

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

**REVISED WASTE DISCHARGE REQUIREMENTS ORDER NO. R3-2004-0111  
Waste Discharger Identification No. 3 430307001**

**for**

**PACHECO PASS CLASS III  
AND INERT WASTE LANDFILL  
SANTA CLARA COUNTY**

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

**LANDFILL OWNER AND LOCATION**

1. Norcal Waste Systems Pacheco Pass Landfill, Inc. (hereafter referred to as “Discharger”) owns and operates the Pacheco Pass Class III and Inert Waste Landfill (hereafter referred to as “Landfill”).
2. The discharge of waste to land is regulated by Title 27, California Code of Regulations (CCR Title 27). The terms used in this permit are defined in CCR Title 27, Section 20164.
3. The Landfill is located in an unincorporated area of south Santa Clara County, California, approximately seven miles east of the city of Gilroy. The physical address of the Landfill is 3675 Pacheco Pass Highway, Gilroy, California 95020. The Landfill is located in Section 12, Township 2 South, Range 4 East, Mount Diablo Base and Meridian as shown on the attached **Figure 1**. The Landfill latitude is 36°99 and the longitude is 121°49.
4. The Landfill includes a 31-acre permitted Class III Landfill designated for municipal solid waste (MSW), which consists of a closed unlined landfill and a composite lined active landfill. The active landfill is referred to as Module A. North and west of Module A, an engineered buttress fill of inert waste (predominantly shredded tires) exists to allow continued placement of MSW within the limits

of Module A as shown on **Figure 2**. The Landfill also includes a 35-acre area permitted for inert waste disposal, which is referred to as Modules B, C and D (B-D). The Landfill area designated as Modules B-D, currently serves as the soil borrow site for Module A, but inert wastes have also been placed within unlined excavations of the native soil and bedrock materials in this area. Additionally, a composting facility exists in the northern portion of the Landfill that is owned and operated by South Valley Organics, a dba of Norcal Waste Systems Pacheco Pass Landfill.

5. The 170-acre landfill site is comprised of seven parcels of land with the following County of Santa Clara Assessor Parcel Numbers:
  - 841-41-014 (Parcel 1A), 841-41-015 (Parcel 1B), 841-41-010 (Parcel 3) – Class III and inert waste Landfill totaling approximately 91 acres,
  - 841-41-016 (Parcel 2B) and 841-41-017 (Parcel 2A) – undeveloped land totaling approximately 45 acres,
  - 841-41-007 – environmental easement parcel totaling approximately 31.5 acres, and
  - 841-41-012 - access road parcel totaling approximately 2.5 acres.

**PURPOSE OF ORDER**

6. The purpose of Waste Discharge Requirements (WDR) Order No. R3-2004-0111 (Hereafter “Order” or “Order No. R3-

2004-0111”) is to revise, update and replace Order No. 94-72, adopted by the Board on October 18, 1994.

7. The Discharger submitted a Joint Technical Document (JTD) on October 2, 2003. The discharger submitted revisions to the JTD on August 10, 2004 in response to comments from Regional Board staff in a letter dated July 9, 2004. Within the JTD, the Discharger proposes modification of the existing design and operations of the Landfill. This Order update includes the following key elements:

- A detailed review of the entire 170-acre Landfill site.
- Review and revision of Monitoring and Reporting Program 94-72 (MRP 94-72 [revised in February 1997]), which includes landfill gas, leachate, groundwater and surface water monitoring.
- Review proposed modification to the design and waste stream of Modules B-D.
- Reclassify Modules B-D as a non-MSW Class III landfill unit with a restricted waste stream of Construction and Demolition (C&D) and inert waste.
- Update Order No. 94-72 to require Landfill compliance with CCR Title 27, Solid Waste, effective July 18, 1997; and, 40 CFR Parts 257 and 258 Solid Waste Facility Disposal Criteria, Final Rule, as promulgated October 9, 1991 (40CFR 257 and 258).

## LANDFILL SITE DESCRIPTION AND HISTORY

8. The landfill is located on the western flank of the Diablo Range adjacent to and east of the Santa Clara Valley. The site is characterized by the natural southwest-facing hillsides ranging in elevation from 300 to 550 feet above mean sea level (msl). The southwest-facing slopes are locally dissected by southwest-trending drainages that drain to the southern Santa Clara Valley.
9. The Landfill was originally situated on three parcels of land that are now subdivided into five parcels. Parcel 1 and 2 were

approximately 31 and 45 acres, respectively, and were jointly owned by Mr. and Mrs. F.L. Furtado and the Gilroy Garbage Company. The Discharger owns Parcel 3, which encompasses approximately 60 acres of land. In 1986, Parcels 1 and 2 were officially split between the Furtados and the Gilroy Garbage Company resulting in the current parcel designations of 1A, 1B, 2A, and 2B (**Figure 2**). The Furtados own Parcels 1A and 2A and the Gilroy Garbage Company owns Parcels 1B and 2B. In 1993, an environmental easement of approximately 31.5 acres adjacent to and southwest of Parcels 1A and 1B was obtained from the Furtados for construction and access to necessary environmental control facilities (drainage structures, monitoring wells, landfill gas collection and control systems, etc.).

10. The Landfill was first operated by Gilroy Garbage in 1963. To accommodate local agricultural processing activities, filling took place mostly in the summer months from 1963 through 1974. During the winter, operations were moved to the Gilroy Landfill on the Santa Clara Valley floor. Year-round use of the Landfill began in 1974.
11. The Discharger assumed landfill operations for the entire site in 1973. The Discharger currently has an agreement with Gilroy Garbage to conduct solid waste management operations and with the Furtados to provide ongoing site maintenance and environmental monitoring.
12. Since 1963, the Landfill has received commercial, agricultural, and residential wastes from Gilroy, Morgan Hill, and the unincorporated areas of Santa Clara County, including San Martin. Limited information is available on landfill practices during the early years of site operation but records indicate that disposal began on Parcel 1 in 1963 and continued until August 1989. After 1989, operations were moved from Parcel 1 to Parcel 3 with the exception of Parcel 1B where filling continued.
13. The Regional Board has regulated waste discharge at the Landfill since 1972. Waste Discharge Requirements Order No. 72-55 was adopted on September 8, 1972 and replaced by

Order No. 78-09 on September 8, 1978 to include Water Quality Control Plan basin objectives. On February 8, 1985, Order No. 85-11 was adopted to approve a landfill expansion. The Order allowed continued disposal of Class III wastes in Parcel 1 and permitted expansion of disposal operations from Parcel 1 into Modules A, B, and C in Parcel 3 (Figure 2).

