

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2012-XXXX

WASTE DISCHARGE REQUIREMENTS
FOR
COUNTY OF KERN
TAFT RECYCLING AND SANITARY LANDFILL
CLASS III MUNICIPAL SOLID WASTE LANDFILL
CONSTRUCTION, OPERATION, AND CORRECTIVE ACTION
KERN COUNTY

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

1. The County of Kern (hereinafter Discharger) owns and operates the Taft Recycling and Sanitary Landfill (facility) about three miles north of the City of Taft, in Section 25, T31S, R23E, MDB&M, as shown in Attachment A, which is incorporated herein and made part of this Order by reference. The facility is a municipal solid waste (MSW) landfill regulated under authority given in the California Water Code, Section 13000 et seq.; California Code of Regulations, Title 27 ("Title 27"), Section 20005 et seq.; and Title 40, Code of Federal Regulations (40 CFR) Section 258 (a.k.a, "Subtitle D") in accordance with State Water Resources Control Board (State Water Board) Resolution 93-62.
2. The facility is on a 161.68-acre property at 13351 Elk Hills Road, Taft. The permitted landfill area is approximately 85. The facility contains one existing unlined waste

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

management unit covering 35 acres. The existing and future permitted landfill area is shown in Attachment B, which is incorporated herein and made part of this Order by reference. The facility is comprised of Assessor’s Parcel Number (APN) 298-050-44.

3. On 3 February 2011, the Discharger submitted an amended Report of Waste Discharge (ROWD) as part of the Joint Technical Document (JTD) for the landfill. The information in the ROWD/JTD has been used in revising these waste discharge requirements (WDRs). The ROWD contains the applicable information required in Title 27. The ROWD/JTD and supporting documents contain information related to this revision of the WDRs including:

- a. accepting treated wood waste
- b. landfill expansion and height increase
- c. approval of an engineered alternative liner
- d. corrective action

4. On 14 June 2001, the Central Valley Water Board issued Order No. 5-01-160 in which the landfill waste management unit was classified as a Class III unit for the discharge of municipal solid waste. This Order continues to classify the landfill unit as a Class III unit in accordance with Title 27.

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

<u>Unit</u>	<u>Area</u>	<u>Liner/LCRS¹ Components²</u>	<u>Unit Classification & Status</u>
Module 1	35 acres ³	Unlined	Class III, active

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

<u>Unit</u>	<u>Area</u>	<u>Liner/LCRS¹ Components²</u>	<u>Unit Classification & Status</u>
Module 2	13 acres ³	Geocomposite Clay Liner, 60-mil High Density Polyethylene Membrane, Granular LCRS	Class III, future
Module 3	11 acres ³	Geocomposite Clay Liner, 60-mil High Density Polyethylene Membrane, Granular LCRS	Class III, future
Module 4	12 acres ³	Geocomposite Clay Liner, 60-mil High Density Polyethylene Membrane, Granular LCRS	Class III, future

¹ LCRS - Leachate collection and removal system

² All liner systems are composite liner systems unless otherwise noted

³ As-built measurements may be different due to changes in design and/or operational efficiency

6. On 9 October 1991, the United States Environmental Protection Agency (USEPA) promulgated federal MSW regulations under the Resource Conservation and Recovery Act (RCRA), Subtitle D. These regulations are under 40 Code of Federal Regulations section 258, and are hereafter referred to as either "Subtitle D" in reference to the RCRA federal law that required the regulations or "40 C.F.R. section 258.XX". These regulations apply to all California Class II and Class III landfills that accept MSW. State Water Board Resolution 93-62 requires the Central Valley Water Board to implement in WDRs for MSW landfills the applicable provisions of the federal MSW regulations that are necessary to protect water quality, and in particular the containment provisions and the provisions that are either more stringent or that do not exist in Title 27.

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

7. This Order implements the applicable regulations for discharges of solid waste to land through Prohibitions, Specifications, Provisions, and monitoring and reporting requirements. Prohibitions, Specifications, and Provisions are listed in Sections A through H of these WDRs below, and in the Standard Provisions and Reporting Requirements (SPRRs) dated January 2012, which are attached hereto and made part of this Order by reference. Monitoring and reporting requirements are included in the Monitoring and Reporting Program (MRP) No. R5-2012-XXXX and in the SPRRs. In general, requirements that are either in regulation or otherwise apply to all MSW landfills are considered to be “standard” and are therefore in the SPRRs. Any site-specific changes to a requirement in the SPRRs are included in the applicable section (A through H) of these WDRs, and the requirement in the WDRs supersedes the requirement in the SPRRs.
8. Title 27 contains regulatory standards for discharges of solid waste promulgated by the State Water Board and the California Department of Resources Recovery and Recycling (CalRecycle). In certain instances, this Order cites CalRecycle regulatory sections. Title 27, section 20012 allows the Central Valley Water Board to cite CalRecycle regulations from Title 27 where necessary to protect water quality provided it does not duplicate or conflict with actions taken by the Local Enforcement Agency in charge of implementing CalRecycle’s regulations.

