CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2018-0053

WASTE DISCHARGE REQUIREMENTS
FOR
SOUTHEAST REGIONAL SOLID WASTE COMMISSION
SOUTHEAST REGIONAL DISPOSAL SITE
CLASS III LANDFILL
POST-CLOSURE MAINTENANCE AND CORRECTIVE ACTION

FRESNO COUNTY

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

1. The Southeast Regional Solid Waste Commission, consisting of the County of Fresno and the Cities of Fowler, Kingsburg, Orange Cove, Parlier, Reedley, and Sanger (referred to jointly as the Discharger), own the Southeast Regional Disposal Site (Facility) which is located about one mile southwest of the City of Parlier, in Section 27, T15S, R22E, MDB&M, as depicted in Attachment A. The Facility is regulated under Waste Discharge Requirements as a Class III waste disposal site that had received municipal and inert solid wastes in accordance with Title 27, California Code of Regulations, section 20005, et seq. (Title 27). The Facility is not regulated by 40 Code of Federal Regulations section 258 (a.k.a, "Subtitle D") because it stopped receiving waste prior to 9 October 1991.

2. The following attached documents are hereby incorporated into as part of this Order:

    a. Attachment A – Site Location Map

    b. Attachment B – Site Plan

    c. Information Sheet

    d. Monitoring and Reporting Program (MRP) No. R5-2018-0053

    e. Standard Provisions and Reporting Requirements dated December 2015 (SPRRs).

3. The Facility is on a 132-acre property at 12716 East Dinuba Avenue, in the City of Selma. The existing closed landfill unit is 72 acres and consists of 3 unlined acres and 69 lined acres with a variety of liners consisting of natural clay soils, bentonite/soil admixtures, and flexible membranes. The existing permitted landfill area is shown in Attachment B. The Facility is comprised of Assessor's Parcel No. (APN) 358-031-41T, 358-031-50T, 358-031-81T, 358-031-82T, 358-031-44T, and 358-031-47.

4. On 22 June 2017, the Discharger submitted an amended Report of Waste Discharge (ROWD) as part of the Joint Technical Document (JTD) for the landfill. The information in the ROWD/JTD has been used in revising these waste discharge requirements (WDRs). The ROWD contains the applicable information required in Title 27. The ROWD/JTD and supporting documents contain

[1] Unless otherwise specified, all sections cited herein shall be those of Title 27.

information related to this revision of the WDRs including: discontinuation of the on-site pump and treat groundwater remediation system and being placed into corrective action utilizing monitored natural attenuation paired with landfill gas extraction.

5. On 5 October 1999, the Central Valley Water Board issued Order No. 99-124 in which the landfill waste management units at the facility were classified as Class III units for the discharge of non-hazardous waste and municipal solid waste. This Order continues to classify the landfill units as Class III units in accordance with Title 27.

6. The existing and future landfill units authorized by this Order are described as follows:

Unit	Area	Liner/LCRS[1] Components[2]	Unit Classification & Status
One Waste Management Unit (WMU)	72 acres	Approximately 3 acres of the WMU are unlined. The remaining area of the WMU has been lined with a variety of liners consisting of natural clay soils, bentonite/soil admixtures, and flexible membranes.	Class III, closed

7. On-site facilities at the Southeast Regional Landfill include: an active landfill gas extraction system, an active gas flare system, and an on-site groundwater remediation system that is currently inactive.

8. This Order implements the applicable regulations for discharges of solid waste to land through various prohibitions, specifications and provisions, as well as monitoring and reporting requirements. Prohibitions, specifications and provisions are listed in Sections A-G of the WDRs below, as well as in the SPRRs (incorporated herein). Monitoring and reporting requirements are included in MRP No. R5-2018-0053, and in the SPRRs. Generally, requirements are included in the SPRRs when they are based on regulations, or otherwise applicable to all landfills. Any site-specific deviations from the SPRRs are set forth in Sections A-G of the WDRs, which shall supersede any conflicting requirement in the SPRRs.

9. Title 27 contains regulatory standards for discharges of solid waste promulgated by the State Water Resources Control Board (State Water Board) and the California Department of Resources Recovery and Recycling (CalRecycle). In certain instances, this Order cites CalRecycle regulatory sections. Title 27, section 20012 allows the Central Valley Water Board to cite CalRecycle regulations from Title 27 where necessary to protect water quality provided it does not duplicate or conflict with actions taken by the Local Enforcement Agency in charge of implementing CalRecycle's regulations.

WASTE CLASSIFICATION AND UNIT CLASSIFICATION

10. The Discharger historically disposed of putrescible and nonputrescible municipal solid wastes, industrial wastes, and demolition and construction wastes. These wastes are classified as 'nonhazardous solid waste' or 'inert waste' using the criteria set forth in Title 27 for a Class III landfill.

SITE DESCRIPTION

11. The Facility is in a relatively flat topographic region of the San Joaquin Valley typified by areas of naturally occurring swales.

12. Land uses within one mile of the Facility is used for agriculture, municipal wastewater disposal, and individual homes.

13. There are approximately 208 municipal, domestic, industrial, or agricultural groundwater supply wells within one mile of the Facility.

14. The Facility is located in the eastern part of the San Joaquin Valley, which is located in the southern portion of the Central Valley of California. The Central Valley is a large, northwest trending structural trough that is bounded by the Sierra Nevada Mountains to the east and the Coast Ranges to the west. The Central Valley is filled with both marine and continental deposits of Jurassic to Holocene age. Valley-fill sediments in the Parlier area exceed 2,400 feet in thickness. The dominant depositional processes since the Pleistocene have been alluvial, fluvial, and lacustrine. The combination of these processes has produced a heterogeneous mixture of clays, silts, and sands.

15. The calculated hydraulic conductivity of the native soils underlying the WMU is 6.0×10^{-2} centimeters per second (cm/s).

16. The Facility is not within a fault hazard zone. The closest active faults are the San Andreas Fault about 72 miles southwest and the Coalinga and Nunez Faults about 62 miles to the southwest. Within the general area of the disposal site, the design earthquake has an 8.0 magnitude. Such an event would cause a peak surface acceleration of 0.2g with a strong motion duration of up to 40 seconds.

17. The Facility receives an average of 10 inches of precipitation per year as measured at the University of California's Kearney Agricultural Research and Extension Center in Parlier Station. The mean pan evaporation is 66 inches per year as measured at the Parlier Station.

18. The 100-year, 24-hour precipitation event for the Facility is estimated to be 3.89 inches, based on the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service, Office of Hydrology, NOAA Atlas 14, Volume 6 Version 2.

19. The Facility is not within a 100-year flood plain based on the Federal Emergency Management Agency' (FEMA) Flood Insurance Rate Map, Community-Panel Number 0.650291215B.

20. Storm water sedimentation basins are located south and southeast of the landfill as shown on Attachment B. The basins retain storm water for sedimentation control during the rainy season and are normally dry during the summer months. All storm water is retained on-site.

SURFACE WATER AND GROUNDWATER CONDITIONS

21. The Facility is situated within the Tulare Lake Basin (Basin). The Central Valley Water Board's *Water Quality Control Plan for the Tulare Lake Basin, Second E*dition, *revised July 2016* (Basin Plan) designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters within the Basin.

22. Surface water drainage from the site is toward Ward Drainage Canal, a tributary to the Kings River.

23. Per the Basin Plan, designated beneficial uses of surface water in Consolidated Hydrologic Area (551.70) are agricultural supply (AGR); industrial service supply (IND); industrial process supply (PRO); water contact recreation (REC-1); non-contact water recreation (REC-2); warm fresh water habitat (WARM); wildlife habitat (WILD); rare, threatened, or endangered species (RARE); and ground water recharge (GWR).

24. The first encountered groundwater beneath the Facility ranges from about 25 feet to 50 feet below the native ground surface based on data in the Second Semi Annual and Annual 2017 Groundwater Monitoring Report.

25. Monitoring data indicate background groundwater quality for first encountered groundwater has electrical conductivity (EC) ranging between 320 and 450 micromhos/cm, with total dissolved solids (TDS) ranging between 230 and 330 milligrams per liter (mg/L), based on the Second Semi Annual and Annual 2017 Groundwater Monitoring Report.

26. The direction of groundwater flow is generally toward the south-southwest. The direction of groundwater flow varies and has sometimes been found to be toward the northeast. The estimated average groundwater gradient is approximately 0.0014 feet per foot. The estimated average groundwater velocity is 217 feet per year.

27. Per the Basin Plan, designated beneficial uses of groundwater specified in the Basin Plan, are MUN, AGR, IND, and PRO.

GROUNDWATER AND UNSATURATED ZONE MONITORING

28. The existing groundwater monitoring network for the landfill units consists of one background monitoring well, six wells previously used for extraction, and six DMP monitoring wells, as shown on Attachment B. Specific information on the groundwater monitoring network is described in MRP No. R5-2018-0053 (incorporated herein).

29. At the time this Order was adopted, the Discharger's detection monitoring program for groundwater at the landfill satisfied the requirements contained in Title 27.

30. The vadose zone beneath the WMU at times does not exist and cannot be monitored based upon the highest elevation of groundwater with respect to the elevation of waste. Groundwater has risen to the base of the landfill, or within five feet of its base, in 1946, 1947, 1983, 1984, 1985, and 1986. Since the vadose zone monitoring in accordance is not feasible, monitoring of the vadose zone is not required.

31. Volatile organic compounds (VOCs) are often detected in a release from a MSW landfill and are often associated with releases of landfill gas rather than leachate. Since volatile organic compounds are not naturally occurring and thus have no background value, they are not amenable to the statistical analysis procedures contained in Title 27 for the determination of a release of wastes from a landfill unit. Title 27, section 20415, subdivisions (e)(8) (9) allow the use of a non-statistical evaluation of monitoring data that will provide the best assurance of the earliest possible detection of a release from a landfill unit in accordance with Title 27, sections 20415, subdivisions (b)(1)(B)2.-4. However, Title 27 does not specify a specific method for non-statistical evaluation of monitoring data.

32. The Central Valley Water Board may specify a non-statistical data analysis method pursuant to Title 27, section 20080, subdivision (a)(1). Water Code section 13360, subdivision (a)(1) allows the Central Valley Water Board to specify requirements to protect groundwater or surface waters from leakage from a solid waste site, which includes a method to provide the best assurance of determining the earliest possible detection of a release.

33. In order to provide the best assurance of the earliest possible detection of a release of non-naturally occurring waste constituents from a landfill unit, the SPRRs specify a non-statistical method for the evaluation of monitoring data for non-naturally occurring compounds. The specified non-statistical method for evaluation of monitoring data provides two criteria (or triggers) for making the determination that there has been a release of non-naturally occurring waste constituents from a landfill unit. The presence of two non-naturally occurring waste constituents above their respective method detection limit (MDL), or one non-naturally occurring waste constituent detected above its practical quantitation limit (PQL) [a.k.a, laboratory reporting limit (RL)], indicates that a release of waste from a Unit has occurred. Following an indication of a release, verification testing must be conducted to determine whether there has been a release from the landfill unit or the detection was a false detection. The detection of two non-naturally occurring waste constituents above the MDL as a trigger is appropriate due to the higher risk of false-positive analytical results and the corresponding increase in sampling and analytical expenses from the use of one non-naturally occurring waste constituent above its MDL as a trigger.

34. For a naturally occurring constituent of concern, Title 27 requires concentration limits for each constituent of concern be determined as follows:

    a. By calculation in accordance with a statistical method pursuant to Title 27, section 20415, subdivision (e)(8); or

    b. By an alternate statistical method meeting the requirements of Title 27, section 20415, subdivision (e)(8)(E).

35. A Water Quality Protection Standard (WQPS) was established/approved in January 2003. It proposed statistical data analysis methods to calculate concentration limits for each monitored naturally occurring constituent, per Title 27. The WQPS report proposed to use interwell data analysis to calculate concentration limits for the monitored naturally occurring constituents. The WQPS and approved data evaluation methods are included in MRP No. R5-2018-0053 (incorporated herein).

GROUNDWATER DEGRADATION AND CORRECTIVE ACTION

36. Historically, VOCs had been detected in groundwater at concentrations exceeding Primary Maximum Contaminant Levels for drinking water standards. As a result, a corrective action system to remediate a release of VOCs to groundwater was initiated in 1983, following the receipt of a State grant for the implementation of a Board approved corrective action program. The corrective action system would extract groundwater from the down gradient boundary of the Facility. The groundwater was then conveyed to a spray field where the VOCs were volatilized by air stripping. The corrective action also acted hydraulically to control the flow of polluted groundwater to down gradient wells in the area. The Discharger submitted a Corrective Action Program dated January 1999 that evaluated and documented the effectiveness of the pump and spray field remediation method.

37. In 2011, the Discharger initiated an evaluation of the effectiveness of the CAP resulting in multiple submittals to our Office that documented that the on-site groundwater remediation system had reached its goal of cleaning up on-site VOCs in groundwater and cutting off the source of the plume to downgradient domestic wells. The Discharger initiated a downgradient off-site sampling program with sampling events in 2012 and 2017. The plume delineation work requested by our Office continues as part of an evaluation of the effectiveness of the existing CAP.

38. In April 2013, the Discharger submitted a Report of Waste Discharge that documented the concentrations of VOCs in groundwater extracted by the on-site groundwater extraction and treatment system and that concentrations in compliance groundwater monitoring wells had dropped to non-detect. The groundwater extraction system had completed its goal of treating the on-site plume, and the Report recommended monitored natural attenuation as a form of continued corrective action for the further down gradient areas not remediated by the on-site pump and treat system.

39. In a 6 March 2014 letter, Staff reviewed the 2013 Report of Waste Discharge and approved temporarily discontinuing the operation of the on-site groundwater extraction system and monitoring for potential rebound in VOC concentrations. The on-site groundwater extraction system was required to be kept in a standby ready status for a minimum of two years to be immediately reactivated if a rebound in waste constituent concentrations was detected that warranted additional active remediation. The letter also required additional investigative work be conducted to further delineate the extent of VOC migration off-site.

40. In a report dated 24 October 2016, the Discharger proposed to eliminate sampling of five of the eight off-site point of entry wells with no VOC detections since at least 2012. The proposed reduction was approved per Staff's letter dated 31 January 2018.

41. The Discharger sampled several private domestic and agricultural supply wells, with property owner's permission, down gradient of the Facility in an effort to further delineate the extent of VOC migration down gradient and off-site. The Discharger also obtained well construction information for the wells, if available.

42. The results of the down gradient off site investigation generally indicated the decrease in detectable VOC concentrations from previous sampling events. However, the furthest down gradient well located at 12198 E. Huntsman Avenue had detectable concentrations of the following VOCs: 0.79 µg/L tetrachlorethene (PCE), 0.14 µg/L trichloroethene (TCE), 0.62 µg/L chlorofluorocarbon-12 (CFC-12), and 0.14J µg/L trichlorofluoromethane (CFC-11). All of which are constituents identified as part of the original landfill release, but none exceeding California Maximum Contaminant Levels. No further down gradient wells were sampled as access was denied by the property owners.

43. In Staff's letter dated 23 February 2018 in response to submittal of an off-site Groundwater Sampling Program report, it was determined that the Discharger had not fully delineated the current lateral and vertical extent of the off-site plume.

44. The Discharger is required to submit a Plume Delineation Work Plan by 30 April 2018. After the Work Plan is implemented, a Plume Delineation Report shall be submitted as part of an evaluation of the effectiveness of the on-going CAP. Staff will determine if any appropriate additional investigations or corrective actions are necessary.

LANDFILL CLOSURE

45. A prescriptive Title 27 final cover system was constructed in 1994 over a 20-acre portion of the landfill as partial closure of the Facility.

46. The Discharger constructed an engineered alternative final cover system during the summer of 1998 over the remaining 52-acre portion of the landfill pursuant to Discharge Specification B.14 of Order No. 92-133 and 20080(b) and (c) of Title 27. The alternative final cover system consists of a two-foot thick foundation layer overlain by a geosynthetic clay layer (GCL) and by a 12-inch thick vegetative soil layer. The Facility was certified closed by the California Integrated Waste Management Board (now CalRecyle) on 19 January 2000.

LANDFILL POST-CLOSURE MAINTENANCE

47. In July 2013, the Discharger submitted an update to the *Postclosure Maintenance Plan*. It is an update to the Closure/Post-Closure Maintenance Plan prepared for the Facility in 1990 pursuant to California Code of Regulations, Title 27, section 21865, subdivision (a)(1)(B).

48. The completed final cover will be periodically tested for damage or defects by monitoring surface emissions pursuant to California Code of Regulations, title 17, section 95471, subdivision (c) and Title 27, section 21090, subdivision (a)(4)(A). Defects will be repaired and tested for adequacy based on the closure CQA Plan.

FINANCIAL ASSURANCES

49. Title 27, (§§ 21840 and 22211) requires a cost estimate for landfill post-closure maintenance. The Discharger's 2013 *Updated Post Closure Maintenance Plan* includes a cost estimate for landfill post-closure maintenance. The amount of the cost estimate for post-closure maintenance in 2013 dollars is $1.7 million. This Order requires the Discharger to maintain financial assurance with CalRecycle in at least the amount of the post-closure maintenance cost estimate adjusted annually for inflation. As of 2017, the balance of the post-closure maintenance fund was $1.8 million.

