



California Regional Water Quality Control Board

Central Coast Region



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Agency Secretary

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Arnold Schwarzenegger
Governor

February 21, 2006

Mr. Richard Shedden, P.E.
Monterey Regional Waste Management District
P.O. Box 1670
Marina, CA 93933

Dear Mr. Shedden:

ADOPTION OF WASTE DISCHARGE REQUIREMENTS ORDER NUMBER R3-2006-0017 FOR THE MONTEREY PENINSULA CLASS III LANDFILL, MARINA; MONTEREY COUNTY

Enclosed is a signed copy of Waste Discharge Requirements Order No. R3-2006-0017, and Monitoring and Reporting Program No. R3-2006-0017 (collectively, "Order") that were adopted by the Central Coast Water Board at its February 10, 2006 Board meeting.

Water Board staff have also posted a copy of the Order for other interested parties to view and print on our Website. The Order is available at the following Web address:

<http://www.waterboards.ca.gov/centralcoast/Permits/Index.htm>

If you have questions please contact Dan Niles at 805-549-3355, or his supervisor David Athey at 805-542-4644.

Sincerely,

Roger W. Briggs
Executive Officer

Enclosure:

Order No. R3-2006-0017

cc:

Monterey Peninsula Interested Parties List—No enclosures

S:\Land Disposal\Land Disposal Facilities\PERMITTED SITES\Monterey Peninsula (CD backup on 06-08-05)\WDR MRP\Transmittal Letter

California Environmental Protection Agency



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

**REVISED WASTE DISCHARGE REQUIREMENTS ORDER NO. R3-2006-0017
Waste Discharger Identification No. 3 270303001**

For

**MONTEREY REGIONAL WASTE MANAGEMENT DISTRICT
MONTEREY PENINSULA CLASS III LANDFILL
MONTEREY COUNTY**

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

SITE OWNER AND LOCATION

1. The Monterey Regional Waste Management District (hereafter "Discharger") owns and operates the Monterey Peninsula Class III Landfill (hereafter "Landfill"), formerly known as the Marina Class III landfill.
2. Title 27 of the California Code of Regulations (CCR Title 27) regulates waste discharges to land. The terms used in this Order are defined in CCR Title 27, Section 20164.
3. The 475-acre Landfill is located in Sections 16, 17, 20, and 21 of Township 14 South, Range 2 East, Mount Diablo Baseline & Meridian, approximately one mile east of State Highway 1, two miles northeast of the City of Marina, and 12 miles northeast of the City of Monterey, as shown in **Figure 1** of this Order. The longitude and latitude of the landfill is latitude 36.71333 North, longitude 121.76667 West. The current Assessor's Parcel Numbers for the Landfill are 175-061-001 through 175-061-006 and 229-011-011.

PURPOSE OF ORDER

4. The purpose of Waste Discharge Requirements Order No. R3-2006-0017 (hereafter "Order" or "Order No. R3-2006-0017") is to regulate proposed design and operational changes for the Landfill. This Order also updates and replaces Waste Discharge Requirements Order No. 00-103, adopted by the Water Board on November 29, 2000.

The design and operation changes proposed for the Landfill include:

- a. Increasing the sub-grade cut slopes from 3:1 (horizontal:vertical) to 2:1.
- b. Changing the final landfill waste side-slopes from 4:1 (horizontal:vertical) to 3:1.
- c. Utilizing the sliver fill technique, which captures the airspace created by the settlement of previously closed areas of the landfill (the north slopes of Modules 1, 2, and 3).
- d. Constructing a soil stability buttress for Module 3.
- e. Revising the bottom liner grades.
- f. Increasing the currently permitted final top deck elevation from 260 feet above mean sea level (MSL) to 284 feet MSL.

- g. Reconfiguring and increasing the number of disposal modules.
 - h. Modifying the existing fill sequence and sand excavation plans to allow the landfill operation to continue uninterrupted, to efficiently handle internal storm water runoff and perched groundwater seepage, and to minimize soil handling and stockpiling requirements.
 - i. Modifying the waste stream to include treated wood waste.
 - j. Increasing incoming waste traffic and tonnage through scales.
 - k. Expanding hours of operation for waste acceptance and processing.
 - l. Exporting biosolids and food waste compost.
5. The Discharger submitted a Joint Technical Document (JTD) on February 18, 2005, to facilitate the review and revision of Order No. 00-103 and to propose modifications to the design and operation of the Landfill. The JTD includes the following documents:
- a. Permits and Other Related Documents including Waste Discharge Requirements Order No. 00-103.
 - b. Updated Master Plan Report.
 - c. Prohibited Waste Exclusion Program.
 - d. Liquid Waste Management Plan.
 - e. Sludge Management Plan.
 - f. Report of Composting Site Information.
 - g. Settlement Evaluation.
 - h. Site Capacity and Service Life Calculations.
 - i. Leachate Generation Potential.
 - j. Spill Prevention, Control, and Countermeasure Plan.
 - k. Construction Quality Assurance Plan.
 - l. Employee Safety Manual.
 - m. Emergency Response Plan.
 - n. Soil Loss Calculations.
 - o. ADC Procedures.
 - p. Bird Management Plan.
 - q. Odor Impact Minimization Plan.
6. Order No. R3-2006-0017 includes the following key elements:
- a. A detailed description of the entire 475-acre Landfill site.
 - b. A revised Monitoring and Reporting Program, which includes groundwater and surface water monitoring.
 - c. Updated waste stream information.
 - d. Rescission of this Water Board's Order No. 93-84 "Waste Discharge Requirements Amendment for All MSW Landfills in the Central Coast Region" (Super Order) as to this Landfill.

LANDFILL SITE DESCRIPTION AND HISTORY

7. The Landfill is a 475-acre area located on the Monterey Bay coastal plain. The Landfill is bounded by the Salinas River to the north, the Monterey Regional wastewater treatment plant (WWTP) to the south, and by agricultural and grazing land along its other boundaries. A 25-acre portion of the District property, between Module 3 and the Salinas River, is currently leased to a local farmer. Beyond the WWTP is additional grazing and agricultural land. The area surrounding the Landfill is largely undeveloped, and no residences are located within one mile of the landfill. A minimum 100-foot wide

setback is designed to be maintained between the property boundary line and the lateral limit of waste placement.

8. The Discharger operates numerous facilities in addition to waste disposal that support its integrated waste management system. These facilities include a materials recovery facility (MRF), public recycling drop-off facility, household hazardous waste drop-off facility, Last Chance Mercantile, landfill gas (LFG)-fueled electrical generation facility, and a composting facility.
9. The Landfill has been used for waste disposal since 1966 and consists of both unlined and lined areas. To date, Modules 1 through 4 and the Wet Weather Area (WWA) have received waste. Modules 1 and 2 were completed in 1983 and 1990, respectively; and are unlined landfill areas. The WWA is also unlined and is no longer used for municipal waste disposal. Modules 3 and 4 are lined landfill areas. Module 4 is the currently active disposal module. The Landfill currently receives approximately 230,000 tons per year of municipal solid waste (MSW) from the general public and commercial haulers. Wastes are disposed of utilizing the area fill method. Wastes are placed and compacted in thin layers on a working face sloped no steeper than 3:1 (horizontal:vertical). Soils for intermediate and working face cover, consisting generally of sands, are excavated from the upland plateau area south and east of the current landfill area.
10. In accordance with the JTD, the Landfill will be developed in a total of 17 waste disposal modules (Module 1 through Module 17). Full development includes sequential utilization of 17 modules and the Wet Weather Area (WWA) in two phases. Phase I (Module 1 - 6) will raise the low-lying terrace area to an intermediate elevation of approximately 120 feet above MSL. Phase II (Module 7 - 17) consists of landfilling in the upland plateau as well as over the top of Phase I modules. Phase I operation is expected to be completed by year 2032. Phase II is expected to be completed by year 2107. In addition to the filling of Modules 5 through 17, the Discharger is proposing to place a sliver fill of waste on the exterior slope of Modules 1 through 3. Placement of additional waste material along the exterior slopes of existing Modules 1, 2, and 3 is proposed to take advantage of space located beneath the module caps created by settlement of the existing waste. Sliver fill would not be placed during winter months when rainfall is greatest.
11. The landfill formerly received liquid wastes consisting of un-dewatered wastewater treatment plant sludge, septic tank sludge, restaurant grease trap wastes, chemical toilet wastes, and other non-hazardous liquid wastes from Monterey County. These wastes were disposed of by spreading and disking on an area of sand dune deposits located southwest of the existing landfill. A regional WWTP was placed into operation by the Monterey Regional Water Pollution Control Agency in 1990. A majority of the aforementioned wastes are now directed to the wastewater treatment facility for treatment. Liquid wastes not diverted to the WWTP are managed pursuant to the Discharger's liquids waste management plan contained in the JTD. The Discharger may accept inert liquid wastes for land spreading in future landfill areas outside lined disposal units.
12. In 1995, the Discharger and the Monterey Regional Water Pollution Control Agency joined together to construct a double-lined bio cell facility for the treatment of non-hazardous, dilute oily liquid wastes, located on the Landfill property adjacent to the WWTP, in an area outside the limits of the currently permitted landfill. The bio cell was built to replace the land spreading of these wastes. This facility only received liquid wastes containing relatively small amounts of petroleum oil and fuel, such as from car wash sumps, automotive repair shop sumps, and parking lot oil/water separators. The bio-cell consisted of a 200-foot-long by 32-foot-wide strip of soil with a double liner and tail-water collection system. The discharger subsequently closed the bio cell unit and now manages liquid wastes pursuant

to requirements for disposal in the lined landfill area.

13. A Preliminary Closure and Post-Closure Maintenance Plan (Closure Plan) for the Landfill was last updated in May 2004.

WASTE TYPE & CLASSIFICATION

14. The Landfill is included in the Monterey County Solid Waste Management Plan, prepared by the Monterey County Environmental Health Division, 1989, and the Monterey County General Plan. The Landfill operates under Solid Waste Facilities Permit No. 27-AA-0010, issued by Monterey County Department of Health on August 23, 2005.
15. Waste received at the Landfill consists of non-hazardous residential, commercial and industrial solid waste classified in CCR Title 27, Section 20220(a) as Class III wastes. Class III wastes are all putrescible and non-putrescible solid, semi-solid, and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid or semi-solid wastes and other discard waste (whether solid or semi-solid consistency); provided that such wastes do not contain wastes that must be managed as hazardous wastes, or wastes that contain soluble pollutants in concentrations that exceed applicable water quality objectives or could cause degradation of waters of the state.
16. During the 2004 calendar year, the site received approximately 372,178 tons of waste. Of the approximately 372,178 tons received at the site, approximately 225,421 tons was disposed of in the landfill (approximately 730 tons per day for 309 operating days). The remainder of the incoming waste was diverted either through the MRF or other on-site waste diversion activities. The present total waste in place is approximately 6.9 million tons.
17. The Discharger is proposing to increase the peak daily waste tonnage from 1,500 tons per day for the MRF and 1,200 tons per day for the Landfill to 3,500 tons per day for the total site. In September 2004, the Discharger adopted a Mitigated Negative Declaration and on September 22, filed a Notice of Determination for a completed Mitigated Negative Declaration pursuant to the California Environmental Quality Control Act, for increasing waste tonnage acceptance to Landfill. Incoming waste tonnage includes municipal solid waste, yard waste, food waste, agricultural film plastic, concrete and asphalt, metal, and biosolids. The peak daily waste tonnage limit would not include imported soils used for landfill cover and liners (including marginal cover such as petroleum-contaminated soil, harbor and lake dredgings, well drilling mud, and liquid waste), as these materials are not part of the waste stream that is disposed of in the landfill. The increase in daily peak waste tonnage is being requested to accommodate spikes within and outside the District's service area and to accommodate spikes in disposal tonnage generated by special events.
18. The Landfill has an estimated remaining capacity of 74.3 million cubic yards or 40.1 million tons (based on capacity utilization factor of 0.54 tons per cubic yard). According to the JTD, the estimated closure date for the Landfill is year 2107, based on projected waste disposal quantities with a capacity utilization factor of 1,084 pounds per cubic yard, 309 operating days per year, and an anticipated increase in growth of waste disposal tonnage of one percent per year.
19. 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, Section 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.

20. The Discharger proposes to accept treated wood waste at the facility. "Treated wood" means wood that has been treated with 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 U.S.C. Sec. 136 and following). Chapter 6.5 of the Health and Safety Code (Section 25100 et seq.) 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 of 1976, as amended (RCRA), 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 Sections 25143.1.5 and 25150.7 of the Health and Safety Code. Section 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 shall be deemed to be a solid waste, and not a hazardous or designated waste. All treated wood waste accepted at the facility will be handled and disposed of in accordance with the provisions outlined in Sections 25143.1.5, 25150.7, and 25150.8 of the Health and Safety Code.

GEOLOGY/HYDROGEOLOGY

21. **Setting** - The Landfill is situated within the south-central portion of the Coast Ranges geomorphic province. The Landfill lies at the northern end of the Salinas Valley adjacent to the modern floodplain of the Salinas River.
22. **Topography** - The landfill is located on the coastal plain of Monterey Bay, bordered by the Salinas River to the north and by agricultural and grazing land along its other boundaries. Northwest-southeast oriented bluffs divide the site into two distinct topographic areas: a northeastern low alluvial terrace adjacent to the Salinas River and a southwestern upland plateau. The original elevation of the landfill area ranged from 10 feet above mean sea level (MSL) in the Salinas River floodplain to 145 feet MSL in the upland plateau area. Approximately 200 acres of the 475-acre site are located in the Salinas River floodplain and the remaining 275 acres are located in the upland plateau area. However, the construction of a levee along the Salinas River has redefined the 100-year floodplain so that no area of the landfill lies within the redefined 100-year floodplain, preventing inundation and washout of solid waste. To date, operations have occurred in the area adjacent to the Salinas River. Currently, the exterior slopes of the landfill vary from approximately 4:1 to 5:1 and break slope between elevation 70 feet and 110 feet MSL. The current maximum elevation is approximately 125 feet. The proposed final grade is a maximum of 284 feet MSL.
23. **Geologic Structure** - The Salinas Valley is filled with a thick sequence of Quaternary sediments, which have been subdivided into several distinct geologic units. Three of the regional units occur at the site: older dune sand (Qod), younger floodplain deposits (Qfly), and older floodplain deposits (Qflo), listed in descending stratigraphic order. The older dune sand is most prominent in the Fort Ord and Marina area and is up to 250 feet thick. The sand is poorly graded and consists primarily of wind-blown quartz sand. The floodplain deposits were formed primarily by overwash of the Salinas River during periodic floods. These floodplain deposits consist of interbedded sand, silt and clay. Floodplain units near the site underlie the dune sand wherever the dune sand is present.

The floodplain units rest on undifferentiated older alluvium and transition stratigraphically downward into reddish brown sand of the Aromas Formation. The Aromas Formation is locally up to 1,000 feet thick. EMCON/OWT (1991a, 1991b) divided the site into the lowland area, which consists of floodplain sand, silt, and clay (Qfly and Qflo) and the upland plateau which consists of eolian sand. The upland plateau has been divided into three basic geologic units. These units are segregated based on their physical characteristics and are informally referred to as the "white sand," "red sand," and "gray clay." Although there are significant physical differences in these units, they can generally be distinguished by color alone. The white sand and red sand correspond to what has been previously described as older dune sand (Qod) (EMCON, 1987a). The red sand has been redefined as part of the younger floodplain deposits (Qfly). The gray clay and the deposits beneath the gray clay belong to the group of deposits mapped as older floodplain deposits (Qflo).