14. In 1986, Holocene faults of the Calaveras Fault system were found to underlie the Landfill. Identification of these faults during excavation of Module A established that the expansion design did not meet the siting requirements of Subchapter 15 of Title 23 of the CCRs for disposal of Class III waste. On February 16, 1990, the Regional Board adopted Order No. 90-34 to approve changes to the conceptual development plan for the Landfill. However, due to additional fault discoveries the Regional Board requested another conceptual development plan for the Landfill. In response to the Regional Board's request, the Discharger submitted "The Operations Plan, Pacheco Pass Class III and Inert Waste Landfill" (Operations Plan) which proposed development of Modules B, C, and D for inert waste, and a stabilizing buttress fill to the north and west of Module A. The stabilizing buttress north and west of Module A was proposed to allow for continued placement of Class III waste in Module A. The Regional Board approved the Operations Plan and adopted Order No. 94-72 on October 14, 1994.

15. The primary land use surrounding the Landfill consists of cattle grazing, farmland and open space with typical 20- to 40-acre spacing. Adjacent land use zones vary within 1 mile of the site and include the following, in order of decreasing area:

- Exclusive agricultural (greenbelt) - grazing and farmland
- Hillside - principally grazing land and undeveloped land
- Agricultural ranchlands - similar to hillside zoning
- Agricultural productive - exclusively farmland
- Scenic Highway

16. There are no residences within 1,000 feet of the landfill boundaries. Land within 1,000 feet of the site is mainly used for grazing and farming. The nearest residence is approximately 2,800 feet west of the landfill.

## WASTE TYPE & CLASSIFICATION

17. Currently, non-hazardous MSW and inert waste are accepted at the Landfill. Municipal solid waste is primarily received from Gilroy, Morgan Hill and the unincorporated areas of Santa Clara County, including San Martin. Solid wastes delivered to the landfill, classified as residential, commercial, and industrial, are transported to the site by commercial haulers. The Landfill is not open to the public. As materials arrive on site, they are handled according to four general categories:

- Inert waste for disposal in Modules B-D and used as alternative daily cover (ADC);
- MSW for disposal in Module A (composite-lined cell);
- Green waste suitable for composting or ADC (dry weather only);
- Inert waste suitable for buttress construction, north and west and supporting Module A.

The Landfill received approximately 91,400 tons and 64,800 tons of MSW and inert waste, respectively, in 2003.

18. Due to limited capacity remaining for the MSW Landfill, the JTD reports that the incoming MSW tonnage will be reduced to 15,000 tons per year starting in July 2004 and an increase of incoming MSW will not occur thereafter. Based on the new MSW tonnage estimates, the remaining space in Module A is approximately 265,000 cubic yards (cy). However, approximately 206,000 cy of remaining space is available until Modules B-D reach capacity in 12 to 18 years. Therefore, Module A is estimated to reach capacity in approximately six years, based on 206,000 cy of space remaining and a space consumption ratio of approximately 2.19 cy per ton of waste placed. The Modules B-D portion of the Landfill will have approximately 2.3 million

cy of capacity and is expected to receive 78,000 to 132,000 tons of C&D waste annually starting in July 2005. The incoming waste volumes are assumed to increase at a rate of 3 percent per year. Therefore, Modules B-D is expected to reach capacity between 12 and 18 years based on a space consumption ratio of 1.4 cy per ton of waste received and a daily cover to waste ratio of 3 to 1. The engineered buttress, north and west of Module A, requires approximately 450,000 cy of inert fill material.

19. Wastes received are classified as non-hazardous solid wastes or inert wastes using the criteria set forth in CCR Title 27. Inert waste is that subset of solid waste that does not contain hazardous waste or soluble pollutants at concentrations in excess of applicable water quality objectives, and does not contain significant quantities of decomposable waste.
20. Wastes are disposed of utilizing the area-fill disposal method. Waste is typically placed with an operating slope of 2:1 (horizontal to vertical) or flatter. The waste is typically pushed down the fill slope and spread and compacted in 2-foot-thick layers.

### PROPOSED MODIFICATIONS TO DESIGN AND OPERATIONS

21. The Discharger proposes to modify the design in the Module B-D area to the north and east of Module A such that a modified waste stream composed of C&D waste in addition to the currently permitted inert wastes will be acceptable. Therefore, the Discharger proposes to re-classify Modules B-D as a non-MSW Class III landfill unit with a restricted waste stream. No changes to the operation of the Module A area are proposed.
22. The proposed fill plan design incorporates a revised configuration for Modules B-D that does not increase the permitted height, but reduces the permitted landfill footprint.
23. A liner system is not required for C&D or inert waste landfills according to CCR T27 Section 20320. However, the Discharger has proposed the following bottom liner and Leachate Collection and Recovery System (LCRS) design from bottom to top:
  - Prepared soil subgrade,
  - 60-mil high density polyethylene (HDPE) textured geomembrane,
  - 1-foot thick free-draining gravel or sand drainage layer,
  - 2-foot thick shredded tire or sand operations layer.

On steeper slopes, the liner and LCRS design proposed from bottom to top are:

  - Prepared soil subgrade,
  - 60-mil high density polyethylene (HDPE) textured geomembrane,
  - 2-foot thick free-draining gravel or sand drainage layer/operations layer,
24. The Modules B-D area will be lined and filled in four phases (Phase 1, 2, 3 and 4). Phase 1 is situated in the eastern fault block between the central and eastern secondary traces of the Calaveras Fault. The Phase 2 area will be constructed farther to the east within the far eastern block. The Phase 1 liner will be set back a minimum of 20 feet from the fault traces. This set back from the fault will create a 40-foot wide buffer zone of earthen material between the Phase 1 and Phase 2 areas, bounding to the eastern fault trace. The filling of this buffer zone will be restricted to placement of inert waste and unimpacted soil only. In addition, the liner will be sloped away from the faults and no LCRS pipes will cross the fault traces. These features of the construction of the Modules B-D area are designed to enable the liner and LCRS to continue to function in the event of fault rupture. Phase 3 construction will consist of lining the remaining portion of the borrow area up to the western limits of the compost facility. The last phase, Phase 4, will extend the liner system over the limits of Module A and Module A engineered buttress fill. The liner will also extend up to the western edge of the compost facility and into the back canyon area. The proposed positioning of the liner system for Modules B-D are shown on **Figure 3**.

