CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

Fresno Office
1685 "E" St.
Fresno, CA 93706-2007

Sacramento Office (Main)
11020 Sun Center Dr. #200
Rancho Cordova, CA
95670-6114

Redding Office
364 Knollcrest Dr. #205
Redding, CA 96002

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WASTE DISCHARGE REQUIREMENTS ORDER R5-2020-0026 AND MONITORING AND REPORTING PROGRAM

ORDER INFORMATION

Order Type:	Waste Discharge Requirements (WDRs) and Monitoring and Reporting Program (MRP)
Status:	Adopted
Program:	Land Disposal (Title 27)
Dischargers:	Yuba County Department of Public Works and United States Department of Interior, Bureau of Land Management
Facility:	Ponderosa Landfill
Address:	17219 Ponderosa Way, Brownsville
County:	Yuba County
Parcel Nos.:	50-200-035
CIWQS ID:	248859
Prior Orders:	Order R5-2004-0059, Order 93-117, Order 79-118

I, PATRICK PULUPA, Executive Officer, hereby certify that the following is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 16 April 2020.

Patrick Pulupa 2020.04.28 10:38:21 -07'00'

PATRICK PULUPA, Executive Officer

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GLOSSARY

ADC	Alternative Daily Cover
Antidegradation Policy	*Statement of Policy with Respect to Maintaining High Quality Waters in California*, State Water Board Resolution 68-16
Basin Plan	Water Quality Control Plan for the Sacramento River Basin and San Joaquin River Basin
bgs	Below Ground Surface
BOD	Biochemical Oxygen Demand
BPTC	Best Practicable Treatment and Control
BLM	U.S. Department of Interior, Bureau of Land Management
C&D	Construction and Demolition Materials
CalRecycle	California Department of Resources Recovery and Recycling
CAP	Corrective Action Program
CAMP	Corrective Action Monitoring Program
CEQA	California Environmental Quality Act
CEQA Guidelines	California Code of Regulations, Title 14, section 15000 et seq.
C.F.R.	Code of Federal Regulations
COCs	Constituents of Concern
C-Soil	Contaminated Soil
CQA	Construction Quality Assurance
DEIR	Draft Environmental Impact Report
DMP	Detection Monitoring Program
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources

GLOSSARY

EC ..... Electrical Conductivity

EIR ..... Environmental Impact Report

EMP ..... Evaluation Monitoring Plan

FCPMP ..... Final Closure and Post-Closure Maintenance Plan

FEIR ..... Final Environmental Impact Report

FEMA ..... Federal Emergency Management Agency

GCL ..... Geosynthetic Clay Liner

HDPE ..... High-Density Polyethylene

JTD ..... Joint Technical Document

LCRS ..... Leachate Collection and Removal System

LEA ..... Local Enforcement Agency

LFG ..... Landfill Gas

MCE ..... Maximum Credible Earthquake

MDB&M ..... Mount Diablo Base and Meridian

MDL ..... Method Detection Limit

µg/L ..... Micrograms per Liter

mg/L ..... Milligrams per Liter

MPE ..... Maximum Probable Earthquake

msl ..... Mean Sea Level

MRP ..... Monitoring and Reporting Program

MSW ..... Municipal Solid Waste

MSWLF ..... Municipal Solid Waste Landfill

MW ..... Monitoring Well

GLOSSARY

Order	Central Valley Water Board Order which adopts Waste Discharge Requirements for the Facility
PCPMP	Preliminary Closure and Post-Closure Maintenance Plan
SPRRs	Standard Provisions and Reporting Requirements
Subtitle D	USEPA-promulgated MSW regulations under RCRA (see 40 C.F.R. part 258)
RCRA	Resource Conservation and Recovery Act
ROWD	Report of Waste Discharge
TDS	Total Dissolved Solids
Title 22	California Code of Regulations, Title 22
Title 23	California Code of Regulations, Title 23
Title 27	California Code of Regulations, Title 27
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds
WDRs	Waste Discharge Requirements
WMU	Waste Management Unit
WQPS	Water Quality Protection Standard

FINDINGS

The Central Valley Regional Water Quality Control Board (Central Valley Water Board) hereby finds as follows:

Introduction

1. The Yuba County, Department of Public Works (Discharger) owns the closed Ponderosa Landfill (Facility), which is located at 17219 Ponderosa Way, approximately one mile southwest of the unincorporated town of Brownsville in Yuba County, Section 34, Township 19 North, Range 6 East, Mount Diablo Base and Meridian (MDB&M). The Facility's location is depicted on the Site Location Map in **Attachment A**.

2. The Facility is comprised of Yuba County Assessor's Parcel Number (APN) as shown below and in **Attachment D**:

Table 1—Facility Parcel Number (APN)

APN	Landowner
50-200-035	Landowner: United States Bureau of Land Management (BLM)

3. The 16-acre Facility is on 40-acre public lands parcel leased from the United States Department of Interior, Bureau of Land Management (BLM), Central California District. Yuba County Department of Public Works, as the closed Facility's owner, and BLM as the landowner are each jointly responsible for compliance with this Order. A map of the predevelopment topography is shown in **Attachment B**.

4. The 16-acre Facility includes two unlined landfill waste management units (WMUs or Unit), a borrow area, a sedimentation basin, drainage facilities, access roads, and a transfer station, as shown in **Attachment C**. The Ponderosa Transfer Station is currently operated by Recology Yuba-Sutter, Inc. and is not regulated under this Order. The Ponderosa Transfer Station is regulated by the County of Yuba Environmental Health Department as the Local Enforcement Agency.

5. This Order encompasses the post-closure maintenance and corrective action associated with the following closed WMUs at the Facility as shown in **Attachment C**:

Table 2—Units Permitted Under this Order

WMU	Unit Type	Classification	Size	Unit Status
LF-1	Landfill	Class III , Non-hazardous municipal solid waste	3-acres	Closed in 1995

WMU	Unit Type	Classification	Size	Unit Status
LF-2	Landfill	Class III, Non-hazardous municipal waste	5-acres	Closed in 1995

Note: Please see Findings (10-19) for further information regarding Class III WMU designation.

Materials Accompanying this Order

6. The following materials are attached to this Order, and incorporated herein:

Attachment A Site Location Map

Attachment B Predevelopment Topography Map

Attachment C Existing Facility Map

Attachment D Existing Water Supply Well Map

Attachment E Existing Facility Water Quality Monitoring Points Map

Attachment F Existing Final Cover and Stormwater Drainage Plan

Information Sheet

Standard Provisions and Reporting Requirements (SPRRs), December 2015 Edition

7. Attached and incorporated as part of this Order is the separately-issued **Monitoring and Reporting Program R5-2020-** (MRP), which sets forth the approved Water Quality Protection Standard (WQPS). (Title 27, § 20390 et seq.) Compliance with the operative MRP (including subsequent amendments) is required under this Order.

8. Additional information set forth in the attached **Information Sheet** is incorporated herein as part of these findings.

9. On 19 August 2019, the Discharger submitted an updated Report of Waste Discharge (ROWD) for the Facility. Information in the ROWD, the Discharger's periodic self-monitoring reports (SMRs), and the Facility's historical file was used in the revision of this Order.

Waste and Unit Classification

10. The landfill units include Landfill 1 (LF- 1), a 3-acre WMU in the northern part of the site, and Landfill 2 (LF-2), a 5-acre WMU in the southern part of the site. LF-1 operated as a trench-fill burn dump from 1967 to 1973 and may have subsequently accepted municipal solid waste (MSW) for a period of time concurrent with LF-2. LF-2 operated from 1973 to 1992, accepting primarily MSW, demolition debris and tires.

11. Both WMUs are “existing” Units in accordance with Title 27 section 20080(d) because they operated prior to the effective date of Chapter 15 regulations (27 November 1984). Furthermore, LF-1 was an inactive unit under Section 20080(g) because it ceased accepting wastes prior to 27 November 1984.

12. The landfills accepted wastes defined as “inert” and “nonhazardous” under Sections 20230 and 20220 of Title 27, respectively. Septage and other liquid wastes were not accepted at this Facility.

13. The Facility accepted approximately 5.5 tons (40 cubic yards) per day of waste and it is estimated that approximately 110,000 in-place cubic yards of waste have been discharged to the Facility. The average thickness of waste in the landfill is estimated to be about 11 feet.

14. The Facility ceased accepting wastes in 1992, upon construction and startup of an onsite transfer station. All municipal refuse has since been transported to the Ostrom Road Landfill in Marysville. Both landfills (LF-1 and LF-2) were closed with a low permeability clay cover in December 1995.

15. On 9 October 1991, the United States Environmental Protection Agency (USEPA) promulgated regulations (Title 40, Code of Federal Regulations, Parts 257 and 258, "federal municipal solid waste (MSW) regulations" or "Subtitle D") that apply, in California, to dischargers who own or operate Class II or Class III landfill units at which MSW is discharged. The majority of the federal MSW regulations became effective on the "Federal Deadline", which is 9 October 1993. The landfill is subject to all federal Subtitle D regulations because it accepted MSW and does not qualify for any available exemptions. The landfill does not qualify for the limited exemption applicable to facilities that ceased accepting wastes prior to 9 October 1993 (40 CFR 258.1(d)) because it did not close within the following six-month period as required for the exemption. The landfill also does not qualify for the small landfill exemption (40 CFR 258(f)(1)) because there is evidence of groundwater impact from the unit.

16. Effective 18 July 1997, the water quality regulations for Class II and Class III disposal facilities formerly contained in Chapter 15, Title 23, California Code of Regulations (CCR), and the solid waste regulations formerly in Title 14, CCR,

were consolidated into Chapters 1 through 7, Subdivision 1, Division 2, Title 27, CCR (Title 27). These WDRs implement Title 27 regulations.

17. The Facility's municipal solid waste (MSW) landfill units are subject to federal regulations promulgated under the Resource Consideration Recovery Act (RCRA), 42 U.S.C. section 6901 et seq. Typically referred to as "Subtitle D," these MSW regulations are now codified as 40 C.F.R. part 258, and implemented in part through the provisions California Code of Regulations, title 27 (Title 27) and in accordance with State Water Resources Control Board (State Water Board) Resolution 93-62.

18. Given that both unlined units were closed in December 1995 with Title 27-compliant final covers in accordance with Title 27, section 21090(a), their final covers now constitute their principle containment feature per Title 27, section 20950(a)(2)(A)(1) which states, in part: "*Closure — for landfills . . . and surface impoundments closed as landfills, the goal of closure, including but not limited to the installation of a final cover, is to minimize the infiltration of water into the waste, thereby minimizing the production of leachate and gas. For such Units, after closure, the final cover constitutes the Unit's principal waste containment feature….*" Also **see Finding 47**. Therefore, these WDRs continue the Class III designation for each unit which are set forth above in **Table 2** so long as the final closure covers installed over WMUs LF-1 and LF-2 meet the prescriptive standard for final closure covers in accordance with Title 27, section 21090(a) and the performance standard for final closure covers in accordance with 20950(a)(2)(A)(1).