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

WASTE CLASSIFICATION AND UNIT CLASSIFICATION

9. The Discharger proposes to continue to discharge nonhazardous solid waste, including municipal solid waste, to lined and unlined modules of the Class III landfill unit at the facility. These classified wastes may be discharged only in accordance with Title 27, Resolution 93-62, and Subtitle D as required by this Order.

10. The active unlined module of the landfill unit at the facility is an “existing unit” under Title 27 that was permitted before 27 November 1984 and may continue to accept waste within the “Existing Footprint” until ready for closure unless waste receipts do not meet the timeframes and amounts in Title 27, section 21110, or it is required to close sooner to address environmental impacts or other regulatory concerns. The “Existing Footprint” as defined in Title 27, section 20164 is the area that was covered by waste as of the date that the landfill unit became subject to Subtitle D. The Existing Footprint for the active unlined area of the landfill is shown on Attachment B.

11. The Discharger proposes to discharge treated wood waste in the composite-lined units at the landfill. Title 22 defines “treated wood” to mean wood that has been treated with a chemical preservative for purposes of protecting the wood against attacks from insects, microorganisms, fungi, and other environmental conditions that can lead to decay of the wood and the chemical preservative is registered pursuant to the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. Sec. 136 and following). This may include but is not limited to waste wood that has been treated with chromated copper arsenate (CCA), pentachlorophenol, creosote, acid copper chromate (ACC), ammoniacal copper arsenate (ACA), ammoniacal copper zinc arsenate (ACZA), or chromated zinc chloride (CZC).

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

12. Title 22, section 67386.11 allows treated wood waste to be discharged to a composite-lined portion of a MSW landfill that is regulated by WDRs issued pursuant to the Water Code provided that the landfill owner/operator:

a. Comply with the prohibitions in Title 22, section 67386.3, which are:

- i. Treated wood waste shall not be burned, scavenged, commingled with other waste prior to disposal, stored in contact with the ground, recycled without treatment (except as in iii, below), treated except in compliance with Title 22, section 67386.10, or discharged to land except in compliance with Title 22, section 67386.11.
- ii. Any label or mark that identifies the wood and treated wood waste shall not be removed, defaced, or destroyed.
- iii. Treated wood waste may be recycled only by reuse when all of the following apply:

(1) Reuse is on-site.

(2) Reuse is consistent with FIFRA approved use of the preservative.

(3) Prior to reuse, treated wood waste is handled in compliance with Title 22, division 4.5, chapter 34.

b. Ensure treated wood waste is managed at the landfill according to Title 22, division 4.5, chapter 34 prior to disposal.

c. Monitor the landfill for a release and if a verified release is detected from portion of the unit where treated wood is discharged, the disposal of treated wood will be

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

terminated at the unit with the verified release until corrective action ceases the release.

d. Handle treated wood waste in a manner consistent with the applicable sections of the California Occupational Safety and Health Act of 1973.

13. Title 27, section 20690 allows the use of alternative daily cover (ADC) at MSW landfills upon approval by the Local Enforcement Agency (LEA) and concurrence from CalRecycle. Title 27, section 20705 provides the Central Valley Water Board's regulations for all daily and intermediate cover including that it shall minimize the percolation of liquids through waste and that the cover shall consist of materials that meet the landfill unit classification (Class II or Class III). The regulations also require that for non-composite lined portions of the landfill, that any contaminants in the daily or intermediate cover are mobilized only at concentrations that would not adversely affect beneficial uses of waters of the state in the event of a release. For composite-lined portions of the landfill, the regulations require that constituents and breakdown products in the cover material are listed in the water quality protection standard.

14. The Discharger uses tarps, and greenwaste for ADC: The Discharger has demonstrated that these materials will minimize percolation of liquids through waste, that they meet the unit classification where they will be discharged, and that the constituents and breakdown products are included in the water quality protection standard.

15. Landfills propose new ADC materials regularly in order to preserve landfill air space and to beneficially reuse waste materials. Title 27, section 20686 includes regulations for beneficial reuse, including use of ADC. Approval of ADC is primarily handled by the LEA and CalRecycle under Title 27, section 20690. This Order allows any ADC proposed for use at the facility after the adoption of this Order to be approved by

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

Central Valley Water Board staff provided the Discharger has demonstrated it meets the requirements in Title 27, section 20705. The approved ADC materials should then be listed in the facility's WDRs during the next regular update or revision. This Order also includes a requirement that ADC only be used in internal areas of the landfill unless the Discharger demonstrates that runoff from the particular ADC is not a threat to surface water quality. The demonstration can take sedimentation basins into account.