## GEOLOGY/HYDROGEOLOGY

25. **Setting** – The landfill is located on the western flank of the Diablo Range adjacent to and east of the southern Santa Clara Valley. The main trace of the northwest-trending Calaveras fault zone is approximately 800-feet to 1,000-feet northeast of Parcel 1 and 3 and is an active Holocene fault (**Figure 2**).
26. **Topography** – The site is characterized by the natural southwest-facing hillsides ranging in elevation from 300 to 550 feet msl. The southwest-facing slopes are locally dissected by southwest-trending drainages that drain to the Santa Clara Valley. The elevation of the Santa Clara Valley floor southwest of the site is approximately 150 feet msl. Natural side-slopes of the site range in grade from 10 to 40 percent. The existing topography for the site is shown on **Figure 4**.
27. **Geologic Structure** – The Diablo Range in the vicinity of the site is composed primarily of Pleistocene to Cretaceous sedimentary and volcanic rocks. On the western margin of the range, rocks are folded and faulted along the Calaveras Great Valley Sequence. The Santa Clara Valley, a northwest-trending structural depression between the Diablo Range on the east and the Santa Cruz Mountains on the west, is underlain by Quaternary alluvium that overlies the older Santa Clara Formation and the Pliocene-age Purisima Formation. Bedrock earth materials beneath the Landfill consist entirely of the Santa Clara Formation and bedding and structural features generally trend northwest. The Santa Clara Formation was originally deposited in an alluvial fan environment, and is composed of discontinuous lenticular irregularly bedded claystone, siltstone, sandstone and conglomerate.
28. **Stratigraphy** – The soil within one mile of the Landfill consists of loams and gravelly loams with lesser amounts of clay. The three predominant soil series are the Altamont, the Azule, and the Gaviota. The southern corner of the site encompassing the majority of the active landfill area is underlain by Altamont clay. The central portion of the site including the northeastern strip of the active landfill area is underlain by Azule clay loam. The narrow strip of soil along the northeast border of the site is also composed of Azule clay loam.
29. **Faulting/Seismicity** – The landfill is located along the southwest zone of the Calaveras Fault. The Calaveras Fault is considered Holocene in age because movement has been recorded within the last 10,000 to 12,000 years. Active segments of the Calaveras Fault system divide the site into unique fault blocks. The fault blocks are characterized by northwest-trending strikes and opposing dips. The main trace of the northwest-trending Calaveras Fault is approximately 800-feet to 1,000-feet northeast of Parcels 1 and 3. A study by Kelson (2001) has been performed documenting the movement along the Calaveras Fault on the Furtado Ranch site in Parcel 2A and 2B, east of the active Landfill and compost facility. This study showed a “right-lateral offset of 400 +/-30 millimeters (mm) across a well-defined zone less than 5 meters wide. These data indicate a 29-year-long creep rate of 14 +/-1 mm/year”. Three active secondary faults trending subparallel to the Calaveras Fault have been traced beneath both Parcels 1 and 3. Structural displacement across the secondary faults includes active lateral displacement estimated to be 4 mm/year to 7 mm/year (Hall, 1974) as well as a significant vertical component. The first two traces of the Calaveras Fault system dip steeply to the northeast toward the main trace of the Calaveras Fault. They divide the bedrock underlying the site into three fault blocks informally referred to as the eastern, central, and western fault blocks. Where the fault traces are exposed they contain cohesive sheared clayey gouge. The Calaveras Fault is capable of generating earthquakes up to magnitude 7.0 with ground accelerations estimates of 0.69g at the Landfill. The nearby San Andreas is considered to be capable of generating earthquakes up to magnitude 8.3 with ground accelerations of 0.47g at the Landfill.
30. **Hydrogeology** – The Landfill is located in a complex fractured-bedrock hydrogeologic regime situated on the eastern margin of the southern Santa Clara Valley groundwater basin. The Landfill lies within the Pacheco-

Santa Ana Creek Hydrogeologic Area of the Pajaro River Hydrologic Unit. Surface drainage could potentially reach the Pajaro River but the Landfill lies outside the Pajaro River 100-year floodplain. Aquifers beneath the Santa Clara Valley are the principal sources of groundwater in the area. Wells in the basin draw water from a combination of alluvial deposits in the underlying Santa Clara and Purisima Formations. The Santa Clara Formation contains groundwater within the more permeable conglomerate and sandstone beds which are controlled by stratigraphy and geologic structure. Groundwater flow in the Santa Clara Formation on the upland margins near the site is strongly influenced by individual fault traces of the Calaveras Fault zone which appear to act as barriers to groundwater flow. Within the fault blocks, groundwater flow is influenced by lithology. Although the regional hydraulic gradient is toward the valley, complex pathways exist because of the restrictions in groundwater flow caused by fault boundaries in the area.

## GROUNDWATER, STORM WATER AND SURFACE WATER

31. **Groundwater** – Bedrock units and geologic structure dictate the occurrence of groundwater beneath the site. Active traces of the Calaveras Fault zone create three distinct hydrogeologic units beneath the Landfill. Groundwater generally occurs in the more permeable sandstones and conglomerates within the fault blocks under confined conditions. The groundwater elevation from September 1997 until May 2004 in the western fault block ranged from 198.56 to 316.27 feet msl; from 227.21 to 321.78 feet msl in the central fault block; from 295.95 to 383.12 feet msl in the eastern fault block; and from 324.28 to 330.03 feet msl in the far eastern fault block. The fault blocks are separated by low permeability clay gouge zones, the groundwater within each block is generally isolated from groundwater in adjacent blocks and therefore acts as distinct groundwater units.

Piezometric elevation contours at the site are generally subparallel to the topographic

contours, with an overall gradient (approximately 0.1 foot/foot) to the southwest, toward the Santa Clara Valley. Bedding and faulting strongly influence groundwater flow beneath the site and are oriented roughly parallel to the hills and perpendicular to the groundwater gradient. Groundwater flow within each fault block appears to be restricted by the less permeable geologic material (i.e., claystone, siltstone, and clayey fault gouge). Therefore, a large component of groundwater flow within the fault blocks is within the plane of highest hydraulic conductivity, which is to the northwest, parallel to the strike of the bedding. The groundwater bearing sandstones and conglomerates form a complex, but generally continuous, flow zone bounded by low-permeability siltstone, claystone and faulting gouge layers. Connection between water-bearing beds occurs generally along strike and not across non-water-bearing beds. Average linear flow velocities within the central fault block in 2003 range from 0.07 to 105 feet per year for the silty sandstone and sandy conglomerate units, respectively.

32. **Organic Groundwater Quality** – Landfill groundwater monitoring started in August 1985. Informal verification monitoring began when indications of groundwater impacts (i.e., volatile organic compounds [VOCs]) were detected in 1987. On February 16, 1990, the Regional Board adopted WDR Order No. 90-34 that included an evaluation monitoring program for Parcel 1 and a detection monitoring program for Parcel 3. The present groundwater quality monitoring system consists of 14 groundwater monitoring wells; 9 wells in detection monitoring and 5 wells in corrective action monitoring (**Figure 4**). According to the First and Second Quarter 2004 Semi-Annual Report, there have been sporadic trace VOC detections in several detection monitoring wells. The sporadic detections of VOC have been attributed to landfill gas migration. Additional gas extraction wells were installed in 2002 to improve the control of landfill gas migration. The VOC concentrations show decreasing trends after the additional gas extraction wells were installed. The corrective action wells continue to show low concentrations of several VOCs. VOCs detected during the second

quarter of 2004 include dichlorodifluoromethane at concentrations up to 1.9 micrograms per liter ( $\mu\text{g/l}$ ); 1,1-dichloroethane at concentrations up to 2.0  $\mu\text{g/l}$ ; cis-1,2-dichloroethene at concentrations up to 26  $\mu\text{g/l}$ ; methylene chloride at concentrations up to 2.8  $\mu\text{g/l}$ ; tetrachloroethene at concentrations up to 35  $\mu\text{g/l}$ ; trichloroethene at concentrations up to 10  $\mu\text{g/l}$ ; and trichlorofluoromethane at concentrations up to 1.9  $\mu\text{g/l}$ . Some of the VOCs are detected above the maximum contaminant level (MCL) and Basin Plan objectives. The Landfill has implemented source control measures involving reduction of infiltration to the Landfill and removal of leachate and landfill gas as long-term corrective action measure. Corrective action measures implemented at Parcel 1 include:

- Installation and operation of a leachate removal and handling system, as well as upgrading the system by installing additional wells, upgrading pumps, and implementing additional storage capacity;
- Controlling infiltration through placement of final cover on closed portions of the Landfill;
- Installation and operation of a landfill gas extraction system; and
- Installation of a moisture barrier on the north-facing sideslope of Parcel 1 as part of the construction of Phase IV within Module A.