50. Title 27, section 22100-22103 requires a cost estimate for corrective action of all known or reasonably foreseeable releases for Facilities that have been or will be operated on or after 1 July 1991. Therefore, the Discharger is not required to prepare a Water Release or Non-Water Release Corrective Action Plan and associated Cost Estimates because it ceased operating prior to 1 July 1991.

CEQA AND OTHER CONSIDERATIONS

51. The revision of WDRs for this existing Facility is categorically exempt from the California Environmental Quality Act (CEQA), Public Resource Code section 21000, et seq., pursuant to section 15301 of the CEQA Guidelines (Cal Code Regs., tit 14, § 15301).

52. This order implements the applicable Basin Plan (see Finding No. 21); and the prescriptive standards and performance goals of California Code of Regulations, title 27, section 20005 et seq., effective 18 July 1997, and subsequent revisions.

53. Based on the threat and complexity of the discharge, the Facility is determined to be classified 2-B as defined below:

    a. Category 2 threat to water quality, defined as, "discharges of waste that could impair the designated beneficial uses of the receiving water, cause short-term violations of water quality objectives, cause secondary drinking water standards to be violated, or cause a nuisance."

    b. Category B complexity, defined as, "Any discharger not included in Category A that has physical, chemical, or biological treatment systems (except for septic systems with subsurface disposal), or any Class 2 or Class 3 waste management units."

54. In October 1968, the State Water Board adopted its *Statement of Policy With Respect to Maintaining High Quality of Waters in California*, State Water Board Order WQ 68-16 ("Anti-Degradation Policy"). Incorporated into the Central Valley Water Board's Basin Plan, the policy limits board discretion to authorize the degradation of "high-quality waters," defined as where water quality is more than sufficient to support beneficial uses designated in the Basin Plan. Whether or not a water is a "high-quality" is determined on a constituent-by-constituent basis, which means that an aquifer can be considered "high-quality" with respect to constituents, but not others. (State Water Board Order No. WQ 91-10.)

55. The Anti-Degradation Policy applies when an activity discharges to "high quality" waters and the discharge will result in some degradation in water quality. When it applies, the Anti-Degradation

Policy requires that WDRs reflect best practicable treatment or control (BPTC) of wastes and that any degradation of "high quality" waters "(a) will be consistent with the maximum benefit to the people of the State, and (b) will not result in an exceedance of water quality objectives." If an activity will not result in the degradation of "high quality waters," the policy does not apply, and the Discharger need only demonstrate that it will use "best efforts" to control its discharge of waste.

56. Anti-Degradation Policy does not apply to the discharge of waste to Southeast Regional Disposal Site. The requirements of this Order are designed to ensure that any such wastes remain contained at the Facility and will not reach waters of the State. The requirements of this Order reflect the Discharger's best efforts to control such wastes.

57. Water Code section 13267, subdivision (b) provides that: "[i]n conducting an investigation… , the Regional Board may require that any person who has discharged, discharges, or is suspected of having discharge or discharging, or who proposed to discharge … shall furnish, under penalty of perjury, technical or monitoring program reports …," provided that "[t]he burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports."

58. The technical and monitoring reports required by this Order, including those specified in MRP No. R5-2018-0053, are necessary to assure compliance with these WDRs.

PROCEDURAL REQUIREMENTS

59. All local agencies with jurisdiction to regulate land use, solid waste disposal, air pollution, and to protect public health have approved the use of this site for the discharges of waste to land stated herein.

60. The Central Valley Water Board notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge, and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

61. The Central Valley Water Board, in a public meeting, heard and considered all comments pertaining to the discharge.

62. Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board for review in accordance with Water Code section 13320 and California Code of Regulations, title 23 (Title 23), section 2050 et seq. The State Water Board must receive the petition by 5:00 p.m., on the date 30, days after the date that this Order becomes final, except that if the thirtieth day falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions are available on request, and may also be found on the State Water Board's website at the link provided below.

http://www.waterboards.ca.gov/public_notices/petitions/water_quality

IT IS HEREBY ORDERED that, pursuant to Water Code sections 13263 and 13267, that Order No. 99-124 is rescinded except for purposes of enforcement, and that Southeast Regional Solid Waste Commission (Discharger), its agents, successors, and assigns, in order to meet the provisions of Division 7 of the Water Code, and all regulations promulgated thereunder, shall comply with the following:

A. PROHIBITIONS

1. The discharge of waste at this Facility is prohibited.

2. The cessation of any corrective action measure, including landfill gas extraction, is prohibited without written Executive Officer approval. If routine maintenance or a breakdown results in cessation of corrective action for greater than 24 hours, the Discharger shall notify Board staff.

3. The discharge of solid or liquid waste or leachate to surface waters, surface water drainage courses, ponded water, or groundwater is prohibited.

4. The Discharger shall comply with all applicable Standard Prohibitions set forth in Section C of the Standard Provisions and Reporting Requirements (SPRRs.).

B. DISCHARGE SPECIFICATIONS

1. The Discharger shall, in a timely manner, remove and relocate any wastes discharged at this Facility in violation of this Order. If the Discharger is unable to remove and relocate the waste, the Discharger shall submit a report to the Central Valley Water Board explaining how the discharge occurred, why the waste cannot be removed, and any updates to the waste acceptance program necessary to prevent re-occurrence. If the waste is a hazardous waste, the Discharger shall immediately notify the Department of Toxic Substances Control.

2. The Discharger shall comply with all applicable Standard Discharge Specifications set forth in Section D of the SPRRs.

C. FACILITY SPECIFICATIONS

1. The Discharger shall comply with all applicable Standard Facility Specifications set forth in Section E of the SPRRs.

D. POST-CLOSURE MAINTENANCE SPECIFICATIONS

1. The Discharger shall ensure that the vegetative/erosion resistant layer receives necessary seed, binder, and nutrients to establish the vegetation proposed in the final closure plan. The Discharger shall install necessary erosion and sedimentation controls to prevent erosion and sediment in runoff from the closed landfill during the period the vegetation is being established.

2. The Discharger shall comply with all applicable Standard Post-Closure Specifications listed in Section G and all Standard Construction Specifications that are applicable to closure set forth in Section F of the SPRRs.

E. FINANCIAL ASSURANCE SPECIFICATIONS

1. The Discharger shall obtain and maintain assurances of financial responsibility with CalRecycle for post-closure maintenance for the landfill in at least the amounts listed in Finding No.49, adjusted for inflation annually. A report regarding financial assurances for post-closure maintenance shall be submitted to the Central Valley Water Board by **1 June of each year**. This may be the same report that is submitted to CalRecycle for this purpose. If CalRecycle determines that either the amount of coverage or the mechanism is inadequate, then within 90 days of notification, the Discharger shall submit an acceptable mechanism to CalRecycle and the Central Valley Water Board for at least the amount of the approved cost estimate.

2. The post-closure maintenance plan shall comply with Title 27 section 21840. The Discharger shall provide a written estimate, in current dollars, of the cost of hiring a third party to maintain, monitor, and inspect the closed landfill in accordance with the post-closure maintenance plan requirements. In addition, pursuant to Title 27, section 21840 post-closure maintenance plans shall include a detailed estimate of the annual costs for post-closure monitoring and maintenance.

3. The Discharger shall comply with all applicable Standard Financial Assurance Specifications set forth in Section H of the SPRRs.

F. MONITORING SPECIFICATIONS

1. The Discharger shall comply with the attached Monitoring and Reporting Program (MRP) No. R5-2018-0053 (incorporated herein);

2. The Discharger shall, for any landfill unit in a corrective action monitoring program, comply with the corrective action monitoring program provisions of Title 27, MRP No. R5-2018-0053, and the Standard Monitoring Specifications set forth in Section I of SPRRs.

3. The Discharger shall comply with the Water Quality Protection Standard as specified in this Order, MRP No. R5-2018-0053, and the SPRRs.

4. The concentrations of the constituents of concern in waters passing the Point of Compliance (defined pursuant to Title 27, section 20164 as a vertical surface located at the hydraulically down gradient limit of the landfill unit that extends through the uppermost aquifer underlying the unit) shall not exceed the concentration limits established pursuant to the Water Quality Protection Standard and MRP No. R5-2018-0053.

5. For each monitoring event, the Discharger shall determine whether the landfill is in compliance with the Water Quality Protection Standard using procedures specified in MRP No. R5-2018-0053 and the Standard Monitoring Specifications set forth in Section I of the SPRRs.

6. As specified in MRP No. R5-2018-0053, the Discharger shall enter all reports and monitoring data into the online GeoTracker database as required by Division 3 of Title 27, and Chapter 30, Division 3 of Title 23.

7. The Discharger shall comply with all Standard Monitoring Specifications and Response to a Release Specifications set forth in Sections I and J of the SPRRs.

G. PROVISIONS

1. The Discharger shall maintain at its office a copy of this Order (including the attached MRP No. R5-2018-0053 and the SPRRs), making it available at all times to Facility operating personnel, (who shall be familiar with its contents), and to all regulatory agency personnel.

2. The Discharger shall comply with any other applicable provisions of Title 27 not specifically referenced in this Order.

3. The Discharger shall comply with MRP No. R5-2018-0053 (incorporated herein).

4. The Discharger shall comply with the applicable portions of the Standard Provisions and Reporting Requirements for Waste Discharge Requirements that are based on Title 27. Those SPRRs based exclusively on 40 CFR Part 258 are not applicable.

5. If there is any conflicting or contradictory language between the WDRs, the MRP, or the SPRRs, then language in the WDRs shall supersede either the MRP or the SPRRs, and language in the MRP shall supersede the SPRRs. All reports required by this Order shall be submitted pursuant to Water Code section 13267.

6. The Discharger shall complete the tasks specified in these WDRs in accordance with the following time schedule:

Task	Compliance Date
A. Financial Assurances	
1. Annual Review of Financial Assurances for post-closure maintenance. (see Financial Assurance Specification E.1)	1 June each year

7. The Discharger shall comply with all applicable General Provisions set forth in Section K of the SPRRs.

8. The Central Valley Water Board has converted to a paperless office system. All project correspondence and reports required under this Order shall therefore be submitted electronically rather than in paper form, as follows:

   All technical reports and monitoring reports required under this Order shall be converted to PDF and uploaded via internet to the State Water Board's GeoTracker database at http://geotracker.waterboards.ca.gov, as specified in California Code of Regulations, title 23, section 3892, subdivision (d) and section 3893. Project-associated analytical data shall be similarly uploaded to the GeoTracker database in an appropriate format specified under this Order under a site-specific global identification number. Information on the GeoTracker database is provided at:

   http://www.swrcb.ca.gov/ust/electronic_submittal/index.shtm

Notification of the GeoTracker upload shall be emailed to the Central Valley Water Board at: centralvalleyfresno@waterboards.ca.gov. To ensure that the submittal is routed to the appropriate staff as quickly as possible, the following information shall be included in the body of the email:

Attention:	Title 27 Unit
Report Title	
GeoTracker Upload ID	L10006130984
Discharger name:	Southeast Regional Solid Waste Commission
Facility name:	Southeast Regional Disposal Site
County:	Fresno
CIWQS place ID:	257926

I, PATRICK PULUPA, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 31 May 2018.

ORIGINAL SIGNED BY

PATRICK PULUPA, Executive Officer

EAMW

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2018-0053
FOR
SOUTHEAST REGIONAL SOLID WASTE COMMISSION
SOUTHEAST REGIONAL DISPOSAL SITE
CLASS III LANDFILL
POST-CLOSURE MAINTENANCE AND CORRECTIVE ACTION

FRESNO COUNTY

This Monitoring and Reporting Program (MRP) is issued pursuant to Water Code section 13267, and incorporated as part of Waste Discharge Requirements (WDRs) Order No. R5-2018-0053. This MRP requires(a) groundwater monitoring; leachate and seep monitoring and LCRS testing; (b) facility monitoring, maintenance, and reporting; and (c) financial assurances reporting pursuant to California Code of Regulations, title 27 (Title 27), section 20005 et seq., as well as WDRs Order No. R5-2018-0053 and the Standard Provisions and Reporting Requirements dated December 2015 (SPRRs) attached thereto.

Pursuant to WDRs Order No. R5-2018-0053, the Discharger is ordered to comply with this MRP. The Discharger shall not implement any changes to this MRP unless a revised version is issued by the Central Valley Water Board or the Executive Officer.

A. MONITORING

The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater in accordance with Standard Monitoring Specifications in Section I of the SPRRs and the Monitoring Specifications in Section F of the WDRs. All monitoring shall be conducted in accordance with the most recently approved *Sample Collection and Analysis Plan*, which includes quality assurance/quality control standards.

All compliance monitoring wells established for the detection monitoring program (DMP) shall constitute the monitoring points for the groundwater Water Quality Protection Standard (WQPS). All detection monitoring program groundwater monitoring wells and leachate monitoring points shall be sampled and analyzed for monitoring parameters and Constituents of Concern (COCs) as set forth in Tables I-IV, below.

The Discharger may use alternative analytical test methods, including new USEPA approved methods, provided the methods have method detection limits equal to or lower than the analytical methods specified in this MRP, and are identified in the most recently approved Sample Collection and Analysis Plan.

The monitoring program of this MRP includes:

Section	Monitoring Program
A.1	Groundwater Monitoring
A.2	Leachate Monitoring, Seep Monitoring, and LCRS Testing
A.3	Facility Monitoring
A.4	Corrective Action Monitoring

1. Groundwater Monitoring

The Discharger shall operate and maintain a groundwater detection monitoring system that complies with the applicable provisions of Title 27, sections 20415 and 20420. The detection monitoring system shall be certified by a California licensed professional civil engineer or geologist meeting the requirements of Title 27.

The current groundwater detection monitoring system meets the applicable requirements of Title 27. The Discharger shall revise the groundwater detection monitoring system (after review and approval by Central Valley Water Board staff) as needed.

The current groundwater monitoring network consists of the following:

Well	Status
BMW-2	Background
MW-18	Detection
MW-19	Detection
MW-22	Detection
MW-23	Detection
MW-24	Detection
MW/EW-14	Detection
MW/EW-16	Detection

Groundwater samples shall be collected from the background wells, detection monitoring wells, corrective action monitoring wells, and any additional wells added as part of the approved groundwater monitoring system. The collected samples shall be analyzed for the parameters and constituents set forth in Table I, in accordance with the specified methods and frequencies. The Discharger shall collect, preserve, and transport groundwater samples in accordance with the approved Sample Collection and Analysis Plan.

The Discharger has successfully cleaned up waste constituent's on-site, see WDRs Groundwater Conditions Section for more information. Further off-site investigation needs to be conducted in order to determine the lateral and vertical extent of the off-site plume. The Discharger needs to submit a Work Plan for our Office's review and approval detailing additional investigation work to be completed to delineate the off-site plume.

Once per quarter, the Discharger shall measure the groundwater elevation in each well, determine groundwater flow direction, and estimate groundwater flow rates in the uppermost aquifer and in any zones of perched water and in any additional portions of the zone of saturation monitored. The results shall be reported semiannually, including the times of expected highest and lowest elevations of the water levels in the wells, pursuant to Title 27, section 20415, subdivision (e)(15).

Every five-year samples collected for the COC monitoring specified in Table I shall be collected and analyzed in accordance with the methods listed in Table IV. Five-year COCs were last monitored in **2017** and shall be monitored again in 2022. The results shall be reported in the Annual Monitoring Report for the year in which the samples were collected.

2. Leachate Monitoring, Seep Monitoring, and Annual LCRS Testing

a. Leachate Monitoring

The Discharger shall operate and maintain leachate collection and removal system (LCRS) sumps, conduct monitoring of any detected leachate seeps, and conduct annual testing of each LCRS in accordance with Title 27 and this monitoring program.

The current LCRS leachate sump monitoring points are:

Mon Pt.
Sump A
Sump B
Sump C

All LCRS sumps shall be inspected monthly for the presence of leachate, and flow shall be recorded in accordance with Table II. If leachate is detected in a previously dry sump, the Discharger shall verbally notify Central Valley Water Board staff within **seven days** and shall immediately sample and test the leachate for Field and Monitoring Parameters listed in Table II. Leachate in the LCRS sump shall then be sampled for all parameters and constituents in accordance with the frequencies listed in Table II whenever liquid is present. All LCRS sump samples shall be analyzed for the 5-year COCs specified in Table II every five years, beginning again in **2022**.

b. Seep Monitoring

Upon detection, leachate that seeps to the surface from a landfill unit shall be sampled and analyzed for the Field and Monitoring Parameters listed in Table II. The quantity of leachate shall be estimated and reported as Leachate Flow Rate (in gallons/day). Reporting for leachate seeps shall be conducted per MRP Section B.3, below.

c. Annual LCRS Testing

All LCRSs shall be tested annually pursuant to Title 27, section 20340, subdivision (d) to demonstrate proper operation. The results of these tests shall be reported to the Central Valley Water Board in the Annual Monitoring Report and shall include comparisons with earlier tests made under comparable conditions.