16. The Discharger proposes to return leachate and landfill gas condensate to the composite-lined landfill units from which they came. Title 27, section 20340(g) requires that leachate be returned to the unit from which it came or be discharged in a manner approved by the Central Valley Water Board. This section of Title 27 also references State Water Board Resolution 93-62 regarding liquids restrictions in 40 C.F.R. section 258.28 for MSW landfills. Section 258.28 of 40 C.F.R. states that liquid waste may not be placed in MSW landfill units unless the waste is leachate or gas condensate derived from the landfill unit and it is designed with a composite liner and an LCRS. Therefore, leachate and landfill gas condensate from composite lined units with an LCRS may be returned to the unit from which they came. This Order includes requirements for returning leachate and landfill gas condensate back to composite-lined units such that the liquid waste is not exposed to surface water runoff, will not cause instability of the landfill, and will not seep from the edges of the units.

SITE DESCRIPTION

17. The waste management facility is located in the southwestern portion of the San Joaquin Valley. The ground surface in the vicinity of the facility slopes to the northeast with natural elevations ranging from 600 to 700 feet above mean sea level (msl). There are no natural surface waters within one mile of the facility.

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

18. Land uses within one mile of the facility include petroleum extraction to the north, south, and west; and mineral and petroleum extraction to the east.
19. There are no municipal, domestic, industrial, or agricultural groundwater supply wells within one mile of the facility.
20. The geology of the southern San Joaquin Valley is characterized by structural deformation associated with the tectonics of the continental margin, including movement along the San Andreas Fault. The facility is located on the northeast flank of the Buena Vista Hills anticline and is underlain by Pleistocene age unconsolidated non-marine sediments of the Upper Tulare Formation.
21. The measured hydraulic conductivity of the native soils underlying the Unit is approximately 5×10^{-2} centimeters per second (cm/s).
22. Based on a site-specific seismic analysis, the controlling maximum probable earthquake (MPE) for the site is a moment of magnitude 7.8 event along the San Andreas Fault at a closest rupture distance of 11.7 miles from the site. It is estimated that a MPE event would produce a peak ground acceleration of 0.21 g at the site.
23. The facility receives an average of 5.0 inches of precipitation per year and the mean pan evaporation is 58.5 inches per year as measured at the State of California Department of Water Resources Belridge Station.
24. The 100-year, 24-hour precipitation event for the facility is estimated to be 2.5 inches, based on the *Kern County Hydrology Manual* dated 1992.

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

25. The waste management facility is not within a 100-year flood plain based on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map, Community-Panel Number 06029C2650E.
26. A stormwater retention basin is located southeast of Module 1 as shown on Attachment B. The basin retains storm water on-site during the rainy season and is normally dry during the summer months. Additional retention and/or detention basins will be constructed in the future as the waste management unit expands in area.

SURFACE WATER AND GROUNDWATER CONDITIONS

27. The *Water Quality Control Plan for the Tulare Lake Basin, Second Edition* (hereafter Basin Plan), designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin.
28. Surface water drainage from the site is to Buena Vista Creek in the Taft Hydrologic Area (557.20) of the Tulare Lake Basin. Surface waters in the Taft Hydrologic Area are designated as Valley Floor Waters in the Basin Plan.
29. The designated beneficial uses of Valley Floor Waters, as specified in the Basin Plan, are agricultural supply, industrial service and process supply, water contact and non-contact water recreation, warm fresh water habitat, preservation of rare, threatened and endangered species, and groundwater recharge.
30. The first encountered groundwater ranges from about 410 feet to 480 feet below the native ground surface. Groundwater elevations range from about 237 feet MSL to 238 feet MSL.

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

31. Monitoring data indicate background groundwater quality for first encountered groundwater has electrical conductivity (EC) ranging between 6,250 and 7,230 micromhos/cm, with total dissolved solids (TDS) ranging between 3,500 and 4,500 milligrams per liter (mg/L).
32. The groundwater gradient is shallow and slight changes in groundwater elevation cause variability in the flow direction. The direction of groundwater flow varies mainly between the southeast and the southwest. The average groundwater gradient is approximately 0.001 feet per foot and the average groundwater velocity is approximately 138 feet per year.
33. The facility is in the Kern County Basin Hydrologic Unit, Detailed Analysis Unit (DAU) 260. The designated beneficial uses of the groundwater, as specified in the Basin Plan for DAU 260, are municipal and domestic water supply and industrial service supply.