33. **Inorganic Groundwater Quality** – Since groundwater monitoring was instituted at the Landfill, all the wells, including background well E-1 (**Figure 4**), have consistently exceeded secondary MCL's for TDS (500 milligram per liter [ $\text{mg/l}$ ]) and specific conductance (900 micromhos per centimeter [ $\mu\text{mhos/cm}$ ]) due to poor natural groundwater quality and variability. Historical concentrations of TDS range from 230  $\text{mg/l}$  to 2500  $\text{mg/l}$  and specific conductance range from 653  $\mu\text{mhos/cm}$  to 5820  $\mu\text{mhos/cm}$ . Groundwater is also routinely analyzed for chloride, nitrate and sulfate. Chloride has been detected at concentrations ranging from 11 to 230  $\text{mg/l}$ ; nitrate from 0.03 to 25.9  $\text{mg/l}$ ; and sulfate from 4.5 to 120  $\text{mg/l}$ . According to the First and Second Quarter 2004 Semi-

Annual Report, all first and second quarter 2004 inorganic results were within the concentrations limits for the detection monitoring wells with the exception of nitrate in well E-25. The analytical results were compared to concentration limits calculated using data through the end of fourth quarter 2003. The nitrate concentrations detected during the second quarter of 2004 in E-25 exceeded the concentration limit for nitrate (9.3  $\text{mg/l}$ ) by 0.6  $\text{mg/l}$ . For the corrective action monitoring wells, statistically significant trends were calculated for all inorganic parameters.

34. **Supply Wells** - Groundwater from the eastern side of the Santa Clara Valley near the site is pumped for a variety of uses. As of 1991, there were 36 wells within one-mile of the site. No additional wells were installed since 1991. **Figure 5** shows the locations of water producing wells within one-mile of the site. Three wells are north and east of the site and withdraw water from sediments of the Diablo Range for livestock use. The remaining wells are in the Santa Clara Valley and withdraw water primarily from the alluvial sediments. Sixteen of the valley wells are reportedly used for domestic supply or a combination of domestic, agricultural, municipal, and industrial use. Eight wells are reportedly used exclusively for agricultural irrigation supply. The nearest downgradient well is approximately 2,500-feet from Parcel 1 of the Landfill. The owner of the southern portion of Parcel 1 owns the well and uses water for municipal, industrial and domestic supply. The next nearest wells are approximately 3,000-feet from Parcel 1 and supply water for agricultural, industrial and domestic use.
35. **Groundwater Recharge** - The groundwater basin near the site occurs both as surface inflow and as subsurface inflow. Surface inflow constitutes the principle source of recharge to the basin and includes infiltration of precipitation and excess irrigation water, percolation along streams, canals and other waterways and artificial recharge from percolation ponds.
36. **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. Currently, the landfill meets this requirement.

37. **Surface Water** – Surface water monitoring at the site is performed consistent with Revised MRP No. R3-2004-0111, State Water Board’s National Pollutant Discharge Elimination System (NPDES) General Industrial Storm Water Permit and the facility’s Storm Water Pollution Prevention Plan (SWPPP). The surface water sampling activities occur quarterly and consist of run-off sampling and analysis at three sample locations identified as SW-1, SW-2, and SW-3. SW-1 monitors storm water run-off prior to discharge to the off-site sedimentation retention basin located south of Parcel 1, whereas SW-3 monitors the discharge from the on-site sedimentation retention basin in the northwest property corner. SW-2 monitors discharge along the southern property boundary. **Figure 4** shows these locations.
38. **Storm Water** – The landfill design incorporates access roads, drainage benches, culverts, overside drains, and collection berms to control the run-off. A perimeter drainage channel on the north side of the Landfill collects run-off from a majority of the Landfill and the compost facility and directs it to a sedimentation pond located at the northwest corner of the Landfill. The water from the pond then discharges west through an overflow spillway into natural drainage swales that drain toward Pacheco Pass Road, the Santa Clara Valley, and the Pajaro River. The sedimentation pond and spillway are designed to accommodate the discharge from the 100-year, 24-hour storm.
39. **Storm Water Permitting** – In addition to this Order, the Discharger is required to be covered under a Statewide General Storm Water Permit. The Landfill gained coverage on February 24, 1992, under “State Water Resources Control Board Water Quality Order No. 97-03-DWQ National Pollutant Discharge Elimination System General Permit No.

CAS000001 Waste Discharge Requirements for Discharge of Storm Water Associated with Industrial Activities Excluding Construction Activities”.

40. **Precipitation** - Rainfall is seasonal with the majority of the precipitation falling between November and March. The annual average precipitation recorded for the city of Gilroy is estimated to be 19.8 inches from the years 1961 to 1990. Based on the isohyetal map of California, the annual precipitation at the site is approximately 16 inches. The site-specific 100-year, 24-hour storm is 7.5 inches.
41. **Flooding** - The site is not located in a 100-year flood plain according to the Federal Emergency Management Agency maps for Santa Clara County.