3. Facility Monitoring

a. Annual Facility Inspection

Annually, prior to the anticipated rainy season, but no later than 30 September, the Discharger shall conduct an inspection of the facility. The inspection shall assess repair and maintenance needed for drainage control systems, cover systems, and groundwater monitoring wells; and shall assess preparedness for winter conditions (including but not limited to erosion and sedimentation control). The Discharger shall take photos of any problems areas before and after repairs. Any necessary construction, maintenance, or repairs shall be completed by **31 October**. Annual facility inspection reporting shall be submitted per MRP Section B.4, below.

b. Major Storm Events

The Discharger shall inspect all precipitation, diversion, and drainage facilities and all landfill side slopes for damage **within 7 days** following major storm events capable of causing damage or significant erosion. The Discharger shall take photos of any problems areas before and after repairs. Necessary repairs shall be completed **within 30 days** of the inspection. Notification and reporting requirements for major storm events shall be conducted per MRP Section B.5, below.

c. Standard Observations

The Discharger shall conduct Standard Observations at the landfill in accordance with this section. Standard observations shall be conducted in accordance with the following schedule:

Frequency	Season
Monthly	Wet: 1 October to 30 April
Quarterly	Dry: 1 May to 30 September

The Standard Observations shall include:

1) For the landfill units:

   a) Evidence of ponded water at any point on the landfill outside of any contact storm water/leachate diversions structures on the active face (show affected area on map); and

   b) Evidence of erosion and/or of day-lighted refuse.

2) Along the perimeter of the landfill units:

   a) Evidence of leachate seeps, estimated size of affected area, and flow rate (show affected area on map); and

   b) Evidence of erosion and/or of day-lighted refuse.

Results of Standard Observations shall be submitted in the semiannual monitoring reports required in MRP section B.1, below.

4. Corrective Action Monitoring

The Discharger shall conduct corrective action monitoring to demonstrate the effectiveness of corrective action in accordance with Title 27, section 20430 and this MRP. Groundwater monitoring wells that are in a corrective action monitoring program shall be monitored in accordance with the groundwater monitoring requirements in part A.1 of this MRP, except as modified in this part of the MRP for any additional constituents or modified monitored frequencies.

The current off-site down gradient groundwater sampling program includes the following domestic/irrigation wells:

Well Location
12464 E. Dinuba
12475 E. Dinuba
12735 E. Dinuba
12198 E. Hunstman Ave

B. REPORTING

The Discharger shall submit the following reports in accordance with the required schedule:

Reporting Schedule

Section	Report	End of Reporting Period	Due Date
B.1	Semiannual Monitoring Report	30 June, 31 December	**31 August, 28 February**
B.2	Annual Monitoring Report	31 December	**28 February**
B.3	Seep Reporting	Continuous	**Immediately & 7 Days**
B.4	Annual Facility Inspection Report	31 October	**15 November**
B.5	Major Storm Event Reporting	Continuous	**7 days from damage discovery**
B.6	Financial Assurances Report	31 December	**1 June**

The Discharger shall enter all monitoring data and reports into the online GeoTracker database as required by Division 3 of Title 27 and Chapter 30, Division 3 of Title 23. Notification of the GeoTracker upload shall be emailed to the Central Valley Water Board at: centralvalleyfresno@waterboards.ca.gov. To ensure that the submittal is routed to the appropriate staff as quickly as possible, the following information shall be included in the body of the email:

Attention:	Title 27 Unit
Report Title	
GeoTracker Upload ID	L10006130984
Discharger name:	Southeast Regional Solid Waste Commission
Facility name:	Southeast Regional Disposal Site
County:	Fresno
CIWQS place ID:	257926

Reporting Requirements

The Discharger shall submit monitoring reports **semiannually** with the data and information as required herein, and as required per WDRs Order No. R5-2018-0053 and the SPRRs attached thereto (particularly § I [Standard Monitoring Specifications] and § J [Response to a Release]). The Discharger shall arrange its reported monitoring data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible. The data shall be summarized in such a manner so as to illustrate clearly the compliance with WDRs or the lack thereof.

The Dischargers shall submit all reports required under the MRP, including discharge location data, and pdf monitoring reports to the State Water Resources Control Board (State Water Board) GeoTracker database.

Field and laboratory tests shall be reported in each monitoring report. Semiannual and annual monitoring reports shall be submitted to the Central Valley Water Board in accordance with the above schedule for the calendar period in which samples were taken or observations made. In addition, the Discharger shall enter all monitoring data and monitoring reports into the online Geotracker database as required by Division 3 of Title 27 and Chapter 30, Division 3 of Title 23.

The results of **all monitoring** conducted at the site shall be reported to the Central Valley Water Board in accordance with the reporting schedule above for the calendar period in which samples were taken or observations made.

The Discharger shall retain records of all monitoring information, including all calibration and maintenance records, all original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order. Records shall be maintained throughout the life of the facility including the post-closure period. Such records shall be legible and shall show the following for each sample:

a) Sample identification and the monitoring point or background monitoring point from which it was taken, along with the identity of the individual who obtained the sample;

b) Date, time, and manner of sampling;

c) Date and time that analyses were started and completed, and the name of the personnel and laboratory performing each analysis;

d) Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used;

e) Calculation of results; and

f) Results of analyses, and the MDL and PQL for each analysis. All peaks shall be reported.

Required Reports

1. **Semiannual Monitoring Report:** Monitoring reports shall be submitted semiannually and are due on **31 August** and **28 February**. Each semiannual monitoring report shall contain at least the following:

   a) For each groundwater monitoring point addressed by the report, descriptions of:

      1) The time of water level measurement;

      2) The type of pump - or other device - used for purging and the elevation of the pump intake relative to the elevation of the screened interval;

      3) The method of purging used to stabilize water in the well bore before the sample is taken including the pumping rate; the equipment and methods used to monitor field pH, temperature, and conductivity during purging; results of pH, temperature, conductivity, and turbidity testing; and the method of disposing of the purge water;

      4) The type of pump (or other device) used for sampling, if different than the pump or device used for purging; and

      5) A statement that the sampling procedure was conducted in accordance with the approved Sample Collection and Analysis Plan.

   b) A map or aerial photograph showing the locations of observation stations, monitoring points, and background monitoring points.

   c) The estimated quarterly groundwater flow rate and direction in the uppermost aquifer, in any zones of perched water, and in any additional zone of saturation monitored based upon water level elevations taken prior to the collection of the water quality data submitted in the report (See Title 27, § 20415, subd. (e)(15).).

   d) Cumulative tabulated monitoring data for all monitoring points and constituents for groundwater, and leachate. Concentrations below the laboratory reporting limit shall not be reported as “ND” unless the reporting limit is also given in the table. Otherwise they shall be reported “<” the reporting limit (e.g., <0.10). Units shall be as required in Tables I and II unless specific justification is given to report in other units. Refer to the SPRRs Section I (“Standard Monitoring Specifications”) for requirements regarding MDLs and PQLs.

   e) Laboratory statements of results of all analyses evaluating compliance with requirements.

   f) An evaluation of the concentration of each monitoring parameter (or 5-year COC when five-year COC sampling is conducted) as compared to the current concentration limits, and the results of any required verification testing for constituents exceeding a concentration limit. Report any actions taken under Section J (“Response to a Release”) for verified exceedances of a concentration limit for wells/constituents not already in corrective action monitoring.

g) An evaluation of the effectiveness of the leachate monitoring and control facilities, and of the run-off/run-on control facilities. Include a summary of any instances where leachate depth on an MSW landfill liner system exceeded 30 cm (excluding the leachate sump), and information about the required notification and corrective action in Standard Facility Specification E.13 of the SPRRs.

h) A summary of all Standard Observations for the reporting period required in MRP Section A.3.c, above.

i) A summary of inspection, leak search, and repair of final covers on any closed landfill units in accordance with an approved final post-closure maintenance plan as required by Standard Closure and Post-Closure Maintenance Specifications G.26 through G.29 of the SPRRs.

j) A comprehensive discussion of any Corrective Action program required by this MRP under Section A.4.

2. **Annual Monitoring Report:** The Discharger shall submit an Annual Monitoring Report to the Central Valley Water Board by **28 February** covering the reporting period of the previous monitoring year. If desired, the Annual Monitoring Report may be combined with the second semiannual report, but if so, shall clearly state that it is both a semi-annual and annual monitoring report in its title. Each Annual Monitoring Report shall contain the following information:

a) All monitoring parameters shall be graphed to show historical trends at each monitoring point and background monitoring point, for all samples taken within at least the previous five calendar years. If a 5-year COC event was performed, then these parameters shall also be graphically presented. Each such graph shall plot the concentration of one or more constituents for the period of record for a given monitoring point or background monitoring point, at a scale appropriate to show trends or variations in water quality. The graphs shall plot each datum, rather than plotting mean values. Graphical analysis of monitoring data may be used to provide significant evidence of a release.

b) An evaluation of the monitoring parameters with regards to the cation/anion balance, and a graphical presentation using a Stiff diagram, Piper graph or Schoeller plot.

c) All historical monitoring data for which there are detectable results, including data for the previous year, shall be submitted in tabular form in a digital file format such as a computer disk. The Central Valley Water Board regards the submittal of data in hard copy and in digital format as the forms necessary for statistical analysis, facilitating periodic review. (See Title 27, § 20420, subd. (h).)

d) Hydrographs of each well showing the elevation of groundwater with respect to the elevations of the top and bottom of the screened interval and the elevation of the pump intake. Hydrographs of each well shall be prepared quarterly and submitted annually.

e) A comprehensive discussion of the compliance record, and the result of any corrective actions taken or planned needed to bring the Discharger into full compliance with the WDRs.

f) A written summary of the monitoring results, indicating any changes made or observed since the previous Annual Monitoring Report.

g) The results of the annual testing of leachate collection and removal systems required under Standard Facility Specification E.14 of the SPRRs.

h) Updated concentration limits for each monitoring parameter at each monitoring well based on the new data set.

3. **Seep Reporting:** The Discharger shall report by telephone any seepage from the disposal area **immediately** after it is discovered. A written report shall be filed with the Central Valley Water Board **within seven days**, containing at least the following information:

   a) A map showing the location(s) of seepage;

   b) An estimate of the flow rate;

   c) A description of the nature of the discharge (e.g., all pertinent observations and analyses);

   d) Verification that samples have been submitted for analyses of the Field Parameters and Monitoring Parameters listed in Table II (see below), and an estimated date that the results will be submitted to the Central Valley Water Board; and

4. **Annual Facility Inspection Reporting:** By **15 November** of each year, the Discharger shall submit a report describing the results of the inspection and the repair measures implemented, preparations for winter, and include photographs of any problem areas and the repairs. (See MRP § A.3.a of this MRP, above.)

5. **Major Storm Event Reporting:** Following major storm events capable of causing damage or significant erosion, the Discharger shall notify Central Valley Water Board staff **immediately upon discovery** of any damage or significant erosion; and report subsequent repairs **within 14 days** of completion of the repairs. Photographs of problem(s) and repairs performed shall be submitted with the report. (See MRP § A.3.b, above.)

6. **Financial Assurances Report:** By **1 June** of each year, the Discharger shall submit a copy of the annual financial assurances report due to CalRecycle that updates the financial assurances for post-closure maintenance. Refer to Financial Assurances Specification E.1 of the WDRs.

C. WATER QUALITY PROTECTION STANDARD AND COMPLIANCE PERIOD

1. Water Quality Protection Standard (WQPS) Report

For each Waste Management Unit (WMU), the WQPS shall consist of all COCs, the concentration limit for each constituent of concern, the verification retesting procedure to confirm measurably significant evidence of a release, the point of compliance, and all water quality monitoring points for each monitored medium.

The WQPS for naturally occurring waste constituents consists of the COCs, the concentration limits, and the point of compliance and all monitoring points. Any proposed changes to the WQPS other than annual update of the concentration limits shall be submitted in a report for review and approval.

The report shall:

a. Identify **all distinct bodies of surface and ground water** that could be affected in the event of a release from a WMU or portion of a unit. This list shall include at least the uppermost aquifer and any permanent or ephemeral zones of perched groundwater underlying the facility.

b. Include a map showing the monitoring points and background monitoring points for the surface water monitoring program, groundwater monitoring program, and the unsaturated zone monitoring program. The map shall include the point of compliance in accordance with Title 27, section 20405.

c. Evaluate the perennial direction(s) of groundwater movement within the uppermost groundwater zone(s).

d. Include a proposed statistical method for calculating concentration limits for monitoring parameters and constituents of concern that are detected in 10 percent or greater of the background data (naturally-occurring constituents) using a statistical procedure from Title 27, section 20415, subdivision (e)(8)(A)-(E).

e. Include a retesting procedure to confirm or deny measurably significant evidence of a release pursuant to section 20415, subdivision (e)(8)(E) and section 20420, subdivisions (j)(1)-(3) of Title 27.

The WQPS shall be certified by a California-registered civil engineer or geologist as meeting the requirements of Title 27. If subsequent sampling of the background monitoring point(s) indicates significant water quality changes due to either seasonal fluctuations or other reasons unrelated to waste management activities at the site, the Discharger may request modification of the WQPS.

The Discharger proposed the methods for calculating concentration limits in the May 2002 *Water Quality Protection Standard Report*. The WQPS report proposed to use interwell data analysis to calculate concentration limits for the monitored constituents.

The WQPS shall be updated annually for each monitoring well using new and historical monitoring data.

2. Monitoring Parameters

Monitoring parameters are a select group of constituents that are monitored during each monitoring event that are the waste constituents, reaction products, hazardous constituents, and physical parameters that provide a reliable indication of a release from a WMU. The monitoring parameters for all waste management units are those listed in Tables I - III for the specified monitored medium.

3. Constituents of Concern (COCs)

COCs include a larger group of waste constituents, their reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the

WMU, and are required to be monitored every five years. (See Title 27, §§ 20395, 20420, subd. (g).). The COCs for all waste management units at the facility are those listed in Tables I and II for the specified monitored medium, and Table IV. The Discharger shall monitor all COCs every five years, or more frequently as required in accordance with a Corrective Action Program. The last 5-year COC report was submitted to the Central Valley Water Board in the 2018 *Annual Monitoring Report*, and 5-year COCs are due to be monitored again in **2022**.

4. Concentration Limits

For a naturally occurring constituent of concern, the concentration limit for each constituent of concern shall be determined as follows:

a. By calculation in accordance with a statistical method pursuant to Title 27, section 20415, subdivision (e)(8); or

b. By an alternate statistical method meeting the requirements of Title 27, section 20415, subdivision (e)(8)(E).

The approved method for calculating concentration limits were included in the 2002 *Water Quality Protection Standard Report*. The WQPS report proposed to use interwell data analysis to calculate concentration limits for the monitored constituents.

5. Retesting Procedures for Confirming Evidence of a Release

If monitoring results indicate measurably significant evidence of a release, as described in Standard Monitoring Specification I.45 of the SPRRs, then:

a. For analytes that are detected in less than 10 percent of the background samples (such as non-naturally occurring constituents), the Discharger shall use the non-statistical retesting procedure required in Standard Monitoring Specification I.46 of the SPRRs.

b. For analytes that are detected in 10 percent or greater of the background samples (naturally occurring constituents), the Discharger shall use one of the statistical retesting procedure as required in Standard Monitoring Specification I.47 of the SPRRs.

6. Point of Compliance

The point of compliance for the water standard at each waste management unit is a vertical surface located at the hydraulically down gradient limit of the Unit that extends through the uppermost aquifer underlying the unit.

7. Compliance Period

The compliance period for each waste management unit shall be the number of years equal to the active life of the unit plus the closure period. The compliance period is the minimum period during which the Discharger shall conduct a water quality monitoring program subsequent to a release from the waste management unit. The compliance period shall begin anew each time the Discharger initiates an evaluation monitoring program. (See Title 27, § 20410.)

8. Monitoring Points

A monitoring point is a well, device, or location specified in the waste discharge requirements, which monitoring is conducted and at which the water quality protection standard applies. The monitoring points for each monitored medium are listed in Section A of this MRP.

D. TRANSMITTAL LETTER FOR ALL REPORTS

A transmittal letter explaining the essential points shall accompany each report. At a minimum, the transmittal letter shall identify any violations found since the last report was submitted, and if the violations were corrected. If no violations have occurred since the last submittal, this shall be stated in the transmittal letter. The transmittal letter shall also state that a discussion of any violations found since the last report was submitted, and a description of the actions taken or planned for correcting those violations, including any references to previously submitted time schedules, is contained in the accompanying report.
The transmittal letter shall contain a statement by the discharger, or the discharger's authorized agent, under penalty of perjury, that to the best of the signer's knowledge the report is true, accurate, and complete.

The Discharger shall implement the above monitoring program on the effective date of this Program.

I, PATRICK PULUPA, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of a Monitoring and Reporting Program issued by the California Regional Water Quality Control Board, Central Valley Region, on 31 May 2018.

