closure date of 2105 plus 30 years, pursuant to 40 CFR 258.61(a)], or until waste discharged at the Landfill no longer poses a threat to water quality, whichever is longer [except as provided by 40 CFR 258.61(b)1].
2. Constituents of concern and monitoring parameters for groundwater, leachate, and landfill gas are listed in MRP No. R3-2014-0024. Monitoring points and background monitoring points shall be those specified in MRP No. R3-2014-0024.

3. The point of compliance pursuant to CCR Title 27 §20405, is a vertical surface located at the hydraulically downgradient limit of a WMU that extends through the uppermost aquifer underlying the WMU.
4. Discharge of waste shall not cause a statistically significant difference in water quality over background concentrations for proposed concentration limits for each constituent of concern or monitoring parameter (per MRP No. R3-2014-0024) at the point of compliance. The Discharger shall maintain concentration limits for as long as the waste poses a threat to water quality. Discharge of waste shall not adversely impact the quality of State waters.
5. Concentration limits pursuant to CCR Title 27 §20400, shall be specified by the Water Board in waste discharge requirements. The Water Board complies with the intent of CCR Title 27 §20400 by requiring the Discharger to establish and review concentration limitations on an annual basis in accordance with MRP No. R3-2014-0024.
6. Discharge of waste shall not cause concentrations of chemicals and radionuclides in groundwater to exceed the State Department of Public Health's latest recommended Drinking Water Action Levels or Maximum Contaminant Levels of CCR Title 22, Division 4, Chapter 15, Article 5.5.
7. Discharge of waste shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Water Board or the State Water Board.
8. Discharge of waste shall neither cause nor contribute to any surface water impacts including, but not limited to:
  - a. Floating, suspended, or macroscopic particulate matter, or foam.
  - b. Increases in bottom deposits or aquatic growth.
  - c. An adverse change in temperature, turbidity, or apparent color beyond natural background levels.
  - d. The creation or contribution of visible, floating, suspended, or oil, or other products of petroleum origin.
  - e. The introduction or increase in concentration of toxic or other pollutants/contaminants resulting in unreasonable impairment of the beneficial uses of State waters

## E. PROVISIONS

1. The Discharger is responsible for waste containment, monitoring, and correcting any problems resulting from the discharge of waste for as long as the waste poses a threat to water quality.
2. The Discharger shall comply with MRP No. R3-2014-0024, as specified by the Executive Officer.
3. **By October 1 of each year and throughout the rainy season of each year**, the Discharger shall maintain a compacted soil cover designed and constructed to



minimize percolation of precipitation through waste over the entire active Landfill area. The only exception to this specification is the working face. The working face shall be confined to the smallest area practicable based on the anticipated quantity of waste discharged and required by waste management facility operations. Based on Landfill-specific conditions, the Executive Officer may require a specified thickness of soil cover for any portion of the Landfill's active WMU prior to the rainy season.

4. **By October 1 of each year**, the Discharger shall complete all necessary runoff diversion and erosion prevention measures. The Discharger shall complete all necessary construction, maintenance, or repairs of precipitation and drainage control facilities to prevent erosion or Landfill flooding and to prevent surface drainage from contacting or percolating through waste. The Discharger shall repair erosion rills greater than six-inches deep immediately after storm events that cause the erosion, if it is safe to do so.
5. **By October 1 of each year**, the Discharger shall seed and maintain vegetation (as necessary) over all slopes within the entire Landfill area to prevent erosion. The Discharger shall select vegetation that requires minimum irrigation and maintenance and a rooting depth not to exceed the vegetative layer thickness. After receiving approval from the Executive Officer, the Discharger may utilize non-hazardous sludge as a soil amendment to promote vegetation. Soil amendments and fertilizers (including wastewater sludge) used to establish vegetation shall not exceed the vegetation's agronomic rates (i.e., annual nutrient needs).
6. Prior to liner or cover construction, a third party (e.g., unrelated to the Discharger, Landfill operator, project designer, contractor) shall prepare a Construction Quality Assurance (CQA) Plan. The Executive Officer shall approve the third party and CQA Plan. The third party shall implement the CQA Plan and provide regular construction progress reports to the Executive Officer.
7. Prior to beginning discharge of waste into any newly constructed WMU or phase of the WMU, the Discharger shall receive a final inspection, submit a Construction Quality Assurance Report [CCR Title 27 §20324(d)(1)(C)], and receive written approval to discharge waste from the Executive Officer.
8. The Discharger shall promptly install any additional groundwater, soil pore liquid, soil pore gas, surface water, and leachate monitoring devices as required by the Executive Officer.
9. Should additional data become available through monitoring or investigation that indicates compliance with this Order is not adequately protective of water quality, the Water Board will review and revise this Order as appropriate.
10. If the Discharger or the Water Board determines, pursuant to CCR Title 27, §20420, that there is evidence of a release from any portion of the Landfill, the Discharger shall immediately implement the procedures outlined in CCR Title 27 §20380, §20385, §20430, and MRP No. R3-2014-0024.