24. **Stratigraphy** - Soils of the landfill's upland plateau are underlain with over 100 feet of permeable dune sand. The upper 30 feet of the exposed sand is still actively drifting, while underlying sands are lightly cemented and stabilized. Clay lenses lie within the dune sand and cause perched groundwater and consequent springs along the bluffs. Soils in the low alluvial terrace consist of interbedded clay silts, and fine to medium grained sands.
25. **Faulting/Seismicity** - The Landfill lies within a plexus of northwest trending faults that characterize the structurally complex boundary between the North American and Pacific plates. The San Andreas Fault dominates the regional structure. No active or potentially active faults are reported to pass beneath the Landfill site. Active or potentially active faults located within 15 miles of the Landfill include the San Andreas, Zayante-Vergeles, Cypress Point, Navy-Tularcitos, Seaside-Chupines, and King City-Rinconada Fault Zones. Based on these faults, it does not appear that known active and potentially active faults pose more significant seismic hazards to the site than the San Andreas Fault. Therefore, the San Andreas Fault is the predominant seismic source in the region, and the 1906 earthquake is the controlling seismic event for hazard analyses. The 1906 earthquake on the San Andreas Fault had a surface wave magnitude of 8.25 (Richter) or a moment magnitude of 7.7. A peak ground surface acceleration in the range of 0.30 to 0.35g should be expected during the maximum probable earthquake on the San Andreas Fault.
26. **Hydrogeology** - The landfill lies within the Lower Salinas Valley Hydrologic Area of the Salinas River Hydrologic Unit. The site lies in a portion of the sub-basin referred to as the pressure area. The pressure area is so named due to the presence of totally confined aquifers. There are four aquifer systems in the pressure area underneath the landfill site: a) an unconfined aquifer system consisting of three shallow aquifers: the 80-foot, the 35-foot and the -2-foot aquifers; b) the 180-foot aquifer; c) the 400-foot aquifer; and d) the 900-foot aquifer. These aquifer systems are described in more detail below:
 - **80-foot aquifer.** The 80-foot aquifer is a localized perched zone shown to be present in some areas in the upland plateau. The top of this zone is perched at approximately 80 feet MSL. The zone is situated in poorly graded dune sand, which rests on a silty sand. The hydraulic conductivity is estimated to be 8×10^{-3} centimeters per second (cm/sec).
 - **35-foot aquifer.** The 35-foot aquifer consists of poorly graded silty sand. The aquifer is perched on the gray clay and ranges from 2 to 20 feet thick. The gray clay is characteristically 10 to 20 feet thick and is composed of medium to high plasticity clay with lesser amounts of silt and sand. The stratigraphic top of the clay typically occurs between 20 and 25 feet MSL beneath the upland plateau, but it is undulatory and does not occur at the same elevation in all areas. The comparative dryness of the clay and its low intrinsic permeability suggests that the aquifers

above the clay (i.e., the 80- and 35-foot aquifers) have minimal communication with the -2-foot aquifer beneath the clay. Aquifer testing revealed that the 35-foot aquifer has a transmissivity of 140 square feet per day (ft^2/day) and a hydraulic conductivity of 3×10^{-3} cm/sec.

- **2-foot aquifer.** This aquifer occurs immediately below the gray clay layer and is the first encountered groundwater beneath the Landfill in the low-lying area. The -2-foot aquifer is composed of a complex assemblage of silt, sandy silts, and fine-grained sand. The -2-foot aquifer is underlain by the Salinas Aquiclude, which is a competent and widespread barrier separating the shallow perched zones from the deep water supply aquifers of the Salinas Valley (180-foot, 400-foot, and 900-foot aquifers). The aquifer is unconfined and responds to tidal fluctuations and seasonal perturbations in the Salinas River elevation. The gray clay that separates this aquifer from the overlying 35-foot aquifer is not continuous throughout the Landfill. The hydraulic conductivity of the -2-foot aquifer ranges from 1×10^{-4} to 1×10^{-5} cm/sec with an approximate transmissivity of $0.17 \text{ ft}^2/\text{day}$, assuming an aquifer thickness of 20 feet.
- **180-foot, 400-foot and 900-foot Aquifers.** The 180-foot aquifer is the principal water supply aquifer for the Landfill area. Beneath the landfill, the 180-foot aquifer is approximately 180 feet below MSL and is completely confined by the Salinas Aquiclude. The Salinas Aquiclude underlies the site at approximately -50 feet MSL and is composed primarily of clay with silt interbeds. The aquifer receives its recharge from hydraulically up gradient portions of the 180-foot aquifer. The 180-, 400- and 900- foot aquifers are completely confined in the pressure area, whereas the shallow perched aquifer system is unconfined. Near the Landfill, the 180-foot and 400-foot aquifers are primarily used to irrigate crops. Minor amounts of groundwater are also used for drinking water from these aquifers.

GROUNDWATER, STORM WATER, AND SURFACE WATER

27. **Groundwater** - The -2-foot zone aquifer is the first-encountered groundwater below the in-place municipal refuse at the site. The -2-foot aquifer is underlain by the Salinas Aquiclude, which is a competent and widespread barrier separating the shallow perched zoned from the deep water supply aquifers of the Salinas Valley (180-foot, 400-foot, and 900-foot aquifers). The direction of groundwater flow in the -2-foot aquifer is complicated by tidal effects, seasonal fluctuations in the level of the Salinas River, and by longer-term effects associated with rainfall and recharge. An evaluation of the last ten years of piezometric data for the -2-foot aquifer indicates that the hydraulic gradient is generally from the Salinas River toward the Landfill. The estimated groundwater flow velocities are approximately 0.5 to 1.5 feet per year.

The 80-foot and 35-foot zones do not underlie municipal solid waste. These aquifers underlie the area of the upland plateau that was formerly used for liquid waste spreading. Groundwater movement in the 35-foot zone roughly parallels the topography of the upland plateau area, generally flowing radially away from a topographic high on the plateau. Regionally, however, the groundwater movement in the 35-foot zone is generally to the north and northeast at a gradient of 0.01 foot per foot and a seepage velocity of 2.9×10^{-4} feet per minute (150 feet per year). The 80-foot zone is not monitored but seeps from the north- and northeast-facing slopes indicate that the 80-foot zone has a component of flow to the north and northeast.

28. **Organic Groundwater Quality** - Three trace VOCs (1,1-dichloroethane, dichlorodifluoro-methane, and trichlorofluoromethane) were detected in monitoring well G-37 during the April to September 2004

monitoring period. Based on the analytical results from a re-test, concentrations of dichlorodifluoromethane and trichlorofluoromethane were verified at 0.1 and 0.07 micrograms per liter ($\mu\text{g/l}$), respectively. Trace VOCs were also detected in detection monitoring wells G-34 (0.061 $\mu\text{g/l}$ benzene), G-43 (0.098 $\mu\text{g/l}$ tetrachloroethene), and G-41 (0.25 $\mu\text{g/l}$ dichlorodifluoromethane); however, these detections were not detected in more than 10 percent of the historical samples tested. Based on trend graphs for corrective action well G-1 and subdrain SDA-1, geochemical conditions downgradient of the Wet Weather Area have generally improved or remained the same over the last 12 to 14 years. Continued improvements to the landfill gas collection system in the Wet Weather Area are expected to further reduce, or eliminate, VOC detections in monitoring well G-1 and subdrain SDA-1.

29. **Inorganic Groundwater Quality** - No prediction limit exceedances (i.e., measurably significant results) were observed for the April to September 2004 monitoring period for the inorganic suite of monitoring parameters.
30. **Supply Wells** - A water supply well, located near the scale house, provides water for on-site facilities. The water supply system is operated consistent with Water Supply Permit No. 270-2453, issued by the Monterey County Health Department. There are also three irrigation water wells on the site. Each well is capable of producing approximately 500 gallons per minute. The water from the irrigation wells is used for dust control, construction, crop irrigation, composting, and fire protection. Near the landfill, groundwater from the 180-foot and 400-foot aquifers is used primarily to irrigate crops. Minor amounts of groundwater are also used for drinking water. The property south of the landfill has been zoned residential; therefore, the domestic use of groundwater may increase in the future once this area becomes developed. Figure 2 shows the location of water wells and springs near the landfill.
31. **Groundwater Separation** - California Code of Regulations Title 27, Section 20240(c), requires the Discharger to operate the Landfill to ensure that wastes will be a minimum of five feet above highest anticipated groundwater. This operational requirement reduces leachate generation and impairment of beneficial uses. Leachate collection sumps in Module 3 do not have a minimum five-foot separation. The Executive Officer approved a composite liner to be installed beneath the sumps in 1987 as an engineered alternative to the five-foot separation, as allowed by Title 27, Section 20080(b).
32. **Surface Water** - The nearest surface water body to the landfill is the Salinas River, which flows from east to west along the northern boundary of the site. The river is approximately 1,200 feet north-northwest of Module 3 and, at its closest approach, approximately 200 feet north of Module 2. The discharge of the Salinas River is controlled by reservoirs in the headlands, located in the Gabilan Mountains. The river's peak discharge is typically during the winter, coinciding with the highest rainfall. The river also receives storm water and agricultural irrigation runoff from adjacent agricultural land and is influenced by diurnal tidal fluctuations. The tidal fluctuations are evidenced by a corresponding rise and fall of the river level. The peak rise and fall of the river due to tidal fluctuations typically lags behind the initial tidal changes at the river mouth by approximately 40 minutes. The Salinas River is sampled at an up gradient and a downgradient location as shown on Figure 3. Analysis of the water samples is performed to provide information for evaluating the influence of the river on the geochemistry of the -2-foot aquifer.
33. **Storm Water** - The Discharger performs storm water monitoring in accordance with its storm water pollution prevention plan (*Storm Water Pollution Prevention Plan for the Monterey Peninsula Landfill and Recycling Facility Operations*, Monterey Regional Waste Management District, 2000). There are five storm water monitoring locations: one each at existing Modules 1, 2, and 3, one below the LFG generation facility, and one at the discharge from the storm water percolation basin. Storm water

samples are collected twice per year. Samples are collected during the first hour of runoff from a storm event that occurs during scheduled operating hours and that was preceded by at least three working days without storm water discharge. Samples are analyzed for pH, total suspended solids, specific conductivity, oil and grease, and iron.

There are two on-site storm water percolation ponds at the Landfill. The temporary storm water percolation pond is located to the south of Module 3, Phase II. It receives interim interior site runoff and groundwater seepage from the 35-foot aquifer underlying the upland plateau. Water from this pond is pumped to a drainage ditch, which flows to the Salinas River. The permanent storm water percolation pond is located to the north of the on-site structures. It receives all runoff from the non-landfill portion of the site, including site buildings, paved roads, and parking areas. Monitoring requirements for the percolation ponds are detailed in the Storm Water Pollution Prevention Plan (revised February 2000) and the attached Monitoring and Reporting Program.

34. **Storm Water Permitting** - In addition to this Order, the Discharger is covered under a Statewide General Storm Water Permit. On May 12, 1997, the Discharger submitted its "Notice of Intent" to comply with the General Permit to Discharge Storm Water Associated with Industrial Activity (WQ Order No. 97-03-DWQ).
35. **Precipitation** - The discharger has maintained a rain gauge at the Landfill since December 1982. The average annual rainfall for the 14-year period ending in June 2004 was 15.36 inches. During this period, the annual rainfall amounts have ranged from a low of 9.83 inches (rain year 1988-89) to 43.42 inches (rain year 1997-98). Rainfall is seasonal, approximately 90 percent of the annual precipitation occurs between November and April. In accordance with rainfall frequency maps, the peak 100-year, 24-hour storm event was determined to be 3.8 inches.
36. **Floodplain** - As shown on the Federal Emergency Management Agency Flood Insurance Rate Map (Panel 060195 0065), the landfill is located in Flood Hazard Zone A8 and includes an area of Zone B. Zone A8 is an area of 100-year flood with a base flood elevation between 16 and 24 feet above MSL. Zone B is an area between the limits of the 100-year flood and 500-year flood, where contributing drainage area is less than one square mile and where the area is protected by levees from the base flood. However, the construction of a levee along the Salinas River has redefined the 100-year floodplain so that no area of the landfill lies within the redefined 100-year floodplain, preventing inundation and washout of solid waste.
37. **Springs** - Seeps occur in the face of the upland plateau from the 35-foot aquifer. This 35-foot aquifer produces a series of springs and seeps along the bluff face, which is controlled using a series of sub-drains and surface drains along the southern perimeter of Modules 2 and 3. The sub-drains and surface drains ultimately drain to a storm water percolation pond located near the southeast corner of Module 3. With the exception of the 35-foot aquifer seeps at the Landfill, no other known springs occur along the site boundary or within one mile of the site.

CONTROL SYSTEMS/MONITORING PROGRAMS

38. **Leachate Management System** - Modules 3 and 4 are equipped with a leachate collection and removal system (LCRS). The LCRS consists of eleven leachate collection sumps (LS3-1, LS3-2, LS3-3, LS3-5 through LS3-11 and LS4-1). There is also a leachate collection sump (LS) north of the WWA. However, since storm water runoff from the WWA is now diverted to the storm water percolation pond on the northwest corner of the site, leachate collected from LS has been greatly reduced. The locations

of the leachate collection sumps are shown on **Figure 3**.

39. **Landfill Gas Control** - A LFG collection and control system has been in place in Modules 1 and 2 since 1983. The system actively collects the LFG for conversion to electrical power and serves to prevent gas migration. The collection system delivers the LFG to the engine generators that use the methane as fuel to generate electricity. This LFG-to-energy project significantly lessens the chance for lateral gas migration and emissions into ambient air. Currently, approximately 1.4 million standard cubic feet of LFG are collected daily. The collection system was extended to Module 3 in 1995. In 2004, the LFG collection system was expanded to Module 4. Currently, the collection system includes eighteen vertical collection wells in Module 1, five vertical collection wells in Module 2, six vertical collection wells and three horizontal gas collectors in the Wet Weather Area, seven horizontal gas collectors in Module 2, thirteen horizontal gas collectors in Module 3, and two horizontal gas collectors in Module 4.
40. **Groundwater Monitoring** - Groundwater has been monitored at the Landfill since 1979. The -2-foot aquifer has three Background Monitoring Points, eleven Detection Monitoring Points (DMP), and two Corrective Action Program (CAP) Monitoring Points. Background Monitoring Wells G-2, G-3R and G-4 are located along the northern site boundary to characterize the background water quality at the Landfill as influenced by the Salinas River. In addition to the Background Monitoring Wells, there are eleven DMPs that serve as Point of Compliance wells. Detection Monitoring Points G-21, G-22, G-23 and G-32 serve as Point of Compliance wells along the northern edge of the Landfill. Detection Monitoring Points G-34, G-37, G-38R, G-40, G-41, G-42 and G-43 serve as Point of Compliance wells along the southern, western, and eastern margins of Modules 1, 2, 3 and 4. In the unlined WWA, groundwater is monitored using Corrective Action Program (CAP) Monitoring Points G-1 and SDA-1. Five piezometers G-17, G-30, G-33, G-35 and G-44 are used for groundwater elevation measurements only. The locations of these monitoring points are shown on **Figure 3**.

The 35-foot Zone Aquifer is monitored for groundwater elevations only. Thirteen on-site piezometers G-6, G-8, G-9, G-11, G-16, G-24, G-25, G-26, G-27, G-28, G-29 and G-44 are used to measure the groundwater elevations in this aquifer.

41. **Groundwater Monitoring Network** - The present water quality monitoring system consists of 16 groundwater monitoring wells, which are sampled according to a schedule specified in the attached MRP. Wells used for water level monitoring are also specified in the attached MRP. The Discharger will be required to add wells as waste placement proceeds. Refer to **Figure 3** for monitoring well locations.
42. **Leachate Monitoring** - The leachate sumps in Module 3 and 4 are inspected routinely for leachate accumulation. If detected, leachate is sampled and tested for the constituents specified in MRP Order No. R3-2006-0017. Leachate is either disposed of on the site through dust control or hauled off of the site for disposal.
43. **Surface Water Monitoring** - Surface water is monitored at two locations of the Salinas River. Surface water monitoring is conducted in accordance with MRP Order No. R3-2006-0017. Additionally, storm water monitoring complies with the State's NPDES storm water discharge general permit. Water and sediment in the storm water percolation basin, located in the northwest corner of the site, are sampled annually. If possible, sampling of the storm water percolation basin water occurs when water is being released to the Salinas River floodplain. Sampling of the sediment occurs during the late summer or fall when the basin is empty and the bottom dry. The water and sediment samples are tested in accordance

with MRP Order No. R3-2006-0017.