Site Characteristics

General Information

19. The 16-acre Facility is situated on a 40-acre property comprised of Yuba County the Assessor's Parcel Number (APN) listed in Table 1. The address associated with the Facility is 17219 Ponderosa Way, Brownsville, California 95919 at approximately Latitude 39.465820° and Longitude -121.289880°.

20. Land within 1000 feet of the facility is designated as open forest. The Daken Flat area, approximately 2000 feet southwest of the site, contains residential and commercial developments.

21. There are 43 domestic, industrial and agricultural supply wells within one mile of the Facility. The locations of these wells are mapped in **Attachment D**.

22. Most residences in the landfill vicinity are connected to the public water system operated by the Yuba County Water District. Approximately 43 private wells are within a one-mile radius of the site, ranging in depth from 40 and 400 feet. At

least two of these wells are known to be within 2,000 feet down gradient of the landfill.

23. The site receives an average of 66 inches per year of precipitation as determined from Rainfall Depth Duration Frequency data provided by the California Department of Water Resources (DWR) for the Challenge Ranger Station near Brownsville. The wettest year with a return period of 100 years (100-year annual wet season) is estimated to be 116 inches of precipitation. The estimated mean Class A pan evaporation rate is 55 inches per year.

24. WMUs must be constructed to accommodate stormwater runoff from 24-hour precipitation events with a return period of 100 years for Class III WMUs. (See Title 27, § 20320.) According to data collected at the DWR Challenge Ranger Station, the Facility's 100-year 24-hour rainfall event is estimated to result in 11 inches of precipitation.

25. A stormwater sedimentation basin is situated in the southeast portion of the Facility, as depicted in **Attachment F**. Usually dry during summer months, this stormwater basin will discharge to Dry Creek, a tributary of the Yuba River. The Discharger is not required to maintain Storm Water Pollution Prevention Plan and Monitoring Program and Reporting Requirements in accordance with State Water Resources Control Board's Statewide General Permit for Storm Water Discharges Associated with Industrial Activities, Order 2014-0057-DWQ since the Facility is a closed landfill e.g., no longer accepts waste and all existing waste is covered with a final closure cover.

26. According to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map, available online at (https://msc.fema.gov/portal), the Facility is not located within a 100-year floodplain.

Geology and Hydrogeology

27. The site is in the west-sloping foothills belt of the Sierra Nevada Mountains. Surface elevations range between 2,380 feet MSL northwest of LF-1 to 2,220 feet MSL southwest of Landfill Unit 2 near the sedimentation basin.

28. The region is structurally and stratigraphically complex and is underlain by sedimentary, igneous, and metamorphic rocks of late Paleozoic to Mesozoic age. Landfills at this site are underlain by deeply weathered, fractured, and sheared intrusive rocks. The majority of the soils on-site have been excavated and used for cover material. Where present, soils consist of relatively thin moderate plasticity clays with intermittent clasts of heavily weathered bedrock.

29. The groundwater gradient is approximately 0.1 ft/ft to the southwest at LF-1 and approximately 0.07 ft/ft to the south, southwest and southeast at LF-2. The direction of flow at LF-2 may be influenced by bedrock topography.

Seismology

30. There are no known Holocene faults within 1000 feet of the facility. The closest active faults are the Foothills Fault Zone, approximately 15 miles southwest of the site, and the New Melones Fault zone, approximately 20 miles east of the site. The maximum credible bedrock acceleration for the region is 0.2g.

Groundwater and Surface Water Conditions

31. The occurrence and movement of groundwater is restricted to fractured intervals in the bedrock beneath the site. The uppermost aquifer occurs in the weathered bedrock at elevations of approximately 2275 feet MSL along the northern perimeter of LF-1 and approximately 2200 feet MSL along the southern perimeter of LF-2. The depth to groundwater ranges from approximately 30 feet (southeastern side of LF-2) to approximately 150 feet (western side of LF-1) depending primarily on the surface topography.

32. Routine monitoring has shown that the groundwater elevations can vary both seasonally within a year and significantly over the long term. Over the last ten years of quarterly monitoring, groundwater elevation measurements have fluctuated by as much as 20 feet within individual wells.

33. A groundwater contour map based on recent May 2019 piezometric elevations indicated that the groundwater gradient is approximately 0.1 in the vicinity of LF-1 and approximately0.07 in the vicinity of LF-2. Routine monitoring has demonstrated that the gradients do not change significantly.

34. Groundwater flow direction varies depending upon site location. In the LF-1 area, groundwater flow beneath the site is to the southwest. In the LF-2 area, the general groundwater flow direction is to the south, with the eastern side flowing slightly more to the southeast. The direction of groundwater flow has not been observed to change significantly from season to season.

Groundwater Separation

35. Per Title 27, existing WMUs must “be operated to ensure that wastes will be a minimum of five feet (5 ft.) above the highest anticipated elevation of underlying ground water.” (Title 27, § 20240, subd. (c).)

Monitoring Networks

Groundwater Monitoring Program

36. The Facility's **groundwater** monitoring network consists of the following monitoring wells (existing and proposed) as shown in **Attachment E**:

Table 3—Groundwater Monitoring Well Network

Well	Program	Monitored Unit	Water-Bearing Zone	Status
MW-1	Detection, Corrective Action	LF-2	N/A	Operational
MW-2	Detection	LF-2	N/A	Operational
MW-3	Detection, Corrective Action	LF-1	N/A	Operational
MW-4	Detection, Corrective Action	LF-1	N/A	Operational
MW-5	Background	LF-1, LF-2	N/A	Operational
MW-6	Detection	LF-2	N/A	Operational
MW-7	Detection	LF-2	N/A	Operational
MW-8	Detection, Corrective Action	LF-1	N/A	Operational

37. MRP Order R5-2004-0059 identifies MW-3 as an upgradient background monitoring well for determining water quality protection standards for downgradient landfill Unit LF-2. However, WDRs Order 93-117 Finding 27 and historical groundwater monitoring has shown that monitoring well MW-3 water quality is impacted by a release from upgradient landfill Unit LF-1. Therefore, it is inappropriate to use MW-3 water quality characteristic in determining background water quality at the facility prior to placement of waste in landfill Units LF-1 and LF-2. Section H (Provisions) of the WDRs requires the Discharger to establish Water Quality Protection Standards (WQPS) compliant with Title 27 section 20390.

Unsaturated Zone Monitoring Program

38. Due to the site geology where the landfill Units are underlain by deeply weathered, fractured, and sheared intrusive rocks, the Facility currently does not have an unsaturated zone monitoring program associated with landfill Units. Furthermore, the closed landfill units do not have a landfill gas extraction system within the closed Units. As such, there is currently no unsaturated zone monitoring program at the facility.

Surface Water Monitoring Program

39. The closed landfill currently does not have a surface water monitoring program per Title 27 section 20415(c) which is necessary to determine if leachate from exposed waste and/or leachate seeps from the landfill Units through the final

closure covers have entered surface water and could potentially leave the facility boundaries. Furthermore, the closed Facility is currently not monitoring surface water discharges under a National Pollutant Discharge Elimination System (NPDES) Industrial Stormwater Permit Section H (Provisions) of the WDRs requires the Discharger to establish surface water monitoring downgradient of LF-1 and LF-2.

40. The Facility's **surface water** monitoring network shall consist of the following monitoring points :

Table 4—Surface Water Monitoring Network

Monitoring Point	Location	Program	Monitored Unit	Status
LF1-EFF	Downgradient of LF-1	Detection	LF-1	Planned
LF2-EFF	Downgradient of LF-2	Detection	LF-2	Planned

41. As of the adoption of this Order, the existing surface water monitoring network does not comply with the monitoring requirements of Title 27. (See Title 27, §§ 20415–20435.) The addition of the Surface Monitoring Points in Finding 40 are intended to make the surface monitoring network comply with the monitoring requirements of Title 27.

Water Quality Impacts / Corrective Action

42. Both LF-1 and LF-2 were closed in 1995 with a low hydraulic conductivity earthen cover. Title 27 section 20950(a)(2)(A)(1) states that "the goal of closure, including but not limited to the installation of a final cover, is to minimize the infiltration of water into the waste, thereby minimizing the production of leachate and gas. For such Units, after closure, the final cover constitutes the Unit's principal waste containment feature." Also, Title 27 section 20950(a)(2)(A)(2) states that "the goal of post-closure maintenance at such Units is to assure that the Unit continues to comply with the performance standard of P (a)(2)(A)1. until such time as the waste in the Unit no longer constitutes a potential threat to water quality." Title 27 section 20365 specifies the requirements for precipitation and drainage controls at Class III landfills. The Discharger must maintain the Ponderosa Landfill during the postclosure maintenance period to comply with Title 27 regulations above.

43. Historical groundwater monitoring results indicates the following:

a. At MW-3 background monitoring well, concentrations of chloride, sulfate, bicarbonate, and magnesium increase with increased annual precipitation.

MW-3 may be affected by landfill Unit 1 and therefore not a suitable upgradient background well for determining water quality protection standards for downgradient landfill Unit 2;

b. There is an increasing trend of concentrations of chloride and bicarbonate in monitoring well MW-1. Magnesium concentrations in monitoring well MW-1 is significantly higher than that of other monitoring wells;

c. Sulfate concentrations in monitoring well MW-8 is significantly higher than that of other monitoring wells; and

d. The total number of volatile organic compound (VOC) detections and total magnitude of VOC concentrations in groundwater monitoring wells in relation to historic annual precipitation at Ponderosa Landfill appears stable. It appears the total magnitude of VOC concentrations has remained below 13 ug/L over the past ten years. Also, it appears there is a correlation between the number of VOC detections in groundwater monitoring wells MW-1, MW-4, and MW-8 and the annual precipitation received at the landfill. If stormwater ponding occurs on top of the final closure covers due to differential settlement, and as a result, ponded liquid which breaks through the low hydraulic conductivity cover and enters the underlying waste it will increase the production of leachate and landfill gas within the waste mass.

44. Water quality in groundwater monitoring wells MW-1, MW-3, MW-4, and MW-8 appears to be impacted by waste constituents in LF-1 and LF-2. The impacts may be associated with degradation of the final closure covers over the closed landfill Units. Section H (Provisions) of the WDRs requires the Discharger to conduct an investigation to determine whether the final closure covers continue meet the performance standard for closure covers found in Title 27 section 20950(a)(2)(A)(1).

Unit Closure

45. In December 1995, both landfill Units LF-1 and LF-2 were closed in accordance with a Final Closure and Post-Closure Maintenance Plan (FCPMP) dated September 1993. The final closure cover consisted of the following from bottom to top:

a. Foundation Layer – Two feet of compacted soil

b. Low Hydraulic Conductivity Layer – one foot of compacted clay (hydraulic conductivity $k < 1 \times 10^{-6}$ cm/sec)

c. Erosion Resistant Layer – One foot of clean vegetative cover soil

d. Vegetative Cover – native grass mix

The final closure cover construction over landfill Units LF-1 and LF-2 complied with the Title 27-compliant final cover requirements in accordance with Title 27, section 21090(a) when they were initially constructed.