11. This Order does not authorize commission of any act causing injury to the property of another, does not convey any property rights of any sort, does not remove liability under federal, state, or local laws, and does not guarantee a capacity right.
12. The Water Board shall be allowed, at any time and without prior notification:
  - a. Entry upon the Landfill area or where records are kept under the conditions of this Order and MRP No. R3-2014-0024.
  - b. Access to a copy of any records kept under the conditions of this Order and MRP No. R3-2014-0024.
  - c. To inspect any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order and MRP No. R3-2014-0024.
  - d. To photograph, sample, and monitor for the purpose of showing compliance with this Order.
13. The Discharger shall take all reasonable steps to minimize or correct adverse impacts on the environment resulting from non-compliance with this Order.
14. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:
  - a. Violation of any term or condition contained in this Order.
  - b. Obtaining this Order by misrepresentation, or by failure to disclose fully all relevant facts.
  - c. A change in any condition or endangerment to human health or environment that requires a temporary or permanent reduction or elimination of the authorized discharge.
  - d. A material change in character, location, or volume of the waste being discharged to land.
15. The Discharger shall obtain and maintain Financial Assurance Instruments (Instruments), which comply with CCR Title 27 (§22207 [Closure Fund], §22212 [Post Closure Fund], and §22220 et seq. [Corrective Action Fund]), and 40 CFR parts 257 and 258. Pursuant to CCR Title 27 §20380(b), the Discharger shall obtain and maintain assurances of financial responsibility, naming the Water Board as beneficiary, for initiating and completing corrective action for all known or reasonably foreseeable releases. As landfill conditions change, and upon the Water Board's request, the Discharger shall submit a report proposing the amount of financial assurance necessary for corrective action for the Executive Officer's review and approval. The Discharger shall demonstrate compliance with all financial instruments to the Water Board prior to discharging waste at the Landfill and at a minimum of a) every five years, or b) when the Discharger submits a revised JTD. The next regularly scheduled JTD is due **December 31, 2018**.

## REPORTING

16. All reports shall be signed as follows:

- a. By either a principal executive officer or ranking elected official.
- b. Their "duly authorized representative."
- c. A California Registered Civil Engineer or Certified Engineering Geologist shall sign engineering reports.

17. Any person signing a report makes the following certification, whether its expressed or implied:

"I certify under penalty of perjury I have personally examined and am familiar with the information submitted in this document and all attachments and, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of a fine and imprisonment."

18. Except for data determined to be confidential under §13267 (b)(2) of the CWC, all reports prepared in accordance with this Order shall be available for public inspection at the Water Board office.

19. The Discharger shall submit reports in advance of any planned changes in the permitted Landfill or in an activity, which could potentially or actually result in noncompliance.

20. By **October 1** of each year, the Discharger shall submit a Wet Weather Preparedness Report (WWPR). The WWPR shall describe compliance with **Provisions E.3, E.4, and E.5** above. The report shall also detail preparedness actions taken to ensure discharges to surface or groundwater do not occur during the impending rainy season, and ensure compliance with all other relevant CCR Title 27 and 40 CFR 258 criteria. The report shall include photographs of all wet weather preparedness measures implemented.