44. **Vadose Zone Monitoring** – Due to the stratigraphic nature of the floodplain deposits and the shallow depth to groundwater beneath the Landfill, the vadose zone above the -2-foot aquifer cannot be effectively monitored.
45. **Landfill Gas Monitoring** - LFG monitoring probes have been in place at the Landfill since 1980. The Discharger installed new monitoring probes in 1995 in locations adjacent to the landfill property lines and on-site buildings. Currently, there are four LFG monitoring probes, as shown on Figure 3. Three of the monitoring probes are located at the site perimeter. The other monitoring probe is located between the landfill and the LFG generation facility. The LFG probes and on-site structures are monitored on a quarterly basis for methane, carbon dioxide and oxygen. The LFG probes are monitored in accordance with MRP Order No. R3-2006-0017.

The MRF is the closest site structure to the Landfill. The MRF was constructed with a passive LFG venting system below the floor slab and a continuous monitoring system within the building. The system continuously monitors the air at various locations within the MRF and audible and visible alarms will sound if methane is detected.

BASIN PLAN

1. 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 (SWRCB) 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.
2. The Basin Plan (1994) identifies the following present and anticipated beneficial uses of the Salinas River in the Landfill vicinity:
 - a. Municipal and Domestic Supply;
 - b. Agricultural Supply;
 - c. Non-contact water recreation;
 - d. Wildlife habitat;
 - e. Cold and warm fresh-water aquatic habitats;
 - f. Fish migration;
 - g. Fresh water supply to other surface water bodies; and
 - h. Commercial and sport fishing.
3. Present and anticipated beneficial uses of groundwater in the Landfill vicinity include:
 - a. Agricultural supply;
 - b. Municipal and domestic supply; and
 - c. Industrial use.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

1. Monterey County completed an Initial Study and adopted a Mitigated Negative Declaration for the Landfill in accordance with the California Environmental Quality Act (Public Resources Code, Section

21000, et. seq.) and the California Code of Regulations. The Mitigated Negative Declaration does not identify potentially significant water-quality and related nuisance impacts. The only potentially significant impacts requiring mitigation are archeological effects, which are not within the Water Board's jurisdiction. The Water Board, as a Responsible Agency, considered the Mitigated Negative Declaration and concurs with the conclusions regarding impacts on water quality and related nuisance impacts. This Order imposes requirements to prevent nuisance and assure protection of beneficial uses of surface water and groundwater.

GENERAL FINDINGS

1. The Landfill currently meets all Title 27 criteria for classification as a Class III Landfill suitable to receive non-hazardous solid wastes.
2. The Landfill operates under the following Orders, Permits and conditions:
 - a. Waste Discharge Requirements Order No. R3-2006-0017.
 - b. Permits to Operate 10800, 12055, 12056 and 12057 dated December 14, 2004 and 8363A dated October 6, 1997 issued by the Monterey Bay Unified Air Pollution Control District.
 - c. Conditional Use Permit 2878 dated July 28, 1982 issued by the County of Monterey Planning Commission.
 - d. Title V Permit TV20-01 Marina Landfill dated November 1, 2001.
 - e. Notice of Determination dated September 17, 2004, State Clearinghouse No. 1997031065.
 - f. State Water Resources Control Board Water Quality Order No. 97-03 DWQ (General Industrial Storm Water Permit CAS000001). The Discharger submitted its Notice of Intent coverage under the SWRCB industrial activities storm water general permit on May 12, 1997. WDID No. 3 27S005220.
 - g. The Landfill operates under Solid Waste Facilities Permit No. 27-AA-0010, issued by Monterey County Environmental Health Division - Solid Waste Local Enforcement Agency on June 4, 1999.
 - h. The Landfill, Materials Recovery Facility, and composting facilities operate under Solid Waste Facilities Permit No. 27-AA-0080, issued by Monterey County Environmental Health Division - Solid Waste Local Enforcement Agency on August 23, 2005 .
 - i. Cleanup and Abatement Order R3-2002-0130 for a Moratorium on the Disposal of Decommissioned Materials to Class III and Unclassified Waste Management Units, issued on October 11, 2002, by the Central Coast Regional Water Quality Control Board.
3. This Order implements the prescriptive standards and performance goals of CCR Title 27, as promulgated on July 18, 1997, and in conformance with the goals of the Central Coast Regional Water Quality Control Plan.
4. In December 2003, the Discharger demonstrated availability of financial resources to conduct closure and post-closure maintenance activities by adopting Resolution No. 98-8 "A Resolution Establishing Enterprise Fund for Financial Assurance for Closure of the Monterey Peninsula Landfill" and a "Pledge of Revenue Agreement" in conformance with sections of the California Public Resources Code and CCR Title 27.
5. On April 5, 2005, the Water Board notified the Discharger and interested agencies and persons of its intention to update the Landfill Waste Discharge Requirements and has provided them with a copy of the proposed Order and an opportunity to submit views and comments.

6. After considering all comments pertaining to this discharge during a public hearing on February 10, 2006, this Order was found consistent with the above findings.

IT IS HEREBY ORDERED pursuant to authority in Section 13263 of the California Water Code, the Monterey Regional Waste Management District, its agents, successors, and assigns may discharge wastes at the Monterey Peninsula Class III Landfill, providing compliance is maintained with the following:

A. COMPLIANCE WITH OTHER REGULATIONS, ORDERS AND STANDARD PROVISIONS

1. Discharge of waste is a privilege, not a right, and authorization to discharge waste is conditioned upon the discharge complying with provisions of Division 7 of the California Water Code and with any more stringent limitations necessary to implement the Basin Plan, to protect beneficial uses, and to prevent nuisance. Compliance with this Order should ensure conditions are met and mitigate any potential changes in water quality due to the project.
2. Discharge of waste shall comply with all applicable requirements contained in the California Code of Regulations Title 27, Division 2, Solid Waste (CCR Title 27) and Title 40 Code of Federal Regulations Parts 257 and 258 (40 CFR) Solid Waste Facility Disposal Criteria. If any applicable regulation requirements overlap or conflict in any manner, the most water quality protective requirement shall govern in all cases, unless specifically stated otherwise in this Order.
3. This Landfill is no longer subject to this Water Board's Order No. 93-84 "Waste Discharge Requirements (WDR) Amendment for All Municipal Solid Waste Landfills in the Central Coast Region" (Super Order). The Super Order updated all Region 3 landfill WDRs to comply with the updated federal landfill regulations, 40 CFR Parts 257 and 258. Through compliance with CCR Title 27 and 40 CFR Parts 257 and 258 as required above in A.2, the Discharger will satisfy requirements identical to those within Order No. 93-84.
4. The Discharger shall monitor potential releases from the Landfill related to storm water runoff by complying with all requirements contained in the "State Water Resources Control Board Water Quality Order No. 97-03-DWQ National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000001 Waste Discharge Requirements for Discharge of Storm Water Associated with Industrial Activities Excluding Construction Activities."
5. This Landfill is subject to this Water Board's Cleanup and Abatement Order No. R3-2002-0130 "Moratorium on the Disposal of Decommissioned Materials to Class III and Unclassified Waste Management Units" adopted on October 11, 2002.

B. PROHIBITIONS

1. Discharge of waste to areas outside the Permitted Landfill Boundary, as identified in Figure 3, is prohibited.
2. Discharge of waste (solid or liquid) to areas within the Permitted Landfill Boundary that have not previously received waste is prohibited unless a composite liner system, as described in Specification C. 30, is installed and accepted by the Executive Officer. Only inert wastes, as defined in CCR Title 27, Section 20230(a), may be disposed of outside the composite liner system and within the permitted waste footprint of the Landfill provided an Executive Officer approved Sampling Plan, as described in Specification C. 18, is implemented to demonstrate that the waste is inert.

3. Discharge of the following types of wastes is **prohibited**:
 - a. Radioactive wastes.
 - b. Hazardous waste, except waste classified as a special waste in accordance with CCR Title 22, Sections 66261.122 and 66261.124.
 - c. Hazard waste, except wastes containing greater than one percent (>1%) friable asbestos.
 - d. Chemical and biological warfare agents.
 - e. Waste solvents, dry cleaning fluids, paint sludge, pesticides, phenols, brine, 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 dewatered sewage or water treatment sludge, landfill leachate and gas condensate, except as allowed by Specification C. 34 and Provision E.15.
4. Discharge of solid waste, liquid waste or leachate to surface waters, ponded water from any source, surface water drainage courses, or groundwater is prohibited.
5. Discharge of waste within 50 feet of the property line or within 100 feet of surface waters or domestic supply wells is prohibited. However, the Discharger may submit a request to discharge waste within 50 feet of the property line. The request shall include an irrevocable access and operations easement with the adjacent property owner and shall be approved by the Executive Officer, prior to waste disposal.
6. Disposal site operations shall not be a source of nuisance odors.
7. Disposal of wastes within five feet of the highest anticipated elevation of underlying groundwater, including the capillary fringe, is prohibited. To maintain the five-foot separation, the Discharger shall install an engineered system, such an under-drain barrier, approved by the Executive Officer.

C. SPECIFICATIONS

General Specifications

1. The Discharger shall implement the attached Monitoring and Reporting Program No. R3-2006-0017, including any addendum thereof, in order to detect, at the earliest opportunity, any unauthorized discharge of waste constituents, or any unreasonable beneficial use impairment associated with and caused by the discharge of waste. The Executive Officer may amend the Monitoring and Reporting Program.
2. The discharge shall neither cause nor contribute to any surface water contamination, pollution, or nuisance, including, but not limited to:
 - a. Floating, suspended, or deposited 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 deposited 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 beneficial uses of waters of the State.
3. "Treated wood" wastes may be discharged, but only to an area equipped with a composite liner and leachate collection and removal system, as described in Construction Specification C.30, and shall be handled in accordance with California Health and Safety Code Sections 25143.1.5 and 250150.7. "Treated wood" means wood that has been treated with 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 U.S.C. Sec. 136 and following). This may include but is not limited to waste wood that has been treated with chromated copper arsenate (CCA), pentachlorophenol, creosote, acid copper chromate (ACC), ammoniacal copper arsenate (ACA), ammoniacal copper zinc arsenate (ACZA), or chromated zinc chloride (CZC).
4. Treated wood must be managed to ensure consistency with Sections 25143.1.5 and 25150.7 of the Health and Safety Code. If a verified release is detected from the waste management unit where treated wood is disposed, the disposal of treated wood shall be terminated at the unit with the verified release until corrective action ceases the release.
5. Discharge Specifications C.3 and C.4, above, apply only to treated wood waste that is a hazardous waste solely due to the presence of a preservative in the wood, and is not subject to regulation as a hazardous waste under the federal act.
6. The discharge shall not cause an increase in concentration of waste constituents in soil-pore gas, soil-pore liquid, perched water, groundwater or geologic materials outside of the Point of Compliance (as defined by CCR Title 27).
7. The Discharger shall conduct intake load checking as specified by this Order including the attached monitoring and reporting program, and shall monitor for radioactive materials in the incoming waste.
8. The Discharger shall remove and relocate any wastes discharged in violation of these requirements.
9. All refuse material that is wind-blown outside the active Landfill area shall be collected regularly and disposed of in the Landfill. If wind-blown litter becomes a continuing problem, a containment barrier (additional screens and/or fences) shall be constructed to prevent spreading of refuse.
10. Refuse shall be covered daily by at least six inches of soil cover material or an Executive Officer-accepted alternative daily cover thickness and cover frequency. Daily cover shall promote lateral runoff of rainfall away from the active disposal area and shall comply with CCR Title 27, Section 20705.
11. Water used over areas underlain by waste within unlined Landfill areas shall be limited to the minimum amount necessary for dust control and construction.
12. Water collected in any storm water catchment basin or a site water treatment facility may be used in minimum amounts necessary for dust control, compaction, or irrigation of cover vegetation provided:
 - a. The water does not infiltrate past the vegetation root zones or past a depth where effective evaporation can occur.

- b. The water does not contain or carry waste constituents.
13. Surface drainage from tributary areas and internal site drainage from non-landfill surface or subsurface sources shall not contact or percolate through wastes.
 14. To prevent erosion and percolation through the waste, permanent drainage ditches crossing over Landfill areas shall be lined with either a synthetic liner or at least a one-foot-thick layer of soil having an in-place hydraulic conductivity of 1×10^{-6} cm/sec or less, or an alternative material meeting the 1×10^{-6} permeability standard that restricts infiltration of surface waters into the underlying waste and that complies with CCR Title 27, Section 20705, as approved by the Executive Officer of the Water Board.
 15. Waste shall not be discharged to a wetland, as defined in 40 CFR Section 232.2(r), or to any portion thereof, unless the Discharger successfully completes all demonstrations pursuant to 40 CFR Section 258.12(a). Such demonstration is subject to approval of the Executive Officer.
 16. The Discharger shall monitor potential releases from the site related to surface water runoff by complying with all National Pollutant Discharge Elimination System (NPDES) Storm Water Monitoring Program requirements.
 17. Water Board staff shall be notified within 24 hours by phone, with a written report to follow within seven days, of any slope failure or leachate seep occurring at the Landfill. Any leachate seep or any failure, which threatens the integrity of containment features or the Landfill, shall be promptly corrected and the methods shall be so stated in the written report.
 18. Only inert wastes, as defined in CCR Title 27, Section 20230(a), may be disposed of outside the composite liner system and within the permitted waste footprint of the Landfill. The discharger shall characterize inert waste in accordance with the Executive Officer-approved Liquid Waste Sampling Plan to demonstrate that the waste is inert. The Liquid Waste Sampling Plan is provided in Appendix D of the February 2005 JTD.

Wet Weather

19. By October 1 of each year, all necessary runoff diversion and erosion prevention measures shall be implemented. All necessary construction, maintenance, or repairs of precipitation and drainage control facilities shall be completed to prevent erosion or flooding of the Landfill and to prevent surface drainage from contacting or percolating through wastes.
20. Throughout the rainy season of each year, a compacted intermediate soil cover designed and constructed to minimize percolation of precipitation through wastes shall be maintained over all waste disposal areas containing buried waste. The soil cover shall be in place by October 1 of each year. The thickness and permeability of the intermediate cover shall be based primarily on site-specific conditions including, but not limited to: length of exposure time; volume of underlying material; permeability, thickness and composition of existing cover; amount of yearly rainfall; depth to groundwater; beneficial uses of underlying groundwater; site-specific geologic and hydrogeologic conditions; existing groundwater impacts and effectiveness of existing monitoring system. 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 Landfill facility operations. Landfill areas that have been provided with an Executive Officer-approved vegetative layer shall not be required to satisfy this requirement. Based on site-specific conditions, the Executive

Officer may require a thicker soil cover for any portion of the Landfill prior to the rainy season.

21. By **October 1 of each year**, vegetation shall be planted and maintained as necessary to minimize erosion on interim cover slopes and on slopes at final elevation. Vegetation shall be selected to require a minimum of irrigation and maintenance. Upon written Executive Officer approval, non-hazardous sewage sludge may be utilized 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), unless approved by the Executive Officer.
22. If adequate soil cover material is not accessible during inclement weather, such material shall be stockpiled during favorable weather to ensure year-round compliance.
23. All Landfill surfaces and working faces shall be graded and operated to minimize rainfall infiltration into wastes, to prevent standing water, and to resist erosion.
24. Rills in the cover (final or interim) exceeding six inches in depth must be backfilled throughout the entire year.
25. Drainage facilities shall be designed, constructed, and maintained to accommodate anticipated precipitation and peak surface runoff flows from a 100-year, 24-hour rainstorm event.
26. Storage facilities associated with precipitation and drainage control systems shall be emptied immediately following each storm or otherwise managed to maintain the design capacity of the system. A minimum of two feet of freeboard shall be maintained in all storm water/sediment containment or percolation ponds.

Design Criteria

27. All waste disposal areas, containment structures and drainage facilities shall be designed and constructed under the direct supervision of a California Registered Civil Engineer or a Certified Engineering Geologist, and shall be certified by that individual as meeting the prescriptive standards and performance goals of all state and federal landfill regulations including, but not limited to, CCR Title 27 and 40 CFR parts 257 and 258. For containment structures (liners), certification of standards shall be obtained prior to waste discharge.
28. Waste management units, containment structures, and drainage facilities shall be designed, constructed and maintained to limit, to the greatest extent possible, standing water, infiltration, inundation, erosion, slope failure, washout, overtopping, and damage due to natural disasters (e.g., floods with a predicted frequency of once in 100 years, and severe wind storms).
29. Wastes shall not be discharged to new areas (i.e., areas which have not previously received wastes) unless equipped with a containment system, which meets either a. or b. below:
 - a. A composite liner and a leachate collection and removal system consisting of the following components:
 - A well-prepared subgrade, engineered to support the Landfill and associated structures.
 - Lower Component: a minimum two-foot layer of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec.