Post-Closure Maintenance

46. The Discharger's Final Closure and Post-Closure Maintenance Plan (FCPMP) provides for post-closure maintenance of landfill Units LF-1 and LF-2 for the entire post-closure maintenance period of at least 30 years, and until it is demonstrated that the Facility no longer poses a threat to the public health and safety and the environment. (See Title 27, §§ 20950(a)(1), 21180(a).) The FCPMP includes the following components:

    a. Inspection and maintenance of final cover(s), drainage feature(s), and all groundwater monitoring points.

    b. Workplans for inspection, maintenance and monitoring during the post-closure maintenance period.

47. On 14 January 2020, Central Valley Water Board staff, as part of the process for revising the WDRs performed an inspection of the Facility and found that the facility has experienced severe erosion of its drainage structures used to convey stormwater at the facility. Section H (Provisions) of the WDRs requires the Discharger to submit a work plan using design standards specified in Title 27 section 20365. The work plan shall address excessive erosion of drainage controls and structures.

Financial Assurances

48. The Discharger's FCPMP included costs estimates for:

    a. **Closure** (Title 27, §§ 21820, 22206);

    b. **Post-Closure Maintenance** (§§ 22210–22212); and

    c. **Corrective Action** for foreseeable releases (§§ 22220–22222).

49. Final closure of the landfill Units has been completed. Therefore, as of the date of this Order, the Discharger's cost estimates, calculated in accordance with Title 27, are as follows:

Table 5—Current Cost Estimates (Financial Assurances)

Requirement	Estimated Cost
Post-Closure Maintenance	$ 1,820,665
Non-Water Corrective Action	$ 222,617

50. This Order requires the Discharger to maintain financial assurances with CalRecycle in at least the Estimated Cost amounts specified above.

51. As of the date of this Order, the post-closure maintenance fund and corrective action fund balances are financially assured using a pledged revenue mechanism for at least the amounts shown in Finding 49. The current amounts are as follows:

Table 6—Current Pledged Revenues (Financial Assurances)

Requirement	Current Balance
Post-Closure Maintenance	$ 1,820,665
Corrective Action	$ 222,617

California Environmental Quality Act

52. The issuance of this Order, which prescribes requirements and monitoring of waste discharges at an **existing facility**, with negligible or no expansion of its existing use, is exempt from the procedural requirements of the California Environmental Quality Act (CEQA), Public Resources Code section 21000 et seq., pursuant to California Code of Regulations, title 14, section 15301 (CEQA Guidelines). The discharges authorized under this Order are substantially within parameters established under prior WDRs, particularly with respect to character and volume of discharges.

Other Regulatory Matters

53. This Order is issued in part pursuant to Water Code section 13263, subdivision (a), which provides as follows:

> The regional board, after any necessary hearing, shall prescribe requirements as to the nature of any proposed discharge, existing discharge, or material change in an existing discharge…, with relation to the conditions existing in the disposal area … into which, the discharge is made or proposed. The requirements shall implement any relevant water quality control plans that have been adopted, and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that

> purpose, other waste discharges, the need to prevent nuisance, and the provisions of [Water Code] Section 13241.

54. This Order implements the Central Valley Water Board's *Water Quality Control Plan for the Sacramento and San Joaquin River Basins* (*Basin Plan*), which designates beneficial uses for surface water and groundwater and establishes water quality objectives (WQOs) necessary to preserve such beneficial uses. (See Wat. Code, § 13241 et seq.)

55. The nearest surface waters are South Honcut Creek approximately one mile west of the site and Dry Creek approximately two miles downstream of the site to the southeast. South Honcut Creek is tributary to the Feather River and Dry Creek is tributary to the Yuba River.

56. The site is at the apex of a surface water divide. Runoff from the west side of the site flows west toward South Honcut Creek, while storm water discharges from the landfill area (including sedimentation basin) flow southwest toward Dry Creek downstream of the site.

57. According to the operative *Basin Plan*, designated beneficial uses of the nearest surface water**, South Honcut Creek**, a tributary of the Feather River, and **Dry Creek**, a tributary to the Yuba River include: agricultural supply (AGR); water contact recreation (REC-1); non-water contact recreation (REC-2); warm freshwater habitat (WARM); cold freshwater habitat (COLD); migration of aquatic organisms (MIGR); spawning, reproduction and/or early development (SPAWN); and wildlife habitat (WILD). An additional beneficial use of the Feather River is municipal and domestic water supply (MUN). Also, an additional beneficial use of the Yuba River is hydroelectric power generation (POW).

58. Per the operative *Basin Plan*, designated **beneficial uses of groundwater** at the Facility include: municipal and domestic water supply (MUN); agricultural supply (AGR); industrial service supply (IND), and industrial process supply (PRO).

59. The State Water Resources Control Board's *Statement of Policy with Respect to Maintaining High Quality Waters in California*, Resolution 68-16 (*Antidegradation Policy*) prohibits the Central Valley Water Board from authorizing degradation of "high quality waters" unless it is shown that such degradation: (1) will be consistent with the maximum benefit to the people of California; (2) will not unreasonably affect beneficial uses, or otherwise result in water quality less than as prescribed in applicable policies; and (3) is minimized through the discharger's best practicable treatment or control.

60. Consistent with Title 27, this Order requires the Discharger to maintain the Facility, e.g., the final closure cover and drainage and erosion controls, etc., so as to contain waste within WMUs, thereby preventing degradation of water

quality. To the extent that there are releases from Facility WMUs, Discharger will be required to address such releases through a Corrective Action Program. (See Title 27, §§ 20385, 20415, 20430.) Accordingly, this Order complies with the *Antidegradation Policy*.

61. For the purposes of California Code of Regulations, title 23 (Title 23), section 2200, the Facility has a threat-complexity rating of **2**-**C**, where:

    a. Threat Category "2" reflects waste discharges that can impair receiving water beneficial uses, cause short-term water quality objective violations, cause secondary drinking water standard violations, and cause nuisances; and

    b. Complexity Category "C" reflects any discharger for which WDRs have been prescribed per Water Code section 13263, and not included in Category A or Category B.

62. This Order is also issued in part pursuant to Water Code section 13267, subdivision (b)(1), which provides that:

> [T]he regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region … shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.

63. The technical reports required under this Order, as well as those required under the separately-issued MRP, are necessary to ensure compliance with prescribed WDRs and the provisions of Title 27, Subtitle D (40 C.F.R. part 258) and State Water Board Resolution 93-62. Additionally, the burdens associated with such reports are reasonable relative to the need for their submission.

Procedural Matters

64. All local agencies with regulatory jurisdiction over land-use, solid waste disposal, air pollution and public health protection have approved the use of the Facility's site for the discharge of waste to land as provided for herein.

65. The Discharger, interested agencies and interested persons were notified of the Central Valley Water Board's intent to prescribe the WDRs in this Order, and

provided an opportunity to submit their written views and recommendations at a public hearing. (Wat. Code, § 13167.5; Title 27, § 21730.)

66. At a public meeting, the Central Valley Water Board heard and considered all comments pertaining to the discharges regulated under this Order.

67. The Central Valley Water Board will review and revise the WDRs in this Order as necessary.

ORDER REQUIREMENTS

IT IS HEREBY ORDERED, pursuant to Water Code sections 13263 and 13267, that WDRs Order R5-2004-0059 is hereby rescinded (except for enforcement purposes), and that the Dischargers and their agents, employees and successors shall comply with the following.

A. Discharge Prohibitions—Except as otherwise expressly directed below, the Discharger shall comply with all **Standard Prohibitions** (SPRRs, § C), which are incorporated herein, as well as the following Discharge Prohibitions.

1. The discharge of new or additional waste to the landfills at this facility is prohibited.

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

3. The discharge of treated or untreated wastewater or groundwater to any surface water or any surface water drainage course is prohibited without a National Pollutant Discharge Elimination System (NPDES) permit authorizing the discharge.

4. The landfills at this site shall not cause pollution or a nuisance, as defined by the California Water Code, Section 13050, shall not cause degradation of any water supply.

B. Discharge Specifications—Except as otherwise expressly directed below, the Discharger shall comply with all Standard Discharge Specifications (SPRRs, § D), which are incorporated herein, as well as the following.

1. Storm water runoff from the facility shall be monitored in accordance with Monitoring and Reporting Program Order R5-2020-0026 and any applicable storm water regulations.

2. A minimum separation of five feet shall be maintained between wastes or leachate and the highest anticipated elevation of underlying groundwater per Section 20240(c) of Title 27.

C. Facility Specifications—The Discharger shall comply with all **Standard Facility Specifications** (SPRRs, § E) which are incorporated herein.

D. Unit Construction—Except as otherwise expressly directed below, the Discharger shall comply with all *Standard Construction Specifications* and *Standard Storm Water Provisions* (SPRRs, §§ D, L), which are incorporated herein.

E. Post-Closure Maintenance—Except as otherwise directed below, the Discharger shall comply with all *Standard Closure and Post-Closure Specifications* (SPRRs, § G) and closure-related *Standard Construction Specifications* (SPRRs, § F), as well as the following with respect to closure of landfills at the Facility.

1. After final cover installation, the Discharger may perform minor modifications to problematic areas of the final cover, provided that:

    a. The barrier layer of the final cover (e.g., geomembrane, GCL and/or compacted clay layer) remains intact; and

    b. The Central Valley Water Board approves of such modifications.

2. The Discharger shall apply sufficient seed, binder and nutrients to the vegetative/erosion-resistant layer to establish the vegetation proposed in the final closure plan. The Discharger shall also install any necessary erosion and sedimentation controls to protect vegetation while it is being established.

F. Financial Assurances—Except as otherwise directed below, the Discharger shall comply with all *Standard Financial Assurance Provisions* (SPRRs, § H), as well as the following:

1. The Discharger shall maintain with CalRecycle assurances of financial responsibility for the Estimate Cost amounts specified for each category in **Finding 51**, adjusted annually for inflation.

2. A report regarding financial assurances, or a copy of the financial assurances report submitted to CalRecycle, shall be submitted to the Central Valley Water Board **annually**, no later than **1 June**.

3. If CalRecycle determines that the Discharger's financial assurances for the Facility are inadequate, the Discharger shall, within 90 days of such determination:

    a. Obtain a new financial assurance mechanism for the amount specified by CalRecycle; and

b. Submit a report documenting such financial assurances to CalRecycle and the Central Valley Water Board.

4. Whenever changed conditions increase the estimated post-closure maintenance, the Discharger shall promptly submit an updated FCPMP to the Central Valley Water Board, CalRecycle and the LEA.

G. Monitoring Requirements—Except as otherwise directed below, the Discharger shall comply with all applicable *Standard Monitoring Specifications* (SPRRs, § I) and *Standard Response to Release Specifications* (SPRRs, § J), as well as the following:

1. The Discharger shall comply with all provisions of the separately issued **MRP R5-2020-0026** and any subsequent revisions thereto.

2. The Discharger shall comply with the **Water Quality Protection Standard** (WQPS) set forth in the operative MRP (see also Title 27, § 20390); and shall verify the compliance of each WMU with each subsequent monitoring event.