21. At least **180-days** prior to construction of a WMU phase the Discharger shall submit a WMU Design Report, CQA Plan, and Soil Management Plan. The Executive Officer will provide comments on the WMU Design Report, CQA Plan, and Soil Management Plan to the Discharger no later than **90-days** after receiving the document. Prior to beginning construction, the Discharger shall receive Executive Officer approval on the WMU's design, CQA, and soil management.

22. **Two-weeks** prior to constructing each phase of a WMU (e.g., preparing foundation, installing liner, installing leachate collection and removal system, placing operations layer, etc.), the Discharger shall notify Water Board staff.

23. The Discharger shall notify the Water Board with a written request of any proposed change in ownership or responsibility for construction or operation of the Landfill in accordance with CCR Title 27, §21710 (c)(1). The written request shall be given at least 90-days prior to the effective date of change in ownership or responsibility and shall:

- a. Be accompanied by an amended Report of Waste Discharge and any technical documents that are needed to demonstrate continued compliance with these Waste Discharge Requirements.
  - b. Contain the requesting entity's full legal name, the state of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Water Board.
  - c. Contain a statement indicating that the new owner or operator assumes full responsibility for compliance with this Order.
24. Request for change in ownership or responsibility may be approved or disapproved in writing by the Executive Officer. In the event of any change in ownership of this Landfill, the Discharger shall notify the succeeding owner or operator, in writing, of the existence of this Order. A copy of that notification shall be sent to the Executive Officer.
25. The Discharger shall furnish, within a reasonable time, any information the Executive Officer may request to determine compliance with this Order or to determine whether cause exists for modifying or terminating this Order.
26. The Discharger or persons employed by the Discharger shall comply with all notice and reporting requirements of the State Department of Water Resources, Santa Barbara County, CalRecycle, and other applicable permitting agencies with concurrence of the Executive Officer regarding the permitting, construction, alteration, inactivation, destruction, or abandonment of all monitoring wells used for compliance with this Order or with MRP No. R3-2014-0024, as required by §13750.5 through §13755 and §13267 of the CWC.
27. Should the Discharger discover that it failed to submit any relevant facts or that it submitted incorrect information, it shall promptly submit the missing or corrected information.
28. The Discharger shall notify Water Board staff, within 24 hours by telephone or email, and the Executive Officer within 14 days in writing, of:
- a. Any noncompliance that potentially or actually endangers health or the environment. Reports of noncompliance shall include a description of;
    - i. The reason for non-compliance;
    - ii. A description of the non-compliance, including photo documentation;
    - iii. Schedule of tasks necessary to achieve compliance; and,
    - iv. An estimated date for achieving full compliance.
  - b. Any flooding, equipment failure, slope failure, or other change in Landfill conditions which could impair the integrity of waste containment facilities or of precipitation and drainage control structures;
  - c. Leachate seep(s) occurring on or in proximity to the Landfill;
  - d. Violation of a discharge prohibition; and,
  - e. Violation of any treatment system's discharge limitation.
29. Reports of compliance or noncompliance with, or any progress reports on, final requirements contained in any compliance schedule shall be submitted within 14-

days following each scheduled date. If reporting noncompliance, the report shall include a description of:

- a. The reason for non-compliance.
- b. A description of the non-compliance.
- c. Schedule of tasks necessary to achieve compliance.
- d. An estimated date for achieving full compliance.

30. The Discharger shall promptly correct any noncompliance issue that threatens the Landfill's containment integrity. Correction schedules are subject to the approval of the Executive Officer, except when delays will threaten the environment and/or the Landfill's integrity (i.e., emergency corrective measures). For emergency corrective measures, the Discharger shall report details of the corrections in writing within seven (7) days of initiating correction.