ORIGINAL SIGNED BY

Ordered By: _____
PATRICK PULUPA, Executive Officer

EAMW

TABLE I

GROUNDWATER DETECTION MONITORING PROGRAM

Parameter	GeoTracker Code	Units	Sampling Frequency	Reporting Frequency
Field Parameters				
Groundwater Elevation	GWELEV	Ft. & 100ths, M.S.L.	Quarterly	Semiannual
Temperature	TEMP	^{o}F	Semiannual	Semiannual
Electrical Conductivity	SC	umhos/cm	Semiannual	Semiannual
pH	PH	pH units	Semiannual	Semiannual
Turbidity	TURB	Turbidity units	Semiannual	Semiannual
Monitoring Parameters				
Total Dissolved Solids (TDS)	TDS	mg/L[1]	Semiannual	Semiannual
Chloride	CL	mg/L	Semiannual	Semiannual
Carbonate	CACO3	mg/L	Semiannual	Semiannual
Bicarbonate	BICACO3	mg/L	Semiannual	Semiannual
Nitrate - Nitrogen	NO3N	mg/L	Semiannual	Semiannual
Sulfate	SO4	mg/L	Semiannual	Semiannual
Calcium	CA	mg/L	Semiannual	Semiannual
Magnesium	MG	mg/L	Semiannual	Semiannual
Potassium	K	mg/L	Semiannual	Semiannual
Sodium	NA	mg/L	Semiannual	Semiannual
Volatile Organic Compounds (USEPA Method 8260B, short list, see Table III)		ug/L[2]	Semiannual	Semiannual
5-Year Constituents of Concern (see Table IV)				
Total Organic Carbon	TOC	mg/L	5 years	2023
Inorganics (dissolved)		ug/L	5 years	and every 5 years
Volatile Organic Compounds (USEPA Method 8260B, extended list)		ug/L	5 years	thereafter
Semi-Volatile Organic Compounds (USEPA Method 8270D)		ug/L	5 years	'' ''
Chlorophenoxy Herbicides (USEPA Method 8151A)		ug/L	5 years	'' ''
Organophosphorus Compounds (USEPA Method 8141B)		ug/L	5 years	'' ''

1. Milligrams per liter
2. Micrograms per liter

TABLE II

LEACHATE MONITORING [1], SEEP MONITORING [2]

Parameter	GeoTracker Code	Units	Sampling Frequency	Reporting Frequency
Field Parameters				
Total Flow		Gallons	Monthly	Semiannual
Flow Rate	FLOW	Gallons/Day	Monthly	Semiannual
Electrical Conductivity	SC	umhos/cm	Quarterly	Semiannual
pH	PH	pH units	Quarterly	Semiannual
Monitoring Parameters				
Total Dissolved Solids (TDS)	TDS	mg/L	Annually	Annually
Chloride	CL	mg/L	Annually	Annually
Carbonate	CACO3	mg/L	Annually	Annually
Bicarbonate	BICACO3	mg/L	Annually	Annually
Nitrate - Nitrogen	NO3N	mg/L	Annually	Annually
Sulfate	SO4	mg/L	Annually	Annually
Calcium	CA	mg/L	Annually	Annually
Magnesium	MG	mg/L	Annually	Annually
Potassium	K	mg/L	Annually	Annually
Sodium	NA	mg/L	Annually	Annually
Volatile Organic Compounds (USEPA Method 8260B, short list, see Table III)		ug/L	Annually	Annually
5-Year Constituents of Concern (see Table IV)				
Total Organic Carbon	TOC	mg/L	5 years	2023
Inorganics (dissolved)		ug/L	5 years	and every 5 years
Volatile Organic Compounds (USEPA Method 8260B, extended list)		ug/L	5 years	thereafter
Semi-Volatile Organic Compounds (USEPA Method 8270C or D)		ug/L	5 years	‘’ ‘’
Chlorophenoxy Herbicides (USEPA Method 8151A)		ug/L	5 years	‘’ ‘’
Organophosphorus Compounds (USEPA Method 8141B)		ug/L	5 years	‘’ ‘’

1. If leachate is detected in a previously dry sump, the Discharger shall verbally notify Central Valley Water Board staff within **seven days** and shall immediately sample and test the leachate for Field and Monitoring Parameters listed in Table III. Leachate in the LCRS sump shall then be sampled for all parameters and constituents in accordance with the frequencies listed in Table III whenever liquid is present.

2. Leachate seeps shall be sampled and analyzed for the Field and Monitoring Parameters in this table upon detection. The quantity of leachate shall be estimated and reported in gallons/day. Also, refer to Section B.3

TABLE III

MONITORING PARAMETERS FOR DETECTION MONITORING

Surrogates for Metallic Constituents:

COC Description	GeoTracker Code
pH	PH
Total Dissolved Solids	TDS
Electrical Conductivity	SC
Chloride	CL
Sulfate	SO4
Nitrate nitrogen	NO3N

Volatile Organic Compounds, short list (USEPA Method 8260B):

Acetone	ACE
Acrylonitrile	ACRAMD
Benzene	BZ
Bromochloromethane	BRCLME
Bromodichloromethane	BDCME
Bromoform (Tribromomethane)	TBME
Carbon disulfide	CDS
Carbon tetrachloride	CTCL
Chlorobenzene	CLBZ
Chloroethane (Ethyl chloride)	CLEA
Chloroform (Trichloromethane)	TCLME
Dibromochloromethane (Chlorodibromomethane)	DBCME
1,2-Dibromo-3-chloropropane (DBCP)	DBCP
1,2-Dibromoethane (Ethylene dibromide; EDB)	EDB
o-Dichlorobenzene (1,2-Dichlorobenzene)	DCBZ12
m-Dichlorobenzene (1,3-Dichlorobenzene)	DCBZ13
p-Dichlorobenzene (1,4-Dichlorobenzene)	DCBZ14
trans- l ,4-Dichloro-2-butene	DCBE14T
Dichlorodifluoromethane (CFC-12)	FC12
1,1-Dichloroethane (Ethylidene chloride)	DCA11
1,2-Dichloroethane (Ethylene dichloride)	DCA12
1,1 -Dichloroethylene (1,1 -Dichloroethene; Vinylidene chloride)	DCE11
cis- 1,2-Dichloroethylene (cis- 1,2-Dichloroethene)	DCE12C
trans-1,2-Dichloroethylene (trans-1,2-Dichloroethene)	DCE12T
1,2-Dichloropropane (Propylene dichloride)	DCPA12
cis- 1,3-Dichloropropene	DCP13C
trans- 1,3-Dichloropropene	DCP13T
Di-isopropylether (DIPE)	DIPE
Ethanol	ETHANOL
Ethyltertiary butyl ether	ETBE
Ethylbenzene	EBZ
2-Hexanone (Methyl butyl ketone)	HXO2
Hexachlorobutadiene	HCBU
Methyl bromide (Bromomethene)	BRME
Methyl chloride (Chloromethane)	CLME

TABLE III

MONITORING PARAMETERS FOR DETECTION MONITORING

Continued

Methylene bromide (Dibromomethane)	DBMA
Methylene chloride (Dichloromethane)	DCMA
Methyl ethyl ketone (MEK: 2-Butanone)	MEK
Methyl iodide (Iodomethane)	IME
Methyl t-butyl ether	MTBE
4-Methyl-2-pentanone (Methyl isobutylketone)	MIBK
Naphthalene	NAPH
Styrene	STY
Tertiary amyl methyl ether	TAME
Tertiary butyl alcohol	TBA
1,1,1,2-Tetrachloroethane	TC1112
1,1.2,2-Tetrachloroethane	PCA
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene)	PCE
Toluene	BZME
1,2,4-Trichlorobenzene	TCB124
1,1,1-Trichloroethane (Methylchloroform)	TCA111
1,1,2-Trichloroethane	TCA112
Trichloroethylene (Trichloroethene)	TCE
Trichlorofluoromethane (CFC- 11)	FC11
1,2,3-Trichloropropane	TCPR123
Vinyl acetate	VA
Vinyl chloride	VC
Xylenes	XYLENES

TABLE IV

5-YEAR COCs & APPROVED USEPA ANALYTICAL METHODS

Inorganics (dissolved):	USEPA Method	GeoTracker Code
Aluminum	200.8	AL
Antimony	200.8	SB
Barium	200.8	BA
Beryllium	200.8	BE
Cadmium	200.8	CD
Chromium	200.8	CR
Cobalt	200.8	CO
Copper	200.8	CU
Silver	200.8	AG
Tin	200.8	SN
Vanadium	200.8	V
Zinc	200.8	ZN
Iron	200.8	FE
Manganese	200.8	MN
Arsenic	200.8	AS
Lead	200.8	PB
Mercury	245.1	HG
Nickel	200.8	NI
Selenium	200.8	SE
Thallium	200.8	TL
Cyanide	SM[1] 4500-CM	CN
Sulfide	SM 4500-SF	S

Volatile Organic Compounds, extended list (USEPA Method 8260B):

COC Description	GeoTracker Code
Acetone	ACE
Acetonitrile (Methyl cyanide)	ACCN
Acrolein	ACRL
Acrylonitrile	ACRAMD
Allyl chloride (3-Chloropropene)	CLPE3
Benzene	BZ
Bromochloromethane (Chlorobromomethane)	BRCLME
Bromodichloromethane (Dibromochloromethane)	DBCME
Bromoform (Tribromomethane)	TBME
Carbon disulfide	CDS
Carbon tetrachloride	CTCL
Chlorobenzene	CLBZ
Chloroethane (Ethyl chloride)	CLEA
Chloroform (Trichloromethane)	TCLME
Chloroprene	CHLOROPRENE
Dibromochloromethane (Chlorodibromomethane)	DBCME
1,2-Dibromo-3-chloropropane (DBCP)	DBCP
1,2-Dibromoethane (Ethylene dibromide; EDB)	EDB
o-Dichlorobenzene (1,2-Dichlorobenzene)	DCBZ12

TABLE IV

5-YEAR COCs & APPROVED USEPA ANALYTICAL METHODS

Continued

m-Dichlorobenzene (1,3-Dichlorobenzene)	DCBZ13
p-Dichlorobenzene (1,4-Dichlorobenzene)	DCBZ14
trans- 1,4-Dichloro-2-butene	DCBE14T
Dichlorodifluoromethane (CFC 12)	FC12
1,1 -Dichloroethane (Ethylidene chloride)	DCA11
1,2-Dichloroethane (Ethylene dichloride)	DCA12
1,1 -Dichloroethylene (1, l-Dichloroethene; Vinylidene chloride)	DCE11
cis- l ,2-Dichloroethylene (cis- 1,2-Dichloroethene)	DCE12C
trans- l ,2-Dichloroethylene (trans- 1,2-Dichloroethene)	DCE12T
1,2-Dichloropropane (Propylene dichloride)	DCPA12
1,3-Dichloropropane (Trimethylene dichloride)	DCPA13
2,2-Dichloropropane (Isopropylidene chloride)	DCPA22
1,1 -Dichloropropene	DCP11
cis- 1,3-Dichloropropene	DCP13C
trans- l ,3-Dichloropropene	DCP13T
Di-isopropylether (DIPE)	DIPE
Ethanol	ETHANOL
Ethyltertiary butyl ether	ETBE
Ethylbenzene	EBZ
Ethyl methacrylate	EMETHACRY
Hexachlorobutadiene	HCBU
2-Hexanone (Methyl butyl ketone)	HXO2
Isobutyl alcohol	ISOBTOH
Methacrylonitrile	METHACRN
Methyl bromide (Bromomethane)	BRME
Methyl chloride (Chloromethane)	CLME
Methyl ethyl ketone (MEK; 2-Butanone)	MEK
Methyl iodide (Iodomethane)	IME
Methyl t-butyl ether	MTBE
Methyl methacrylate	MMTHACRY
4-Methyl-2-pentanone (Methyl isobutyl ketone)	MIBK
Methylene bromide (Dibromomethane)	DBMA
Methylene chloride (Dichloromethane)	DCMA
Naphthalene	NAPH
Propionitrile (Ethyl cyanide)	PACN
Styrene	STY
Tertiary amyl methyl ether	TAME
Tertiary butyl alcohol	TBA
1,1,1,2-Tetrachloroethane	TC1112
1,1,2,2-Tetrachloroethane	PCA
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene; PCE)	PCE
Toluene	BZME
1,2,4-Trichlorobenzene	TCB124
1,1,1 -Trichloroethane (Methylchloroform)	TCA111
1,1,2-Trichloroethane	TCA112
Trichloroethylene (Trichloroethene; TCE)	TCE
Trichlorofluoromethane (CFC- 11)	FC11

TABLE IV

5-YEAR COCs & APPROVED USEPA ANALYTICAL METHODS

Continued

1,2,3-Trichloropropane	TCPR123
Vinyl acetate	VA
Vinyl chloride (Chloroethene)	VC
Xylene (total)	XYLENES

Semi-Volatile Organic Compounds (USEPA Method 8270C or D - base, neutral, & acid extractables):

Acenaphthene	ACNP
Acenaphthylene	ACNPY
Acetophenone	ACPHN
2-Acetylaminofluorene (2-AAF)	ACAMFL2
Aldrin	ALDRIN
4-Aminobiphenyl	AMINOBPH4
Anthracene	ANTH
Benzo[a]anthracene (Benzanthracene)	BZAA
Benzo[b]fluoranthene	BZBF
Benzo[k]fluoranthene	BZKF
Benzo[g,h,i]perylene	BZGHIP
Benzo[a]pyrene	BZAP
Benzyl alcohol	BZLAL
Bis(2-ethylhexyl) phthalate	BIS2EHP
alpha-BHC	BHCALPHA
beta-BHC	BHCBETA
delta-BHC	BHCDELTA
gamma-BHC (Lindane)	BHCGAMMA
Bis(2-chloroethoxy)methane	BECEM
Bis(2-chloroethyl) ether (Dichloroethyl ether)	BIS2CEE
Bis(2-chloro-1-methyethyl) ether (Bis(2-chloroisopropyl) ether; DCIP)	BIS2CIE
4-Bromophenyl phenyl ether	BPPE4
Butyl benzyl phthalate (Benzyl butyl phthalate)	BBP
Chlordane	CHLORDANE
p-Chloroaniline	CLANIL4
Chlorobenzilate	CLBZLATE
p-Chloro-m-cresol (4-Chloro-3-methylphenol)	C4M3PH
2-Chloronaphthalene	CNPH2
2-Chlorophenol	CLPH2
4-Chlorophenyl phenyl ether	CPPE4
Chrysene	CHRYSENE
o-Cresol (2-methylphenol)	MEPH2
m-Cresol (3-methylphenol)	MEPH3
p-Cresol (4-methylphenol)	MEPH4
4,4'-DDD	DDD44
4,4'-DDE	DDE44
4,4'-DDT	DDT44
Diallate	DIALLATE

TABLE IV

5-YEAR COCs & APPROVED USEPA ANALYTICAL METHODS

Continued

Dibenz[a,h]anthracene	DBAHA
Dibenzofuran	DBF
Di-n-butyl phthalate	DNBP
3,3'-Dichlorobenzidine	DBZD33
2,4-Dichlorophenol	DCP24
2,6-Dichlorophenol	DCP26
Dieldrin	DIELDRIN
Diethyl phthalate	DEPH
p-(Dimethylamino)azobenzene	PDMAABZ
7,12-Dimethylbenz[a]anthracene	DMBZA712
3,3'-Dimethylbenzidine	DMBZD33
2,4-Dimehtylphenol (m-Xylenol)	DMP24
Dimethyl phthalate	DMPH
m-Dinitrobenzene	DNB13
4,6-Dinitro-o-cresol (4,6-Dinitro-2-methylphenol)	DN46M
2,4-Dinitrophenol	DNP24
2,4-Dinitrotoluene	DNT24
2,6-Dinitrotoluene	DNT26
Di-n-octyl phthalate	DNOP
Diphenylamine	DPA
Endosulfan I	ENDOSULFANA
Endosulfan II	ENDOSULFANB
Endosulfan sulfate	ENDOSULFANS
Endrin	ENDRIN
Endrin aldehyde	ENDRINALD
Ethyl methanesulfonate	EMSULFN
Famphur	FAMPHUR
Fluoranthene	FLA
Fluorene	FL
Heptachlor	HEPTACHLOR
Heptachlor epoxide	HEPT-EPOX
Hexachlorobenzene	HCLBZ
Hexachlorocyclopentadiene	HCCP
Hexachloroethane	HCLEA
Hexachloropropene	HCPR
Indeno(1,2,3-c,d)pyrene	INP123
Isodrin	ISODRIN
Isophorone	ISOP
Isosafrole	ISOSAFR
Kepone	KEP
Methapyrilene	MTPYRLN
Methoxychlor	MTXYCL
3-Methylcholanthrene	MECHLAN3
Methyl methanesulfonate	MMSULFN
2-Methylnaphthalene	MTNPH2
1,4-Naphthoquinone	NAPHQ14
1-Naphthylamine	AMINONAPH1

TABLE IV

5-YEAR COCs & APPROVED USEPA ANALYTICAL METHODS

Continued

2-Naphthylamine	AMINONAPH2
o-Nitroaniline (2-Nitroaniline)	NO2ANIL2
m-Nitroaniline (3-Nitroaniline)	NO2ANIL3
p-Nitroaniline (4-Nitroaniline)	NO2ANIL4
Nitrobenzene	NO2BZ
o-Nitrophenol (2-Nitrophenol)	NTPH2
p-Nitrophenol (4-Nitrophenol)	NTPH4
N-Nitrosodi-n-butylamine (Di-n-butylnitrosamine)	NNSBU
N-Nitrosodiethylamine (Diethylnitrosamine)	NNSE
N-Nitrosodimethylamine (Dimethylnitrosamine)	NNSM
N-Nitrosodiphenylamine (Diphenylnitrosamine)	NNSPH
N-Nitrosodipropylamine (N-Nitroso-N-dipropylamine; Di-n-propylnitrosamine)	NNSPR
N-Nitrosomethylethylamine (Methylethylnitrosamine)	NNSME
N-Nitrosopiperidine	NNSPPRD
N-Nitrosospyrrolidine	NNSPYRL
5-Nitro-o-toluidine	TLDNONT5
Pentachlorobenzene	PECLBZ
Pentachloronitrobenzene (PCNB)	PECLNO2BZ
Pentachlorophenol	PCP
Phenacetin	PHNACTN
Phenanthrene	PHAN
Phenol	PHENOL
p-Phenylenediamine	ANLNAM4
Polychlorinated biphenyls (PCBs; Aroclors)	PCBS
Pronamide	PRONAMD
Pyrene	PYR
Safrole	SAFROLE
1,2,4,5-Tetrachlorobenzene	C4BZ1245
2,3,4,6-Tetrachlorophenol	TCP2346
o-Toluidine	TLDNO
Toxaphene	TOXAP
2,4,5-Trichlorophenol	TCP245
0,0,0-Triethyl phosphorothioate	TEPTH
sym-Trinitrobenzene	TNB135

TABLE IV

5-YEAR COCs & APPROVED USEPA ANALYTICAL METHODS

Continued

Chlorophenoxy Herbicides (USEPA Method 8151A):

2,4-D (2,4-Dichlorophenoxyacetic acid)	24D
Dinoseb (DNBP; 2-sec-Butyl-4,6-dinitrophenol)	DINOSEB
Silvex (2,4,5-Trichlorophenoxypropionic acid; 2,4,5-TP)	SILVEX
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)	245T

Organophosphorus Compounds (USEPA Method 8141B):

Atrazine	ATRAZINE
Chlorpyrifos	CLPYRIFOS
0,0-Diethyl 0-2-pyrazinyl phosphorothioate (Thionazin)	ZINOPHOS
Diazinon	DIAZ
Dimethoate	DIMETHAT
Disulfoton	DISUL
Methyl parathion (Parathion methyl)	PARAM
Parathion	PARAE
Phorate	PHORATE
Simazine	SIMAZINE

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[1] Standard Methods

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

STANDARD PROVISIONS AND REPORTING REQUIREMENTS FOR WASTE DISCHARGE REQUIREMENTS FOR NONHAZARDOUS SOLID WASTE DISCHARGES REGULATED BY SUBTITLE D AND/OR TITLE 27

(40 C.F.R. section 258 and Title 27, § 20005 et seq.)