## CONTROL SYSTEMS/MONITORING PROGRAMS

42. **Leachate/Groundwater Control Systems** – A gravel blanket LCRS, in conjunction with a base liner system, is in place in Module A. The gravel blanket LCRS directs any collected leachate into one of four separate sumps. Twelve-inch diameter riser pipes extend from the sumps and provide access to the sumps for leachate accumulation monitoring, sampling and removal. Nine leachate monitoring/extraction wells are located in the older, unlined landfill parcels (Parcels 1A and 1B).
43. **Landfill Gas Control** – The Landfill’s gas control system began permitted operations in December 1995. The LFG collection system consists of the following major components: vertical gas wells, gas control valves, condensate drain points, and a gas collection piping system connecting the wells with the blower/flare complex. Landfill gas is collected via gas extraction wells in Module A and Parcel 1 MSW areas.
44. **Groundwater Monitoring** – Groundwater is monitored by nine detection monitoring wells (E-6, E-9, E-17, E-18, E-19, E-23, E-25, E-26, and E-27) and five corrective action monitoring wells (E-4, E-7, E-8, E-10, and E-



- 21). The well locations are shown on **Figure 4**. Wells E-21 and E-23 are located within the eastern fault block, wells E-6, E-18, and E-19 are located within the central fault block, and wells E-9, E-17, E-25, E-26, and E-27 are located within the western fault block. The corrective action monitoring wells are all located within the western fault block. Monitoring well E-20 was recently abandoned due to continuing placement of waste around this well. The Discharger replaced well E-20 with well E-21 to monitor groundwater along the uppermost flow zone northwest of Module A in the eastern fault block.
45. **Groundwater Monitoring Network** - The present water quality monitoring system consists of 14 groundwater monitoring wells, which are sampled according to a schedule specified in the attached MRP. Wells used for water level monitoring are specified in MRP R3-2004-0111. The Discharger proposes that additional wells be installed as waste placement proceeds. **Water Quality Protection Standard D.10** requires the Discharger to submit a detailed Monitoring Plan for these additional wells. This plan will be incorporated into the Monitoring and Reporting Program following approval by the Regional Board Executive Officer. Refer to **Figure 4**, for monitoring well locations.
46. **Leachate Monitoring** – The leachate sumps in Module A are inspected routinely for leachate accumulation. If detected, leachate is sampled and tested for the constituents specified in MRP Order No. R3-2004-0111. Leachate is either disposed of on-site through dust control or hauled off-site for disposal. In the JTD, the Discharger proposes on-site evaporation of leachate as an alternative disposal method. An Executive Officer-approved design and operating plan will be required for any on-site evaporation ponds proposed for the Landfill.
47. **Surface Water Monitoring** – Surface water is monitored at three locations around the Landfill. Surface water monitoring is conducted in accordance with the MRP No. R3-2004-0111. Additionally, storm water monitoring complies with the State's NPDES storm water discharge general permit.
48. **Landfill Gas Monitoring** – Landfill gas monitoring requirements are stipulated in the attached MRP. Landfill gas quantity and quality are measured regularly according to the MRP.

#### BASIN PLAN

49. The Water Quality Control Plan, Central Coast Basin (Basin Plan), was adopted by the Board on November 17, 1989 and amended February 8, 1994. The State Water Resources Control Board approved the Basin Plan on August 16, 1990 and the Basin Plan amendments on May 18, 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.
50. Present and anticipated beneficial uses of surface water of the Pajaro River include:
- Domestic and Municipal Supply
  - Agricultural Supply
  - Groundwater Recharge
  - Non-Contact Water Recreation
  - Contact Water Recreation
  - Wildlife Habitat
  - Cold Freshwater Habitat
  - Fish Migration
  - Fish Spawning
51. The beneficial uses of groundwater in the vicinity of the Landfill include:
- Domestic and Municipal Supply
  - Agricultural Supply
  - Industrial Supply

#### CALIFORNIA ENVIRONMENTAL QUALITY ACT

52. This Order contains prohibitions, discharge specifications, water quality protection standards, and provisions intended to protect the environment by mitigating or avoiding impacts of the project on water quality. The project is exempt from provisions of the California Environmental Quality Act (Public

Resources Code, Section 21000, and et seq.) in accordance with Title 14, Chapter 3, Section 15301.

53. The Santa Clara County Department of Planning and Development approved a Mitigated Negative Declaration for the project on June 7, 1984. The Regional Board, as a Responsible Agency, has reviewed and considered the Mitigated Negative Declaration and finds that the identified mitigation measures in combination with the requirements contained in this Order, will reduce water quality impacts to less than significant.

### GENERAL FINDINGS

54. Discharge of waste is a privilege, not a right, and authorization to discharge waste is conditioned upon the Discharger 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 assure conditions are met and mitigate any potential changes in water quality caused by the project.

55. The Landfill operates under the following Orders and Permits:

- Waste Discharge Requirements Order No. R3-2004-0111.
- National Pollutant Discharge Elimination System General Industrial Storm Water No. CAS000001.
- Santa Clara County Health Department Permit to Operate No. 4606 dated December 16, 1977
- County Use Permit dated June 22, 1984
- Solid Waste Facilities Permit No. 42-AA-0004, issued on February 2, 1999 by the Santa Clara County Health Department with concurrence from the Integrated Waste Management Board for the Landfill, and subsequent revisions.
- Solid Waste Facilities Permit No. 42-AA-0017, issued on April 29, 2002 by the Santa Clara County Health Department with concurrence from the Integrated

Waste Management Board for the compost facility, and subsequent revisions.

- Conditional Use Permit, 2102-86-17, Santa Clara County Planning Department, issued 1985, with 1997 and 2002 amendments for the Landfill and compost facility.
56. 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.
57. On **September 8, 2004**, the Regional 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.
58. After considering all comments pertaining to this discharge during a public hearing on **December 3, 2004** this Order was found consistent with the above findings.

**IT IS HEREBY ORDERED** pursuant to authority in Section 13263 of the California Water Code, Norcal Waste Systems Pacheco Pass Landfill, their agents, successors, and assigns may discharge wastes at the Pacheco Pass Class III and Inert Waste Landfill, providing compliance is maintained with the following:

### **COMPLIANCE WITH OTHER REGULATIONS, ORDERS AND STANDARD PROVISIONS:**

1. Discharge of waste shall comply with all applicable requirements contained in the CCR Title 27, Division 2, Solid Waste and Title 40 CFR Parts 257 and 258 (40 CFR 257 and 258) 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, or as directed by the Executive Officer.

2. This Landfill is no longer subject to this Regional Board's Order No. 93-84 "Waste Discharge Requirements Amendment for All MSW 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.1, the Discharger will satisfy requirements identical to those within Order No. 93-84.
3. 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 General Permit No. CAS000001 Waste Discharge Requirements for Discharge of Storm Water Associated with Industrial Activities Excluding Construction Activities".

## B. PROHIBITIONS

1. Discharge of waste to areas outside the current Landfill boundary identified in **Figure 2** is prohibited.
2. Discharge of MSW to areas within the current Landfill boundaries, identified in **Figure 2**, that have not previously received waste is prohibited.
3. Discharge of the following types of wastes is prohibited:
  - a. Radioactive wastes.
  - b. Designated waste.
  - c. Hazardous waste. (except 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.
4. Discharge of liquid or semi-solid waste (i.e., waste containing less than 50 percent solids by weight) other than dewatered sewage or water treatment sludge as described in Discharge **Provision E.9**, and Landfill leachate and gas condensate as described in Discharge **Specification C.29**, is prohibited.
5. Discharge of solid or liquid waste or leachate to surface waters, ponded water from any source, surface water drainage courses, or groundwater is prohibited.
6. Disposal site operations shall not be a source of odor nuisance.
7. 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.
8. Disposal of wastes within five (5) feet of the highest anticipated elevation of underlying groundwater, including the capillary fringe, is prohibited.
9. Only inert wastes, as defined in Title 27 CCR 20230(a), shall be disposed of in the unlined portions of Modules B-D. Non-hazardous solid wastes (decomposable organic refuse such as, but not limited to, ordinary household and commercial refuse, tin cans, paper and paper products, cardboard, cloth and clothing, green waste, wood and wood products, lawn clippings, sod, shrubbery, hide, dead animals, roofing paper, tar paper, unquenched ashes mixed with refuse, etc.) shall not be deposited in unlined portions of Modules B-D at the Landfill.
10. Only construction and demolition wastes, as defined in **Specification C.3**. and inert wastes as

defined in CCR Title 27 20230(a), shall be disposed of in the lined portions of Modules B-D that contain a LCRS. Municipal solid waste and all other putrescible non-hazardous wastes shall not be deposited in the lined portions of Modules B-D.