31. By **December 31, 2018**, the Discharger shall submit a revised JTD pursuant to CCR Title 27 §21710, to the Executive Officer. The revised JTD is to be submitted in the form of an addendum to the JTD, in accordance with CCR Title 27 §21585 et al., or submitted as a complete JTD, and meet the following criteria:

- a. Updated information on waste characteristics, geologic, and climatologic characteristics of the waste management facility and the surrounding region, installed features, precipitation and drainage controls, and closure and post closure maintenance plans, in accordance with CCR Title 27 §21740, §21750, §21760, and §21769.
- b. Include a completed State Water Board JTD Index, in accordance with CCR Title 27 §21585(b),
- c. Discuss whether, in the Discharger's opinion, there is any portion of this Order that is incorrect, obsolete, or otherwise in need of revision.
- d. Include any other technical documents needed to demonstrate continued compliance with this Order and all pertinent State and Federal requirements.
- e. Include detailed updated information regarding regulatory considerations, operating provisions, environmental monitoring, and closure and post closure.

32. By **December 31, 2018**, or earlier as needed, submit for the Executive Officer's review and approval an updated report on a reasonably foreseeable release, along with adjustments to financial assurances (as necessary).

33. The Discharger shall file with the Water Board a JTD (in accordance with **Provision E. 31** of this Order) or secure a waiver from the Executive Officer at least **120-days** before making any material change or proposed change in the character, location, or volume of the waste being discharged to land.

## **ENFORCEMENT**

34. The Discharger shall comply with all conditions of this Order. Non-compliance violates state law and is grounds for enforcement action or modification of the Order.

35. Any person failing or refusing to furnish technical or monitoring program reports as required by subdivision (b) of §13267 of the CWC, or falsifying any information provided therein, is guilty of a misdemeanor.
36. The Discharger and any person who violates Waste Discharge Requirements and/or who intentionally or negligently discharges waste or causes or permits waste to be discharged into surface waters or groundwater of the state may be liable for civil and/or criminal remedies, as appropriate, pursuant to §13350, §13385, and §13387 of the CWC.
37. Provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.
38. The Water Board requires all technical and monitoring reports pursuant to this Order in accordance with §13267 of the CWC. Failure to submit reports in accordance with schedules established by this Order, attachments to this Order, or failure to submit a report of sufficient technical quality to be acceptable to the Executive Officer may subject the Discharger to enforcement action pursuant to §13268 of the CWC.
39. The Discharger shall comply with all conditions of these Waste Discharge Requirements. Violations may result in enforcement actions, including Water Board orders or court orders requiring corrective action or imposing civil monetary liability, or in modification or revocation of these waste discharge requirements by the Water Board. (CWC §13261, §13267, §13263, §13265, §13268, §13300, §13301, §13304, §13340, §13350).
40. No provision or requirement of Order No. R3-2014-0024 or MRP No. R3-2014-0024 is a limit on the Discharger's responsibility to comply with other federal, state and local laws, regulations, or ordinances.
41. The Discharger shall comply with the following submittal and implementation schedule for all tasks and/or reports required by this Order.

## REPORT AND IMPLEMENTATION DATE SUMMARY

TASK	IMPLEMENTATION DATE
Construct and maintain a compacted soil cover over the Active Landfill Area, except working face [Provision E.3]	October 1, of each year
Runoff diversion and erosion prevention [Provision E.4]	October 1, of each year
Vegetation placement over entire Landfill area [Provision E.5]	October 1, of each year
Wet Weather Preparedness Report [Provision E.20]	October 1, of each year
WMU Design Report, CQA Plan, and Soil Management Plan [Provision E.21]	180-days prior to construction
Notify Water Board staff [Provision E.22]	Two-weeks prior to constructing each phase
Construction Quality Assurance Report [Provision E.7]	Prior to waste placement into a newly constructed WMU or phase of the WMU
ROWD/JTD Amendment [Provision E.31]	December 31, 2018
Update Report on Reasonably Foreseeable Release [Provision E.32]	December 31, 2018, or sooner, as necessary

I, Kenneth A. Harris Jr., Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Coast Region, on **May 22, 2014**.

\_\_\_\_\_  
**Executive Officer**

**Attachments:**

- Figure 1 – Location Map
- Figure 2 – Site Map
- Figure 3 – Regional Well Map
- Figure 4 – Monitoring Location Map
- Monitoring and Reporting Program No. R3-2014-0024

P:\LDU\Facilities\PERMITTED\Los Flores Ranch LF\R3-2014-0024\Board Meeting\WDR\_R3-2014-0024.docx