December 2015

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A. APPLICABILITY

1. These Standard Provisions and Reporting Requirements (SPRRs) are applicable to nonhazardous solid waste disposal sites that are regulated by the Central Valley Regional Water Quality Control Board (hereafter, Central Valley Water Board) pursuant to the provisions of California Code of Regulations, title 27 ("Title 27"), section 20005 et seq., and municipal solid waste (MSW) landfills that are subject to the Federal Subtitle D regulations contained in 40 Code of Federal Regulations section 258 (hereafter, "Subtitle D" or "40 C.F.R. § 258.XX") in accordance with State Water Resources Control Board (State Water Board) Resolution 93-62. The Subtitle D regulations are only applicable to MSW landfills and therefore any requirements in these SPRRs that are referenced as coming from Subtitle D are not applicable to non-MSW waste management units such as Class II surface impoundments, Class II waste piles, and non-MSW landfill units. All Subtitle D requirements in these SPRRs are referenced with "[40 C.F.R. § 258.XX]" after the requirement.

2. "Order," as used throughout this document, means the Waste Discharge Requirements (WDRs) to which these SPRRs are incorporated.

3. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, and do not protect the Discharger from liabilities under federal, state, or local laws. This Order does not convey any property rights or exclusive privileges.

4. The provisions of this Order are severable. If any provision of this Order is held invalid, the remainder of this Order shall not be affected.

5. If there is any conflicting or contradictory language between the WDRs, the Monitoring and Reporting Program (MRP), or the SPRRs, then language in the WDRs shall govern over either the MRP or the SPRRs, and language in the MRP shall govern over the SPRRs.

6. If there is a site-specific need to change a requirement in these SPRRs for a particular landfill facility, the altered requirement shall be placed in the appropriate section of the WDRs and will supersede the corresponding SPRRs requirement. These SPRRs are standard and cannot be changed as part of the permit writing process or in response to comments, but they will be periodically updated on an as-needed basis.

7. Unless otherwise stated, all terms are as defined in Water Code section 13050 and in Title 27, section 20164.

B. TERMS AND CONDITIONS

1. Failure to comply with any waste discharge requirement, monitoring and reporting requirement, or Standard Provisions and Reporting Requirement, or

other order or prohibition issued, reissued, or amended by the Central Valley Water Board or the State Water Board, or intentionally or negligently discharging waste, or causing or permitting waste to be deposited where it is discharged into the waters of the state and creates a condition of pollution or nuisance, is a violation of this Order and the Water Code, which can result in the imposition of civil monetary liability [Wat. Code, § 13350(a)]

2. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to [Wat. Code, § 13381]:

   a. Violation of any term or condition contained in this Order;

   b. Obtaining this Order by misrepresentation, or failure to disclose fully all relevant facts;

   c. A change in any condition that results in either a temporary or permanent need to reduce or eliminate the authorized discharge; or

   d. A material change in the character, location, or volume of discharge.

3. Before initiating a new discharge or making a material change in the character, location, or volume of an existing discharge, the Discharger shall file a new report of waste discharge (ROWD), or other appropriate joint technical document (JTD), with the Central Valley Water Board [Wat. Code, § 13260(c) and § 13264(a)]. A material change includes, but is not limited to, the following:

   a. An increase in area or depth to be used for solid waste disposal beyond that specified in waste discharge requirements;

   b. A significant change in disposal method, location, or volume (e.g., change from land disposal to land treatment);

   c. A change in the type of waste being accepted for disposal; or

   d. A change to previously-approved liner systems or final cover systems that would eliminate components or reduce the engineering properties of components.

4. Representatives of the Central Valley Water Board may inspect the facilities to ascertain compliance with the waste discharge requirements. The inspection shall be made with the consent of the owner or possessor of the facilities or, if the consent is refused, with a duly issued warrant. However, in the event of an emergency affecting the public health or safety, an inspection may be made without consent or the issuance of a warrant [Wat. Code, §13267(c)].

5. The Central Valley Water Board will review this Order periodically and will revise these waste discharge requirements when necessary [Wat. Code, § 13263(e) and Title 27, § 21720(b)].

6. Except for material determined to be confidential in accordance with California law and regulations, all reports prepared in accordance with terms of this Order shall be available for public inspection at the offices of the Central Valley Water Board [Wat. Code, § 13267(b)]. Data on waste discharges, water quality, geology, and hydrogeology shall not be considered confidential.

7. A discharge of waste into the waters of the state is a privilege, not a right. No discharge of waste into waters of the state, whether or not the discharge is made pursuant to waste discharge requirements, shall create a vested right to continue the discharge [Wat. Code, § 13263(g)].

8. Technical and monitoring reports specified in this Order are requested pursuant to the Water Code [§13267(b)]. Failure to furnish the reports by the specified deadlines or falsifying information in the reports, are misdemeanors that may be liable civilly in accordance with §13268(b) of the Water Code [Wat. Code, §13268(a)].

C. STANDARD PROHIBITIONS

1. The discharge of liquid or semi-solid waste (waste containing less than 50 percent solids) is prohibited, except for the following when proposed in the ROWD/JTD and approved by this Order:

    a. Dewatered sewage or water treatment sludge as described in Title 27, section 20220(c) provided it is discharged above a composite liner with a leachate collection and removal system (LCRS) [Title 27, § 20200(d)(3)].

    b. Leachate and/or landfill gas condensate that is returned to the composite-lined waste management unit (with an LCRS) from which it came [Title 27, § 20340(g) and 40 C.F.R. § 258.28].

2. The discharge of wastes which have the potential to reduce or impair the integrity of containment structures or which, if commingled with other wastes in the waste management unit, could produce violent reaction, heat or pressure, fire or explosion, toxic by-products, or reaction products, which, in turn:

    a. require a higher level of containment than provided by the unit; or

    b. are ‘restricted wastes’; or

    c. impair the integrity of containment structures;

    is prohibited [Title 27, § 20200(b)].

3. The discharge of wastes outside of a waste management unit or portions of a unit specifically designed for their containment is prohibited.

4. The discharge of solid waste containing free liquid or which may contain liquid in excess of the moisture holding capacity as a result of waste management operations, compaction or settlement is prohibited.

5. The discharge of waste to a closed landfill unit is prohibited.

6. The discharge of waste constituents to the unsaturated zone or to groundwater is prohibited.

7. The discharge of solid or liquid waste or leachate to surface waters, surface water drainage courses, or groundwater is prohibited.

D. STANDARD DISCHARGE SPECIFICATIONS

1. The Discharger is responsible for accurate characterization of wastes, including a determination of whether or not wastes will be compatible with containment features and other wastes at the waste management unit and whether or not the wastes are required to be managed as a hazardous waste [Title 27, § 20200(c)] or designated waste [Title 27, § 20210].

2. Leachate and landfill gas condensate collected from a waste management unit shall be discharged to the unit from which it came, or discharged to an appropriate waste management unit in accordance with Title 27 and in a manner consistent with the waste classification of the liquid [Title 27, § 20200(d) and § 20340(g)].

3. The discharge of leachate or landfill gas condensate is restricted to those portions of a waste management unit that has a composite liner system and LCRS meeting the Federal Subtitle D requirements [40 C.F.R. § 258.28].

4. Leachate and condensate returned to a composite-lined landfill unit (when approved by this Order) shall be discharged and managed such that it does not cause instability of the waste, does not cause leachate seeps, does not generate additional landfill gas that is not extracted from the landfill by an active landfill gas extraction system, does not cause contaminants to enter surface water runoff, and does not cause leachate volumes to exceed the maximum capacity of the LCRS.

5. Any discharge of waste outside the portion of the landfill that was already covered with waste as of the landfill unit's respective Federal Deadline constitutes a "lateral expansion" and requires the installation of an approved composite liner system and LCRS [40 C.F.R. § 258.40(b)].

6. Wastes shall be discharged only into waste management units specifically designed for their containment and/or treatment, as described in this Order.

7. The discharge shall remain within the designated disposal area at all times.

8. The discharge of waste shall not cause a nuisance condition [Wat. Code, § 13050(m)].

E. STANDARD FACILITY SPECIFICATIONS

1. All waste management units shall be designed, constructed, and operated to ensure that wastes, including leachate, will be a minimum of 5 feet above the highest anticipated elevation of underlying groundwater [Title 27, § 20240(c)], including the capillary fringe.

2. Surface and subsurface drainage from outside of a waste management unit shall be diverted from the unit [Title 27, § 20365(e)].

3. Interim cover is daily and intermediate cover [Title 27, § 20750(a)]. Interim cover over wastes discharged to a landfill shall be designed and constructed to minimize percolation of liquids through the wastes [Title 27, § 20705(b)].

4. Intermediate cover consisting of compacted earthen material of at least twelve (12) inches shall be placed on all surfaces of the fill where no additional solid waste will be deposited within **180 days** [Title 27, § 20700(a)].

5. During wet weather conditions, the facility shall be operated and graded to minimize leachate generation.

6. The Discharger shall **immediately** notify the Central Valley Water Board staff of any slope failure occurring at a waste management unit. Any failure which threatens the integrity of containment features or the waste management unit shall be promptly corrected in accordance with an approved method [Title 27, § 21710(c)(2)].

7. The Discharger shall **immediately** notify Central Valley Water Board staff of any flooding, unpermitted discharge of waste off-site or outside of waste management units, equipment failure, or other change in site conditions which could impair the integrity of waste or leachate containment facilities or precipitation and drainage control structures.

8. The Discharger shall limit water used for facility maintenance within landfill areas to the minimum amount necessary for dust control and construction.

9. The Discharger shall maintain in good working order any facility, control system, or monitoring device installed to achieve compliance with the waste discharge requirements.

10. The Discharger shall lock all groundwater monitoring wells with a lock on the well cap or monitoring well box. All monitoring devices shall be clearly labeled with their designation including all monitoring wells, LCRS risers, and lysimeter risers and shall be easily accessible for required monitoring by authorized personnel. Each monitoring device shall be clearly visible and be protected from damage by equipment or vehicles.

11. The Discharger shall ensure that methane and other landfill gases are adequately vented, removed from landfill units, or otherwise controlled to prevent the danger of adverse health effects, nuisance conditions, degradation, or the impairment of the beneficial uses of surface water or groundwater due to migration through the unsaturated zone.

12. The Discharger shall maintain the depth of the fluid in the sump of each landfill unit at the minimum needed for efficient pump operation (the depth at which the pump turns on given the pump intake height and maximum pump cycle frequency).

13. The depth of fluid on the landfill liner shall not exceed **30 centimeters** (cm) [40 C.F.R. § 258.40(a)(2)]. This regulation is interpreted by the Central Valley Water Board to exclude the leachate sump. The Discharger shall **immediately** notify the Central Valley Water Board staff by telephone, and follow up in writing within **seven** days if monitoring reveals that the depth of fluid on any portion of the liner (excluding the sump) exceeds 30 cm (approximately 12 inches). The written notification shall include a timetable for remedial or corrective action necessary to achieve compliance with the leachate depth limitation.

14. Each LCRS shall be tested at least annually to demonstrate proper operation. The results of the tests shall be compared with earlier tests made under comparable conditions [Title 27, § 20340(d)].

15. The Discharger shall maintain a *Storm Water Pollution Prevention Plan* and *Monitoring Program and Reporting Requirements* in accordance with State Water Board Order No. 2014-0057-DWQ (Industrial General Permit) or most recent general industrial storm water permit), or retain all storm water on-site.

16. Internal site drainage from surface or subsurface sources shall not contact or percolate through wastes.

17. New MSW landfill units or lateral expansions of existing units shall not be sited in a “wetland” [as defined in 40 C.F.R. § 232.29(r)] unless there is no practical alternative; steps have been taken to assure no net loss of wetland; the landfill unit will not degrade the wetland; the unit will not jeopardize threatened or endangered species or produce adverse modification of a critical habitat or violate any requirement of the Marine Protection, Research, and Sanctuaries Act of 1972 [40 C.F.R. § 258.12].

F. STANDARD CONSTRUCTION SPECIFICATIONS

1. The Discharger shall submit for review and approval at least **90 days** prior to proposed construction, design plans and specifications for new landfill modules that include the following:

    a. Detailed construction drawings showing all required liner system components, the LCRS, leachate sump, unsaturated zone monitoring system, any proposed landfill gas monitoring and extraction points, and access to the LCRS for required annual testing.

    b. A Construction Quality Assurance (CQA) Plan prepared by a California-registered civil engineer or certified engineering geologist, and that meets the requirements of Title 27, section 20324.

    c. A geotechnical evaluation of the area soils, evaluating their use as the base layer or reference to the location of this information in the ROWD/JTD [Title 27, § 21750(f)(4)].

    d. Information about the seismic design of the proposed new module (or reference to the location of this information in the ROWD/JTD) in accordance with Title 27, section 20370.

    e. A revised water quality monitoring plan for groundwater detection monitoring (or information showing the existing plan is adequate) in accordance with Title 27, section 20415.

    f. An Operation Plan (or reference to the location of this information in the ROWD/JTD) meeting the requirements of Title 27, section 21760(b).

2. All containment structures shall be designed by, and construction shall be supervised by, a California registered civil engineer or a certified engineering geologist, and shall be certified by that individual as meeting the prescriptive standards, or approved engineered alternative design, in accordance with this Order prior to waste discharge.

3. The Discharger shall not proceed with construction until the construction plans, specifications, and all applicable construction quality assurance plans have been approved. Waste management units shall receive a final inspection and approval of the construction by Central Valley Water Board staff before use of the unit commences [Title 27, § 20310(e)].

4. Any report, or any amendment or revision of a report, that proposes a design or design change that might affect a waste management unit's containment features or monitoring systems shall be approved by a California registered civil engineer or a certified engineering geologist [Title 27, § 21710(d)].

5. Materials used in containment structures shall have appropriate chemical and physical properties to ensure that such structures do not fail to contain waste because of pressure gradients, physical contact with waste or leachate, chemical reactions with soil or rock, climatic conditions, the stress of installation, or because of the stress of daily operations [Title 27, § 20320(a)].

6. Waste management units and their respective containment structures shall be designed and constructed to limit, to the greatest extent possible, ponding, infiltration, inundation, erosion, slope failure, washout, and overtopping [Title 27, § 20365(a)].

7. The Discharger shall design storm water conveyance systems for Class III units for a 100-year, 24-hour storm event, and shall design storm water conveyance systems for Class II units for a 1,000-year, 24-hour storm event [Title 27, § 21750(e)(3)].

8. All Class III landfill units shall be designed to withstand the maximum probable earthquake and Class II waste management units shall be designed to withstand maximum credible earthquake without damage to the foundation or to the structures that control leachate, or surface drainage, or erosion, or gas [Title 27, § 20370(a)].

9. The Discharger shall perform stability analyses that include components to demonstrate the integrity of the landfill foundation, final slopes, and containment systems under both static and dynamic conditions throughout the landfill's life including the closure period and post-closure maintenance period [Title 27, § 21750(f)(5)].

10. New waste management units and expansions of existing units shall not be located on a known Holocene fault [Title 27, § 20260(d)].

11. Liners shall be designed and constructed to contain the fluid, including landfill gas, waste, and leachate [Title 27, § 20330(a)].

12. Hydraulic conductivities shall be determined primarily by appropriate field test methods in accordance with accepted civil engineering practice. The results of laboratory tests with both water and leachate, and field tests with water, shall be compared to evaluate how the field permeabilities will be affected by leachate. It is acceptable for the Discharger to use appropriate compaction tests in conjunction with laboratory hydraulic conductivity tests to determine field permeabilities as long as a reasonable number of field hydraulic conductivity tests are also conducted [Title 27, § 20320(c)].