3. For all WMUs, the Discharger shall implement a groundwater, surface water and unsaturated zone detection monitoring program (DMP) in accordance with Title 27, sections 20385, 20415 and 20420 unless the Discharger has shown it is infeasible to implement the detection monitoring program in accordance with provisions within the Title 27 sections above.

4. For each WMU subject to corrective action, the Discharger shall implement a corrective action program (CAP) in accordance with Title 27, sections 20385, 20415 and 20430, and Section I of the SPRRs.

5. Constituents of concern (COC) in water passing through each WMU's Point of Compliance[1] shall not exceed concentration limits specified in the operative MRP.

[1] The Point of Compliance is a vertical plane situated at the hydraulically downgradient limit of each WMU, extending through the uppermost underlying aquifer. (See Title 27, §§ 20164, 20405.)

H. Provisions

Task	Compliance Date
1. Establish Water Quality Protection Standards (WQPS) for LF-2. The Discharger shall submit a technical report for review and approval that establishes WQPS using background water quality characteristics that have not been affected by a release of leachate and/or landfill gas from upgradient LF-1.	**1 September 2020**
2. Establishment of Surface Water Monitoring Point(s) Downgradient of LF-1 and LF-2. The Discharger shall submit a work plan for review and approval that proposes surface water monitoring point(s) downgradient of LF-1 and LF-2 in order to determine if waste from potential leachate seeps from the closed landfills is entering surface waters and potentially leaving the facility boundary.	**1 June 2021**
3. Investigate Performance of Final Closure Covers. The Discharger shall submit a work plan for review and approval that investigates the condition of the and closure covers and whether they continue meet the performance standard for closure covers found in Title 27 section 20950(a)(2)(A)(1). The work plan shall include an approach to evaluate whether waste decomposition has manifested in subsidence addressed by routine post-closure maintenance activities or in differential settlement that could lead to impairment of the final cover barrier layer. The work plan shall include a schedule dictating when the investigation will be completed and when a final report will be submitted which details the findings.	**1 July 2020**
4. Repair and Maintenance of Drainage Structures. The Discharger shall submit a work plan including a schedule for completion of repairs for review and approval which addresses excessive erosion of drainage structures used to convey stormwater at the facility. The work plan shall use the design standards specified in Title 27 section 20365.	**1 October 2020**

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order may result in

the assessment of Administrative Civil Liability of up to $10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including sections 13268, 13350 and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

Any person aggrieved by this Central Valley Water Board action may petition the State Water Board for review in accordance with Water Code section 13320 and California Code of Regulations, title 23, section 2050 et seq. The State Water Board must receive the petition by 5:00 p.m. on the 30th day after the date of this Order; if the 30th 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 the Internet (at the address below), and will be provided upon request.

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

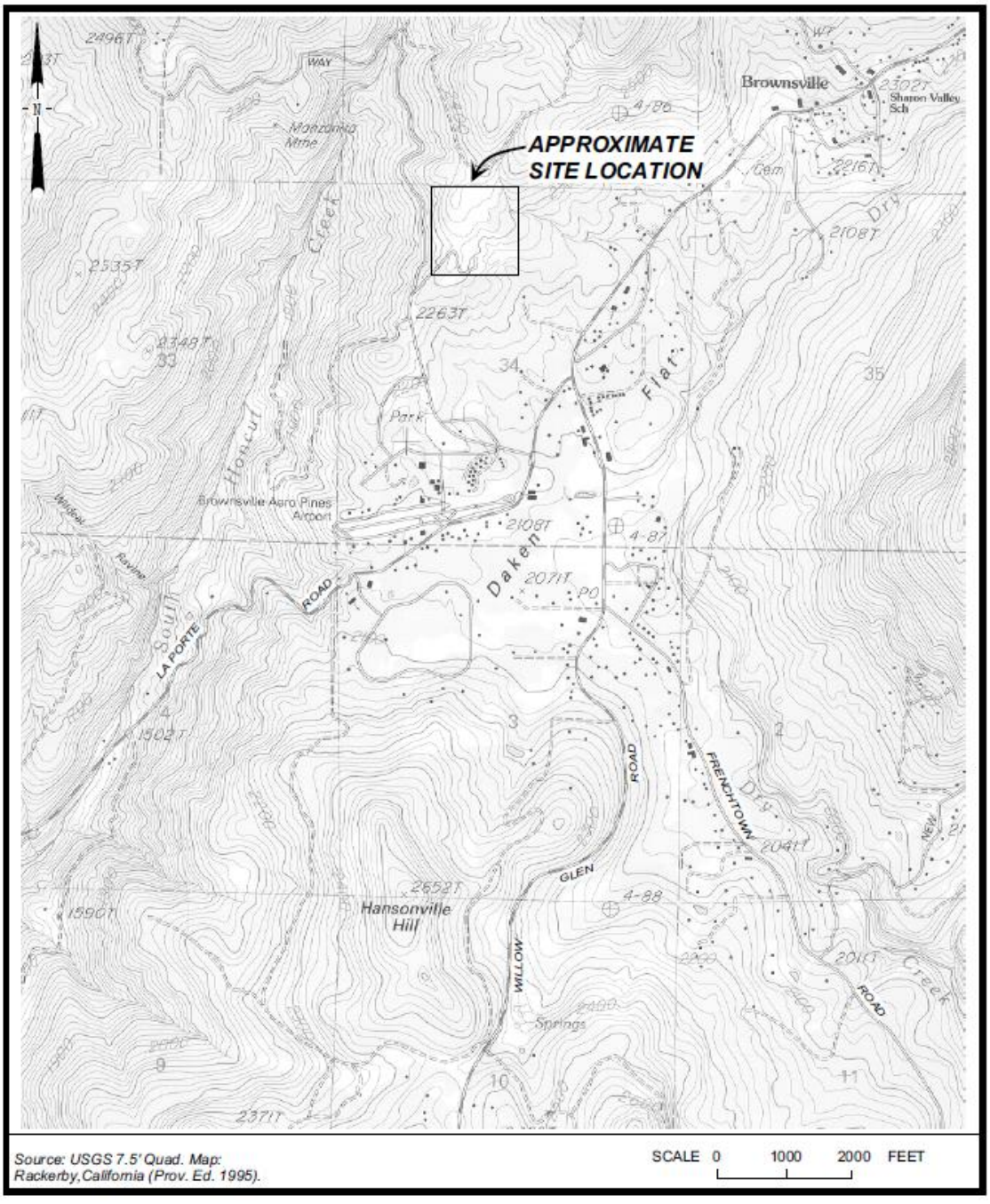
Order Attachments

Attachment A— Site Location Map
Attachment B— Predevelopment Topography Map
Attachment C— Existing Facility Map
Attachment D— Existing Water Supply Well Map
Attachment E— Existing Facility Water Quality Monitoring Points Map
Attachment F— Existing Final Cover and Stormwater Drainage Plan

Monitoring and Reporting Program

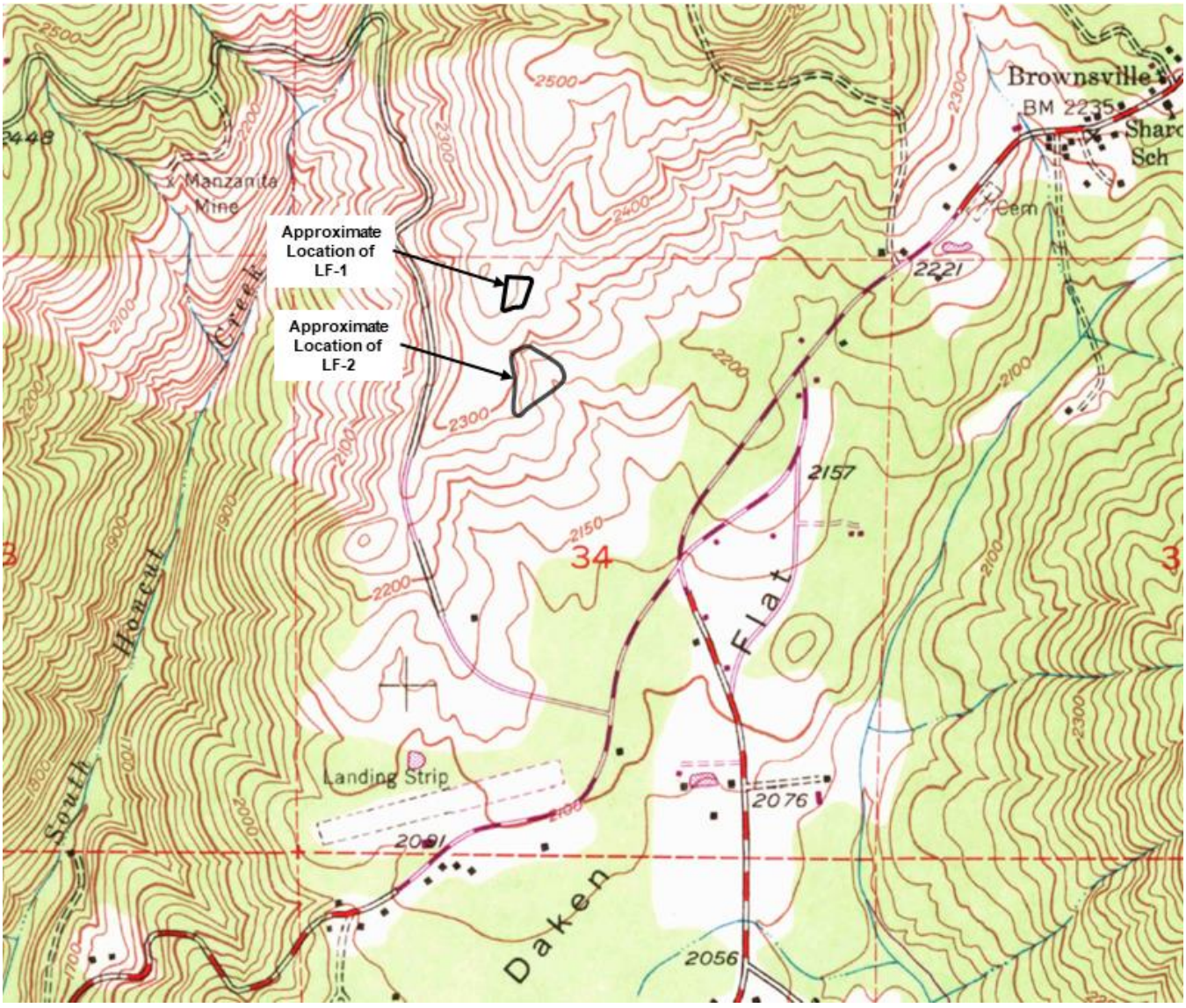
Information Sheet
Standard Provisions and Reporting Requirements