- Upper Component: a minimum 60-mil high-density polyethylene (HDPE). The upper component must be installed in direct and uniform contact with the lower component.
 - A Leachate Collection and Removal System (LCRS), designed so that leachate drains by gravity 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.
 - A protective soil layer or operations layer shall be placed above the LCRS and liner system. This layer shall be a minimum of 12 inches thick
- b. An engineered alternative liner design, approved by the Executive Officer. Engineered alternative designs must satisfy the performance criteria in 40 CFR Section 258.40(a)(1) and (c), and satisfy the criteria for an engineered alternative to the above prescriptive design, as provided by CCR Title 27, Section 20080(b). Performance of the alternative composite liners' components, in combination, shall equal or exceed the waste containment capability of the prescriptive design outlined above.
30. All Landfill facilities shall be designed and constructed to prevent damage during the maximum probable earthquake.
31. The Discharger shall ensure the integrity of final slopes under both static and dynamic conditions to protect public health and safety and prevent damage to post-closure land uses, roads, structures, utilities, gas monitoring and control systems, leachate collection and control systems to prevent public contact with leachate, and prevent exposure of waste. Slope stability analyses shall be conducted and reported pursuant to the requirements of Division 2, Subdivision 1, Chapter 4, Subchapter 3, Article 4, Section 21750(f)(5). A minimum factor of safety of 1.5 is required for permanent and interim slopes under static slope stability analyses. For permanent seismic deformation analyses, an acceptable limit for permanent slope displacement is 6 inches for landfill slopes and bottom liners and 12 inches for final cover system slopes.
32. A preferential leachate pathway layer shall be installed between the existing unlined areas and new cells. This layer shall be constructed so that leachate generated in new waste placed over unlined areas flows to the lined portion of the Landfill for collection and disposal.
33. The leachate collection and removal system shall:
- a. Be designed and constructed to prevent more than 12 inches of static hydraulic head on the liner.
 - b. Convey to a sump, or other appropriate collection area, all leachate that reaches the liner. The depth of fluid in any collection sump shall be kept at the minimum needed to ensure efficient pump operation.
 - c. Be designed so that short and long term system performance can be monitored and evaluated [CCR Title 27, Section 20340 (d)].
 - d. Storage facilities shall have a secondary containment system sized to hold 110 percent of the primary containment system capacity.
 - e. Be constructed with double lined sumps with leak detection capability.
34. Discharge of condensate or leachate shall comply with the following:
- a. Liquids shall be returned to only a waste management unit equipped with a containment system that meets or exceeds the performance standards of CCR Title 27, 40 CFR, Part 258.40(a)(2), or in this Order, whichever is more protective of water quality.

- b. Liquids shall be measured by volume and recorded on a monthly basis. These monthly volumes shall be included as a part of monitoring submittals as required in the attached MRP No. R3-2006-0017
- c. No discharge of leachate shall occur 48 hours of any forecasted rain event, during any rain event, or 48-hours after any rain event, unless a site specific Leachate Application Plan is submitted and approved by the Executive Officer,
- d. Have an approved alternate method of leachate disposal (e.g., wastewater treatment plant) that is acceptable to the Executive Officer.

Closure

35. All Landfill waste disposal areas that have not reached final fill elevation, but will remain inactive more than one year, must be provided with an Executive Officer-approved long-term intermediate cover. The thickness and permeability of the long-term intermediate cover shall be based primarily on site-specific conditions including, but not limited to length of exposure time; volume of underlying material, permeability, thickness and composition of existing cover; amount of yearly rainfall; depth to groundwater; beneficial uses of underlying groundwater; site-specific geologic and hydrogeologic conditions; and effectiveness of existing monitoring system. All intermediate cover shall comply with CCR Title 27, Section 20705.
36. Final Landfill configuration shall conform to the contours delineated in Drawing No. 1 of the February 2005 JTD.
37. All Landfill waste disposal areas at final elevations shall receive final cover pursuant to CCR Title 27, Section 21090, which meets either a. or b. below:
 - a.
 - Minimum two-foot foundation layer placed over waste, compacted to maximum density obtainable at optimum moisture conditions [CCR Title 27, Section 21090 (a)(1)].
 - 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 1×10^{-6} cm/sec. Compacted clay will not be considered for sites with VOC detections in point of compliance wells. In such cases a geosynthetic clay layer or geomembrane will be proposed.
 - For units that have been 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.
 - 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, approved by the Executive Officer. Engineered alternative designs must satisfy the performance criteria in 40 CFR Parts 257 and 258, and satisfy the criteria for an engineered alternative to the above prescriptive design, as provided by CCR Title 27, Section 20080. Performance of the alternative composite cover's components, in combination, shall equal or exceed the waste containment capability of the prescriptive design outlined above.
38. All closed Landfill waste management units shall be provided with at least two permanent monuments, installed by a licensed land surveyor, from which the location and elevation of all wastes, containment structures, and monitoring facilities can be determined throughout the post-closure maintenance period. Cumulative waste subsidence and settlement of areas where final cover is installed shall be documented in the annual report.

39. The Discharger shall control vectors to minimize and prevent, to the extent feasible, on and off-site impacts to water quality.
40. Leachate shall be removed from the Landfill to the maximum extent feasible. Leachate removal and disposal shall be in accordance with an Executive Officer-approved Leachate Reduction and Removal Plan.

D. WATER QUALITY PROTECTION STANDARDS

1. Discharge of waste shall not cause the concentration of any Constituents of Concern (COC) or Monitoring Parameter to exceed its respective background value in any monitored media (i.e., soil or groundwater) at any Monitoring Point pursuant to MRP No. R3-2006-0017.
2. Constituents of Concern and Monitoring Parameters for groundwater and surface water are listed in MRP No. R3-2006-0017. Monitoring points and background monitoring points for detection monitoring and corrective action monitoring shall be those specified in MRP No. R3-2006-0017.
3. The discharge of waste shall not cause a statistically significant difference in water quality over background concentrations or Concentration Limit for each COC or Monitoring Parameter (per MRP No. R3-2006-0017) at the Point of Compliance. The Concentration Limits shall be maintained for as long as the waste poses a threat to water quality. Discharge of waste shall not adversely impact the quality of State waters.
4. 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 Resources Control Board.
5. The Point of Compliance is the vertical surface located at the downgradient edge of the waste footprint as shown on Figure 3, and extends vertically down through the uppermost aquifer.
6. Discharge of waste shall not cause radionuclides in groundwater down-gradient of the Point of Compliance to exceed the State Department of Health Services latest recommended Drinking Water Action Levels or Maximum Contaminant Levels of the CCR Title 22, Division 4, Chapter 15, Article 5.5.
7. The Water Board considers the Discharger to have a continuing responsibility for waste containment, monitoring, and correcting any problems that may arise in the future as a result of this waste discharge. This responsibility continues as long as the waste poses a threat to water quality.
8. Monitoring results are subject to the most appropriate statistical or non-statistical test, as required by the attached MRP No. R3-2006-0017. Monitoring Parameters will be subjected to the most appropriate statistical or non-statistical test, as required by the attached MRP.
9. The Discharger shall, in a timely fashion, install any additional groundwater, soil pore liquid, soil pore gas, surface water, and leachate monitoring devices as required by the Executive Officer.

E. PROVISIONS

General Provisions

1. Order No. 00-103, "Revised Waste Discharge Requirements for Monterey Regional Waste Management District, Monterey Peninsula Class III Landfill, Monterey County," adopted by the Water Board on November 29, 2000, is hereby rescinded.
2. The Discharger shall comply with "Monitoring and Reporting Program No. R3-2006-0017," as specified by the Executive Officer.
3. A Construction Quality Assurance Plan, acceptable to the Executive Officer, must be implemented by a third party (i.e., unrelated to the Discharger, Landfill operator, project designer, contractor) prior to initiating construction of the Landfill's final cover system or constructing a new waste management unit.
4. Two weeks prior to and during construction of each module (e.g., preparing foundation, installing liner, installing leachate collection and removal system, placing operations layer, etc.), the Discharger shall provide a schedule of construction activities. Schedules shall be updated and provided to Water Board staff on a weekly basis.
5. Prior to beginning discharge of waste into any newly constructed waste management unit, the Discharger must receive a final site inspection, submit a final construction Quality Assurance report, and receive written permission from the Executive Officer [CCR Title 27, Section 20324(d)(1)(C)].
6. The Discharger shall maintain a copy of this Order at the facility and make it available at all times to regulatory agency personnel and to facility operating personnel (who shall be familiar with its contents).
7. The Discharger shall maintain legible records of the volume and type of all waste discharged at each Unit and the manner and location of discharge. Such records shall be maintained at the facility until the beginning of the post-closure maintenance period. These records shall be available for review by representatives of the Water Board and of the State Water Resources Control Board at any time during normal business hours. At the beginning of the post-closure maintenance period, copies of these records shall be sent to the Water Board.
8. The Discharger shall be responsible for accurate waste characterization, including determinations of whether or not wastes will be compatible with containment features or other wastes, whether or not wastes are required to be managed as hazardous wastes, whether waste is liquid, and whether waste is inert.
9. A list of the general types of the more widely used names of hazardous-type wastes prohibited at this site shall be posted on a legible roadway sign at the Landfill's entrance. The sign shall also state the locations of the nearest hazardous waste disposal sites and shall list penalties for illegal dumping. A specific list of hazardous wastes and other types of materials prohibited at this Landfill shall be provided to commercial waste haulers that use this Landfill and shall be available to all other site users upon request.
10. The Discharger shall comply with all other applicable provisions of CCR Title 27 and 40 CFR Parts 257 and 258 that are not specifically referred to in this Order. If any applicable requirements overlap or conflict in any manner, the requirement most protective of water quality shall govern in all cases, unless specifically stated otherwise in this Order, or as directed by the Executive Officer.
11. The Discharger shall have a continuing responsibility to ensure protection of usable waters from

discharged wastes and from gases and leachate generated by discharged waste during the Landfill's active life, closure, and post-closure maintenance periods and during subsequent use of the property for other purposes.

12. The Discharger shall maintain waste containment facilities and precipitation and drainage controls, and shall continue to monitor, as appropriate, groundwater, vadose zone, liquid and gas, surface waters, and leachate from waste management units throughout the post-closure monitoring and maintenance period.
13. Methane and other landfill gases, generated as a result of waste disposal, shall be adequately vented, removed from the Landfill, or otherwise controlled to prevent the danger of explosion, adverse health effects, nuisance conditions, and the degradation of water quality.
14. The Water Board will review this Order periodically and will revise these requirements when necessary.
15. Sewage sludge or water treatment sludge with greater than 50 percent moisture content may be discharged to the waste management unit **only** if **all** the following criteria are met:
 - a. Sludge shall be discharged only to lined modules that have a LCRS, designed so that leachate drains by gravity 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 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.
16. Liquid Waste was previously spread in future landfill areas that were unlined. Currently, liquid waste is handled in accordance with an Executive Officer approved Liquid Waste Management Plan. The Liquid Waste Management Plan is provided in Appendix D of the February 2005 JTD.

Reporting Provisions

17. All technical and monitoring reports submitted pursuant to this Order are required pursuant to Section 13267 of the California Water Code. The technical and monitoring reports are necessary to determine compliance with the requirements of CCR Title 27, RCRA Subtitle D, and this Order, and to determine the Landfill's impacts, if any, on receiving waters. The Discharger is required to provide this information because it owns and operates the Landfill. Failure to submit reports in accordance with schedules established by this Order and 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 Section 13268 of the California Water Code.
18. Discharger shall notify Water Board staff, within 24 hours by telephone and within seven days in writing, of any noncompliance potentially or actually endangering health or the environment. Any noncompliance that threatens the Landfill's containment integrity shall be promptly corrected. Correction schedules are subject to the approval of the Executive Officer, except when delays will threaten the environment or the Landfill's integrity (i.e., emergency corrective measures). Corrections initiated prior to Executive Officer approval shall be so stated in the written report. The written report shall contain a description of the noncompliance and its cause; the period of noncompliance including

exact dates and times or anticipated duration; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. This provision includes, but is not limited to:

- a. Violation of a discharge prohibition.
 - b. Violation of any Water Quality Protection Standard.
 - c. Slope failure.
 - d. Liner damage.
 - e. Leachate seep(s) occurring on, or in proximity to, the Landfill.
19. Reports of compliance or noncompliance, or any progress reports on interim and final requirements contained in any compliance schedule, shall be submitted within 14 days following each scheduled date unless otherwise specified within the Order. A report shall be submitted within 14 days of achieving full compliance.
20. Design reports shall be submitted 180 days in advance of any planned changes in the permitted facility or any activity that could potentially or actually result in noncompliance.
21. The Discharger shall report all changes in usage of daily cover and performance standards within 10 days following the change.
22. The temporary storm water percolation pond is located to the south of Module 3, Phase II. It receives interim interior site runoff and groundwater seepage from the 35-foot aquifer underlying the upland plateau. Water from this pond is pumped to a drainage ditch, which flows to the Salinas River. The Discharger currently monitors potential releases from the temporary storm water percolation pond for storm water runoff by complying with all requirements contained in the "State Water Resources Control Board Water Quality Order No. 97-03-DWQ National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000001 Waste Discharge Requirements for Discharge of Storm Water Associated with Industrial Activities Excluding Construction Activities."
23. The Discharger shall implement all necessary wet weather preparedness measures to ensure discharges to surface waters or groundwater do not occur during the impending rainy season, and ensure all other relevant CCR Title 27 and 40 CFR criteria have been implemented. To ensure the appropriate wet weather measures have been implemented, the Discharger shall submit a report of Wet Weather Preparedness. The report shall detail all preparedness actions taken to comply with this requirement. **REPORT DUE DATE: October 1st of each year.**
24. The Discharger shall obtain and maintain Financial Assurance Instruments (Instruments), which comply with CCR Title 27 (Sections 22207 [Closure Fund], 22212 [Post-Closure Fund], and 22220 et seq. [Corrective Action Fund]), and 40 CFR parts 257 and 258. The Discharger shall evaluate the cost of Financial Assurance to cover the estimated costs of the worse case reasonably foreseeable release. Upon request, the Discharger shall submit a report on financial assurance for corrective action for the Regional Water Board Executive Officer's review and approval. Every five years after submittal of the initial financial assurance report, or earlier if requested by the Executive Officer, the Discharger shall submit a report, that either validates the Instruments' ongoing viability or proposes and substantiates any needed changes. The Discharger may combine the three components (Closure, Post Closure, Corrective Action) of the Instruments into one report to comply with this requirement. The Discharger shall also submit evidence (e.g., an acceptance letter from the California Integrated Waste Management Board—Financial Assurance Division) that a financial assurance instrument(s) is in place for closure, post-closure, and corrective action. The acceptance letter can be included in the Landfills Annual Report to

the Executive Officer.