11. Green waste shall not be used as ADC in Modules B-D.
12. Construction and demolition waste and inert waste are acceptable for placement in Modules B-D provided that a load checker is monitoring disposal activities.

## C. SPECIFICATIONS

### General Specifications

1. All technical and monitoring reports submitted pursuant to this Order are required pursuant to Section 13267 of the California Water Code. Failure to submit reports in accordance with schedules established by this Order, attachments to this Order, or failure to submit a report of sufficient technical quality to be acceptable to the Executive Officer, may subject the Discharger to enforcement action pursuant to Section 13268 of the California Water Code. The Regional Board will base all enforcement actions on the date of Order adoption.
2. The Discharger shall implement the attached MRP No. R3-2004-0111, 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/or caused by the discharge of waste.
3. Wastes disposed of in Modules B-D at the Landfill shall be limited to inert waste (as defined in CCR Title 27, Section 20230) and construction and demolition waste, such as:
  - a. Uncontaminated soil, rock, and gravel;
  - b. Broken concrete;
  - c. Stone/bricks/tile;
  - d. Laminate products;
  - e. Insulation;
  - f. Shingles;

- g. Roofing paper
- h. Unpainted wood and wood products;
- i. Paper and paper products;
- j. Inert rubber scraps;
- k. Fiberglass;
- l. Tires;
- m. Clay products from brick and pipe manufacturing;
- n. Plasterboard/gypsum wallboard;
- o. Carpeting and floor coverings;
- p. Lighting fixtures;
- q. Glass and Ceramics;
- r. Inert plastics; and
- s. Fully cured asphalt paving fragments.

4. The discharge of waste 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.
5. 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).
6. All necessary measures will be implemented to prevent unauthorized disposal of wastes at the Landfill by implementing a waste load-checking program. The Discharger shall submit a detailed waste load-checking program to the Executive Officer for approval no later than ninety (90) days after these WDRs are adopted. The load-checking program shall include the following components unless an alternative

monitoring approach is approved by the Executive Officer:

- a. A tracking system at the entrance of the Landfill: The system shall record the material commodity. The commodity type must be evaluated by the Landfill's personnel. If it is determined that the material may contain significant chemical contamination, it will be necessary to refuse the waste load or hold the truck for further information or chemical analysis. The tracking system shall issue a weighmaster ticket after the Landfill personnel determine that the waste load does not contain contaminant levels that are hazardous or represent a significant threat to groundwater.
  - b. Prior approval form: Prior to receiving any soil volume greater than 750 cubic yards from a single excavation project or from projects that start out small and eventually exceed the 750 cubic yards limit, a prior approval form must be filed with the Landfill or its representatives by the hauler or Landfill personnel. The hauler must supply information of the soil material such as the source (residential or non-residential), quantity, chemical content, and delivery date. The hauler must sign the form acknowledging that *"...the hauler stipulates that to the best of his or her knowledge hazardous levels of contaminants do not exist in the waste."* Landfill personnel must approve the acceptance of the material and record the landfill-issued approval number, which will reference a file maintained by the Landfill or its representatives containing any analytical data, soil quantity, general and detailed information regarding the location within the Landfill where the material will be placed, and the dates of placement.
  - c. Personnel training: Personnel at the gate and the dumping areas of the Landfill must be trained to ensure the Landfill's compliance concerning acceptable and unacceptable materials as provided in this Order.
7. The Discharger shall remove and relocate any wastes discharged in violation of these requirements.
  8. All refuse material that is wind-blown outside the active Landfill area shall be collected regularly and disposed 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.
  9. 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.
  10. Wastes containing greater than one percent (>1%) friable asbestos are classified as hazardous under CCR, Title 22. However, such wastes do not pose a threat to water quality and Section 25143.7 of the Health and Safety Code permits its disposal in permitted landfills, providing waste discharge requirements specifically allow the discharge. Therefore, the handling and disposal of friable asbestos containing wastes is allowed in accordance with all applicable federal, state, and local statutes and regulations.
  11. Ash wastes may be discharged in Module A of the Landfill only when the Discharger has determined that it is non-hazardous and is acceptable for Class III disposal.
  12. Refuse in Module A and construction and demolition and inert waste in Modules B-D shall be covered daily by at least six inches of soil cover material or an Executive Officer-accepted alternative daily cover and cover frequency. Daily cover shall promote lateral runoff of rainfall away from the active disposal area. Modules B-D may not use materials with organic content for ADC.
  13. Water and non-hazardous leachate may be used over unlined Landfill areas and Modules B-D but shall be limited to the minimum amount necessary for dust control.
  14. Surface drainage from tributary areas and internal site drainage from non-landfill surface or subsurface sources shall not contact or percolate through wastes.

15. 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  $1 \times 10^{-6}$  cm/sec or less, or an alternative material that restricts infiltration of surface waters into the underlying waste as approved by the Executive Officer of the Regional Board.
16. Regional Board staff shall be notified within 24 hours by phone, and 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 of the Landfill, shall be promptly corrected and the methods employed shall be so stated in the written report.

#### Wet Weather

17. 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.
18. **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 the entire Waste Management Unit. 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 waste management 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 active Landfill prior to the rainy season.
19. If adequate soil cover material is not accessible during inclement weather, such material shall be stockpiled during favorable weather to ensure year-round compliance.
  20. 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.
  21. Rills in cover (final or interim) exceeding six inches in depth must be backfilled throughout the entire year.
  22. All Landfill surfaces and working faces shall be graded and operated to minimize rainfall infiltration into wastes, to prevent ponding of water, and to resist erosion.
  23. Drainage facilities shall be designed and constructed to accommodate anticipated precipitation and peak surface runoff flows from a 100-year, 24-hour rainstorm event.
  24. Storage facilities associated with precipitation and drainage control systems shall be emptied or drained sufficiently 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 ponds.