ATTACHMENT A—SITE LOCATION MAP

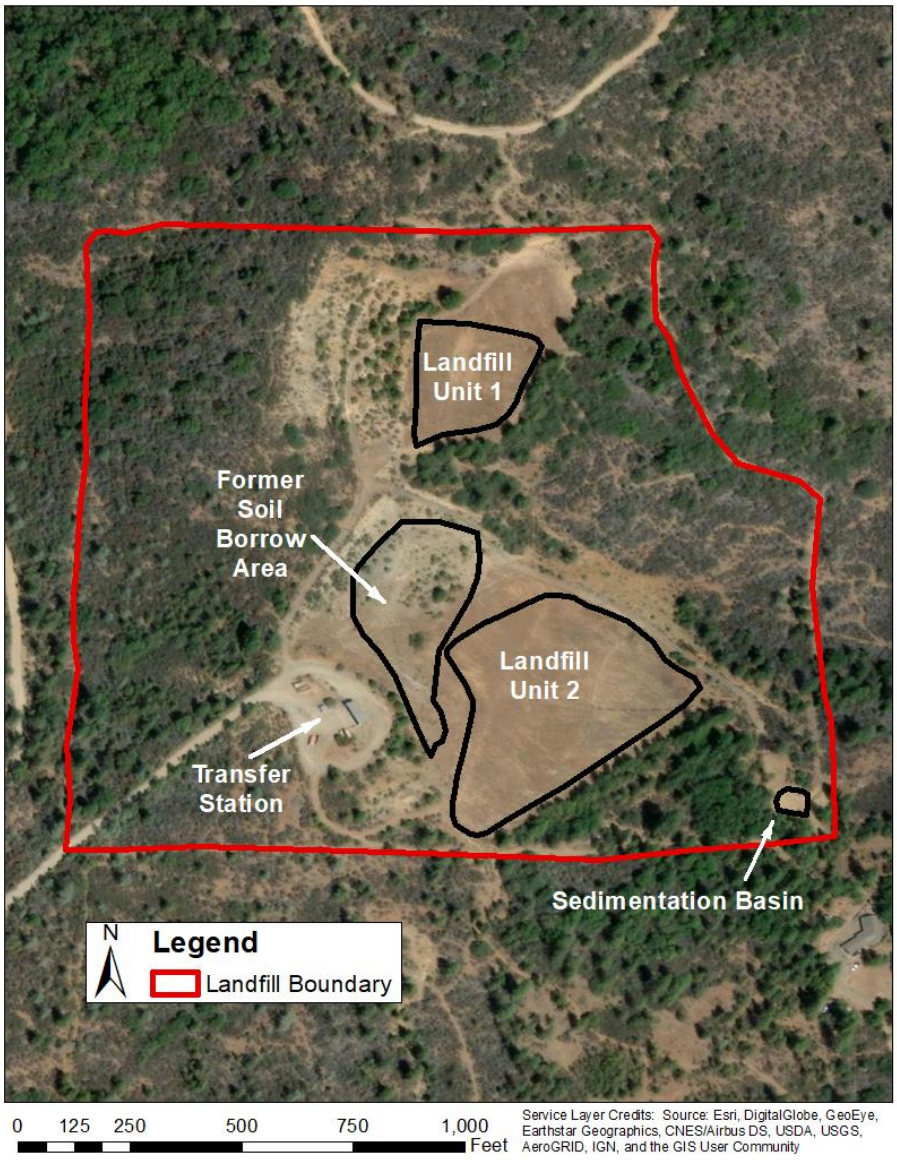


Source: Discharger's 2019 1st Semiannual Self-Monitoring Report

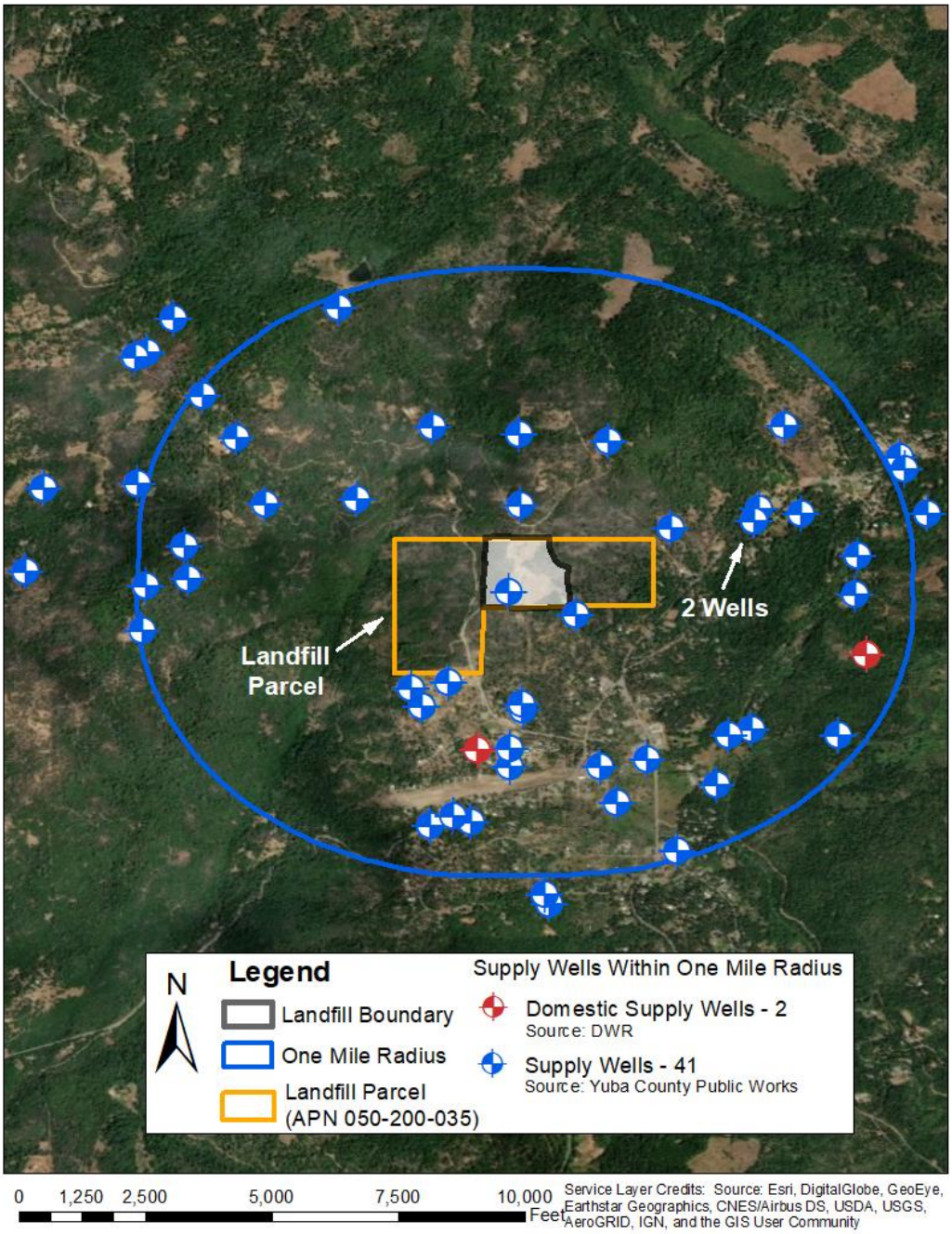
ATTACHMENT B—PREDEVELOPMENT TOPOGRAPHY MAP



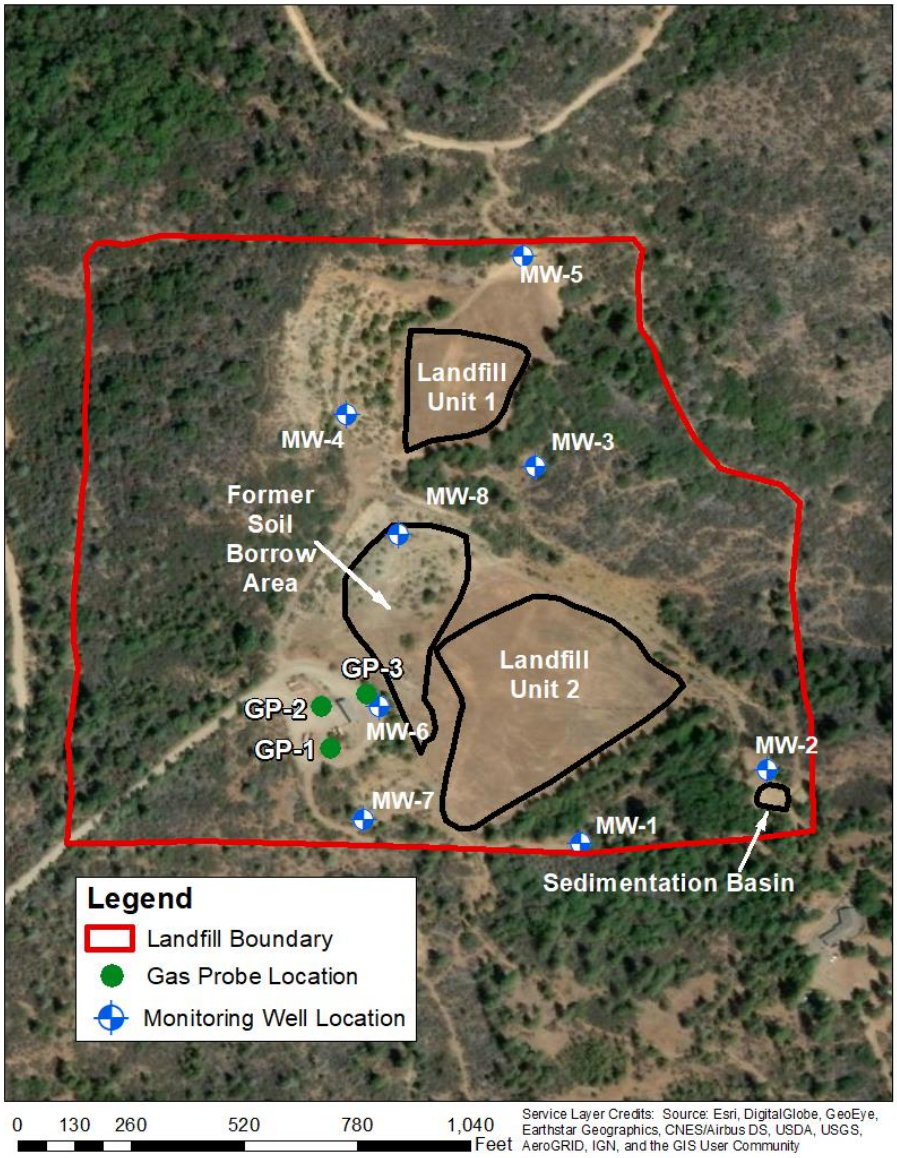
ATTACHMENT C—EXISTING FACILITY MAP



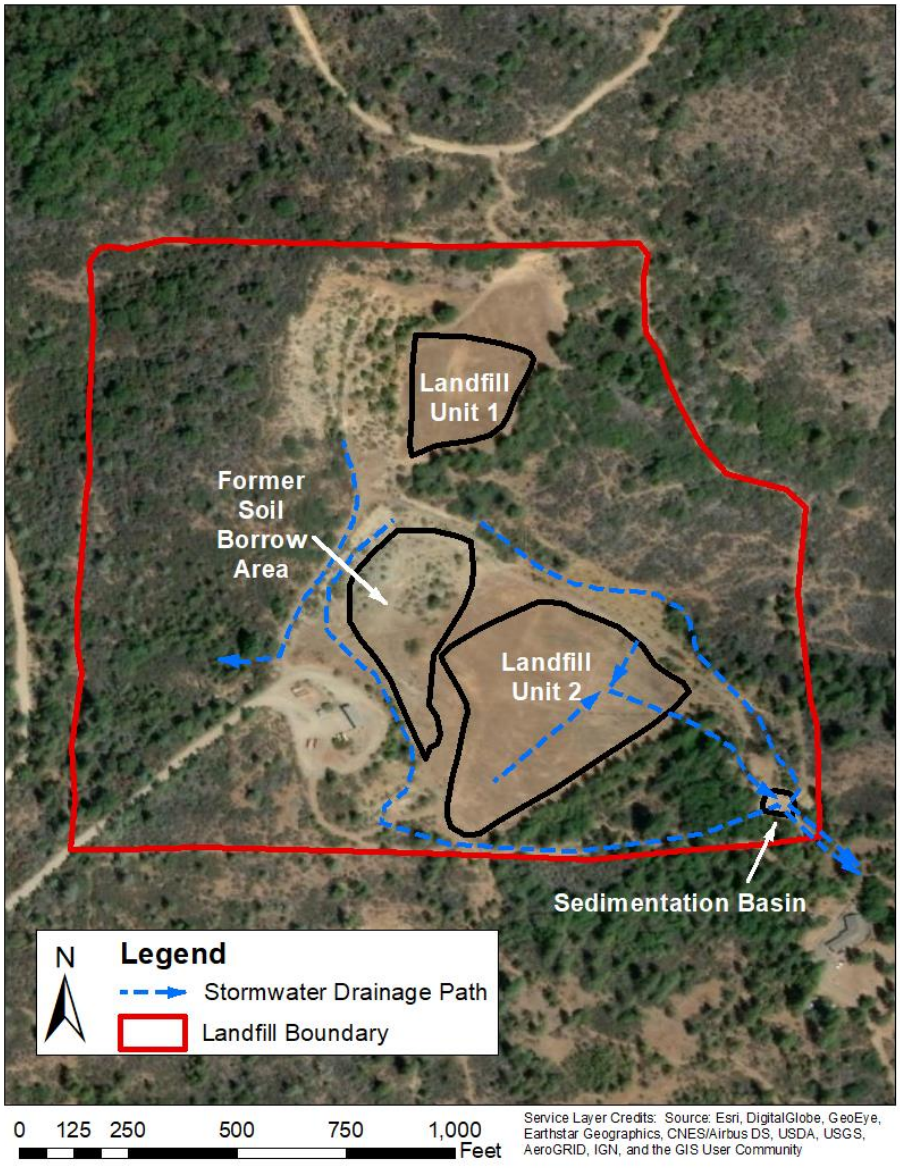
ATTACHMENT D—EXISTING WATER SUPPLY WELL MAP



ATTACHMENT E—EXISTING FACILITY WATER QUALITY MONITORING POINTS MAP



ATTACHMENT F—EXISTING FINAL COVER AND STORMWATER DRAINAGE PLAN



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING ORDER R5-2020-0026

MONITORING AND REPORTING PROGRAM
FOR
YUBA COUNTY DEPARTMENT OF PUBLIC WORKS
AND
UNITED STATES DEPARTMENT OF INTERIOR, BUREAU OF LAND MANAGEMENT
PONDEROSA LANDFILL
YUBA COUNTY

Preface

Adopted pursuant to Water Code section 13267, this Order establishes a Monitoring and Reporting Program (MRP) incorporating the prescriptive monitoring and reporting requirements of California Code of Regulations, title 27 (Title 27), section 20005 et seq.

Although incorporated as part of Waste Discharge Requirements Order R5-2020-0026 (WDRs Order), this MRP Order is separately enforceable, and may be separately revised by the Executive Officer under authority delegated pursuant to Water Code section 13223.

Except as otherwise provided below in this MRP Order, each of the Findings set forth in the WDRs Order are incorporated herein.

A. Monitoring Requirements

1. Detection Monitoring Programs (DMPs)

a. All Detection Monitoring Program (DMP) systems designed and constructed pursuant to this Order shall be a certified by a California-licensed professional civil engineer or geologist (Qualified Professional) as meeting the requirements of Title 27.

b. The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater, surface water, and the unsaturated zone in accordance with Standard Monitoring Specifications in Section I of the SPRRs and the Monitoring Specifications in Section G of the WDRs.

2. Compliance with Sample Collection and Analysis Plan (SCAP)

a. Samples shall be collected, preserved and transported in accordance with the approved Sample Collection and Analysis Plan

(SCAP) and the quality assurance/quality control (QA/QC) standards therein.

b. The Discharger may use alternative analytical test methods (including new USEPA-approved methods), provided that the alternative methods have method detection limits (MDLs) equal to or lower than the analytical methods specified in this MRP, and are identified in the approved SCAP.

3. Groundwater Monitoring

a. **Required Network**—The Facility's groundwater monitoring network shall consist of the wells listed below in **Table 7**.

Table 7—Groundwater Monitoring Network

Well	Program	Monitored Unit	Zone
MW-1	Detection, Corrective Action	LF-2	N/A
MW-2	Detection	LF-2	N/A
MW-3	Detection, Corrective Action	LF-1	N/A
MW-4	Detection, Corrective Action	LF-1	N/A
MW-5	Background	LF-1, LF-2	N/A
MW-6	Detection	LF-2	N/A
MW-7	Detection	LF-2	N/A
MW-8	Detection, Corrective Action	LF-1	N/A

b. Groundwater samples shall be collected from each well, and analyzed for the field parameters and monitoring parameters specified in **Table 8** (in accordance with the specified schedule).[2]

Table 8—Groundwater DMP, Field Parameters and Monitoring Parameters

Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Field Parameters				
Temperature	TEMP	°F	Semiannual	Semiannual
Electrical Conductivity	SC	µmhos/cm	Semiannual	Semiannual
pH	PH	pH Units	Semiannual	Semiannual
Turbidity	TURB	NTUs	Semiannual	Semiannual
Monitoring Parameters				
TDS	TDS	mg/L	Semiannual	Semiannual
Chloride	CL	mg/L	Semiannual	Semiannual
Carbonate	CACO3	mg/L	Semiannual	Semiannual
Bicarbonate	BICACO3	mg/L	Semiannual	Semiannual