GROUNDWATER AND UNSATURATED ZONE MONITORING

34. The existing groundwater monitoring network for the landfill unit consists of background monitoring well TA1-04, and detection monitoring wells TA1-03, TA1-08, TA1-09, TA1-10, TA1-11, and TA1-12 as shown on Attachment B.
35. The Discharger's detection monitoring program for groundwater at the landfill satisfies the requirements contained in Title 27.
36. Volatile organic compounds (VOCs) are often detected in a release from a MSW landfill and are often associated with releases of landfill gas rather than leachate. Since volatile organic compounds are not naturally occurring and thus have no background value, they are not amenable to the statistical analysis procedures contained in Title 27 for the determination of a release of wastes from a landfill unit. Title 27, sections 20415(e)(8) and (9) allows the use of a non-statistical evaluation of monitoring data that will provide

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

the best assurance of the earliest possible detection of a release from a landfill unit in accordance with Title 27, sections 20415(b)(1)(B)2.-4. However, Title 27 does not specify a specific method for non-statistical evaluation of monitoring data.

37. The Central Valley Water Board may specify a non-statistical data analysis method pursuant to Title 27, section 20080(a)(1). Water Code section 13360(a)(1) allows the Central Valley Water Board to specify requirements to protect groundwater or surface waters from leakage from a solid waste site, which includes a method to provide the best assurance of determining the earliest possible detection of a release.
38. In order to provide the best assurance of the earliest possible detection of a release of non-naturally occurring waste constituents from a landfill unit, the SPRRs specify a non-statistical method for the evaluation of monitoring data for non-naturally occurring compounds. The specified non-statistical method for evaluation of monitoring data provides two criteria (or triggers) for making the determination that there has been a release of non-naturally occurring waste constituents from a landfill unit. The presence of two non-naturally occurring waste constituents above their respective method detection limit (MDL), or one non-naturally occurring waste constituent detected above its practical quantitation limit (PQL) [a.k.a, laboratory reporting limit (RL)], indicates that a release of waste from a Unit has occurred. Following an indication of a release, verification testing must be conducted to determine whether there has been a release from the landfill unit or the detection was a false detection. The detection of two non-naturally occurring waste constituents above the MDL as a trigger is appropriate due to the higher risk of false-positive analytical results and the corresponding increase in sampling and analytical expenses from the use of one non-naturally occurring waste constituent above its MDL as a trigger.

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

39. For a naturally occurring constituent of concern, the Title 27 requires concentration limits for each constituent of concern be determined as follows:
- a. By calculation in accordance with a statistical method pursuant to Title 27, section 20415(e)(8); or
 - b. By an alternate statistical method meeting the requirements of Title 27, section 20415(e)(8)(E).
40. The Discharger submitted a Water Quality Protection Standard (WQPS) report in 1998 and updated the report in June 2004. The WQPS report proposed statistical data analysis methods to calculate concentration limits for each monitored constituent in accordance with Title 27. The WQPS and approved data evaluation methods are included in MRP No. R5-2012-XXXX.

GROUNDWATER DEGRADATION AND CORRECTIVE ACTION

41. Organic compounds that are not naturally occurring have been detected in groundwater along the point of compliance. Tetrachloroethene (PCE) has been regularly detected in groundwater samples at concentrations above the practical quantitation limit in monitoring wells TA1-10 and TA1-11. Trichloroethene (TCE), dichlorofluoromethane (Freon 11), and dichlorodifluoromethane (Freon 12) have been detected in compliance well samples at concentrations below the practical quantitation limit but above the method detection limit.
42. The Discharger submitted an Evaluation Monitoring Program Report on 12 September 2011. The nature of the release was demonstrated to be volatile organic compounds that originated from landfill gas. The extent of the release plume is limited to the immediate vicinity of monitoring wells TA1-10 and TA1-11.

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

43. In October 2011, the Discharger submitted an Engineering Feasibility Study in accordance with Section 20425(c) of Title 27. The Engineering Feasibility Study concluded that the most technically and economically feasible corrective action alternative is monitored natural attenuation.
44. On 21 October 2011, the Discharger submitted an amended ROWD in compliance with Title 27, Section 20425(d)(2). The Amended ROWD included an assessment of the nature and extent of the release, a proposed WQPS, a description of proposed corrective action measures to be taken to achieve compliance with the proposed WQPS, and monitoring and contingency plans that will demonstrate the effectiveness of the proposed corrective action.

LINER PERFORMANCE DEMONSTRATION

45. On 15 September 2000 the Central Valley Water Board adopted Resolution No. 5-00-213 *Request For The State Water Resources Control Board To Review The Adequacy Of The Prescriptive Design Requirements For Landfill Waste Containment Systems To Meet The Performance Standards Of Title 27*. The State Water Board responded, in part, that “a single composite liner system continues to be an adequate minimum standard” however, the Central Valley Water Board “should require a more stringent design in a case where it determines that the minimum design will not provide adequate protection to a given body of groundwater.”