**Design Criteria**

25. Waste management units, containment structures, and drainage facilities shall be designed, constructed and maintained to limit, to the greatest extent possible, ponding, infiltration, inundation, erosion, slope failure, washout, overtopping, and damage due to natural disasters (e.g., floods with a predicted frequency of once in 100 years, and severe wind storms).
26. 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, prior to waste discharge.
27. All Landfill facilities shall be designed and constructed to prevent damage during the maximum probable earthquake.
28. The operator 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 12 inches for final cover system slopes.
29. Discharge of condensate or leachate, except for Executive Officer-authorized use of water and leachate for dust control, shall comply with the following:

- Liquids 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.
- Liquids measured by volume and recorded on a monthly basis. These monthly volumes shall be included as a part of monitoring submittals as required in MRP R3-2004-0111.
- No discharge of leachate within 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, acceptable to the Executive Officer, is submitted.
- Have an approved alternate method of leachate disposal (e.g., wastewater treatment plant) that is acceptable to the Executive Officer.

**Closure**

30. Final Landfill configuration shall conform to the contours delineated in the August 2004 JTD revisions. Surface drainage from Modules A through D shall not flow over the final cover of the unlined Parcel 1 in facilities not meeting requirements of **Specification C.15**.
31. Areas at final elevations shall receive final cover pursuant to 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 under 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  $1 \times 10^{-6}$  cm/sec.
    - 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, will be considered for final cover areas. 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. Performance of the alternative composite cover's components, in combination, shall equal or exceed the waste containment capability of the prescriptive design, outlined above.
32. 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.
33. The Discharger shall control vectors to minimize and prevent, to the extent feasible, on and off-site impacts to water quality. Efforts to control vectors shall be in accordance with the Santa Clara County Environmental Health Department Solid Waste Facilities Permit, CCR Title 27, Section 20810.
34. 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. The Regional Board considers the Discharger to have a continuing responsibility for correcting any problems, which 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.
2. The Point of Compliance is the vertical surface located at the downgradient edge of the waste footprint as shown on **Figure 2**, and extends vertically down through the uppermost aquifer.
3. Discharge of waste shall not cause the concentration of any Constituents of Concern (COC) or Monitoring Parameters to exceed its respective background value in any monitored media (i.e., soil or groundwater) at any Monitoring Point pursuant to MRP No. R3-2004-0111.
4. Constituents of Concern and monitoring parameters for groundwater and surface water are listed in MRP No. R3-2004-0111. Monitoring points and background monitoring points for Detection and Corrective Action monitoring shall be those specified in MRP No. R3-2004-0111.
5. 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. R3-2004-0111) 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 beneficial uses of State waters.
6. Discharge of waste shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Board or the State Water Resources Control Board.
7. Discharge of waste shall not cause concentrations of chemicals and radionuclides in groundwater downgradient 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 California Code of Regulations Title 22, Division 4, Chapter 15, Article 5.5.

8. The Monitoring Parameters for samples include those listed in the Monitoring and Reporting Program. Monitoring Parameters will be subjected to the most appropriate statistical or non-statistical test, as required by the attached Monitoring and Reporting Program.
9. The Dischargers shall, in a timely fashion, install any additional groundwater, vadose zone monitoring, soil pore gas, surface water, and leachate monitoring devices required to fulfill the terms of any Discharge Monitoring Program, issued by the Executive Officer.
10. In accordance with CCR Title 27, Section 20415(b)(1)(A), a sufficient number of Background Monitoring Points (as defined in CCR Title 27, Section 20164) must be installed at appropriate locations and depths to yield ground water samples from the uppermost aquifer that represent the quality of ground water that has not been affected by a release from the Unit. The Discharger shall submit a detailed Groundwater Monitoring Plan Evaluation report to the Executive Officer for approval no later than 180 days after these WDRs are adopted. The Groundwater Monitoring Plan Evaluation report shall include the following components:
  - An evaluation of all Background Monitoring Point(s);
  - A discussion of which Background Monitoring Point(s) is representative as “upgradient” from detection monitoring and corrective action Monitoring Points;
  - An evaluation of historical groundwater quality data for each Background Monitoring Point(s) to determine if the Monitoring Point has not been affected by a release from the Landfill;
  - A review of available groundwater quality data for the Modules B-D area to ensure that an appropriate number of Background Monitoring Points are available prior to waste placement; and

- An evaluation of each fault block to determine if background monitoring points are available for that respective hydrogeologic sub-area.

## E. PROVISIONS

### General Provisions

1. Order No. 94-72, *Closure Waste Discharge Requirements for the Pacheco Pass Class III Landfill, County of Santa Clara*, adopted by the Board on October 18, 1994, is hereby rescinded.
2. The Discharger shall comply with "Monitoring and Reporting Program No. R3-2004-0111", as specified by the Executive Officer.
3. 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.
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 Regional Board staff on a weekly basis.
5. 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).
6. The Discharger shall have a continuing responsibility to assure 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.

7. 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 as long as the waste poses a threat to water quality.
8. Methane and other landfill gases, generated as a result of waste disposal, shall be adequately vented, extracted and removed from the Landfill, or otherwise controlled to prevent the danger of explosion, adverse health effects, nuisance conditions, and the degradation of water quality.
9. Sewage sludge or water treatment sludge with greater than 50 percent moisture content may be discharged to Module A if the following criteria are met:
  - Sludge shall be discharged only to lined Modules that have a LCRS, designed such that leachate gravity drains to a collection point/sump and is removed through either gravity or pumping to a holding tank or sanitary sewer for volume measurement, testing and disposal.
  - A daily minimum solids-to-sludge ratio of 5 to 1, based on weight, shall be maintained when co-disposing sludge with solid waste.
  - Primary and mixtures of primary and secondary sewage sludge shall contain at least 20 percent solids by weight.
  - Secondary sewage sludge and water treatment sludge shall contain at least 15 percent solids by weight.
11. Discharger shall notify 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 which 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 and/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:
  - Violation of a discharge prohibition.
  - Violation of any Water Quality Protection Standard.
  - Slope failure.
  - Leachate seep occurring on, or in proximity to, the Landfill.
12. After achieving full compliance with items contained in **Provision E.11**, discharger shall submit a report within 14 days of achieving full compliance. Additionally, progress reports on items contained in **Provision E.11** shall be submitted within 14 days following each scheduled date unless otherwise specified within the Order.
13. Design reports shall be submitted 180 days in advance of any planned changes in the permitted facility or any activity, which could potentially or actually result in noncompliance.
14. The Discharger shall maintain legible records of the volume and type of each waste discharged at each Module 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 Regional Board and of the State Water Resources Control Board at any time during normal business hours. At the

### **Reporting Provisions**

10. All technical and monitoring reports submitted pursuant to this Order are being requested pursuant to Section 13267 of the California Water Code. Failure to submit reports in accordance with schedules established by this Order or 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 an enforcement action pursuant to Section 13268 of the California Water Code.

beginning of the post-closure maintenance period, copies of these records shall be sent to the Regional Board.

15. The Discharger shall be responsible for accurate waste characterization, including determinations of whether or not wastes will be compatible with containment features, whether waste is considered inert waste and whether or not wastes are required to be managed as hazardous wastes.
16. 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 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.
17. The Discharger shall report all changes in usage of daily cover and performance standards within 10 days following the change.
18. The Discharger shall submit a report of Wet Weather Preparedness. The report shall detail preparedness actions taken to ensure discharges to surface 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.