Iron	FE	mg/L	Semiannual	Semiannual
Nitrate (as Nitrogen)	NO3N	mg/L	Semiannual	Semiannual
Sulfate	SO4	mg/L	Semiannual	Semiannual
Calcium	CA	mg/L	Semiannual	Semiannual
Magnesium	MG	mg/L	Semiannual	Semiannual
Manganese	MN	mg/L	Semiannual	Semiannual
Potassium	K	mg/L	Semiannual	Semiannual
Sodium	NA	mg/L	Semiannual	Semiannual
Short List VOCs (per Attachment A)	(*various*)	ug/L	Annual	Annual

[2] Monitoring wells established for the Detection Monitoring Program (DMP) constitute the monitoring points for the groundwater Water Quality Protection Standard (WQPS).

c. Additionally, the Discharger shall analyze for groundwater samples from each well for the Five-Year COCs listed in **Table 9**.[3]

Table 9—Groundwater DMP, Five-Year COC Monitoring Parameters

Parameter	GeoTracker Code	Units	Sampling & Reporting Freq.
Total Organic Carbon	TOC	mg/L	Every 5 Years
Dissolved Inorganics (per Attachment B)	(*various*)	µg/L	Every 5 Years
Extended List VOCs (per Attachment C)	(*various*)	µg/L	Every 5 Years
Semi-Volatile Organic Compounds (per Attachment D)	(*various*)	µg/L	Every 5 Years
Chlorophenoxy Herbicides (per Attachment E)	(*various*)	µg/L	Every 5 Years
Organophosphorus Compounds (per Attachment E)	(*various*)	µg/L	Every 5 Years

d. Each quarter, the Discharger shall also monitor the overall groundwater conditions specified below in **Table 10**. Groundwater elevation shall be reported with an accuracy of 0.01 feet.

Table 10—Groundwater Conditions Monitoring

Parameter	GeoTracker Code	Monitoring Freq.	Reporting Freq.
Elevation (Well-Specific)	ELEV	Quarterly	Semiannually
Gradient	(none)	Quarterly	Semiannually
Flow Rate[4]	(none)	Annual	(SMRs)

[3] Five-Year COCs were last monitored in 2019, and shall be analyzed again in 2024 and every five years thereafter.

[4] To the extent feasible, the Discharger shall determine ground water flow rate and direction in: (1) the uppermost aquifer; (2) any zones of perched water; and (3) in any additional portions of the zone of saturation monitored pursuant to Title 27, section 20415, subdivision (b)(1).

4. Unsaturated Zone Monitoring (Not applicable).

Groundwater monitoring will continue to be used as the principle means of assessing the performance of the closed landfill.

5. Leachate Monitoring (Not Applicable)

6. Seep Monitoring.

Leachate that seeps to the surface from a landfill unit shall be sampled and analyzed for the Field and Monitoring Parameters listed in Table 12 upon detection. The quantity of leachate shall be estimated and reported as Leachate Flow Rate (in gallons/day). Reporting for leachate seeps shall be conducted as required in **Section D.3** of this MRP, below.

7. Annual LCRS Testing (Not Applicable)

8. Surface Water Monitoring[5]

a. **Required Network**—The Dischargers shall operate and maintain a surface water monitoring network consisting of the points listed in **Table 11**. This network shall comply with the applicable provisions of Title 27, sections 20415 and 20420.

Table 11—Surface Water Monitoring Network

Monitoring Point	Location	Status
LF1-EFF	Downgradient of LF-1	Planned
LF2-EFF	Downgradient of LF-2	Planned

b. **Parameters**—Surface water samples shall be collected from each monitoring point listed above. For surface water detection monitoring, a sample shall be collected at each monitoring point location and analyzed for the monitoring parameters and constituents in accordance with the methods and frequency specified in **Table 12**. All surface water monitoring samples shall be collected and analyzed for the 5-year COCs specified in **Table 12** every five years, beginning in 2020.

[5] Runoff from landfill areas within the Facility flows to sedimentation basins, which periodically discharge to Dry Creek, which is waters of the United States.