25. For the protection of water quality, the Executive Officer may require partial or final closure of any Waste Management Unit or Landfill area regardless of whether the unit or area has reached final capacity. Such a requirement will be requested in writing and in accordance with CCR Title 27, Section 22190.
26. The Discharger shall submit a JTD pursuant to CCR Title 27, Section 21710, to the Executive Officer. The JTD shall contain, but is not limited to, the following:
 - a. Information on waste characteristics, geologic and climatologic characteristics of the Landfill and the surrounding region, installed features, operation plans for waste containment, precipitation and drainage controls, and closure and post closure maintenance plans, in accordance with CCR Title 27, Sections 21740, 21750, 21760, and 21769.
 - b. A completed SWRCB JTD Index, in accordance with CCR Title 27, Section 21585(b), with your JTD addendum.
 - c. A Discussion of whether, in the Discharger's opinion, there is any portion of this Order that is incorrect, obsolete, or otherwise in need of revision.
 - d. Any technical documents needed to demonstrate continued compliance with this Order and all pertinent State and Federal requirements.
 - e. Detailed information regarding regulatory considerations; design, construction and operating provisions; environmental monitoring; and closure and post-closure.
 - f. A Fill Sequencing Plan that includes detailed maps. The Fill Sequencing Plan should describe in detail the overall development of the entire Landfill.
 - g. A detailed description of the lateral and vertical extent of refuse within all existing Landfill Units. It must include an accurate estimate of waste volumes within each existing Landfill fill area (i.e., phases) and an approximation of the remaining volume and years of capacity for each existing phase and all new proposed fill area within currently "Permitted Landfill Boundary." It must also describe all existing available space within currently permitted Landfill areas (i.e., areas where refuse has been placed in the past, but have not reached final permitted elevation and Landfill Units or portions of Landfill Units where refuse has never been placed).
 - h. A discussion of any plans or proposals to close or partially close any Landfill Units or portions of Landfill Units, any proposed liner systems and respective design components, any proposed plans for long-term intermediate cover for Landfill areas which may remain inactive for long periods of time (over one year). **REPORT DUE DATE: July 30, 2010**, or as specified by the Executive Officer.
27. The Discharger shall submit to the Water Board an updated closure and post-closure maintenance plan (Closure Plan). The Closure Plan shall describe the methods and controls to be used to ensure protection of the quality of surface and groundwater during partial and final closure operations and during any proposed subsequent use of the land. The Closure Plan shall include:
 - a. A description of the final cover, designed in accordance with all applicable State and Federal regulations and the methods and procedures to be used to install the cover.
 - b. An estimate of the largest waste disposal area (Waste Management Unit) requiring a final cover at any time during the Landfill's active life.
 - c. An estimate of the maximum inventory of wastes at the site over the active life of the Landfill.
 - d. A schedule for completing all activities necessary to satisfy all closure criteria as required by CCR Title 27 and 40 CFR Parts 257 and 258 regulations.

- e. An estimate of closure and post closure maintenance costs.
- f. A proposal for a trust fund or equivalent financial arrangement to provide sufficient funding for closure and post-closure maintenance.
- g. The amount to be deposited in the trust fund or equivalent financial arrangement each year.

The Closure Plan shall be prepared by or under the supervision of a California Registered Civil Engineer or Certified Engineering Geologist. Updates of the plan are required whenever substantial changes occur or five years has elapsed since the last major revision. The method identified for each WMU closure and protection of the quality of surface and groundwater shall comply with this Order. The Closure Plan report shall be consistent with all applicable state and federal regulations, including CCR Title 27 and 40 CFR Parts 257 and 258. **REPORT DUE DATE: May 31, 2009, and every five years thereafter.**

- 28. The Discharger has a continuing responsibility for correcting any problems that may arise in the future as a result of this waste discharge. This responsibility continues as long as the waste poses a threat to water quality.
- 29. After suspending the Corrective Action Program measures, the Discharger shall remain in corrective action monitoring until an approved Detection Monitoring Program is established in accordance with CCR Title 27 and has been incorporated into Waste Discharge Requirements. Any time the Executive Officer determines that the Corrective Action Program does not satisfy the requirements of CCR Title 27, the Discharger shall, within 90 days of receiving written notification of such determination, submit an amended Corrective Action Program with needed changes pursuant to Water Code section 13267.
- 30. The leachate collection and removal system shall be tested annually to demonstrate proper operation. The results of the test shall be compared with previous tests and included in the Annual Monitoring Report.
- 31. The Discharger shall notify the Water Board in writing of any proposed change in ownership or responsibility for construction or operation of the Landfill in accordance with CCR Title 27, Section 21710 (c)(1). Failure to submit the notice in writing shall be considered a violation of Section 13264 of the Water Code. The written notice 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.

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.

- 32. At any time, the Discharger may file a written request (including appropriate supporting documents) with the Water Board Executive Officer, proposing appropriate modifications to the monitoring and reporting program. The Executive Officer either shall reject the proposal for reasons listed, or shall

incorporate it into a revised monitoring and reporting program. The Discharger shall implement any changes in the monitoring and reporting program proposed by the Executive Officer upon receipt of a revised monitoring and reporting program.

33. The Discharger shall notify the Executive Officer at least 180 days prior to beginning any partial or final Landfill closure activities. The notice shall include a statement that all closure activities will conform to the most recently approved Closure Plan and that the Plan provides for closure in compliance with all applicable State and Federal regulations. If there is no approved Closure Plan, the Discharger must submit a complete Closure Plan at least 240 days prior to beginning any Landfill closure activities.
34. The Water Board shall be allowed, at any time and without prior notification, consistent with Water Code Section 13267(c):
 - a. Entry upon the Landfill or where records must be kept under the conditions of this Order and MRP No. R3-2006-0017.
 - b. Access to copy any records that must be kept under the conditions of this Order and MRP No. R3-2006-0017.
 - c. To inspect any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order and MRP No. R3-2006-0017.
 - d. To photograph, sample, and monitor for the purpose of showing compliance with this Order.
35. Except for data determined to be confidential under Section 13267 (b) of the California Water Code, all reports prepared in accordance with this Order are considered public record and shall be sent to the appropriate contact at the California Integrated Waste Management Board and Monterey County Health Department - Environmental Health Division. All reports shall be signed as follows:
 - a. For a public agency - by either a principal executive officer or ranking elected official*.
 - b. For a partnership or sole proprietorship - by a general partner or the proprietor, respectively*.
 - c. For a corporation - by a principal executive officer of at least the level of vice president*.
 - d. For engineering reports and monitoring reports- by a California Registered Civil Engineer or Certified Engineering Geologist.

*or their "duly authorized representative."

36. Any person signing a report makes the following certification, whether it is 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 fine and imprisonment."
37. Any person who violates Waste Discharge Requirements and/or who intentionally or negligently discharges waste or causes or permits waste to be deposited where it is discharged into waters of the State is liable for civil and/or criminal remedies, as appropriate, pursuant to Section 13350, 13385, and 13387 of the California Water Code.
38. As provided by CWC Section 13350(a), any person may be civilly liable if that person in violation of a

waiver condition or waste discharge requirements, discharges waste, or causes waste to be deposited where it is discharged, into the waters of the State.

- 39. Provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.
- 40. 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.
- 41. The Discharger must 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 Section 13261, 13263, 13265, 13267, 13268, 13300, 13301, 13304, 13340, 13350].

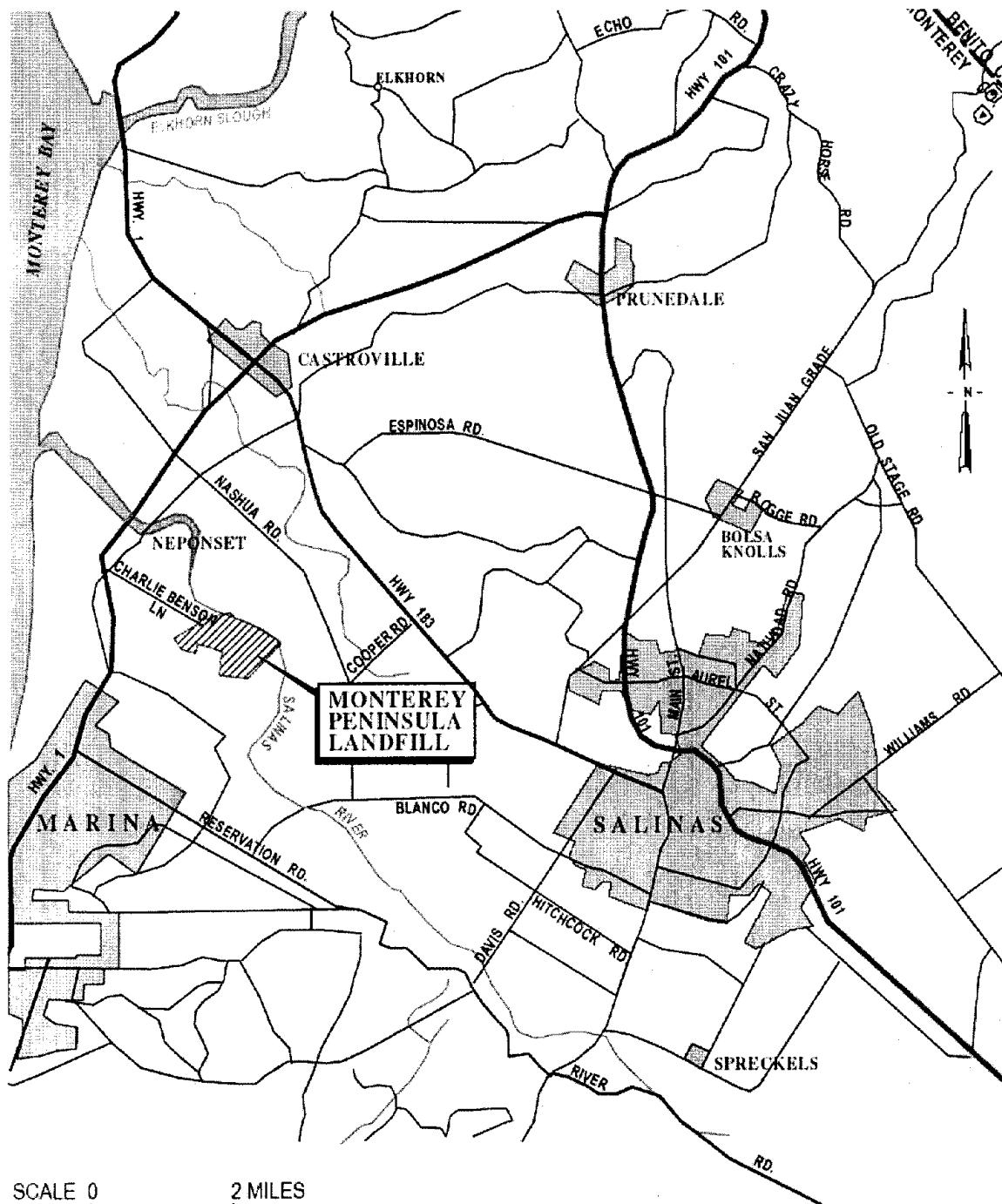
The Discharger shall comply with the following submittal and implementation schedule for all tasks and reports required by this Order:

REPORT AND TASK IMPLEMENTATION DATE SUMMARY


REPORT/TASK	IMPLEMENTATION DATE
Wet Weather Preparedness Report [Provision E.23]	October 1, 2006, and yearly thereafter.
Financial Assurance Report [Provision E.24]	Upon request, and every five years thereafter.
Joint Technical Document [Provision E.26]	July 30, 2010, and every five years thereafter.
Closure Plan [Provision E.27]	May 31, 2009, and every five years thereafter.

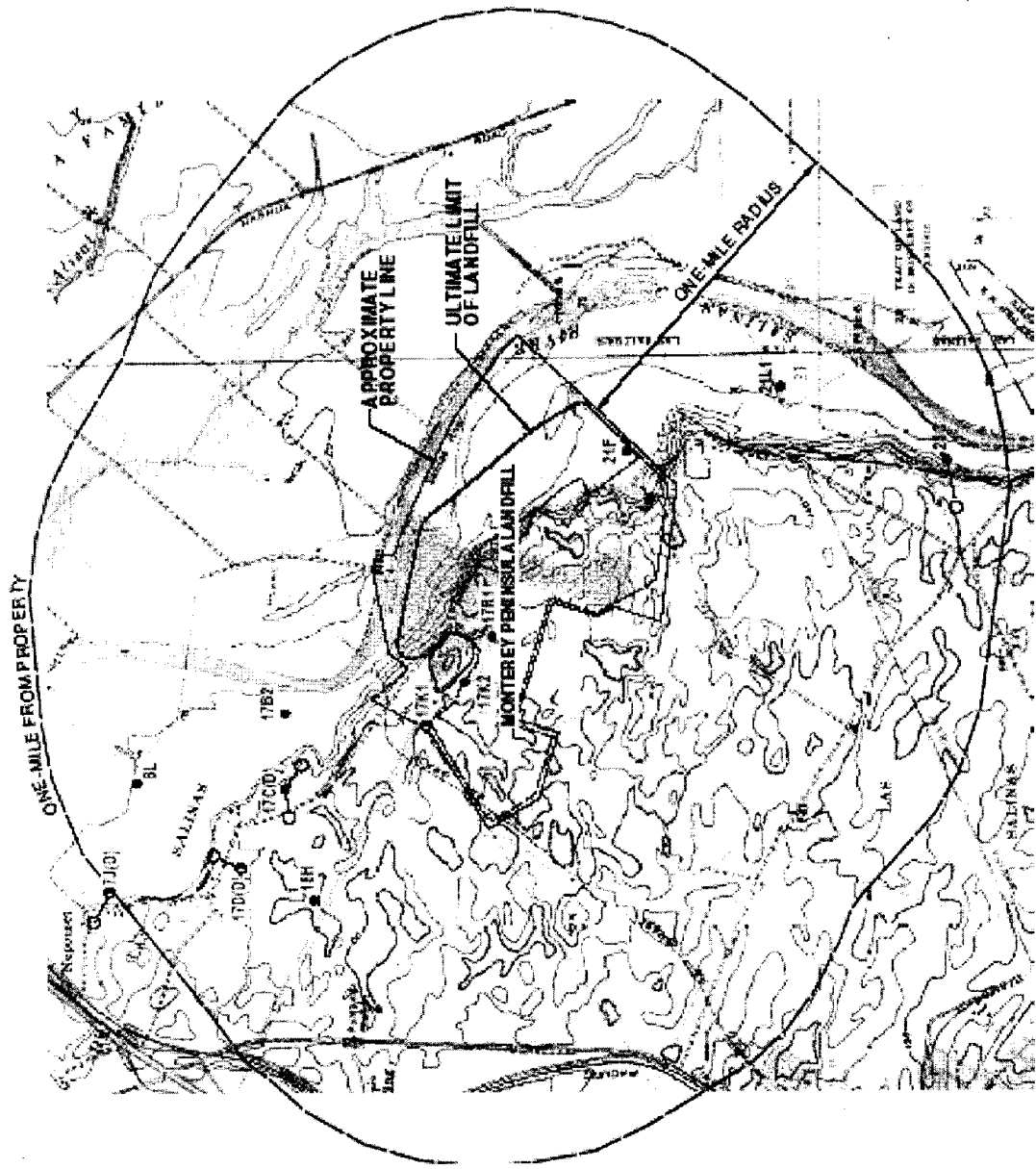
I, Roger W. Briggs, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Coast Region, on February 10, 2006.