In a letter dated 17 April 2001, the Executive Officer notified Owners and Operators of Solid Waste Landfills that “the Board will require a demonstration that any proposed landfill liner system to be constructed after 1 January 2002 will comply with Title 27 performance standards. A thorough evaluation of site-specific factors and cost/benefit analysis of single, double, and triple composite liners will likely be necessary.”

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

46. The performance evaluation submitted by the Discharger compared the proposed liner system for Module 2 and all future modules to the previously-approved liner system of the same design at the Shafter-Wasco Sanitary Landfill (SWSL). The evaluation argued that if the proposed liner design has been demonstrated to meet the performance criteria of Title 27 at the SWSL, then it will also meet the Title 27 performance criteria at Taft. This argument is based on a comparison of waste characteristics and hydrogeology of each site. Each landfill only accepts municipal solid waste, inert wastes, and dead animals. Moisture studies were conducted at each landfill. The SWSL had an average waste moisture of 19.6 percent and Taft had an average waste moisture of 12.2 percent, indicating relatively dry waste at each landfill.

A comparison of the hydrogeology at each landfill showed the following:

- The unsaturated zone thickness at Taft is approximately 300 feet compared to 14.5 feet at the SWSL.
- The aquifer thickness at Taft is approximately 500 feet and approximately 28 feet at the SWSL.
- The groundwater gradient at Taft is .001 feet per foot and the groundwater gradient at the SWSL is .002 feet per foot.
- The saturated hydraulic conductivity of the soils beneath Taft is about 20 percent greater than the soils beneath the SWSL.
- Groundwater at Taft has total dissolved solids, chloride, and sulfate background concentrations in excess of the Maximum Contaminant Levels (MCLs) contained in Title 22, California Code of Regulations.
- Groundwater at the SWSL has total dissolved solids and sulfate background concentrations in excess of the MCLs.

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

CONSTRUCTION AND ENGINEERED ALTERNATIVE

47. On 17 June 1993, the State Water Board adopted Resolution 93-62 implementing a State Policy for the construction, monitoring, and operation of municipal solid waste landfills that is consistent with the federal municipal solid waste regulations promulgated under 40 Code of Federal Regulations section 258 (a.k.a, Subtitle D). Resolution 93-62 requires the construction of a specified composite liner system at new municipal solid waste landfills, or expansion areas of existing municipal solid waste landfills, that receive wastes after 9 October 1993. Resolution 93-62 also allows the Central Valley Water Board to consider the approval of engineered alternatives to the prescriptive standard. Section III.A.b. of Resolution 93-62 requires that the engineered alternative liner systems be of a composite design similar to the prescriptive standard.
48. Title 27, section 20080(b) allows the Central Valley Water Board to consider the approval of an engineered alternative to the prescriptive standard. In order to approve an engineered alternative in accordance with Title 27, sections 20080(c)(1) and (2), the Discharger must demonstrate that the prescriptive design is unreasonably and unnecessarily burdensome and will cost substantially more than an alternative which will meet the criteria contained in Title 27, section 20080(b), or would be impractical and would not promote attainment of applicable performance standards. The Discharger must also demonstrate that the proposed engineered alternative liner system is consistent with the performance goal addressed by the particular prescriptive standard, and provides protection against water quality impairment equivalent to the prescriptive standard in accordance with Title 27, section 20080(b)(2).
49. Water Code section 13360(a)(1) allows the Central Valley Water Board to specify the design, type of construction, and/or particular manner in which compliance must be met

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

in waste discharge requirements or orders for the discharge of waste at solid waste disposal facilities.

50. The Discharger proposes a liner system which will be designed, constructed, and operated in accordance with the criteria set forth in Title 27, and the provisions in State Water Board Resolution 93-62 for municipal solid wastes.
51. On 3 February 2011, the Discharger submitted a Report of Waste Discharge requesting approval of an engineered alternative to the prescriptive standard for liner requirements for all future landfill modules at the facility. The engineered alternative liner proposed by the Discharger for the bottom and side slopes of the future landfill modules consists of, in ascending order: an engineered subgrade, a geosynthetic clay liner (GCL), a 60-mil high-density polyethylene (HDPE) geomembrane, and a granular leachate collection and removal system.
52. There is no clay source on-site or nearby and the cost of importing clay from off-site or manufacturing a low-permeability soil would be substantially greater than the alternative design.
53. The Discharger adequately demonstrated that construction of a Subtitle D prescriptive standard liner would be unreasonably and unnecessarily burdensome when compared to the proposed engineered alternative design. The Discharger demonstrated that the proposed engineered alternative is consistent with the performance goals of the prescriptive standard and affords at least equivalent protection against water quality impairment.