13. Hydraulic conductivities specified for containment structures other than the final cover shall be relative to the fluids (leachate) to be contained. Hydraulic conductivities for the final cover shall be relative to water [Title 27, § 20320(b)].

14. A test pad for each barrier layer and final cover shall be constructed in a manner duplicating the field construction. Test pad construction methods, with the designated equipment, shall be used to determine if the specified density/moisture-content/hydraulic conductivity relationships determined in the laboratory can be achieved in the field with the compaction equipment to be used and at the specified lift thickness [Title 27, § 20324(g)(1)(A)].

15. Performance requirements for geosynthetic membranes shall include, but are not limited to, a need to limit infiltration of water, to the greatest extent possible; a need to control landfill gas emissions; mechanical compatibility with stresses caused by equipment traffic, and for final covers the result of differential settlement over time and durability throughout the post-closure maintenance period [Title 27, § 20324(i)(1)].

16. The Discharger shall ensure proper preparation of the subgrade for any liner system that includes a GCL so as to provide a smooth surface that is free from rocks, sticks, or other debris that could damage or otherwise limit the performance of the GCL.

17. The Discharger shall propose an electronic leak location survey of the top liner for any new landfill module in the construction quality assurance plan unless the Discharger demonstrates that a leak location survey is not needed.

18. Leachate collection and removal systems are required for Class II landfills and surface impoundments, MSW landfills, and for Class III landfills which have a liner or which accept sewage or water treatment sludge [Title 27, § 20340(a)].

19. All new landfill units or lateral expansions of existing units that require a LCRS shall have a blanket-type LCRS that covers the bottom of the unit and extends as far up the sides as possible. The LCRS shall be of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and by any equipment used at the unit [Title 27, § 20340(e)].

20. The LCRS shall be designed, constructed, maintained, and operated to collect and remove twice the maximum anticipated daily volume of leachate from the waste management unit [Title 27, § 20340(b)].

21. Leachate collection and removal systems shall be designed and operated to function without clogging through the scheduled closure of the landfill unit and during the post-closure maintenance period.

22. The LCRS shall be designed to maintain the depth of fluid over any portion of the LCRS of no greater than 30 cm [40 C.F.R. § 258.40(a)(2)], excluding the leachate sump. The leachate sump, leachate removal pump, and pump controls shall be designed and set to maintain a fluid depth no greater than the minimum needed for efficient pump operation [Title 27, § 20340(c)].

23. All construction of liner systems and final cover systems shall be performed in accordance with a Construction Quality Assurance Plan certified by a registered civil engineer or a certified engineering geologist [Title 27, § 20323].

24. The Construction Quality Assurance program shall be supervised by a registered civil engineer or a certified engineering geologist who shall be designated the CQA officer [Title 27, § 20324(b)(2)].

25. The Discharger shall ensure that a third party independent of both the Discharger and the construction contractor performs all of the construction quality assurance monitoring and testing during the construction of a liner system.

26. The Discharger shall notify Central Valley Water Board staff at least **14 days** prior to commencing field construction activities including construction of a new lined cell or module, construction of a final cover, or any other construction that requires Central Valley Water Board staff approval under this Order.

27. The Discharger shall submit for review and approval at least **60 days** prior to proposed discharge, final documentation required in Title 27 Section 20324(d)(1)(C) following the completion of construction of a new lined landfill module. The report shall be certified by a registered civil engineer or a certified engineering geologist and include a statement that the liner system was constructed in accordance with the approved design plans and specifications, the CQA Plan, the requirements of the WDRs, and that it meets the performance goals of Title 27. The report shall contain sufficient information and test results to verify that construction was in accordance with the design plans and specifications, the construction quality assurance plan, and the performance goals of Title 27.

28. The Discharger shall not discharge waste onto a newly constructed liner system until the final documentation report has been reviewed and an acceptance letter has been received.

29. Prior to placement of waste in a new landfill unit, the Discharger shall monitor any pan lysimeter for the unit that has received enough rainfall to flood the LCRS sump. If liquid is detected in the pan lysimeter, the Discharger shall verify that the liquid is not from a leak in the primary liner system before waste can be accepted to the new module.

G. STANDARD CLOSURE AND POST-CLOSURE SPECIFICATIONS

1. The Discharger shall submit a final or partial final closure and post-closure maintenance plan at least **two years** prior to the anticipated date of closure [Title 27, § 21780(d)(1)].

2. The Discharger shall notify the Central Valley Water Board in writing that a landfill unit or portion of a unit is to be closed either at the same time that the California Department of Resources Recycling and Recovery (CalRecycle) is notified or **180 days** prior to beginning any final closure activities, whichever is sooner [Title 27, § 21710(c)(5)(A)]. The notice shall include a statement that all closure activities will conform to the most recently approved final or partial final closure plan and that the plan provides for site closure in compliance with all applicable federal and state regulations [Title 27, § 21710(c)(5)(C)].

3. Initiation of closure activities shall begin within **30 days** of final waste receipt, or within **one year** of receipt of most recent waste if additional capacity remains [40 C.F.R. § 258.60(f)].

4. Closure activities shall be completed within **180 days** of the beginning of closure activities unless an extension is granted by the Executive Officer [40 C.F.R. § 258.60(g)].

5. The Discharger shall carry out both mandatory closure and normal closure of a waste management unit or a portion of a unit in accordance with a closure and post-closure maintenance plan approved by the Central Valley Water Board [Title 27, § 20950(a)(1)] through the issuance of closure waste discharge requirements.

6. The Discharger shall notify the Central Valley Water Board that a preliminary closure and post-closure maintenance plan has been prepared and placed in the operating record by the date of initial receipt of waste at any new MSW landfill unit or lateral expansion of any existing unit [40 C.F.R. § 258.60(d)]. This notification shall be included in the cover letter transmitting the preliminary closure and post-closure maintenance plan.

7. In addition to the applicable provisions of Title 27, the preliminary closure and/or the post-closure maintenance plans for MSW landfill units shall include the following:

    a. A description of the steps necessary to close all MSW landfill units at any point during their active life in accordance with the cover design requirements [40 C.F.R. § 258.60(c)];

    b. An estimate of the largest area of the landfill unit(s) ever requiring a final cover at any time during the active life of the unit(s) [40 C.F.R. § 258.60(c)(2)];

    c. An estimate of the maximum inventory of wastes ever on-site over the active life of the waste management facility [40 C.F.R. § 258.60(c)(3)]; and

    d. A schedule for completing all activities necessary to satisfy the closure criteria in 40 C.F.R. section 258.60 [40 C.F.R. § 258.60(c)(4)].

8. The final closure and post-closure maintenance plan for the waste management unit shall include at least the following: an itemized cost analysis, closure schedule, any proposed final treatment procedures, map, changes to the unit description presented in the most recent ROWD, federal requirements for a MSW facility, land use of the closed unit, and a construction quality assurance plan [Title 27, § 21769(c) & (d)].

9. Closure of each waste management unit shall be under the direct supervision of a registered civil engineer or certified engineering geologist [Title 27, § 20950(b)].

10. The final cover of closed landfills shall be designed, graded, and maintained to prevent ponding and soil erosion due to high run-off velocities [Title 27, § 21090(b)(1)(A)].

11. The final grading design shall be designed and approved by a registered civil engineer or certified engineering geologist [Title 27, § 21090(b)(1)(C)].

12. All final cover designs shall include a minimum 1-foot thick erosion resistant layer [Title 27, § 21090(a)(3)(A)].

13. The Discharger shall close the landfill with minimum 15-foot wide benches every 50 vertical feet [Title 27, § 21090(a)].

14. Final cover slopes shall not be steeper than a horizontal to vertical ratio of one and three quarters to one and designs having any slopes steeper than a horizontal to vertical ratio of three to one, or having a geosynthetic component, shall have these aspects of their design specifically supported in the slope stability report required in Title 27, section 21750(f)(5) [Title 27, § 21090(a)].

15. For any portions of the final cover installed after July 18, 1997, for which the Central Valley Water Board has not approved a slope and foundation stability report on or before that date, the Discharger shall meet the requirements of Title 27, section 21750(f)(5) [Title 27, § 21090(a)(6)].

16. Areas with slopes greater than ten percent, surface drainage courses, and areas subject to erosion by wind or water shall be designed and constructed to prevent such erosion [Title 27, § 21090(b)(2)].

17. The Discharger shall design storm water conveyance systems for closed Class III units for a 100-year, 24-hour storm event, and shall design storm water conveyance systems for closed Class II units for a 1,000-year, 24-hour storm event [Title 27, § 21750(e)(3)].

18. Closed landfill units shall be provided with at least two permanent surveying monuments, installed by a licensed land surveyor or by a registered civil engineer, from which the location and elevation of all wastes, containment

structures, and monitoring facilities can be determined throughout the post-closure maintenance period [Title 27, § 20950(d)].

19. Following closure of any MSW landfill units, the Discharger shall notify the Executive Officer that the deed to the landfill facility property, or some other instrument that is normally examined during a title search, has been recorded and a copy placed in the operating record. The notation on the deed shall in perpetuity notify any potential purchaser of the property that the land has been used as a landfill facility and that use of the land is restricted to the planned use described in the post-closure maintenance plan [Title 27, § 20515(a)(4) and §21170, and 40 C.F.R. § 258.60(i)].

20. Construction or repair of the final cover system's low-hydraulic conductivity layer is to be carried out in accordance with an approved construction quality assurance plan [Title 27, § 21090(b)(1)(E)].

21. The Discharger shall incorporate into the closure and post-closure maintenance plan a cover-integrity monitoring and maintenance program which includes at least the following: a periodic leak search, periodic identification of other problem areas, prompt cover repair, and vegetation maintenance [Title 27, § 21090(a)(4)].

22. The Discharger shall complete a final cover survey upon completion of closure activities for that portion of the landfill. The final cover surveys shall include an initial survey and map [Title 27, § 21090(e)(1). Every **five years**, the Discharger shall conduct a survey of the closed landfill cover and submit an iso-settlement map accurately depicting the estimated total change in elevation of each portion of the final cover's low-hydraulic-conductivity layer [Title 27, § 21090(e)(2)].

23. Within **30 days** of completion of <u>all</u> closure activities, the Discharger shall certify that all closure activities were performed in accordance with the most recently approved final closure plan and CQA Plan, and in accordance with all applicable regulations. The Discharger shall also certify that closed landfill units shall be maintained in accordance with and approved post-closure maintenance plan [Title 27, § 21710(c)(6)].

24. Within **180 days** of completion of closure construction activities, the Discharger shall submit final documentation of closure, including the Certification of Closure. The closure documents shall include a final construction quality assurance report and any other documents necessary to support the certification [Title 27, § 21880].

25. The post-closure maintenance period shall continue until the Central Valley Water Board determines that wastes remaining in the landfill unit(s) no longer pose a threat to water quality [Title 27, § 20950(a)(1)].

26. The Discharger shall conduct a periodic leak search to monitor of the integrity of the final cover in accordance with the schedule in the approved final post-closure maintenance plan [Title 27, § 21090(a)(4)(A)].

27. The Discharger shall periodically inspect and identify problems with the final cover including areas that require replanting, erosion, areas lacking free drainage, areas damaged by equipment operations, and localized areas identified in the required five-year iso-settlement survey [Title 27, § 21090(a)(4)(B)].

28. The Discharger shall repair the cover promptly in accordance with a cover repair plan to be included in the final post-closure maintenance plan [Title 27, § 21090(a)(4)(C)].

29. Throughout the post-closure maintenance period, the Discharger shall maintain the structural integrity and effectiveness of all containment structures, maintain the final cover as necessary to correct the effects of settlement and other adverse factors, continue to operate the LCRS as long as leachate is generated and detected, maintain the monitoring systems, prevent erosion and related damage of the final cover due to drainage, and protect and maintain surveyed monuments [Title 27, § 21090(c)].

30. Post-closure maintenance shall be conducted for a minimum period of **30 years** or until the waste no longer poses a threat to environmental quality, whichever is greater [Title 27, § 21180(a) and Title 27, § 21900(a)].

H. STANDARD FINANCIAL ASSURANCE PROVISIONS

1. The Discharger shall establish an irrevocable fund for closure and post-closure maintenance to ensure closure and post-closure maintenance of each classified unit in accordance with an approved closure and post-closure maintenance plan [Title 27, § 20950(f) and § 22207(a)].

2. The Discharger shall obtain and maintain assurances of financial responsibility for initiating and completing corrective action for all known and reasonably foreseeable releases from the waste management unit [Title 27, §20380(b), § 22221, and § 22222].

I. STANDARD MONITORING SPECIFICATIONS

1. The water quality monitoring program shall include appropriate and consistent sampling and analytical procedures and methods designed to ensure that monitoring results provide a reliable indication of water quality at all monitoring points and background monitoring points [Title 27, § 20415(e)(4) and 40 C.F.R. § 258.53(b)].

2. All monitoring systems shall be designed and certified by a registered geologist or a registered civil engineer [Title 27, § 20415(e)(1)].

3. All monitoring wells shall be cased and constructed in a manner that maintains the integrity of the monitoring well bore hole and prevents the bore hole from acting as a conduit for contaminant transport [Title 27, § 20415(b)(4)(A)].

4. All sample chemical analyses of any material shall be performed by a laboratory certified by the California Department of Health Services [Wat. Code, § 13176(a)].

5. A Detection Monitoring Program for a new landfill facility shall be installed, operational, and one year of monitoring data collected from background monitoring points prior to the discharge of wastes [Title 27, § 20415(e)(6)].

6. Background for water samples or soil-pore gas samples shall be represented by the data from all samples taken from applicable background monitoring points during that reporting period (at least one sample from each background monitoring point).

7. The Discharger shall submit for approval, establish, and maintain an approved Sample Collection and Analysis Plan. The Sample Collection and Analysis Plan shall at a minimum include:

    a. Sample collection procedures describing purging techniques, sampling equipment, and decontamination of sampling equipment;

    b. Sample preservation information and shipment procedures;

    c. Sample analytical methods and procedures;

    d. Sample quality assurance/quality control (QA/QC) procedures;

    e. Chain of Custody control; and

    f. Sample analysis information including sample preparation techniques to avoid matrix interferences, method detection limits (MDLs), practical quantitation limits (PQLs) and reporting limits (RLs), and procedures for reporting trace results between the MDL and PQL.

    If required by the Executive Officer, the Discharger shall modify the Sample Collection and Analysis Plan to conform with this Order.

8. For any given monitored medium, the samples taken from all monitoring points and background monitoring points to satisfy the data analysis requirements for a given reporting period shall all be taken **within a span not to exceed 30 days**, unless a longer time period is approved, and shall be taken in a manner that

ensures sample independence to the greatest extent feasible. Specific methods of collection and analysis must be identified. Sample collection, storage, and analysis shall be performed according to the most recent version of USEPA Methods, such as the latest editions, as applicable, of: (1) Methods for the Analysis of Organics in Water and Wastewater (USEPA 600 Series), (2) Test Methods for Evaluating Solid Waste (SW-846, latest edition), and (3) Methods for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020), and in accordance with the approved Sample Collection and Analysis Plan. Appropriate sample preparation techniques shall be used to minimize matrix interferences.

9. If methods other than USEPA-approved methods or Standard Methods are used, or there is a proposed alternant USEPA method than the one listed in the MRP, the proposed methodology shall be submitted for review and approval prior to use, including information showing its equivalence to the required method.

10. The **methods of analysis and the detection limits** used must be appropriate for the expected concentrations. For the monitoring of any constituent or parameter that is found in concentrations which produce more than 90% non-numerical determinations (i.e., “trace” or “ND”) in data from background monitoring points for that medium, the analytical method having the lowest MDL shall be selected from among those methods which would provide valid results in light of any matrix effects or interferences.

11. The laboratory reporting limit (RL) for all reported monitoring data shall be set no greater than the practical quantitation limit (PQL).

12. **“Trace” results** - results falling between the MDL and the PQL - shall be reported as such, and shall be accompanied both by the estimated MDL and PQL values for that analytical run.

13. Laboratory data shall not be altered or revised by the Discharger. If the Discharger observes potential lab errors, it shall identify the issue in the monitoring report and shall describe steps that will be taken to prevent similar errors in the future.

14. **MDLs and PQLs** shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. These MDLs and PQLs shall reflect the detection and quantitation capabilities of the specific analytical procedure and equipment used by the lab, rather than simply being quoted from USEPA analytical method manuals. In relatively interference-free water, laboratory-derived MDLs and PQLs are expected to closely agree with published USEPA MDLs and PQLs. MDLs and PQLs shall be reported.

15. If the laboratory 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 in the laboratory report accordingly, along with estimates of the detection limit and quantitation limit actually achieved. The **MDL shall always be calculated such that it represents the lowest achievable concentration associated with a 99% reliability of a nonzero result**. The PQL shall always be calculated such that it represents the lowest constituent concentration at which a numerical value can be assigned with reasonable certainty that it represents the constituent's actual concentration in the sample. Normally, PQLs should be set equal to the concentration of the lowest standard used to calibrate the analytical procedure.

16. All **QA/QC data** shall be reported, along with the sample results to which they apply, including the method, equipment, analytical detection and quantitation limits, the percent recovery, an explanation for any recovery that falls outside the QC limits, the results of equipment and method blanks, the results of spiked and surrogate samples, the frequency of quality control analysis, and the name and signature of a responsible person from the laboratory. **Sample results shall be reported unadjusted for blank results or spike recoveries**. 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, but the analytical results shall not be adjusted.