Executive Officer



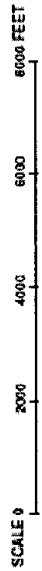
Source: February 2005 Joint Technical Document

	<p align="center">Monterey Peninsula Class III Landfill Marina, California</p>	<p align="center">Figure 1</p>
	<p align="center">Site Vicinity Map</p>	



LEGEND

- Irrigation Well
- ◻ Domestic Well
- Residence Locality



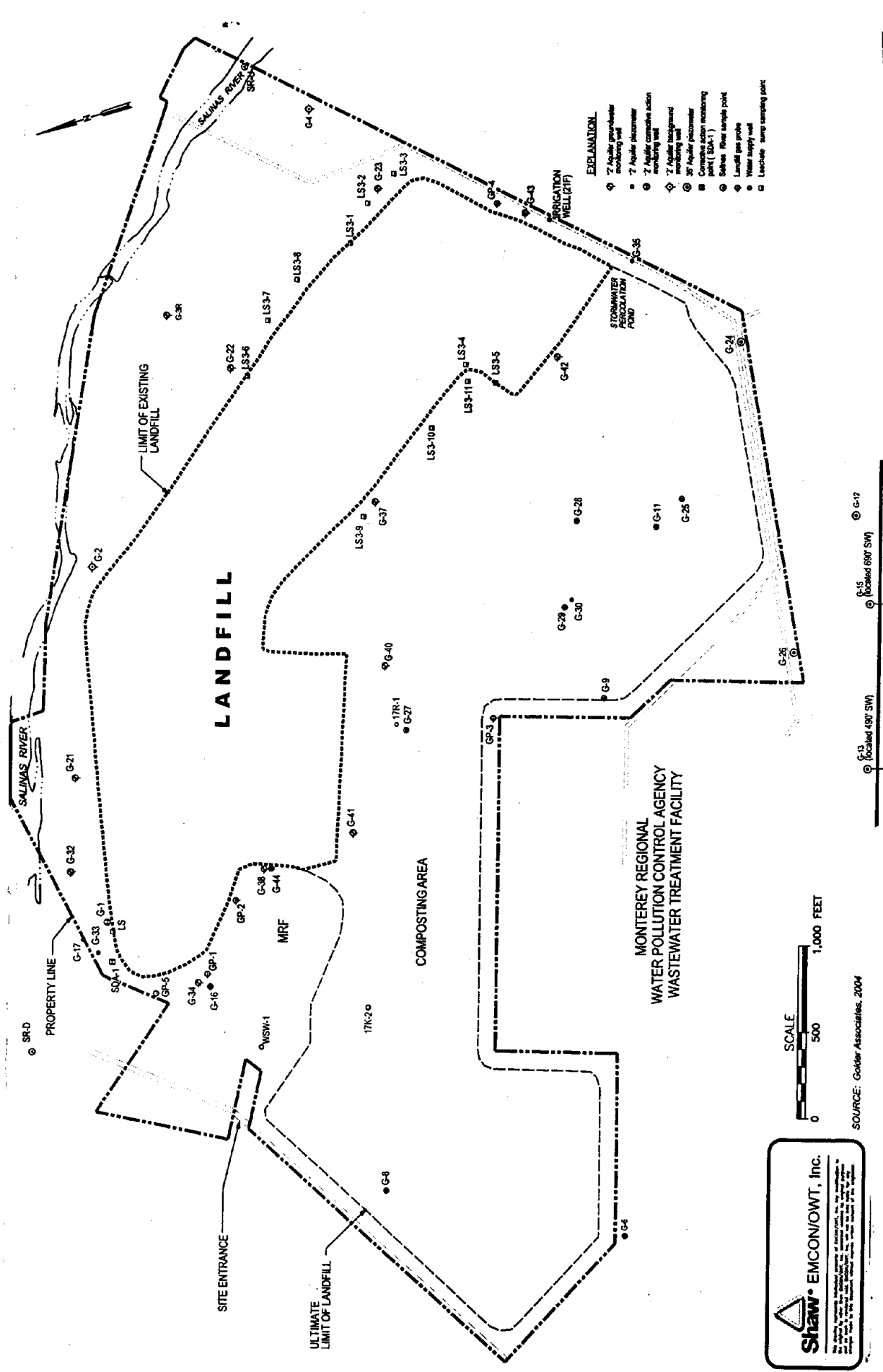
Source: February 2005 Joint Technical Document



**Monterey Peninsula Class III Landfill
Marina, California**

Water Well Location Map in the Vicinity of the Landfill

Figure 2



Source: EMCON

**Monterey Peninsula Class III Landfill
Marina, California**

Monitoring Point and Landfill Boundary Location Map

Figure 3



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

**REVISED MONITORING AND REPORTING PROGRAM NO. R3-2006-0017
Waste Discharger Identification No. 3 270303001**

For

**MONTEREY PENINSULA LANDFILL
MONTEREY COUNTY**

PART I: MONITORING AND OBSERVATION SCHEDULE

A. SITE INSPECTIONS

The Discharger shall inspect the Monterey Peninsula Landfill (Landfill), according to the following schedule, recording, at a minimum, the following Standard Observations.

1. Site Inspection Schedule:

- a. At least monthly during the wet season (**October 1 through April 30**), and following each storm event producing a minimum of 1-inch of rain within a 24-hour period.
- b. During the dry season a minimum of one inspection every three months.

2. Standard Observations:

a. **For Receiving Waters:**

- i. Floating and suspended materials of waste origin; presence or absence, source, and size of affected area.
- ii. Discoloration and turbidity - description of color, source, and size of affected area.
- iii. Evidence of odors - presence or absence, characterization, source, and distance of travel from source.
- iv. Evidence of beneficial use - presence of water-associated wildlife.
- v. Estimated flow rate to the receiving water.
- vi. Weather conditions - wind direction and estimated velocity, total precipitation during the previous five days and on the day of observation.

b. **Along the perimeter of the Landfill Property:**

- i. Evidence of liquid leaving or entering the Landfill, estimated size of affected area, and estimated flow rate (show affected area on map).
- ii. Evidence of odors; presence or absence, characterization, source, and distance of travel from source.
- iii. Evidence of erosion or of exposed waste.
- iv. Inspection of all storm water discharge locations for evidence of non-storm water discharges during dry seasons, and integrity during wet seasons.

c. **For the Landfill Property:**

- i. Evidence of ponded water at any point on the Landfill site (show affected area on map).
- ii. Evidence of odors; presence or absence, characterization, source, and distance of travel from source.
- iii. Evidence of erosion or of daylighted waste.
- iv. Compliance with Storm Water Pollution Prevention Plan, insuring that the terms of the general permit is properly complied with.

B. INTAKE MONITORING

The Discharger shall maintain a daily record of the waste stream. The record shall include the following information:

1. Weight (in tons) of waste received.
2. Running totals of weight received, remaining capacity (in tons) for waste placement, and Landfill life expectancy (in years).
3. Current fill area (in acres).
4. Log of random load checking program. Site personnel shall advise waste haulers of the types of wastes prohibited at the site and shall make periodic detailed compliance checks of wastes discharged by all site users. These detailed periodic checks shall be of variable frequency, but average once per working week. The log shall contain a record of refused loads, including the type of waste refused, date, name, address, and phone number of the party attempting to dispose of the waste.

The intake daily records are not to be submitted to this Regional Board, but are to be maintained at the Discharger's offices in accordance with Part II.C, and are to be made available to Regional Board staff upon request to review or copy.

C. DRAINAGE SYSTEMS INSPECTIONS

The Discharger shall inspect drainage control systems following each storm event that results in rainfall runoff and at least monthly, and record the following information:

1. Condition of facilities and liners, whether storm water storage basins and drainage ditches contain liquids;
2. Any apparent seepage from storage basins or the Landfill site;
3. Steps taken to correct any problems found during inspection and date(s) when taken; and
4. Maintain a photo log of corrections made to the drainage control systems.

D. RAINFALL DATA

The Discharger shall record the following information:

1. Total precipitation (in inches) during each three month period.
2. Number of Storms (≥ 1 -inch in 24-hours) received during the three month period.
3. Return interval of most intense 24-hour storm (e.g. 25 year, 100 year, and so on).

E. POLLUTION CONTROL SYSTEMS INSPECTIONS

The Discharger shall inspect all pollution control systems and record the following information as appropriate:

1. **Leachate Collection and Removal System (LCRS):**

- a. Bi-weekly - inspect LCRS for containment and collection system integrity (i.e., LS3-1, LS3-2, LS3-3, LS3-5 through LS3-11 and LS4-1). Include bi-weekly inspection check-off sheet with monitoring reports. During storm events the LCRS will be inspected for containment and collection system integrity after each significant storm;
- b. Monthly - pumping system operational check. Perform routine preventive maintenance focused on keeping the system at design operation. All scheduled and un-scheduled maintenance shall be summarized and reported;
- c. Monthly - record volume of leachate extracted (in gallons). Compute semiannual and annual running totals of leachate removed and report in Semiannual monitoring report. Report disposal method utilized. When more than one disposal method is used, be volume specific for each method;
- d. Annually - LCRS testing as required by the California Code of Regulations, Title 27 (CCR Title 27), Section 20340 (d). The absence or presence of bio-fouling shall be addressed in the inspection report. At sites where leachate is used for dust control, testing that shows the leachate is non-hazardous shall be submitted annually;
- e. Annually - a minimum of two of the eleven leachate collection sumps must be sampled annually on a rotating basis for analysis of Monitoring Parameters, and every five years on a rotating basis for Constituents of Concern (COCs); and
- f. Semiannually - Using most recent leachate contaminant concentration data and collection volume, compute contaminant mass removed on a semiannual basis.

2. Landfill Gas Extraction System:

- a. Monthly - inspect entire landfill gas extraction system for system integrity. Include monthly inspection, maintenance and testing demonstrations in Semiannual monitoring reports;
- b. Annually - submit an annual operational summary for the landfill gas extraction system;
- c. Perform routine preventive maintenance focused on keeping the system at design operation. All scheduled and unscheduled maintenance shall be summarized and reported annually;
- d. Monthly - Record volume of landfill gas extracted. Report monthly volume and annual sub-totals. Indicate how volume measurement is made;
- e. Monthly - Record volume of landfill gas condensate. Report monthly, semiannual and annual sub-totals in Semiannual reports and report disposal method utilized. When more than one disposal method is used, be volume specific for each method;
- f. Semiannually - Sample landfill gas in the collection header and analyze for volatile organic compounds (VOCs).
- g. Semiannually - Sample landfill gas condensate and analyze for Monitoring Parameters; and
- h. Semiannually - Using most recent landfill gas and condensate contaminant concentration data and collection volume, compute contaminant mass removed on a semiannual basis.

F. LANDFILL MONITORING

1. **Groundwater Monitoring:** Unless otherwise authorized by the Executive Officer, all new groundwater-monitoring wells shall be incorporated into this monitoring and reporting program, and shall be sampled on a quarterly basis for a minimum of four consecutive quarters. Changes to the monitoring frequency, Monitoring Parameters or Constituents of Concern may be made upon receiving prior written approval from the Executive Officer. The Groundwater Monitoring Points shall include the following:

- a. **For groundwater in the -2-foot aquifer:** This aquifer underlies the Landfill's "lowland area" and is the first encountered groundwater beneath the Landfill's municipal waste. The -2-foot aquifer is composed of a complex assemblage of silt, sandy silt, and fine-grained sand and is in direct hydraulic communication with the Salinas River. The -2-foot aquifer is approximately 30- to 40-feet thick and is underlain by the Salinas Aquiclude. Recent hydrogeologic studies indicate groundwater flow is predominantly from the Salinas River toward the Landfill. Background Monitoring Wells G-2, G-3R and G-4 are located along the northern site boundary to characterize the background water quality at the Landfill as influenced by the Salinas River. In addition to the Background Monitoring Wells, there are eleven additional Detection Monitoring Points (DMPs) that serve as the Point of Compliance wells. Detection Monitoring Points G-21, G-22, G-23 and G-32 shall serve as Point of Compliance wells along the northern edge of the Landfill. Detection Monitoring Points G-34, G-37, G-38R, G-40, G-41, G-42 and G-43 shall serve as Point of Compliance wells along the southern, western, and eastern margins of Modules 1, 2, 3 and 4. The -2-foot aquifer also underlies the wet weather area (WWA). In the unlined WWA where the Discharger disposed waste (since 1997), groundwater is monitored using Corrective Action Program (CAP) Monitoring Points G-1 and SDA-1.
 - b. **For groundwater in the 35-foot aquifer:** This aquifer exists in the Aeolian sands that underlie the uplands terrain located to the south of the waste modules. This aquifer produces a series of springs and seeps along the bluff face, which is controlled using a series of sub-drains, and surface drains. The sub-drains and surface drains ultimately drain to a storm water retention pond located near the southeast corner of Module 3. Discharge of groundwater from the storm water retention pond must be monitored in accordance with a General Permit for Discharges of Low Threat to Water Quality. The 35-foot aquifer is the first encountered groundwater beneath the former Liquid Waste Land Treatment Unit area. The Board approved the Discharger's proposal to eliminate this aquifer from the annual monitoring requirements in December 1998. No monitoring parameters were detected at or above the concentration limits in any of the wells since 1988. Twelve piezometers G-6, G-8, G-9, G-11, G-16, G-24, G-25, G-26, G-27, G-28, G-29 and G-44 will be used to monitor groundwater levels quarterly to determine horizontal gradients within the 35-foot aquifer.
2. **Storm Water/Surface Water Monitoring:** Storm water discharge point(s) shall be monitored in accordance with the facility's National Pollutant Discharge Elimination System permit (NPDES). Surface water samples are collected from the Salinas River at locations immediately upgradient (SR-U) and downgradient (SR-D) of the Landfill (Figure 1). Surface water monitoring is performed to provide data for evaluation of the influence of the river on the geochemistry of the -2-foot aquifer. Surface water (storm water runoff) monitoring is performed as part of the NPDES program. There are a total of five storm water runoff monitoring locations, one at Modules 1, 2, and 3, one below the landfill gas facility, and one for the internal site drainage discharge from the storm water retention pond located near the southeast corner of Module 3. Samples are collected for two storm events per year. Analytical analysis of the storm water samples includes pH, total suspended solids, specific conductance, oil and grease, and iron.
 3. **Leachate Monitoring:** Modules 3 and 4 are equipped with an LCRS as shown in Figure 1. The LCRS consists of 11 leachate collection sumps (LS3-1, LS3-2, LS3-3, LS3-5 through LS3-11 and LS4-1). There is also a leachate collection sump north of the WWA (LS). There has been much development since LS was installed north of the WWA. Most of the storm water runoff from the area is now diverted to the storm water percolation pond on the northwest corner of the site.

4. **Monitoring Frequency:** Monitoring of each monitored medium and monitoring of all Monitoring Points shall be carried out at least once during each specified Monitoring Period (as shown in Table 1). **Quarterly** monitoring shall be performed during winter (Jan. 1 to March 31), **spring** (April 1 to June 30), **summer** (July 1 to Sept. 30), and **fall** (Oct. 1 to Dec. 31). **Semiannual** monitoring shall be performed during March and September. The due date for any given report will be 30 days after the end of its Monitoring Period, unless otherwise stated.

G. ANALYTICAL MONITORING

1. **Groundwater Monitoring Parameters:** Unless required more frequently due to an indication of a release, all water samples from all groundwater Monitoring Points shall be analyzed semiannually for the Monitoring Parameters listed in Table 1. The groundwater Monitoring Point locations are shown in Figure 1.

**TABLE 1
GROUNDWATER MONITORING**

Monitoring Point	Depth	Parameter 1	Parameter 2	Parameter 3	Parameter 4	Frequency
G-2 ⁽¹⁾	-2 ft aquifer	X		Table 2, 3	Table 4	Semiannual
G-3R ⁽¹⁾	-2 ft aquifer	X		Table 2, 3	Table 4	Semiannual
G-4 ⁽¹⁾	-2 ft aquifer	X		Table 2, 3	Table 4	Semiannual
G-21	-2 ft aquifer	X		Table 2, 3	Table 4	Semiannual
G-22	-2 ft aquifer	X		Table 2, 3	Table 4	Semiannual
G-23	-2 ft aquifer	X		Table 2, 3	Table 4	Semiannual
G-32	-2 ft aquifer	X		Table 2, 3	Table 4	Semiannual
G-34	-2 ft aquifer	X		Table 2, 3	Table 4	Semiannual
G-37	-2 ft aquifer	X		Table 2, 3	Table 4	Semiannual
G-38R	-2 ft aquifer	X		Table 2, 3	Table 4	Semiannual
G-40	-2 ft aquifer	X		Table 2, 3	Table 4	Semiannual
G-41	-2 ft aquifer	X		Table 2, 3	Table 4	Semiannual
G-42	-2 ft aquifer	X		Table 2, 3	Table 4	Semiannual
G-43	-2 ft aquifer	X		Table 2, 3	Table 4	Semiannual
G-1	-2 ft aquifer		X	Table 2, 3	Table 4	Semiannual
SDA-1 ⁽⁴⁾	-2 ft aquifer		X	Table 2, 3	Table 4	Semiannual
G-17	-2 ft aquifer				X	Quarterly
G-30	-2 ft aquifer				X	Quarterly
G-33	-2 ft aquifer				X	Quarterly
G-35	-2 ft aquifer				X	Quarterly
G-6	35 ft aquifer				X	Quarterly
G-8	35 ft aquifer				X	Quarterly
G-9	35 ft aquifer				X	Quarterly

G-11	35 ft aquifer					X	Quarterly
G-16	35 ft aquifer					X	Quarterly
G-24	35 ft aquifer					X	Quarterly
G-25	35 ft aquifer					X	Quarterly
G-26	35 ft aquifer					X	Quarterly
G-27	35 ft aquifer					X	Quarterly
G-28	35 ft aquifer					X	Quarterly
G-29	35 ft aquifer					X	Quarterly
G-44	35 ft aquifer					X	Quarterly

(1) Designated background monitoring points.
 (2) Sample once every five years for full suite of analytes listed in Table 4. Next sampling event September 2009.
 (3) Semiannual monitoring shall be performed each March and September and includes water levels for all wells and piezometers. Quarterly monitoring of water levels shall be performed during winter (Jan. 1 to March 31), spring (April 1 to June 30), summer (July 1 to Sept. 30), and fall (Oct. 1 to Dec. 31).
 (4) SDA-1 is a subdrain discharge point in the Wet Weather Area

**TABLE 2
MONITORING PARAMETERS**

Water Elevation and Well Depth ⁽¹⁾	Sounder	0.01 feet
Electrical Conductivity	Field	µmhos/cm
pH	Field	pH Units
Eh	Field	milliVolts
Temperature	Field	°F/°C
Turbidity	Field	NTU
Dissolved Oxygen	Field	Varies
Chloride ⁽²⁾	300.0	mg/l
Manganese (dissolved) ⁽²⁾	200.8/6020A/6010B	mg/l
Lead (dissolved)	200.8/6020A/6010B	mg/l
Sodium ⁽²⁾	200.7/6010B	mg/l
Total Dissolved Solids (TDS) ⁽²⁾	160.1	mg/l
Sulfate ⁽²⁾	300.0	mg/l
Nitrate (as Nitrogen)	300.0	mg/l
VOCs ⁽³⁾ (including oxygenates).	8260B	µg/l

- (1) Water elevation shall be recorded from all monitoring wells in which measurements are readily accessible
- (2) Chloride, manganese (dissolved), sodium (dissolved), sulfate, and TDS will be subjected to the statistical evaluation method described in Part II.D. of the Sample and Collection and Analysis Section, herein.
- (3) The VOCs include all Volatile Organic Compounds (VOCs) detectable using USEPA Method 8260B including at a minimum all 47 VOCs listed in Appendix I to 40 CFR 258, and all unidentified peaks. Oxygenates include methyl tertiary-butyl ether (MTBE), di-isopropyl ether (DIPE), ethyl tertiary-butyl ether (ETBE), tertiary-amyl methyl ether (TAME), and tertiary-butyl alcohol (TBA). VOCs will be subjected to the non-statistical evaluation method described in Part II.E. of the Sample Collection and Analysis Section, herein.