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

54. The LCRS constructed for new modules will consist of a twelve-inch thick layer of granular material with a minimum hydraulic conductivity of 1×10^{-2} centimeters per second.
55. A pan lysimeter will be installed beneath each LCRS sump installed during new landfill module construction for the purpose of unsaturated zone monitoring.
56. The unlined Module 1 of the waste management unit was permitted and in operation before 1 July 1991; therefore, it qualifies for exemption of unsaturated zone monitoring based on there being no monitoring device or method designed to operate under the existing subsurface conditions and that installation of unsaturated zone monitoring devices would require unreasonable dismantling or relocating of permanent structures.
57. The January 2011 ROWD includes a stability analysis for the waste management unit pursuant to Title 27, section 21750(f)(5). The Discharger's stability analysis includes 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. The stability analysis demonstrates that the structural components of the waste management unit will withstand the forces of the Maximum Probable Earthquake (MPE) without failure of the containment systems or environmental controls.
58. This Order approves the Discharger's proposed liner system for future modules as described in Finding 5 and requires that the Discharger submit design plans and construction quality assurance (CQA) plans for each new module or modules for review and approval at least 180 days prior to construction.

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

FINANCIAL ASSURANCES

59. Sections 21820 and 22206 of Title 27 require a cost estimate for landfill closure. The cost estimate must be equal to the cost of closing the landfill at the point in its active life when the extent and manner of operation would make closure the most expensive. When closing units in phases, the estimate may account for closing only the maximum area or unit of a landfill open at any time. The Discharger's January 2011 *Preliminary Closure and Post Closure Maintenance Plan* includes a cost estimate for landfill closure. The lump sum estimate is for the cost to close largest future area needing closure at any one time. The total amount of the closure cost estimate in 2011 dollars is \$5,565,753. This Order requires that the Discharger maintain financial assurance with the California Department of Resources Recycling and Recovery (CalRecycle) in at least the amount of the closure cost estimate.
60. Title 27, sections 21840 and 22211 requires a cost estimate for landfill post-closure maintenance. The Discharger's January 2011 *Preliminary Closure and Post Closure Maintenance Plan* includes a cost estimate for landfill post-closure maintenance. The amount of the cost estimate for post-closure maintenance in 2011 dollars is \$2,637,772. This Order requires that the Discharger maintain financial assurance with CalRecycle in at least the amount of the post-closure maintenance cost estimate adjusted annually for inflation.
61. Title 27, section 22221 requires a cost estimate for corrective action of all known or reasonably foreseeable releases. The Discharger's cost estimate for corrective action of all known or reasonably foreseeable releases, adjusted for inflation, is \$415,314. This Order requires that the Discharger maintain financial assurance with the CalRecycle in at least the amount of the cost estimate adjusted annually for inflation.

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

CEQA AND OTHER CONSIDERATIONS

62. On 28 June 2011, the recirculated final environmental impact report for the facility was certified by the Kern County Board of Supervisors. A Notice of Determination was filed on 6 July 2011 in accordance with the California Environmental Quality Act (Public Resources Code section 21000 et seq.) and CEQA guidelines (Title 14, section 15000 et seq.). The Central Valley Water Board considered the environmental impact report and incorporated mitigation measures from the environmental impact report into these waste discharge requirements designed to prevent potentially significant impacts to design facilities and to water quality.

63. This order implements:

- a. *The Water Quality Control Plan for the Tulare Lake Basin, Second Edition*;
- b. The prescriptive standards and performance goals of California Code of Regulations, Title 27, section 20005 et seq., effective 18 July 1997, and subsequent revisions;
- c. State Water Board Resolution 93-62, *Policy for Regulation of Discharges of Municipal Solid Waste*, adopted 17 June 1993, and revised on 21 July 2005.
- d. The applicable provisions of Title 40 C.F.R. section 258 "Subtitle D" federal regulations as required by State Water Board Resolution 93-62.

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

- a. Category 2 threat to water quality, defined as, "Those discharges of waste that could impair the designated beneficial uses of the receiving water, cause short-term

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

violations of water quality objectives, cause secondary drinking water standards to be violated, or cause a nuisance.”

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

65. Water Code section 13267(b) provides that: "In conducting an investigation specified in subdivision (a), the Regional Board may require that any person who has discharged, discharges, or is suspected of having discharge or discharging, or who proposed to discharge within its region, or any citizen or domiciliary, or political agency or entity of this state who had discharged, discharges, or is suspected of having discharged or discharging, or who proposed to discharge waste outside of its region that could affect the quality of the waters of the state within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports.”