Table 12—Surface Water DMP: Field Parameters and Monitoring Parameters

Parameter	GeoTracker Code	Units	Sampling Freq.	Reporting Freq.
Field Parameters				
Electrical Conductivity	SC	µmhos/cm	Semiannual	Semiannual
pH	PH	pH Units	Semiannual	Semiannual
Turbidity	TURB	NTUs	Semiannual	Semiannual
Flow to Waters of U.S.	(none)	YES	Semiannual	Semiannual
Monitoring Parameters				
TDS	TDS	mg/L	Semiannual	Semiannual
Chloride	CL	mg/L	Semiannual	Semiannual
Carbonate	CACO3	mg/L	Semiannual	Semiannual
Bicarbonate	BICACO3	mg/L	Semiannual	Semiannual
Iron	FE	mg/L	Semiannual	Semiannual
Nitrate (as Nitrogen)	NO3N	mg/L	Semiannual	Semiannual
Sulfate	SO4	mg/L	Semiannual	Semiannual
Calcium	CA	mg/L	Semiannual	Semiannual
Magnesium	MG	mg/L	Semiannual	Semiannual
Manganese	MN	mg/L	Semiannual	Semiannual
Potassium	K	mg/L	Semiannual	Semiannual
Sodium	NA	mg/L	Semiannual	Semiannual
Short List VOCs (see Attachment A)	(*various*)	µg/L	Annually	Annually

B. Additional Facility Monitoring Requirements

1. Regular Visual Inspections—The Discharger shall perform regular visual inspections listed in **Table 13**, in accordance with the schedule specified in **Table 14**. Results of these regular visual inspections shall be included in Semiannual Monitoring Reports (SMRs) per **Section 0** of this MRP Order.

Table 13—Regular Visual Inspections

Category	Observations
Within Unit	• Evidence of ponded water at any point on unit outside of any contact storm water/leachate diversions structures on the closure cover of unit (record affected areas on map). • Evidence of erosion and/or of day-lighted refuse.
Unit Perimeter	• Evidence of leachate seeps, estimated size of affected area and flow rate (record affected areas on map). • Evidence of erosion and/or of day-lighted refuse.
Receiving Waters	• Floating and suspended materials of waste origin—presence or absence, source and size of affected areas.
	• Discoloration and turbidity—description of color, source and size of affected areas.

Table 14—Regular Visual Inspection Schedule

Category	Wet Season (1 Oct. to 30 April)	Dry Season (1 May to 30 Sept.)
Active Units	Not Applicable	Not Applicable
Inactive or Closed Units	Monthly	Quarterly

2. **Annual Facility Inspections**—Prior to **1 September** of each year, the Discharger shall inspect the Facility to assess repair and maintenance needs for drainage control systems, cover systems and groundwater monitoring wells; and preparedness for winter conditions (e.g., erosion and sedimentation control).

   a. If repairs are made as result of the annual inspection, problem areas shall be photographed before and after repairs. Any necessary construction, maintenance, or repairs shall be completed by 30 September.

   b. Annual facility inspection reporting shall be submitted as required in **Section D.4** of this MRP.

3. **Major Storm Events**—Within **seven days** of any storm event capable of causing damage or significant erosion (Major Storm Event), the Dischargers shall inspect the Facility for damage to any precipitation, diversion and drainage facilities, and all landfill side slopes. Necessary repairs shall be completed within 30 days of the inspection. The Discharger shall take photos of any problem areas before and after repairs. See Notification and reporting requirements for major storm events shall be conducted as required in **Section D.5** of this MRP.

4. **Five-Year Iso-Settlement Surveys for Closed Landfill Units**—The Dischargers shall conduct a five-year iso-settlement survey of each closed landfill units, and produce an iso-settlement map accurately depicting the estimated total change in elevation of each portion of the final cover's low-hydraulic-conductivity layer. For each portion of the landfill, this map shall show the total lowering of the surface elevation of the final cover, relative to the baseline topographic map. (Title 27, § 21090, subds. (e)(1)-(2).) See **Section D.6** for iso-settlement survey reporting requirements.[6]

C. Corrective Action Monitoring—In addition to the monitoring activities described above, the Dischargers shall monitor its corrective action systems in accordance with provisions of this section.

The Discharger shall conduct corrective action monitoring to demonstrate the effectiveness of corrective action in accordance with Title 27, section 20430 and this MRP.

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[6] The next iso-settlement survey shall be conducted in 2020.

Groundwater monitoring wells and that are in a corrective action monitoring program shall be monitored in accordance with the groundwater requirements in part A.3 of this MRP, except as modified in this part of the MRP for any additional constituents or modified monitored frequencies.

1. Groundwater

a. The Discharger shall monitor the following corrective action monitoring wells as required in **Section A.3**, and **Table 8** of this MRP, with the following additional constituents, and the following alternant sampling frequency for all Field and Monitoring Parameters listed in **Table 15**:

Table 15—Corrective Action: Groundwater Monitoring Network

Well	Zone	Additional Constituents	Sampling Frequency
MW-1	N/A	none	Quarterly
MW-3	N/A	none	Quarterly
MW-4	N/A	none	Quarterly
MW-8	N/A	none	Quarterly

D. Reporting Requirements

Table 16—Summary of Required Reporting

Report	End of Reporting Period	Due Date
Semiannual Monitoring Reports (SMRs)	30 June	1 Aug.
	31 Dec.	1 Feb.
Annual Monitoring Report (AMRs)	31 Dec.	1 Feb.
Seep Reporting	(continuous)	Immediately (Notice w/in 7 Days)
Annual Facility Inspection Report	31 Oct.	15 Nov.
Major Storm Event Report	(continuous)	7 Days after Discovery of Damage

Report	End of Reporting Period	Due Date
Iso-Settlement Survey and Mapping Report	Every 5 Years	2020 and every five years thereafter

1. **Semiannual Monitoring Reports (SMRs)**—By **1 August** and **1 February**[7] of each year, the Discharger shall submit a Semiannual Monitoring Reports (SMRs) in accordance with the provisions below.

   a. For each groundwater monitoring point addressed by the report, a description of:

      i. The time of water level measurement;

      ii. 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;

      iii. 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;

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

      v. A statement that the sampling procedure was conducted in accordance with the approved SCAP.

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

   c. An estimated quarterly groundwater flow rate and direction in: (1) the uppermost aquifer; (2) any zones of perched water; and (3) any additional zone of saturation monitored based upon water

[7] The 1 Feb. Semiannual Monitoring Report may be combined with the Annual Monitoring Report (due on the same date), provided that the combination is clearly indicated in the title of the report.

level elevations taken prior to the collection of the water quality data submitted in the report. (See Title 27, § 20415, subd. (e)(15).)

d. including the times of expected highest and lowest elevations of the water levels in the wells. (See Title 27, § 20415, subd. (e)(15).)

e. Cumulative tabulated monitoring data for all monitoring points and constituents for groundwater, unsaturated zone, leachate, and surface water.

   i. 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).

   ii. Units shall be as required in **Tables 8, 9, 10, and 12** 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.

f. Laboratory statements of results of all analyses evaluating compliance with requirements.

g. 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 SPRRs Section J “Response to a Release” for verified exceedances of a concentration limit for wells/constituents not already in corrective action monitoring.

h. An evaluation of the effectiveness of the precipitation and drainage controls in accordance with Title 27 section 20365.

i. A summary of all Standard Observations for the reporting period required in **Section B.1** of this MRP.

j. 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.

k. A comprehensive discussion of any Corrective Action Program required by this MRP under **Section C**.

2. Annual Monitoring Reports (AMRs)—By **1 February** of each year,[8] the Dischargers shall submit Annual Monitoring Reports (AMRs) containing each of the following components.

a. Graphs showing historical trends for monitoring parameters[9] at each background and compliance monitoring point.

i. 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.

ii. If a 5-year COC event was performed, than these parameters shall also be graphically presented.

iii. 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.

iv. The graphs shall plot each datum, rather than plotting mean values.

v. 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, a Piper graph, or a 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

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[8] See instructions in **Footnote 7** regarding combination of AMR with the 1 Feb. SMR.

[9] If analyzed during the annual reporting period, the monitoring parameters for Five-Year COCs (see Attachments B through E) shall be included in the graphs as well.

in digital format as "...the form necessary for..." statistical analysis [Title 27, section 20420(h)], that facilitates periodic review by the Central Valley Water Board.

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 which may be needed to bring the Discharger into full compliance with the waste discharge requirements.

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

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

3. **Seep Reporting**—Upon discovery of seepage from any disposal area within the Facility, the Dischargers shall **immediately** report such seepage to the Central Valley Water Board via telephone or email; and **within seven days**, submit a written report with the following information:

a. Map(s) depicting the location(s) of seepage;

b. Estimated flow rate(s);

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 III of this MRP, and an estimated date that the results will be submitted to the Central Valley Water Board; and

e. Corrective measures underway or proposed, and corresponding time schedule.

4. **Annual Facility Inspection Report**—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. Refer to **Section B.2** of this MRP, above.

5. **Major Storm Event Reports**—Immediately following each post-storm inspection described in **Section 0** of this MRP, the Dischargers shall notify Following major storm events capable of causing damage or significant erosion, the Discharger immediately shall notify Central Valley Water Board staff of any damage or significant erosion upon discovery and report subsequent repairs within 14 days of completion of the repairs, including photographs of the problem and the repairs.

6. **Survey and Iso-Settlement Map (Closed Landfill Units)**—The Discharger shall submit all iso-settlement maps prepared in accordance with **Section 0** of this MRP. (See Title 27, § 21090, subd. (e).) The next maps are due on 1 February 2021 with the 2020 Annual Monitoring Report.

7. **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 closure, post-closure maintenance, and corrective action. (See WDRs Order, § 0.)

E. Water Quality Protection Standard (WQPS)

1. WQPS Components

a. For <u>each WMU</u>, the WQPS shall consist of:

i. All Constituents of Concern (COCs);

ii. The concentration limit applicable for each COC;

iii. The verification retesting procedure to confirm measurably significant evidence of a release;

iv. The point of compliance; and

v. All water quality monitoring points for each monitored medium.

b. For <u>naturally occurring constituents</u>, the WQPS shall consist of:

i. Naturally occurring COCs;

ii. The concentration limits of each naturally occurring COC;

iii. The point of compliance; and

iv. All monitoring points.

2. WQPS Report

a. Any proposed changes to the WQPS, other than annual update of the concentration limits, shall be submitted in a WQPS Report for review and approval.

b. The WQPS report shall:

i. Identify all distinct bodies of surface water and groundwater that could be affected in the event of a release from a waste management unit 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.

ii. 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.

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

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

v. Include a retesting procedure to confirm or deny measurably significant evidence of a release (See Title 27, §§ 20415, subd. (e)(8)(E), 20420, subds. (j)(1)-(3).

c. 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 Dischargers may request modification of the WQPS.

d. The Discharger proposed the methods for calculating concentration limits in the 2018 WQPS Report.

e. The limits are calculated using Interwell tolerance limits at 95% confidence and 95% coverage based on background data from background monitoring well MW-5.

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

3. Monitoring Parameters—A select group of constituents monitored during each sampling event, monitoring parameters are the waste constituents, reaction products, hazardous constituents and physical parameters that provide a reliable indication of a release from a given WMU.

The monitoring parameters are listed in Tables 7 – 10 (groundwater), and Tables 11 – 12 (surface water).

4. 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 waste management unit, and are required to be monitored every five years. (See Title 27, §§ 20395, 20420(g).)