Note: mg/l = milligrams per liter; °F/°C = degrees Fahrenheit and Celsius; NTU = natural turbidity units; µmhos/cm = micro-mhos per centimeter; and µg/l = micrograms per liter.

**TABLE 3
SUPPLEMENTAL GEOCHEMICAL PARAMETERS**

Total and Speciated Alkalinity	310.1	mg/l
Calcium	200.7/6010B	mg/l
Magnesium	200.7/6010B	mg/l
Potassium	200.7/6010B	mg/l
Ammonia as Nitrogen	350.3	mg/l
Total Kjeldahl Nitrogen	351.4	mg/l
(1) The Discharger shall analyze all samples from all groundwater Monitoring Points at the Landfill for the Supplemental Geochemical Parameters listed in Table 3. These parameters will not be treated statistically but, when combined with data from Table 2, will allow the Discharger to perform useful geochemical characterizations, as needed, in the form of Trilinear and/or Stiff diagrams.		

2. **Constituents of Concern:** The Constituents of Concern (COC) includes constituents listed in Table 4, below. Monitoring for COC shall encompass only those COCs that do not also serve as Monitoring Parameters. Analysis of COCs shall be carried out once every five years, at each of the site's groundwater monitoring points, unless required more frequently due to an indication of a release. Wells that have not previously been sampled for COCs shall be sampled and analyzed for all COCs within three months of this program becoming effective.

**TABLE 4
CONSTITUENTS OF CONCERN**

Antimony	6010B	mg/l
Arsenic	7060A	mg/l
Barium	6010B	mg/l
Beryllium	6010B	mg/l
Cadmium	6010B	mg/l
Chromium	6010B/7196A	mg/l

Cobalt	6010B	mg/l
Copper	6010B	mg/l
Cyanide	9010 or 335.2	mg/l
Lead	7421	mg/l
Magnesium	6010B	mg/l
Mercury	7470A	mg/l
Nickel	6010B	mg/l
Selenium	7740	mg/l
Silver	6010B	mg/l
Sulfide	9030B or 376.1	mg/l
Thallium	7841	mg/l
Tin	6010B	mg/l
Vanadium	6010B	mg/l
Zinc	6010B	mg/l
Chlorophenoxy Herbicides	8151A	µg/l
Organochlorine Pesticides	8081A	µg/l
PCBs	8082	µg/l
Phthalate Esters	8060	µg/l
Phenols	8040	µg/l
Nonhalogenated Volatiles	8015M	µg/l
Semi-Volatile Organic Compounds	8270C	µg/l
Volatile Organic Compounds, Appendix II ⁽³⁾	8260B	µg/l

⁽¹⁾ The Discharger shall analyze for all parameters using the USEPA analytical methods indicated above (or updated method), including all constituents listed in Appendix II to 40 CFR, Part 258. Wells that are normally monitored for COCs in Table 2 do not need to be re-sampled for same constituents in Table 4, during COC sampling events. The Semiannual and COC monitoring event shall be conducted simultaneously.

⁽²⁾ Or most recently approved EPA method that provides the lowest practicable detection limits.

⁽³⁾ Includes MTBE (EPA Method 8260B)

- 3. Groundwater Flow Rate and Direction:** For each monitored groundwater body, the water level in each well shall be measured, at least quarterly, including the times of expected highest and lowest elevations of the water level. Horizontal and vertical gradients, groundwater flow rate, and direction for the respective groundwater body shall also be determined. Groundwater elevations for all wells in a given groundwater body shall be measured within a period of time short enough to avoid temporal variations in groundwater flow which could preclude accurate determination of groundwater flow rate and direction. The observed groundwater characteristics shall be compared with those of previous determinations, noting the appearance of any trends, and of any indications that a change in the hydrogeologic conditions beneath the site has occurred. This information shall be reported in the Semiannual Monitoring Reports.
- 4. Storm Water Monitoring:** Unless required more frequently due to an indication of a release, the storm water monitoring points shall be monitored in accordance with the facility's NPDES permit. Sediment in the percolation pond shall be analyzed annually for TPH.

5. **Landfill Gas Migration Monitoring:** On-site structures adjacent to the waste deposit areas shall be monitored quarterly for the monitoring parameters in Table 5. Monitoring results shall be submitted to the Board in Semiannual reports and include information specified in Title 27, Section 20934.

**TABLE 5
LANDFILL GAS PROBE MONITORING PARAMETERS**

Parameter	Location	Unit
Methane	Field	ppm
Carbon Dioxide	Field	ppm
Oxygen	Field	ppm

6. **Leachate Collection System Performance:**
- a. Leachate from the LCRS for Modules 3 and 4 shall be analyzed for the Monitoring Parameters (Table 2) and Supplemental Geochemical Parameters (Table 3) annually, and for COCs (Table 4) every five years. At a minimum, leachate samples shall be collected from two leachate collection sumps on a rotational basis.
 - b. If leachate is present from LS, the leachate shall be analyzed for Monitoring Parameters annually and COCs every five years.
8. **Dust Control:** If leachate is used as dust control, analytical testing must be performed and submitted annually to demonstrate that the leachate is non-hazardous.
9. **Sample Procurement Limitation:** For any given monitored medium, the samples taken from Monitoring Points to satisfy the data analysis requirements for a given Monitoring Period shall be taken within a span not exceeding 30 days, and shall be taken in a manner that ensures sample independence to the greatest extent feasible [CCR Title 27, Section 20415(e)(12)(B)]. Sampling for successive monitoring periods shall occur at least 30 days apart.

PART II: SAMPLE COLLECTION AND ANALYSIS

A. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analysis specified in this monitoring and reporting program shall be performed according to the most recent version of Standard USEPA Methods (USEPA publication "SW-846"), and in accordance with an Executive Officer approved Sampling and Analysis Plan (SAP). A laboratory certified for these analyses by the State Department of Health Services shall perform analyses. Specific methods of analysis must be identified. If methods other than USEPA-approved methods or Standard Methods are used, the exact methodology must be submitted for review and must be approved by the Executive Officer prior to use. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Regional Board. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements. Calibration and maintenance records shall be kept and made available upon request by the Regional Board. Sampling shall occur at a date that allows timely submittal of monitoring reports according to

the schedule required by this monitoring and reporting program. In addition, the Discharger is responsible for seeing that the laboratory analysis of all samples from all Monitoring Points meet the following restrictions:

1. **Method Selection:** The methods of analysis and the detection limits used must be appropriate for the expected concentrations. For detection monitoring of any constituent or parameter that is found in concentrations which produce more than 90% non-numerical determinations (i.e., "trace") in historical data for that medium, the SW-846 analytical method having the lowest Method Detection Limit (MDL) shall be selected from among those methods which would provide valid results in light of any Matrix Effects involved.
2. **Trace Results:** Results falling between the MDL and the Practical Quantitation Limit (PQL) shall be reported as "trace", and shall be accompanied by both the (nominal or estimated) MDL and PQL values for that analytical run.
3. **Nominal or Estimated MDL and PQL:** The nominal MDL and PQL shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. Both limits shall reflect the detection and quantitation capabilities of the specific analytical procedure and equipment used by the lab. If the lab suspects that, due to a change in matrix or other effects, the true detection limit or quantitation limit for a particular analytical run differs significantly from the laboratory-derived MDL/PQL values, the results shall be flagged accordingly and an estimate of the detection limit and/or quantitation limit actually achieved shall be included.
4. **Quality Assurance/Quality Control (QA/QC) Data:** All QA/QC data shall be reported along with the sample results to which it applies. Sample results shall be reported unadjusted for blank results or spike recovery. The QA/QC data submittal shall include the following information:
 - a. Method, equipment, and analytical detection limits.
 - b. Recovery rates and an explanation for any recovery rate that is outside the USEPA-specified recovery rate.
 - c. Results of equipment and method blanks.
 - d. Results of spiked and surrogate samples.
 - e. Frequency of quality control analysis.
 - f. Chain of custody logs.
 - g. Name and qualifications of the person(s) performing the analysis.
5. **Common Laboratory Contaminant:** Upon receiving written approval from the Executive Officer, a statistical or non-statistical procedure can be used for determining the significance of analytical results for a constituent that is a common laboratory contaminant (i.e., methylene chloride, acetone, 2-Butanone, diethylhexyl phthalate, and di-n-octyl phthalate) during any given Monitoring Period in which QA/QC samples show evidence of laboratory contamination for that constituent. Nevertheless, analytical results involving detection of these analytes in any background or downgradient sample shall be reported and flagged for easy reference by Regional Board staff.
6. **Unknowns:** Unknown chromatographic peaks shall be identified, quantified, and reported to a reasonable extent. When unknown peaks are encountered, second column or second method

confirmation procedures shall be performed to attempt to identify and more accurately quantify the unknown analyte.

7. In cases where contaminants are detected in QA/QC samples (i.e., field, trip, or lab blanks), the accompanying sample results shall be appropriately flagged for easy reference.

B. CONCENTRATION LIMITS

1. The concentration limit for Monitoring Parameters and Constituents of Concern shall be determined as follows:
 - a. In cases where the constituent's Method Detection Limit is exceeded in less than ten percent of the historical samples, the MDL is the Concentration Limit.
 - b. In cases where the constituent's MDL is exceeded in ten percent or more of the historical sample, a statistically based Concentration Limit must be defined and regularly updated as follows:
 - i. Statistically analyze existing monitoring data, and propose, to the Executive Officer, statistically derived Concentration Limits for each Constituent of Concern and each Monitoring Parameter at each Monitoring Point for which sufficient data exists.
 - ii. In cases where sufficient data for statistically determining Concentration Limits does not exist the Discharger shall collect samples and analyze for Constituent(s) of Concern and Monitoring Parameter(s) which require additional data. Once sufficient data is obtained, the Discharger shall submit proposed Concentration Limit(s) to the Executive Officer for approval. This procedure shall take no longer than two calendar years.
 - iii. Sample and analyze new Monitoring Points, including any added by this monitoring and reporting program, until sufficient data is available to establish a proposed Concentration Limit for all COC and Monitoring Parameters. Once sufficient data is obtained the Discharger shall submit the proposed Concentration Limit(s) to the Executive Officer for approval. This procedure shall take no longer than two calendar years.
2. The Discharger shall review Concentration Limits annually. The past years data will be reviewed for application to revision of Concentration Limits. When appropriate, new Concentration Limits shall be proposed along with technical rationale for proposing the change.

C. RECORDS TO BE MAINTAINED

Water quality records shall be maintained by the Discharger, and retained for no less than a 30-year period. The period of retention shall be extended during the course of any unresolved litigation or when requested by the Executive Officer. Such records shall show the following for each sample:

1. Identity of sample and of the actual monitoring point designation from which it was taken, along with the identity of the individual who obtained the sample;
2. Date and time of sampling;
3. Date and time that analyses were started and completed, and the name of the personnel performing each analysis;
4. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used;
5. Chromatographs and calculation of results;
6. A complete chain of custody logs; and

7. Results of analyses, and the Method Detection Limit and Practical Quantitation Limit for each analysis.

D. STATISTICAL ANALYSIS

For Detection Monitoring during a COC event, the Discharger shall use statistical methods to analyze COCs that exhibit concentrations that equal or exceed their respective MDL in at least ten percent of applicable historical samples. For routine (i.e., semiannual) detection monitoring, the Discharger shall apply statistical methods for those Detection Monitoring Parameters defined in Table 2 of Part I.G. The Discharger may propose and use any statistical method that meets the requirements of California Code of Regulations, Title 27, Section 20414(e)(7). All statistical methods and programs proposed by the Discharger are subject to Executive Officer approval.

E. NON-STATISTICAL METHOD

The Discharger shall use the following non-statistical method for analyzing constituents, which are detected in less than ten percent of applicable historical samples. This method involves a two-step process:

1. From constituents to which the method applies, compile a specific list of those constituents, which exceed their respective MDL. The list shall be compiled based on either data from the single sample or in cases of multiple independent samples, from the sample, which contains the largest number of constituents.
2. Evaluate whether the listed constituents meet either of two possible triggering conditions. Either the list from a single well contains two or more constituents, or contains one constituent, which equals or exceeds its PQL. If either condition is met, the Discharger shall conclude that a release is tentatively indicated and shall immediately implement the appropriate re-test procedure as described in Section F. below.

F. RE-TEST PROCEDURE

1. In the event the Discharger concludes that a release has been tentatively indicated, the Discharger shall carry out the appropriate reporting requirements and, within 30 days of receipt of analytical results, collect two new suites of samples for the indicated COC or Monitoring Parameter(s) at each indicating Monitoring Point, collecting at least as many samples per Monitoring Point as were used for the initial test.
2. Analyze each of the two suites of re-test analytical results using the same statistical method (or non-statistical comparison) that provided the tentative indication of a release. If the test results of either (or both) of the re-tested data suites confirm the original indication, the Discharger shall conclude that a release has been discovered and shall carry out the appropriate requirements.
3. Re-tests shall be carried out only for the Monitoring Point(s) for which a release is tentatively indicated, and only for the COC or Monitoring Parameter(s) which triggered the indication. When a VOC analyte is re-tested the results of the entire VOC test method analyzed shall be reported.

PART III: REPORTING

A. MONITORING AND REPORTING SCHEDULE

A written Monitoring Report shall be submitted Semiannually by May 31 and November 30 of each year. The report shall address all facets of the Landfill's monitoring. Reports shall include, at a minimum, the following:

1. **Letter of Transmittal**

A letter transmitting the essential points shall accompany each report. The letter shall include a discussion of violations that occurred since the last such report was submitted. If no new violations have been discovered since the last submittal, this shall be stated in the transmittal letter. Both the monitoring report and the transmittal letter shall be signed by a principal executive officer at the level of vice president. Upon Regional Board Executive Officer approval, the cited signature can be by a California Registered Civil Engineer or Certified Engineering Geologist who has been given signing authority by the cited signatories. The transmittal letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct.

2. **Compliance Summary**

The update shall contain at least:

- a. Discussion of compliance with concentration limits. Release indications and actions taken.
- b. For each monitored groundwater body, calculate groundwater velocity and, based upon water level elevations taken during the Monitoring Period, graphically present groundwater flow direction under and around the Unit.