66. The technical reports required by this Order and the attached "Monitoring and Reporting Program No. R5-2012-XXXX" are necessary to assure compliance with these waste discharge requirements. The Discharger owns and operates the facility that discharges the waste subject to this Order.

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

PROCEDURAL REQUIREMENTS

67. All local agencies with jurisdiction to regulate land use, solid waste disposal, air pollution, and to protect public health have approved the use of this site for the discharges of waste to land stated herein.
68. The Central Valley Water Board notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge, and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
69. The Central Valley Water Board, in a public meeting, heard and considered all comments pertaining to the discharge.
70. Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date that this Order becomes final, except that if the thirtieth day following the date that this Order becomes final 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 may be found on the Internet at:
- http://www.waterboards.ca.gov/public_notices/petitions/water_quality
- or will be provided upon request.

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

IT IS HEREBY ORDERED, pursuant to California Water Code sections 13263 and 13267, that Order No. 5-01-160 is rescinded except for purposes of enforcement, and that the County of Kern, its agents, successors, and assigns, in order to meet the provisions of Division 7 of the California Water Code and the regulations adopted thereunder, shall comply with the following:

A. PROHIBITIONS

1. The discharge of 'hazardous waste' or 'designated waste' is prohibited. For the purposes of this Order, the term 'hazardous waste' is as defined in California Code of Regulations, Title 23, section 2510 et seq., and 'designated waste' is as defined in Title 27.
2. The Discharger shall comply with all Standard Prohibitions listed in Section C of the Standard Provisions and Reporting Requirements (SPRRs) dated January 2012 which are attached hereto and made part of this Order by reference.

B. DISCHARGE SPECIFICATIONS

1. The Discharger shall only discharge the wastes listed or allowed under the Waste Classification and Unit Classification section in the Findings of this Order.
2. The Discharger shall discharge treated wood wastes only to landfill units equipped with a composite liner system and a leachate collection and removal system (i.e., future modules listed in Finding 5 of this Order). If a verified release is detected from the composite-lined portion of the waste management unit where treated wood is

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

discharged, the disposal of treated wood shall be terminated at the unit with the verified release until corrective action ceases the release.

3. The waste discharged to the initial three feet of all new waste management units or any expansion of the existing waste management unit, as measured from the top of the operations layer of the liner system, shall consist only of "packer waste", excluding waste that would pose a danger of physical damage to the liner system.
4. The Discharger shall manage treated wood waste in accordance with California Health and Safety Code sections 25143.1.5 and 250150.7 and shall comply with all prohibitions listed in Title 22, section 67386.3.
5. The Discharger may not use any material as ADC that is not listed in the Findings of these WDRs unless and until the Discharger has demonstrated that it meets the requirements in Title 27, section 20705, and the Discharger has received approval from the Executive Officer that it may begin using the material as ADC.
6. The Discharger shall use approved ADC only in internal areas of the landfill that do not drain outside of the limits of the contiguous landfill units unless the Discharger demonstrates that runoff from the particular ADC is not a threat to surface water quality and the demonstration has been approved by the Executive Officer. This demonstration may take removal of sediment or suspended solids into account for landfills where surface water drains to a sedimentation basin.
7. The Discharger shall, in a timely manner, remove and relocate any wastes discharged at this facility in violation of this Order. If the Discharger is unable to remove and relocate the waste, the Discharger shall submit a report to the Central Valley Water Board explaining how the discharge occurred, why the waste cannot be removed, and

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

any updates to the waste acceptance program necessary to prevent re-occurrence. If the waste is a hazardous waste, the Discharger shall immediately notify the Department of Toxic Substances Control.

8. Leachate and/or landfill gas condensate may be returned only to future composite lined modules listed in Finding 5 of this Order in accordance with Standard Discharge Specifications D.2 through D.4 of the SPRRs.
9. The Discharger shall comply with all Standard Discharge Specifications listed in Section D of the SPRRs dated January 2012 which are attached hereto and made part of this Order by reference.

C. FACILITY SPECIFICATIONS

1. The Discharger shall comply with all Standard Facility Specifications listed in Section E of the SPRRs dated January 2012 which are part of this Order.