17. Unknown chromatographic peaks shall be reported, flagged, and tracked for potential comparison to subsequent unknown peaks that may be observed in future sampling events. Identification of unknown chromatographic peaks that recur in subsequent sampling events may be required.

18. The sampling interval of each monitoring well shall be appropriately screened and fitted with an appropriate filter pack to enable collection of representative groundwater samples [Title 27, § 20415(b)(4)(B)]. Groundwater samples shall not be field-filtered prior to laboratory analysis [40 C.F.R. § 258.53(b)]. Groundwater samples needing filtering (e.g., samples to be analyzed for dissolved metals) shall be filtered by the laboratory prior to analysis.

19. Groundwater elevations shall be measured in each well immediately prior to purging, each time groundwater is sampled. The owner or operator shall determine the rate and direction of groundwater flow each time groundwater is sampled. Groundwater elevations in wells which monitor the same waste management area 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 [40 C.F.R. § 258.53(d)].

20. Monitoring wells, piezometers, and other measurement, sampling, and analytical devices must be operated and maintained so that they perform to design

specifications throughout the life of the monitoring program [40 C.F.R. § 258.51(c)(2)]. Monitoring devices that cannot be operated and maintained to perform to design specifications shall be replaced after review and approval of a report (i.e., work plan) for the proposed replacement devices.

21. All borings are to be logged during drilling under the direct supervision of a registered geologist or registered civil engineer with expertise in stratigraphic well logging [Title 27, § 20415(e)(2)].

22. Soils are to be described according to the Unified Soil Classification System [Title 27, § 20415(e)(2)(A)]. Rock is to be described in a manner appropriate for the purpose of the investigation [Title 27, § 20415(e)(2)(B)].

23. The Discharger shall submit a work plan for review and approval at least **60 days** prior to installation or abandonment of groundwater monitoring wells.

24. The Discharger shall provide Central Valley Water Board staff a minimum of **one week** notification prior to commencing any field activities related to the installation or abandonment of monitoring devices.

25. The water quality protection standard shall consist of the constituents of concern (COC), concentration limits, and the point of compliance. The water quality protection standard shall apply during the active life of the waste management unit, closure period, post-closure maintenance period, and any compliance period under Title 27, section 20410 [Title 27, § 20390].

26. The point of compliance at which the water quality protection standard applies is a vertical surface located at the hydraulically downgradient limit of the waste management unit that extends through the uppermost aquifer underlying the unit [Title 27, § 20405).

27. The compliance period is the minimum period of time during which the Discharger shall conduct a water quality monitoring program and is the number of years equal to the active life of the waste management unit plus the closure period [Title 27, § 20410(a)].

28. The groundwater monitoring system shall include a sufficient number of monitoring points, installed at appropriate locations, to yield groundwater samples from the uppermost aquifer that represent the quality of groundwater that has not been affected by a release from the waste management unit [Title 27, § 20415(b)(1)(A)].

29. The Detection Monitoring Program shall include a sufficient number of monitoring points, installed at appropriate locations and depths to yield groundwater samples from the uppermost aquifer that represent the quality of

groundwater passing the point of compliance to allow the detection of a release from the waste management unit [Title 27, § 20415(b)(1)(B)1.].

30. Additional monitoring points shall be added as necessary to provide the best assurance of the **earliest possible detection** of a release from the waste management unit [Title 27, § 20415(b)(1)(B)2.].

31. The Detection Monitoring Program shall also include a sufficient number of monitoring points installed at appropriate depths and locations to yield groundwater samples from other aquifers or perched zones not already monitored to provide the **earliest possible detection** of a release from the waste management unit [Title 27, § 20415(b)(1)(B)3. and 4., and §20420(b)].

32. A surface water monitoring system shall be established to monitor each surface water body that could be affected by a release from the waste management unit [Title 27, § 20415(c)].

33. An unsaturated zone monitoring system shall be established for each waste management unit [Title 27, § 20415(d)].

34. The Discharger shall notify Central Valley Water Board staff within **seven days** if fluid is detected in a previously dry LCRS, unsaturated zone monitoring system, or if a progressive increase is detected in the volume of fluid in a LCRS [Title 27, § 21710(c)(3)].

35. Driller's logs for all monitoring wells shall to be submitted to the Central Valley Water Board and the Department of Water Resources [Wat. Code, § 13751 and Title 27, § 20415(b)(3)].

36. Groundwater elevation, temperature, electrical conductivity, turbidity, and pH are to be accurately measured at each well each time groundwater is sampled [Title 27, § 21415(e)(13)].

37. The groundwater flow rate and direction in the uppermost aquifer and in any zones of perched water and in any additional portions of the zone of saturation being monitored shall be determined at least quarterly [Title 27, § 20415(e)(15)].

38. The Discharger shall graph all analytical data from each monitoring point and background monitoring point and shall submit the graphs to the Central Valley Water Board annually [Title 27, § 20415(e)(14)].

39. For each waste management unit, the Discharger shall collect all data necessary for selecting appropriate data analysis methods for establishing background values for each constituent of concern and for each monitoring parameter [Title 27, § 20420(c)]. The Discharger shall propose a data analysis method that includes a detailed description of the criteria to be used for

determining “measurably significant” (as defined in Title 27, section 20164) evidence of a release from the waste management unit and determining compliance with the water quality protection standard [Title 27, § 20415(e)(6) and (7)].

40. For statistical analysis of data, the Discharger shall use one of the methods described in Title 27, section 20415(e)(8)(A)-(E). A non-statistical data analysis method can be used if the method can achieve the goal of the particular monitoring program at least as well as the most appropriate statistical method [Title 27, § 20415(e)(8)]. The Discharger shall use a statistical or nonstatistical data analysis method that complies with Title 27, section 20415(e)(7, 8, 9, and 10), to compare the concentration of each constituent of concern or monitoring parameter with its respective background concentration to determine whether there has been a measurably significant evidence of a release from the waste management unit. For any given monitoring point at which a given constituent has already exhibited a measurably significant indication of a release at that monitoring point, the Discharger may propose to monitor the constituent, at that well, using a concentration-versus-time plot.

41. The Discharger may propose an alternate statistical method [to the methods listed under Title 27, section 20415(e)(8)(A-D)] in accordance with Title 27, section 20415(e)(8)(E), for review and approval.

42. The statistical method shall account for data below the practical quantitation limit (PQL) with one or more statistical procedures that are protective of human health and the environment. Any PQL validated pursuant to Title 27, section 20415(e)(7) that is used in the statistical method shall be **the lowest concentration (or value) that can be reliably achieved** within limits of precision and accuracy specified in the WDRs or an approved Sample Collection and Analysis Plan for routine laboratory operating conditions that are available to the facility. The Discharger’s technical report (Sample Collection and Analysis Plan and/or Water Quality Protection Standard Report), pursuant to Title 27, section 20415(e)(7), shall consider the PQLs listed in Appendix IX to Chapter 14 of Division 4.5 of Title 22, CCR, for guidance when specifying limits of precision and accuracy. For any given constituent monitored at a background or downgradient monitoring point, an indication that falls between the MDL and the PQL for that constituent (hereinafter called a “trace” detection) shall be identified and used in appropriate statistical or non-statistical tests. Nevertheless, for a statistical method that is compatible with the proportion of censored data (trace and ND indications) in the data set, the Discharger can use the laboratory’s concentration estimates in the trace range (if available) for statistical analysis, in order to increase the statistical power by decreasing the number of “ties”.

43. The water quality protection standard for organic compounds which are not naturally occurring and not detected in background groundwater samples shall

be taken as the detection limit of the analytical method used (e.g., USEPA methods 8260 and 8270).

44. Alternate statistical procedures may be used for determining the significance of analytical results for common laboratory contaminants (i.e., methylene chloride, acetone, diethylhexyl phthalate, and di-n-octyl phthalate) if part of an approved water quality protection standard. Nevertheless, analytical results involving detection of these analytes in any background or downgradient sample shall be reported and flagged for easy reference by Central Valley Water Board staff.

45. **Confirmation of Measurably Significant Evidence of a Release.** Whenever a constituent is detected at a detection monitoring point at a concentration that exceeds the concentration limit from the water quality protection standard, the Discharger shall conduct verification sampling to confirm if the exceedance is due to a release or if it is a false-positive (unless previous monitoring has already confirmed a release for that constituent at that monitoring point). An exceedance of the concentration limit from the water quality protection standard is considered measurably significant evidence of a release that must be either confirmed or denied. There are two separate verification testing procedures:

    a. Standard Monitoring Specification I.46 provides the procedure for analytes that are detected in less than 10% of the background samples such as non-naturally occurring constituents like volatile organic compounds; and

    b. Standard Monitoring Specification I.47 provides the procedure for analytes that are detected in 10% or greater of the background samples such as naturally occurring constituents like chloride.

46. **Verification Procedure for Analytes Detected in Less than 10% of Background Samples**. The Discharger shall use the following non-statistical method for all analytes that are detected in less than 10% of the background samples. The non-statistical method shall be implemented as follows:

    a. **Initial Determination of Measurably Significant Evidence of a Release**. Identify each analyte in the **current** detection monitoring point sample that exceeds either its respective MDL or PQL, and for which a release has not been previously confirmed. The Discharger shall conclude that the exceedance provides a preliminary indication of a release or a change in the nature or extent of the release, at that monitoring point, if ***either:***

        1) The data contains two or more analytes that equal or exceed their respective MDLs; or

        2) The data contains one or more analyte that equals or exceeds its PQL.

b. **Discrete Retest** [Title 27, § 20415(e)(8)(E) and § 20420(j)(1-3)]:

1) In the event that the Discharger or Central Valley Water Board staff concludes (pursuant to paragraph I.46.a., above) that there is a preliminary indication of a release, then the Discharger shall **immediately** notify Central Valley Water Board staff by phone or e-mail and, within **30 days** of such indication, shall collect two new (retest) samples from the monitoring point where the release is preliminarily indicated and analyze them for the constituents that caused the need for the retest.

2) **Confirmation of a Release**. As soon as the retest data are available, the Discharger shall conclude that measurably significant evidence of a release is confirmed if (not including the original sample) two or more analytes equal or exceed their respective MDLs or if one or more analyte equals or exceeds its PQL. The Discharger shall then:

a) **Immediately** verbally notify the Central Valley Water Board whether or not the retest confirmed measurably significant evidence of a release for the analyte at the monitoring point, and follow up with written notification submitted by certified mail **within seven days** of the verbal notification; and

b) Carry out the requirements of Section J, **RESPONSE TO A RELEASE** if a release has been confirmed.

c) Add any five-year analyte that is confirmed per this method to the monitoring parameter list such that it is monitored during each regular monitoring event.

47. **Verification Procedure for Analytes Detected in 10% or Greater of the Background Samples.** The Discharger shall use either a statistical or non-statistical method pursuant to Title 27, section 20415(e)(8)(E) for all analytes that are detected in 10% or greater of the background samples. The Discharger shall use one of the statistical methods required in Title 27, section 20415(e)(8)(E) unless another method has been proposed by the Discharger in a Water Quality Protection Standard Report (or equivalent report) and approved by the Central Valley Water Board in a Monitoring and Reporting Program pursuant to Title 27, section 20415(e)(8)(A-D)] or section 20415(e)(8)(E). The method shall be implemented as follows:

a. **Initial Determination of Measurably Significant Evidence of a Release**. The Discharger shall compare the value reported by the laboratory for each analyte to the statistically-derived concentration limit from the most recent report (Annual Monitoring Report or Water Quality Protection Standard Report) that uses the approved statistical procedure. If the value exceeds the concentration limit for that constituent, the Discharger shall conclude that there in measurably significant evidence of a release [Title 27, § 20420(i)].

b. **Retest Method** [Title 27, § 20415(e)(8)(E) and § 20420(j)(1-3)].

1) In the event that the Discharger or Central Valley Water Board staff concludes (pursuant to paragraph I.47.a., above) that there is a preliminary indication of a release, then the Discharger shall **immediately** notify Central Valley Water Board staff by phone or e-mail and, within **30 days** [Title 27, § 20415(e)(3)] of such indication, the Discharger shall implement a verification procedure/retest option, in accordance with Title 27, sections 20415(e)(8)(E) and 20420(j)(2). The verification procedure shall include either a single "composite" retest (i.e., a statistical analysis that augments and reanalyzes the data from the monitoring point that indicated a release) or shall consist of at least two "discrete" retests (i.e., statistical analyses each of which analyzes only newly-acquired data from the monitoring point that indicated a release) [Title 27, § 20415(e)(8)(E)]. The Discharger may use an alternate method previously approved by the Central Valley Water Board and included in the Monitoring and Reporting Program. The verification procedure shall comply with the requirements of Title 27, section 20415(e)(8)(E) in addition to the performance standards of Title 27, section 20415(e)(9). The retest samples shall be collected from the monitoring point where the release is preliminarily indicated and shall be analyzed for the constituents that caused the need for the retest. For any indicated monitoring parameter or constituent of concern, if the retest results of one or more of the retest data suites confirm the original indication, the Discharger shall conclude that measurably significant evidence of a release has been confirmed.

2) **Confirmation of a Release**. As soon as the retest data are available, the Discharger shall evaluate the results pursuant to paragraph I.47.b.1, above and shall:

a) **Immediately** verbally notify the Central Valley Water Board whether or not the retest confirmed measurably significant evidence of a release for the analyte at the monitoring point, and follow up with written notification submitted by certified mail **within seven days** of the verbal notification; and

b) Carry out the requirements of Section J, **RESPONSE TO A RELEASE** if a release has been confirmed.

c) Add any five-year analyte that is confirmed per this method to the monitoring parameter list such that it is monitored during each regular monitoring event.

48. **Physical Evidence of a Release**. If the Discharger determines that there is a significant **physical** evidence of a release, the Discharger shall immediately

verbally notify Central Valley Water Board staff and provide written notification **by certified mail within 7 days** of such determination, and within **90 days** shall submit an amended report of waste discharge to establish an Evaluation Monitoring Program [Title 27, § 20385(a)(3) and § 20420(l)(1) & (2)].

J. RESPONSE TO A RELEASE

1. Measurably Significant Evidence of a Release Has Been Confirmed. If the Discharger has confirmed that there is measurably significant evidence of a release from a waste management unit pursuant to Standard Monitoring Specification I.46 or I.47, then the Discharger shall:

   a. **Immediately** sample all monitoring points in the affected medium at that waste management unit and determine the concentration of all monitoring parameters and constituents of concern for comparison with established concentration limits. Because this constituent of concern scan does not involve statistical testing, the Discharger will need to collect and analyze only a single water sample from each monitoring point in the affected medium [Title 27, § 20420(k)(1)].

   b. **Within 14 days** of confirming measurably significant evidence of a release, the Discharger shall (for releases from MSW landfill units) notify all persons who own the land or reside on the land that directly overlies any portion of the plume of contamination if contaminants have migrated off-site if indicated by sampling of detection monitoring wells [40 C.F.R. § 258.55(g)(1)(iii)].

   c. **Within 90 days** of confirming measurably significant evidence of a release, the Discharger shall submit an amended report of waste discharge to establish an Evaluation Monitoring Program meeting the requirements of Title 27, sections 20420(k)(5)(A-D), including but not limited to the results of sampling pursuant to paragraph J.1.a, above. The Evaluation Monitoring Program shall be designed for the collection and analysis of all data necessary to assess the nature and extent of the release and to determine the spatial distribution and concentration of each constituent throughout the zone affected by the release [Title 27, § 20420(k)(5) and § 20425(b)]. For releases from MSW landfill units, the Evaluation Monitoring Program shall also include any additional proposals necessary to comply with 40 C.F.R. § 258.55, particularly the additional monitoring well required by 40 C.F.R. § 258.55(g)(1)(ii).

   d. **Within 180 days** of confirming measurably significant evidence of a release, the Discharger shall submit to the Central Valley Water Board an <u>initial</u> engineering feasibility study for a Corrective Action Program necessary to meet the requirements of Title 27, section 20430. At a minimum, the initial engineering feasibility study shall contain a detailed

description of the corrective action measures that could be taken to achieve background concentrations for all constituents of concern [Title 27, § 20420(k)(6)].

e. If the Discharger confirms that there is measurably significant evidence of a release from the waste management unit at any monitoring point, the Discharger may attempt to demonstrate that a source other than the waste management unit caused the evidence of a release or that the evidence is an artifact caused by an error in sampling, analysis, or statistical evaluation or by natural variation in groundwater, surface water, or the unsaturated zone. The Discharger may make a demonstration pursuant to Title 27, section 20420(k)(7) in addition to or in lieu of submitting both an amended report of waste discharge or an engineering feasibility study; however, the Discharger is not relieved of the requirements and due dates of Title 27, sections 20420(k)(6) & (7) unless Central Valley Water Board staff agree that the demonstration successfully shows that a source other than the waste management unit caused the evidence of a release or that the evidence resulted from error in sampling, analysis, or statistical evaluation or from natural variation in groundwater, surface water, or the unsaturated zone. In order to make this demonstration, the Discharger shall notify the Central Valley Water Board by certified mail of the intent to make the demonstration **within seven days** of determining measurably significant evidence of a release, and shall submit a report **within 90 days** of determining measurably significant evidence of a release [Title 27, § 20420(k)(7)].

f. **Within 90 days** of the date that the Evaluation Monitoring Program from paragraph J.1.c is approved (the date is it established), the Discharger shall complete and submit the following:

i) **Results and Assessment for the Evaluation Monitoring Program.** A report with the results and assessment based on the approved Evaluation Monitoring Program [Title 27, § 20425(b)].

ii) **Updated Engineering Feasibility Study.** An updated engineering feasibility study for corrective action based on the data collected to delineate the release and data from the ongoing monitoring program required under Title 27, section 20425(e) [Title 27, § 20425(c)].

iii) **Amended ROWD for a Corrective Action Program.** An amended report of waste discharge to establish a Corrective Action Program meeting the requirements of Title 27, section 20430 based on the data collected to delineate the release and based on the updated engineering feasibility study [Title 27, § 20425(d)].

g. The Discharger shall (for releases from MSW landfill units) discuss the results of the updated engineering feasibility study, prior to the final selection of a remedy, in a public meeting with interested and affected parties [40 C.F.R. § 258.56(d)].