3. **Graphical Presentation of Analytical Data**

For each Monitoring Point in each medium, submit, in graphical format, the complete history of laboratory analytical data. Graphs shall effectively illustrate trends and/or variations in the laboratory analytical data (e.g., proper scale). Each graph shall plot a single constituent concentration over time at one (for intra-well comparison) or more (for inter-well comparisons) monitoring points in a single medium. Maximum contaminant levels (MCL) and/or concentration limits shall be graphed along with constituent concentrations where applicable. When multiple samples are taken, graphs shall plot each datum, rather than plotting mean values.

4. **Corrective Action Summary**

Discuss significant aspects of any corrective action measures conducted during the monitoring period. Calculate pollutant load removed from the sites impacted media by mass (water, gas, leachate) removal system(s). Mass removal calculations shall be based on actual analytical data as required by Part I.E. Present discussion and indications, relating mass removal data to the violation the corrective action is addressing.

5. **Laboratory Results**

Laboratory results and statements demonstrating compliance with Part II (Sample Collection and Analysis) and results of analyses performed at the Landfill, outside the requirements of this MRP, shall be summarized and reported.

6. **Sampling Summary**

- a. For each Monitoring Point addressed by the report, a description of: 1) the method and time of water level measurement; 2) the method of purging and purge rate and well recovery time; and 3) field parameter readings.
- b. For each Monitoring Point addressed by the report, a description of the type of sampling device used, its placement for sampling, and a description of the sampling procedure (number of samples, field blanks, travel blanks, and duplicate samples taken; the date and time of sampling; the name and qualification of the person actually taking the samples; description of any anomalies).

7. **Leachate Collection and Removal System (LCRS)**

A summary of the total volume of leachate collected each quarter since the previous monitoring report.

8. **Standard Observations**

A summary of Standard Observations made during the Monitoring Period as described in Part I.A.2.

9. **Map(s)**

A map or an aerial photograph showing Monitoring Points, relative physical features, and with groundwater contours overlaid on the map or the aerial photograph to the greatest degree of accuracy possible.

B. ANNUAL SUMMARY REPORT

The Discharger shall submit an annual report to the Regional Board covering the previous monitoring year. The annual Monitoring Period ends on September 31 each year. This report may be combined with the Second Semiannual Monitoring Report of the year and shall be submitted no later than November 30 each year. The annual report must include the information outlined in Part III.A., above, and the following:

1. **Discussion**

Include a comprehensive discussion of the compliance record, a review of the past year's significant monitoring system and operational changes, a summary of corrective action results and milestones, and a review of construction projects, with water quality significance, completed or commenced in the past year or planned for the upcoming year.

2. **Statistical Limit Review**

Statistically derived concentration limits shall be reviewed annually and revised as necessary. Data collected during the past year shall be discussed and considered for inclusion in, and determination of, proposed limits for the coming year. For statistical limits that are changed from the previous year, include a comprehensive discussion of the proposed limit for Executive Officer review and consideration.

3. **Analytical Data**

Complete historical analytical data presented in a tabular form and on 3.5" diskettes or CD-ROM, and ExcelTM format or in another file format acceptable to the Executive Officer.

4. **Graphical Presentation of Data**

Analytical results for the major anions and cations shall be presented on a trilinear diagram and Stiff diagrams to illustrate trends and/or variations in the inorganic geochemistry at the Landfill.

A discussion comparing the geochemical results from the groundwater monitoring wells and the Salinas River shall be included annually.

5. Leachate Collection System

Results of annual leachate system testing as required by Part I.E. Where leachate is used for dust control, testing that shows the leachate is non-hazardous shall be submitted annually.

6. Map(s)

A map, or set of maps, that indicate(s) the type of cover material in place (final, long-term intermediate, or intermediate) over inactive and completed areas.

C. CONTINGENCY RESPONSE

1. Leachate Seep: The Discharger shall, within 24 hours, report by telephone or electronic mail concerning the discovery of any previously unreported seepage from the Landfill disposal area. A written report shall be filed with the Regional Board within seven days, containing at least the following information:

- a. **Map** - a map showing the location(s) of seepage.
- b. **Flow rate** - an estimate of the flow rate.
- c. **Description** - a description of the nature of the discharge (e.g., all pertinent observations and analysis).
- d. **Location** - Location of sample(s) collected for laboratory analysis, as appropriate.
- e. **Corrective measures** - A summary of corrective measures both taken and proposed.

2. Physical Evidence of a Release: If either the Discharger or the Regional Board Executive Officer determines that there is significant physical evidence of a release pursuant to Title 27, Section 20385(a)(3), the Discharger shall conclude that a release has been discovered and shall:

- a. Within seven days notify the Regional Board of this fact by certified mail (or acknowledge the Regional Water Board's determination).
- b. Carry out the appropriate Release Discovery Response for all potentially-affected monitored media.
- c. Carry out any additional investigations stipulated in writing by the Regional Board Executive Officer for the purpose of identifying the cause of the indication.

3. Responses to an Initial Indication of a Release

Should the initial statistical or non-statistical comparison (under Part II.D.) indicate that a new release is tentatively identified, the Discharger shall:

- a. Within 24 hours, notify the Board verbally or via electronic mail as to the Monitoring Point(s) and constituent(s) or parameter(s) involved;
- b. Provide written notification by certified mail within seven days of such determination; and,
- c. Either of the following:
 - i Shall carry out a discrete re-test in accordance with Part II.F. If the re-test confirms the existence of a release or the Discharger fails to perform the re-test, the Discharger shall carry out the requirements of Part III.C.4. In any case, the Discharger shall inform the

Board of the re-test outcome within 24 hours of results becoming available, following up with written results submitted by certified mail within seven days, or;

- ii Make a determination, in accordance with Title 27, Section 20420(k)(7), that a source other than the waste management unit caused the release or that the evidence is an artifact caused by an error in sampling, analysis, or statistical evaluation or by natural variation in the groundwater, surface water, or the unsaturated zone.

4. Release Discovery Response

If the Discharger concludes that a new release has been discovered the following steps shall be carried out:

- a. If this conclusion is not based upon monitoring for COC, the Discharger shall sample for COC at Monitoring Points in the affected medium. Within seven days of receiving the laboratory analytical results, the Discharger shall notify the Executive Officer, by certified mail, of the concentration of COC at each Monitoring Point. This notification shall include a synopsis showing, for each Monitoring Point, those constituents that exhibit an unusually high concentration;
- b. The Discharger shall, within 90 days of discovering the release, submit to the Executive Officer a Revised Report of Waste Discharge proposing an Evaluation Monitoring and Reporting Program that:
 - i. meets the requirements of Title 27, Sections 20420 and 20425; and
 - ii. satisfies the requirements of 40 CFR Section 258.55(g)(1)(ii) by committing to install at least one monitoring well directly down-gradient of the center of the release;
- c. The Discharger shall, within 180 days of discovering the release, submit to the Executive Officer a preliminary engineering feasibility study meeting the requirements of Title 27, Section 20420; and
- d. The Discharger shall immediately begin delineating the nature and extent of the release by installing and monitoring assessment wells as necessary to assure that the Discharger can meet the requirements of Title 27, §20425 to submit a delineation report within 90 days of when the Executive Officer directs the Discharger to begin the Evaluation Monitoring Program.

5. Release Beyond Facility Boundary

Any time the Discharger or the Executive Officer concludes that a release from the Unit has migrated beyond the facility boundary, the Discharger shall so notify persons who either own or reside upon the land that directly overlies any part of the plume (Affected Persons).

- a. Initial notification to Affected Persons shall be accomplished within 14 days of making this conclusion and shall include a description of the Discharger's current knowledge of the nature and extent of the release.
- b. Subsequent to initial notification, the Discharger shall provide updates to Affected Persons, including any persons newly affected by a change in the boundary of the release, within 14 days of concluding there has been any material change in the nature or extent of the release.
- c. Each time the Discharger sends a notification to Affected Persons (under a. or b. above), the Discharger shall, within seven days of sending such notification, provide the Executive Officer with both a copy of the notification and a current mailing list of Affected Persons.

PART IV: DEFINITION OF TERMS

A. AFFECTED PERSONS

Individuals who either own or reside upon the land which directly overlies any part of that portion of a gas or liquid phase release that may have migrated beyond the facility boundary.

B. CONCENTRATION LIMITS

The Concentration Limit for any given COC or Monitoring Parameter in a given monitored medium shall be either:

1. The constituent's statistically determined background value or interval limit, established using an Executive Officer approved method (Parts II.D. and II.E.); or
2. In cases where the constituent's MDL is exceeded in less than 10% of historical samples, the MDL is the concentration limit defined in Part II.A.1.

C. CONSTITUENTS OF CONCERN (COC)

A broad list of constituents which are likely to be present in a typical municipal solid waste landfill. The COC parameters include all constituents listed in the Code of Federal Regulations, Title 40, Part 258, Appendix II. The COCs for this Landfill are listed in Table 4.

D. MATRIX EFFECT

Any increase in the MDL or PQL for a given constituent as a result of the presence of other constituents, either of natural origin or introduced through a release, that are present in the sample being analyzed.

E. METHOD DETECTION LIMIT (MDL)

The lowest concentration at which a given laboratory, using a given analytical method to detect a given constituent, can differentiate with 99% reliability, between a sample which contains the constituent and one which does not. The MDL shall reflect the detection capabilities of the specific analytical procedure and equipment used by the laboratory.

F. MONITORED MEDIUM

Those media that are monitored pursuant to this MRP (groundwater, surface water, leachate, landfill gas condensate, and other as specified).

G. MONITORING PARAMETERS

A short list of constituents and parameters used for the majority of monitoring activities. The Monitoring Parameters for this Unit are listed in Table 2 of this MRP.

H. MONITORING PERIOD (frequency)

The duration of time during which a sampling event must occur. The Monitoring Period for the various media and programs is specified in Part I.F.4. and in Table 1. The due date for any given report will be 30 days after the end of its Monitoring Period, unless otherwise stated.

I. POINT OF COMPLIANCE (POC)

The Point of Compliance is as defined in CCR Title 27. For the purposes of this Landfill, the POC follows the edge of the Landfill's "Subtitle D Footprint".

J. PRACTICAL QUANTITATION LIMIT (PQL)

The lowest acceptable calibration standard (acceptable as defined for a linear response or by actual curve fitting) times the sample extract dilution factor times any additional factors to account for Matrix Effect. The PQL shall reflect the quantitation capabilities of the specific analytical procedure and equipment used by the laboratory. The PQLs reported by the laboratory shall not simply be restated from USEPA analytical method manuals. Laboratory derived PQLs are expected to closely agree with published USEPA estimated quantitation limits (EQL).

K. RECEIVING WATERS

Any surface water, which actually or potentially receives surface or groundwater, which pass over, through, or under waste materials or contaminated soils.

L. VOLATILE ORGANIC COMPOUND (VOC) COMPOSITE MONITORING PARAMETER (VOC composite)

VOC composite is a composite parameter that encompasses a variety of VOCs. The constituents addressed by the VOC composite Monitoring Parameter include all VOCs detectable using USEPA Methods 8260B (water) and TO-14 (gas).

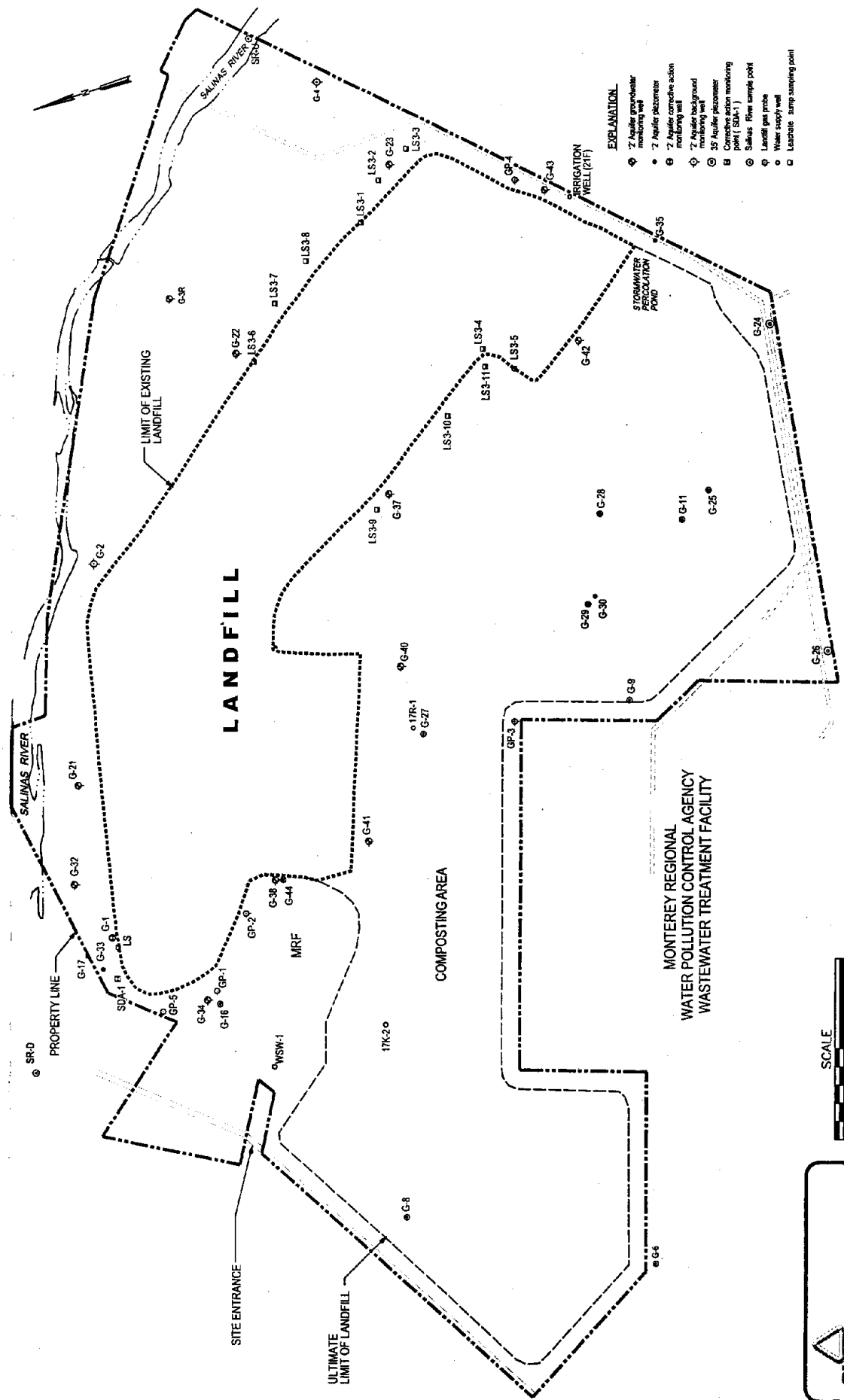
All reports required in this MRP are required pursuant to California Water Code Section 13267. Any person affected by this action of the Regional Board may petition the State Water Resources Control Board (State Board) to review the action in accordance with section 13320 of the California Water Code and Title 23, California Code of Regulations, Section 2050. The petition must be received by the State Water Resources Control Board within 30 days of the date of this Order. Copies of the law and regulations applicable to filing petitions will be provided upon request.

ORDERED BY:


Executive Officer

DATE:

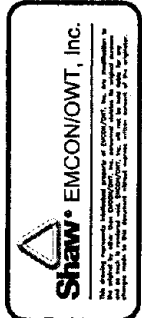
2-21-06



- EXPLANATION**
- ⊕ 2" Aquifer groundwater monitoring well
 - ⊕ 2" Aquifer piezometer monitoring well
 - ⊕ 2" Aquifer corrective action monitoring well
 - ⊕ 2" Aquifer background monitoring well
 - ⊕ 35" Aquifer piezometer
 - ⊕ Corrective action monitoring point (SDA-1)
 - ⊕ Salinas River sample point
 - ⊕ Landfill gas probe
 - ⊕ Water supply well
 - ⊕ Leachate lamp sampling point



SOURCE: Goldier Associates, 2004



Source: EMCON



**Monterey Peninsula Class III Landfill
Marina, California**

Monitoring Point and Landfill Boundary Location Map

Figure 1