**REPORT DUE DATE:** October 15 yearly

19. The Dischargers shall obtain and maintain Financial Assurance Instruments (Instruments), which comply with CCR Title 27 and 40 CFR parts 257 and 258. The Dischargers shall submit a report every five years that either validates the instrument's ongoing viability or proposes and substantiates any needed changes [e.g., a documented increase in the monitoring systems' ability to provide reliable early detection of a release can cause a decrease in the Instrument's financial coverage].

**REPORT DUE DATE:** July 30, 2009.

20. For the protection of water quality, the Executive Officer may require partial and or final closure of any lined or unlined area regardless of whether the unit has reached final capacity. Such a requirement will be requested in writing and in accordance with CCR Title 27, Section 22190.
21. The Discharger shall submit a Joint Technical Document pursuant to CCR Title 27, Section 21710, to the Executive Officer. The JTD shall contain, but is not limited to, the following:
  - 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.
  - A completed SWRCB JTD Index, in accordance with CCR Title 27, Section 21585(b), with your JTD addendum.
  - 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.
  - Any technical documents needed to demonstrate continued compliance with this Order and all pertinent State and Federal requirements.
  - Detailed information regarding regulatory considerations; design, construction and operating provisions; environmental monitoring; and closure and post-closure issues.
  - A Fill Sequencing Plan which includes detailed maps. The Fill Sequencing Plan should describe in detail the overall development of the entire Landfill on a year-by-year basis.
  - A detailed description of the lateral and vertical extent of refuse within all existing modules. It must include an accurate estimate of waste volumes within each existing Landfill module and an approximation of the remaining volume and years of capacity for each existing

module and all new proposed modules within currently permitted Landfill boundaries. It must also describe all existing available space within currently permitted Landfill areas (i.e., modules where refuse has been placed in the past, but has not reached final permitted elevation and modules or portions of modules where refuse has never been placed).

- A discussion of any plans/proposals to close or partially close any modules or portions of modules, 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.

**REPORT DUE DATE:** December 3, 2009 or as specified by the Executive Officer.

22. The Discharger shall submit to the Regional Board an updated closure and post-closure maintenance plan (Closure Plan). The Closure Plan shall describe the methods and controls to be used to assure 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 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.
- An estimate of the largest area of the Waste Management Unit requiring a final cover at any time during the active life.
- An estimate of the maximum inventory of wastes on-site over the active life of the Landfill.
- 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.
- An estimate of closure and post closure maintenance costs.
- A proposal for a trust fund or equivalent financial arrangement to provide sufficient funding for closure and post-closure maintenance.

- 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 module's 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:** December 3, 2009 or as specified by the Executive Officer.

23. The Discharger shall submit Corrective Action Plan (CAP) Reports that discuss the effectiveness of the corrective action measures taken, the effectiveness of the source control measures taken, and propose corrective action and source control modifications and improvements. The reports shall include monitoring data trend analyses, operational summary for the year, an operations plan for the coming year, and a time schedule for any proposed CAP modification.

**REPORT DUE DATE:** January 31 yearly. This report shall be combined with the Annual Monitoring Report.

24. After suspending the CAP measures, the Discharger shall remain in corrective action monitoring until an approved Detection Monitoring Program in accordance with CCR Title 27 has been incorporated into Waste Discharge Requirements. Any time the Executive Officer determines that the CAP 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 CAP with needed changes pursuant to Water Code section 13267.

25. 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.

26. The Discharger shall notify the Regional 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:

- 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.
- 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 Regional Board.
- 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.

27. At any time, the Discharger may file a written request (including appropriate supporting documents) with the Regional Board Executive Officer, proposing appropriate modifications to the Monitoring and Reporting Program. The proposed Monitoring and Reporting Program modifications will be reviewed and the Executive Officer may issue a revised monitoring program with changes, as deemed appropriate. 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.

28. 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.

29. The Regional Board shall be allowed, at any time and without prior notification:

- Entry upon the Landfill or where records must be kept under the conditions of this Order and MRP No. R3-2002-0111.
- Access to copy any records that must be kept under the conditions of this Order and MRP No. R3-2002-0111.
- To inspect any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order and MRP No. R3-2002-0111.
- To photograph, sample, and monitor for the purpose of showing compliance with this Order.

30. 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 Integrated Waste Management Board and Santa Clara County Department of Environmental Health. All report shall be signed as follows:

- For a public agency - by either a principal executive officer or ranking elected official\*.
- For a partnership or sole proprietorship - by a general partner or the proprietor, respectively\*.

- For a corporation - by a principal executive officer of at least the level of vice president\*.
- For engineering reports - by a California Registered Civil Engineer or Certified Engineering Geologist.
- For monitoring reports - by a California Registered Civil Engineer or Registered Geologist.

\*or their "duly authorized representative."

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

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

32. Any person who violates these 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 (CWC).

33. 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
34. Provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.
35. 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.
36. The Discharger must comply with all conditions of these Waste Discharge Requirements. Violations may result in enforcement actions, including Regional 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 Regional 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/or reports required by this Order:

**REPORT AND TASK IMPLEMENTATION DATE SUMMARY**

<b><u>REPORT/TASK</u></b>	<b><u>IMPLEMENTATION DATE</u></b>
Load Checking Program [Specification C.6]	<b>90 days</b> after WDR adoption
Groundwater Monitoring Plan Evaluation Report [Water Quality Protection Standards No. D.10]	<b>180 days</b> after WDR adoption
Wet Weather Preparedness Report [Provision No. E.18]	<b>October 15</b> , of each year
Financial Assurance Report [Provision No. E.19]	<b>July 30, 2009</b> and every five years thereafter
Joint Technical Document [Provision No. E.21]	<b>December 3, 2009</b> or at the direction of the Executive Officer
Closure Plan [Provision No. E.22]	<b>December 3, 2009</b> or at the direction of the Executive Officer
Corrective Action Plan Reports [Provision No. E.23]	<b>January 31, yearly</b> , as part of the annual monitoring report

**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 December 3, 2004.

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Executive Officer

**REFERENCES:**

Kelson, K.I., and Baldwin J.N., October 2001, "Paleoseismology of the central Calaveras Fault, Furtado Ranch Site, Gilroy, California," NEHRP External Grant Award Number 01HQGR0124.

Hall, C.E., (1974), San Felipe area geologic map: U.S. Bureau of Reclamation, unpublished data.

Figures: **Figure 1** – Site Location

**Figure 2** – Parcel Map

**Figure 3** – Modules B-D Excavation & Grading (includes liner limits)

**Figure 4** – Monitoring Facilities and Groundwater Contour Map (includes existing topography)

**Figure 5** – Wells Within One Mile of Landfill

Attachment: Monitoring and Reporting Program No. R3-2004-0111

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