K. GENERAL PROVISIONS

1. In the event the Discharger does not comply or will be unable to comply with any prohibition or limitation of this Order for any reason, the Discharger shall notify the appropriate Central Valley Water Board office by telephone **as soon as** it or its agents have knowledge of such noncompliance or potential for noncompliance, and shall confirm this notification in writing **within two weeks**. The written notification shall state the nature, time, and cause of noncompliance, and shall describe the measures being taken to prevent recurrences and shall include a timetable for corrective actions.

2. All reports and transmittal letters shall be signed by persons identified below:

   a. For a corporation: by a principal executive officer of at least the level of senior vice-president.

   b. For a partnership or sole proprietorship: by a general partner or the proprietor.

   c. For a municipality, state, federal or other public agency: by either a principal executive officer or ranking elected or appointed official.

   d. A duly authorized representative of a person designated in a, b or c above if:

      1) The authorization is made in writing by a person described in a, b, or c of this provision;

      2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a Unit, superintendent, or position of equivalent responsibility (a duly authorized representative may thus be either a named individual or any individual occupying a named position); and

      3) The written authorization is submitted to the Central Valley Water Board.

e. Any person signing a document under this Section shall make the following certification:

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

3. The Discharger shall take all reasonable steps to minimize any adverse impact to the waters of the State resulting from noncompliance with this Order. Such steps shall include accelerated or additional monitoring as necessary to determine the nature, extent, and impact of the noncompliance.

4. The owner of the waste management facility shall have the continuing responsibility to assure protection of waters of the state from discharged wastes and from gases and leachate generated by discharged waste during the active life, closure, and post-closure maintenance period of the waste management units and during subsequent use of the property for other purposes.

5. The fact that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this Order shall not be regarded as a defense for the Discharger's violations of this Order.

6. The Discharger shall notify the Central Valley Water Board of a material change in; the types, quantity, or concentrations of wastes discharged; site operations and features; or proposed closure procedures, including changes in cost estimates. This notification shall be given a reasonable time before the changes are made or become effective. No changes shall be made without Central Valley Water Board approval following authorization for closure pursuant to the site Notification of Closure [Title 27, § 21710(a)(4)].

7. The Discharger shall maintain legible records of the volume and type of each waste discharged at each waste management unit or portion of a unit, and the manner and location of discharge. Such records shall be maintained by the Discharger until the beginning of the post-closure maintenance period. These records shall be on forms approved by the State Water Board or Central Valley Water Board and shall be maintained at the waste management facility until the beginning of the post-closure maintenance period. These records shall be available for review by representatives of the State Water Board or Central Valley Water 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 Central Valley Water Board [Title 27, § 21720(f)].

8. In the event of any change in landowner or the operator of the waste management facility, 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 Central Valley Water Board.

9. In the event of any change of ownership or responsibility for construction, operation, closure, or post-closure maintenance of the waste discharge facilities described in this Order, the Discharger shall notify the Central Valley Water Board prior to the effective date of the change and shall include a statement by the new Discharger that construction, operation, closure, or post-closure maintenance will be in compliance with this Order and any revisions thereof [Title 27, § 21710(c)(1)].

10. To assume ownership or operation under this Order, the succeeding owner or operator must apply in writing to the Central Valley Water Board requesting transfer of the Order within **14 days** of assuming ownership or operation of this facility. The request must 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 Central Valley Water Board, and a statement. The statement shall comply with the signatory requirements contained in General Provision K.2 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the Water Code. Transfer of this Order shall be approved or disapproved by the Central Valley Water Board.

L. STORM WATER PROVISIONS

1. New and existing Class III landfills shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return period [Title 27, § 20260(c)].

2. New and existing Class II landfills shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return period [Title 27, § 20250(c)].

3. The Discharger shall design storm water conveyance systems for Class III units for a 100-year, 24-hour storm event, and shall design storm water conveyance systems for Class II units for a 1,000-year, 24-hour storm event [Title 27, § 21750(e)(3)].

4. MSW landfills located in a 100-year floodplain shall demonstrate that the landfill unit will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human health or the environment [40 C.F.R. § 258.11(a)].

5. Waste management units and their respective containment structures shall be designed and constructed to limit, to the greatest extent possible, ponding,

infiltration, inundation, erosion, slope failure, washout, and overtopping under the precipitation conditions for the unit [Title 27, § 20365(a)].

6. Precipitation on landfills or waste piles which is not diverted by covers or drainage control systems shall be collected and managed through the LCRS, which shall be designed and constructed to accommodate the precipitation conditions for each class unit [Title 27, § 20365(b)].

7. Diversion and drainage facilities shall be designed, constructed, and maintained to [Title 27, § 20365(c)]:

    a. accommodate the anticipated volume of precipitation and peak flows from surface runoff and under the precipitation conditions for the waste management unit:

    b. effectively divert sheet flow runoff laterally, via the shortest distance, into the drainage and collection facilities;

    c. prevent surface erosion;

    d. control and intercept run-on, in order to isolate uncontaminated surface waters from water that might have come into contact with waste;

    e. take into account:

        i) for closed waste management units and for closed portions of units, the expected final contours of the closed unit, including its planned drainage pattern;

        ii) for operating portions of waste management units other than surface impoundments, the unit's drainage pattern at any given time;

        iii) the possible effects of the waste management unit's drainage pattern on and by the regional watershed;

        iv) the design capacity of drainage systems of downstream and adjacent properties by providing for the gradual release of retained water downstream in a manner which does not exceed the expected peak flow rate at the point of discharge if there were no waste management facility; and

    f. preserve the system's function. The Discharger shall periodically remove accumulated sediment from the sedimentation or detention basins as needed to preserve the design capacity of the system.

8. Collection and holding 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 [Title 27, § 20365(d)].

9. Surface and subsurface drainage from outside of a waste management unit shall be diverted from the unit [Title 27, § 20365(e)].

10. Cover materials shall be graded to divert precipitation from the waste management unit, to prevent ponding of surface water over wastes, and to resist erosion as a result of precipitation [Title 27, § 20365(f)].

11. Any drainage layer in the final cover shall be designed and constructed to intersect with the final drainage system for the waste management unit in a manner promoting free drainage from all portions of the drainage layer [Title 27, §20365(f)].

CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD

ORDER R5-2018-0053

WASTE DISCHARGE REQUIREMENTS

SOUTHEAST REGIONAL SOLID WASTE COMMISSION
POST-CLOSURE MAINTENANCE AND CORRECTIVE ACTION
SOUTHEAST REGIONAL DISPOSAL SITE
FRESNO COUNTY

INFORMATION SHEET

The Southeast Regional Solid Waste Commission, consisting of the County of Fresno and the Cities of Fowler, Kingsburg, Orange Cove, Parlier, Reedley and Sanger (collectively, Discharger), own the Southeast Regional Disposal Site (Facility) about 1 mile southwest of the City of Parlier, in Section 27, T15S, R22E, MDB&M. The proposed Order revises the existing WDRs to provide for post-closure and corrective action. The Facility is on a 132-acre property at 12716 East Dinuba Avenue, Selma. The existing closed landfill unit is 72 acres and consists of 3 unlined acres and 69 lined acres with a variety of liners consisting of natural clay soils, bentonite/soil admixtures, and flexible membranes.

The Facility is located in the eastern part of the San Joaquin Valley, which is located in the southern portion of the Central Valley of California. The Central Valley is a large, northwest trending structural trough that is bounded by the Sierra Nevada Mountains to the east and the Coast Ranges to the west. The Central Valley is filled with both marine and continental deposits of Jurassic to Holocene age. Valley-fill sediments in the Parlier area exceed 2,400 feet in thickness. The dominant depositional processes since the Pleistocene have been alluvial, fluvial, and lacustrine. The combination of these processes has produced a heterogeneous mixture of clays, silts, and sands.

The first encountered groundwater beneath the Facility ranges from about 25 feet to 50 feet below the native ground surface based on data in the Second Semi Annual and Annual 2017 Groundwater Monitoring Report. Monitoring data indicate background groundwater quality for first encountered groundwater has electrical conductivity (EC) ranging between 320 and 450 micromhos/cm, with total dissolved solids (TDS) ranging between 230 and 330 milligrams per liter (mg/L), based on Second Semi Annual and Annual 2017 Groundwater Monitoring Report. The direction of groundwater flow is generally toward the south-southwest. The direction of groundwater flow varies and has sometimes been found to be toward the northeast. The estimated average groundwater gradient is approximately 0.0014 feet per foot. The estimated average groundwater velocity is 217 feet per year.

The Waste Discharge Requirements are being revised to provide for post-closure maintenance and corrective action, including further delineation of an off-site down gradient plume. Historically, VOCs had been detected in groundwater at concentrations exceeding Primary Maximum Contaminant Levels for drinking water standards. As a result, a corrective action system to remediate a release of VOCs to groundwater was initiated in 1983, following the receipt of a State grant for the implementation of a Board approved corrective action program. The corrective action system would extract groundwater from the down gradient boundary of the Facility. The groundwater was then conveyed to a spray field where the VOCs were volatilized by air stripping. The corrective action also acted hydraulically to control the flow of polluted groundwater to down gradient wells in the area. The Discharger submitted a Corrective Action Program dated January 1999 that evaluated and documented the effectiveness of the pump and spray field remediation method. In 2012, the Discharger proposed an off-site groundwater sampling program that included the sampling of eight

former point of entry wells. In April 2013, the Discharger submitted a Report of Waste Discharge that documented the concentrations of VOCs in groundwater extracted by the on-site groundwater extraction and treatment system and that concentrations in compliance groundwater monitoring wells had dropped to non-detect. The groundwater extraction system had completed its goal of treating the on-site plume, and the Report recommended monitored natural attenuation as a form of continued corrective action for the further down gradient areas not remediated by the on-site pump and treat system. In a 6 March 2014 letter, Staff reviewed the 2013 Report of Waste Discharge and approved temporarily discontinuing the operation of the on-site groundwater extraction system and monitoring for potential rebound in VOC concentrations. The on-site groundwater extraction system was required to be kept in a standby ready status for a minimum of two years to be immediately reactivated if a rebound in waste constituent concentrations was detected that warranted additional active remediation. The letter also required additional investigative work be conducted to further delineate the extent of VOC migration off-site. In a report dated 24 October 2016, the Discharger proposed to eliminate sampling of five of the eight off-site wells with no VOC detections since at least 2012. The proposed reduction was approved per Staff's letter dated 31 January 2018. The Discharger sampled several private domestic and agricultural supply wells with property owner's permission down gradient of the Facility in an effort to further delineate the extent of VOC migration down gradient and off-site. The Discharger also obtained well construction information for the wells, if available.

The results of the down gradient off site investigation generally indicated the decrease in detectable VOC concentrations from previous sampling events. However, the furthest down gradient well located at 12198 E. Huntsman Avenue had detectable concentrations of the following VOCs: 0.79 µg/L tetrachlorethene (PCE), 0.14 µg/L trichloroethene (TCE), 0.62 µg/L chlorofluorocarbon-12 (CFC-12), and 0.14J µg/L trichlorofluoromethane (CFC-11). All of which are constituents identified as part of the original landfill release, but none exceeding California Maximum Contaminant Levels. No further down gradient wells were sampled as access was denied by the property owners. Central Valley Water Board staff required the Discharger to submit a Plume Delineation Work Plan by 30 April 2018. After the Work Plan is implemented, a Plume Delineation Report shall be submitted as part of an evaluation of the effectiveness of the on-going CAP. Staff will determine if any appropriate additional investigations or corrective actions are necessary.

The revision of waste discharge requirements for existing facilities is categorically exempt from the California Environmental Quality Act (CEQA), Public Resource Code section 21000 et seq., pursuant to section 15301 of the CEQA Guidelines (Cal. Code Regs., tit. 14 § 15000 5000 et seq.)

Source: Imagery @ 2017 Google, Map Data @2017 Google

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REFERENCE: SOMA ENVIRONMENTAL ENGINEERING, INC – ANNUAL MONITORING REPORT, SECOND HALF 2017

ATTACHMENT A

SITE LOCATION MAP

ORDER NO R5-2018-0053
WASTE DISCHARGE REQUIREMENTS
SOUTHEAST REGIONAL SOLID WASTE COMMISSION
SOUTHEAST REGIONAL DISPOSAL SITE
CLASS III LANDFILL
POST-CLOSURE MAINTENANCE AND CORRECTIVE ACTION
FRESNO COUNTY

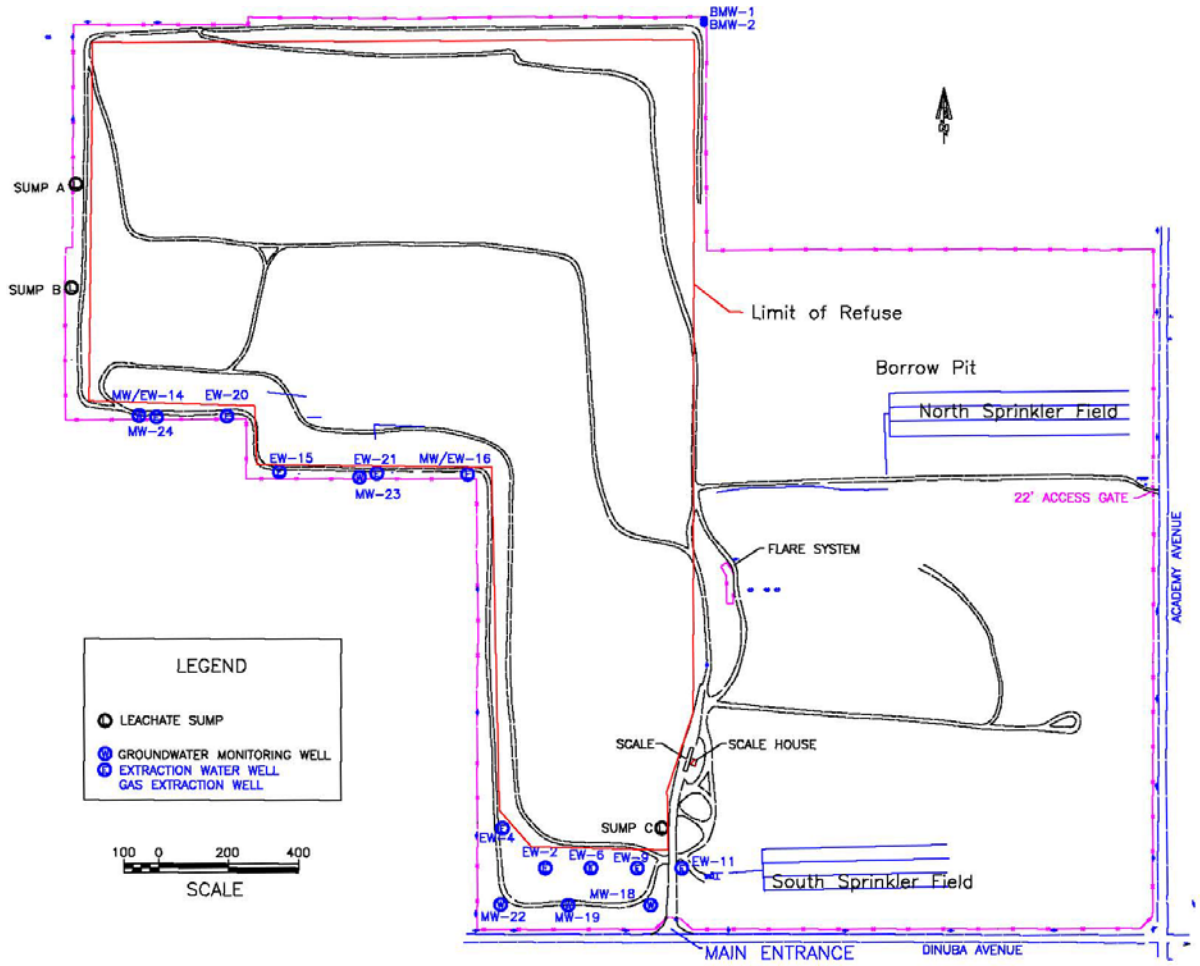

FIGURE SUPPLIED BY THE COUNTY OF FRESNO, DEPARTMENT OF PUBLIC WORKS AND PLANNING, MARCH 2018

ATTACHMENT B

SITE PLAN

ORDER NO R5-2018-0053
WASTE DISCHARGE REQUIREMENTS
SOUTHEAST REGIONAL SOLID WASTE COMMISSION
SOUTHEAST REGIONAL DISPOSAL SITE
CLASS III LANDFILL
POST-CLOSURE MAINTENANCE AND CORRECTIVE ACTION
FRESNO COUNTY