The COCs for all WMUs at the facility are those listed in Attachments B through E for the specified monitored medium. 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 2019 Annual Monitoring Report, and 5-year COCs are due to be monitored again in 2024.

5. Concentration Limits

a. The concentration limit of each naturally occurring COC shall be determining

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

ii. By an alternate statistical method in accordance with Title 27, section 20415, subdivision (e)(8)(E).

b. The methods for calculating concentration limits were included in the 2018 WQPS Report. The approved method uses Interwell tolerance limits at 95% confidence and 95% coverage based on background data from background monitoring well MW-5.

c. The most recent concentration limits for select parameters as reported in the 2018 Annual Monitoring Report were as follows:

Table 17—Concentration Limits for Parameters in Background Well MW-5 (2018 AMR)

Constituents	Concentration Limit
pH (std. units)	6.5-8.5
EC (µmhos/cm)	To be determined
Alkalinity, Bicarbonate (mg/L)	160
Iron, dissolved (mg/L)	To be determined
Chloride (mg/L)	9.7
Nitrate (N) as Nitrogen (mg/L)	0.66
Sulfate as SO4 (mg/L)	7.7
TDS (mg/L)	270
Calcium, dissolved (mg/L)	35
Magnesium, dissolved (mg/L)	19
Manganese, dissolved (mg/L)	To be determined
Sodium, dissolved (mg/L)	16
Potassium, dissolved (mg/L)	2.0
VOCs, Semi-VOCs, Chlorophenoxy Herbicides, and Organophosphorus Compounds	Non-Detect

6. **Retesting Procedures to Confirm Release**—If monitoring results indicate measurably significant evidence of a release per Section I.45 of the SPRRs, the Dischargers shall:

   a. For analytes that are detected in less than 10% 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% 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.

7. **Point of Compliance (POC)**—For purposes of the WQPS, the POC of each WMU shall be the vertical surface located at the hydraulically down-gradient limit extending through the uppermost underlying aquifer. The following are monitoring locations at the point of compliance:

Table 18—Point of Compliance Monitoring Wells

Cell / Module	Monitoring Wells
LF-1	MW-3, MW-4, MW-8
LF-2	MW-1, MW-2, MW-7

8. **Monitoring Points**

   a. Additional groundwater monitoring points include MW-5, an upgradient background monitoring well and MW-6, a monitoring well side-gradient to landfill Unit LF-2.

F. Compliance Period

1. The compliance period for each WMU 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 WMU. The compliance period shall restart each time the Discharger initiates an evaluation monitoring program. (See Title 27, § 20410.)

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order may result in the assessment of Administrative Civil Liability of up to $10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including sections 13268, 13350 and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

Any person aggrieved by this Central Valley Water Board action may petition the State Water Board for review in accordance with Water Code section 13320 and California Code of Regulations, title 23, section 2050 et seq. The State Water Board must receive the petition by 5:00 p.m. on the 30th day after the date of this Order; if the 30th 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 the Internet (at the address below), and will be provided upon request.

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

Order Attachments

Attachment A— Volatile Organic Compounds, Short List
Attachment B— Dissolved Organics (5-Year COCs)
Attachment C— Volatile Organic Compounds, Extended List (5 Year COCs)
Attachment D— Semi-Volatile Organic Compounds (5-Year COCs)
Attachment E— Chlorophenoxy Herbicides and Organophosphorus Compounds (5 Year COCs)
Attachment F— Surrogates for Metallic Constituents of Concern

MRP GLOSSARY

bgs	Below Ground Surface
BLM	U.S. Department of Interior, Bureau of Land Management
BOD	Biological Oxygen Demand
CAP	Corrective Action Program
CAMP	Corrective Action Monitoring Program
COCs	Constituents of Concern
DMP	Detection Monitoring Program
EC	Electrical Conductivity
EMP	Evaluation Monitoring Plan
LCRS	Leachate Collection and Removal System
LFG	Landfill Gas
MDL	Method Detection Limit
µg/L	Micrograms per Liter
mg/L	Milligrams per Liter
MSL	Mean Sea Level
MRP	Monitoring and Reporting Program
MW	Monitoring Well
SPRRs	Standard Provisions and Reporting Requirements
Subtitle D	USEPA-promulgated MSW regulations under RCRA (see 40 C.F.R. part 258)
RCRA	Resource Conservation and Recovery Act
ROWD	Report of Waste Discharge
TDS	Total Dissolved Solids

GLOSSARY

Title 22 .....California Code of Regulations, Title 22

Title 23 .....California Code of Regulations, Title 23

Title 27 .....California Code of Regulations, Title 27

USEPA.....United States Environmental Protection Agency

VOCs.....Volatile Organic Compounds

WDRs.....Waste Discharge Requirements

WMU .....Waste Management Unit

WQPS .....Water Quality Protection Standard

MRP ATTACHMENT A—VOLATILE ORGANIC COMPOUNDS, SHORT LIST

Volatile Organic Compounds—Short List USEPA Method 8260B	GeoTracker Code
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

MRP ATTACHMENT A—ADDITIONAL PARAMETERS FOR ALL DETECTION MONITORING PROGRAMS

Volatile Organic Compounds—Short List USEPA Method 8260B	GeoTracker Code
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
Methylene bromide (Dibromomethane)	DBMA
Methylene chloride (Dichloromethane)	DCMA
Methyl ethyl ketone (MEK: 2-Butanone)	MEK
Methyl iodide (Iodomethane)	IME

MRP ATTACHMENT A—ADDITIONAL PARAMETERS FOR ALL DETECTION MONITORING PROGRAMS

Volatile Organic Compounds—Short List USEPA Method 8260B	GeoTracker Code
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

MRP ATTACHMENT B—DISSOLVED ORGANICS (5-YEAR COCs)

Constituent	GeoTracker Code	USEPA Method
Aluminum	AL	6010
Antimony	SB	7041
Barium	BA	6010
Beryllium	BE	6010
Cadmium	CD	7131A
Chromium	CR	6010
Cobalt	CO	6010
Copper	CU	6010
Silver	AG	6010
Tin	SN	6010
Vanadium	V	6010
Zinc	ZN	6010
Iron	FE	6010
Manganese	MN	6010
Arsenic	AS	7062
Lead	PB	7421
Mercury	HG	7470A
Nickel	NI	7521
Selenium	SE	7742
Thallium	TL	7841
Cyanide	CN	9010C
Sulfide	S	9030B

MRP ATTACHMENT C—VOLATILE ORGANIC COMPOUNDS, EXTENDED LIST (5-YEAR COCs)

Volatile Organic Compounds USEPA Method 8260, Extended List	**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
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

MRP ATTACHMENT C—VOLATILE ORGANIC COMPOUNDS, EXTENDED LIST (5-YEAR COCS)

Volatile Organic Compounds USEPA Method 8260, Extended List	**GeoTracker Code**
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
1,2,3-Trichloropropane	TCPR123
Vinyl acetate	VA
Vinyl chloride (Chloroethene)	VC
Xylene (total)	XYLENES

MRP ATTACHMENT D—SEMI-VOLATILE ORGANIC COMPOUNDS (5-YEAR COCs)

Semi-Volatile Organic Compounds, [Five-Year COCs]

Semi-Volatile Organic Compounds USEPA Methods 8270C or 8270D (Base, Neutral & Acid Extractables)	**GeoTracker Code**
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

MRP ATTACHMENT D—SEMI-VOLATILE ORGANIC COMPOUNDS (5-YEAR COCs)

Semi-Volatile Organic Compounds USEPA Methods 8270C or 8270D (Base, Neutral & Acid Extractables)	**GeoTracker Code**
4,4'-DDT	DDT44
Diallate	DIALLATE
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

MRP ATTACHMENT D—SEMI-VOLATILE ORGANIC COMPOUNDS (5-YEAR COCs)

Semi-Volatile Organic Compounds USEPA Methods 8270C or 8270D (Base, Neutral & Acid Extractables)	**GeoTracker Code**
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
2-Naphthylamine	AMINONAPH2
o-Nitroaniline (2-Nitroaniline)	NO2ANIL2
m-Nitroaniline (3-Nitroaniline)	NO2ANIL3
p-Nitroaniline (4-Nitroaniline)	NO2ANIL4
Nitrobenzene	NO2BZ
p-Nitrophenol (4-Nitrophenol)	NTPH4
o-Nitrophenol (2-Nitrophenol)	NTPH2
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

MRP ATTACHMENT D—SEMI-VOLATILE ORGANIC COMPOUNDS (5-YEAR COCs)

Semi-Volatile Organic Compounds USEPA Methods 8270C or 8270D (Base, Neutral & Acid Extractables)	**GeoTracker Code**
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

MRP ATTACHMENT E—CHLOROPHENOXY HERBICIDES AND ORGANOPHOSPHORUS COMPOUNDS (5-YEAR COCs)

Chlorophenoxy Herbicides USEPA Method 8151A	GeoTracker Code
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	GeoTracker Code
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

MRP ATTACHMENT F—SURROGATES FOR METALLIC CONSTITUENTS OF CONCERN

Surrogates for Metallic Constituents of Concern	GeoTracker Code
pH	PH
Total Dissolved Solids	TDS
Electrical Conductivity	SC
Chloride	CL
Sulfate	S04
Nitrate–Nitrogen	NO3N

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

Waste Discharge Requirements Order R5-2020-0026

Waste Discharge Requirements
For
YUBA COUNTY DEPARTMENT OF PUBLIC WORKS
AND
U.S. DEPARTMENT OF INTERIOR, BUREAU OF LAND MANAGEMENT
Ponderosa Landfill
Yuba County

INFORMATION SHEET

The Yuba County Department of Public Works owns the Ponderosa Landfill (Facility), which is located at 17219 Ponderosa Way, approximately one mile southwest of the unincorporated town of Brownsville in Yuba County. The 16-acre Facility is on a 40-acre public lands parcel leased from the United States Bureau of Land Management (BLM), Central California District. Yuba County Department of Public Works, as the closed Facility's owner, and BLM as the landowner are each jointly responsible for compliance with this Order. The 16-acre Facility includes two unlined landfill waste management units (WMU) LF-1 and LF-2, a borrow area, a sedimentation basin, drainage facilities, access roads, and a transfer station.

The landfill units include Landfill 1 (LF- 1), a 3-acre WMU in the northern part of the site, and Landfill 2 (LF-2), a 5-acre WMU in the southern part of the site. LF-1 operated as a trench-fill burn dump from 1967 to 1973 and may have subsequently accepted municipal solid waste (MSW) for a period of time concurrent with LF-2. LF-2 operated from 1973 to 1992, accepting primarily MSW, demolition debris and tires.

The Facility ceased accepting wastes in 1992 upon construction and startup of an onsite transfer station. All municipal refuse has since been transported to the Ostrom Road Landfill in Marysville. Both landfills (LF-1 and LF-2) were closed with a low permeability clay cover in December 1995.

This Order encompasses the post-closure maintenance and corrective action associated with the closed WMUs LF-1 and LF-2.

STANDARD PROVISIONS AND REPORTING REQUIREMENTS

(DECEMBER 2015)

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)].