D. CONSTRUCTION SPECIFICATIONS

1. The Discharger shall construct the base liner and side slope liner of new Class III landfill units as described in Finding 5 of this Order in accordance with the following approved engineered alternative liner design:
 - a. An engineered alternative composite **base liner system** that is comprised, in ascending order, of the following:
 - 1) A twelve-inch thick engineered soil foundation layer that shall be constructed of select fine-grained soil materials which shall be compacted in lifts of six inches or less to 90% of maximum dry density and at 0% to 4% wet of optimum

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

moisture content, in accordance with the approved construction quality assurance plan, and shall be either:

- a) Compacted to attain a hydraulic conductivity of 1×10^{-5} cm/sec or less; or
 - b) Meet the following gradation criteria:
 1. A maximum size of 3/8-inch;
 2. At least 30% of the material, by dry weight, passing the No. 200 U.S. Standard sieve; and
 3. A gradation series (i.e., well-graded) that is amenable to compaction.
 - 2) A GCL that shall exhibit appropriate strength characteristics (hydrated) to accommodate stresses associated with specific landfill design parameters, with particular attention to interface, long-term creep shear, and bearing capacity.
 - 3) A 60-mil thick synthetic flexible membrane of HDPE.
 - 4) A minimum 12-inch thick drainage layer composed of granular material with a minimum hydraulic conductivity of 1×10^{-3} centimeters per second (cm/s).
 - 5) A two-foot thick soil operations layer constructed of appropriate material to allow drainage of leachate to and through the LCRS and provide a working surface protective of the LCRS.
- b. An engineered alternative composite **side slope liner system** that is comprised, in ascending order, of the following:

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

- 1) A prepared subgrade that shall be prepared in an appropriate manner using accepted engineering and construction methods 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.
 - 2) A GCL that shall exhibit appropriate strength characteristics to accommodate stresses associated with specific landfill design parameters, with particular attention to interface, long-term creep shear, and bearing capacity.
 - 3) A 60-mil thick synthetic flexible membrane of HDPE.
 - 4) A two-foot thick soil operations/drainage layer constructed of appropriate material to allow drainage of leachate to the LCRS and provide a working surface protective of the underlying liner materials.
2. The Discharger shall not proceed with construction until the construction plans, specifications, and all applicable construction quality assurance plans have been approved.
 3. The Discharger may propose changes to the liner system design prior to construction, provided that approved components are not eliminated, the engineering properties of the components are not substantially reduced, and the proposed liner system results in the protection of water quality equal to or greater than the design prescribed by Title 27 and this Order. The proposed changes may be made following approval by the Executive Officer. Substantive changes to the design require reevaluation as an engineered alternative and approval by the Central Valley Water Board in revised WDRs.

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

4. The Discharger shall comply with all Standard Construction Specifications listed in Section F of the SPRRs dated January 2012 which are attached hereto and made part of this Order by reference.
5. The Discharger shall comply with all Storm Water Provisions listed in Section L of the SPRRs dated January 2012 which are attached hereto and made part of this Order by reference.

E. FINANCIAL ASSURANCE SPECIFICATIONS

1. The Discharger shall obtain and maintain assurances of financial responsibility with CalRecycle for closure and post-closure maintenance for the landfill in at least the amounts described in Findings 58 and 59, adjusted for inflation annually. A report regarding financial assurances for closure and post-closure maintenance shall be submitted to the Central Valley Water Board by **1 June of each year**. This may be the same report that is submitted to CalRecycle for this purpose. If CalRecycle determines that either the amount of coverage or the mechanism is inadequate, then within 90 days of notification, the Discharger shall submit an acceptable mechanism to CalRecycle and the Central Valley Water Board for at least the amount of the approved cost estimate.
2. The Discharger shall update the preliminary closure and post-closure maintenance plan (PCPCMP) any time there is a change that will increase the amount of the closure and/or post-closure maintenance cost estimate. The updated PCPCMP shall be submitted to the Central Valley Water Board, the Local Enforcement Agency, and

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

CalRecycle. The PCPCMP shall meet the requirements of Title 27, section 21769(b), and include a lump sum estimate of the cost of carrying out all actions necessary to close each Unit, to prepare detailed design specifications, to develop the final closure and post-closure maintenance plan, and to carry out the first thirty years of post-closure maintenance. Reports regarding financial assurance required in E.1 above shall reflect the updated cost estimate.

3. The Discharger shall obtain and maintain assurances of financial responsibility with CalRecycle for initiating and completing corrective action for all known or reasonably foreseeable releases from the landfill in at least the amount of the annual inflation-adjusted cost estimate described in Finding 60. A report regarding financial assurances for corrective action shall be submitted to the Central Valley Water Board by **1 June of each year**. This may be the same report that is submitted to CalRecycle for this purpose. If CalRecycle determines that either the amount of coverage or the mechanism is inadequate, then within 90 days of notification, the Discharger shall submit an acceptable mechanism to CalRecycle and the Central Valley Water Board for at least the amount of the approved cost estimate.
4. The Discharger shall comply with all Standard Financial Assurance Specifications listed in Section H of the SPRRs dated January 2012 which are attached hereto and made part of this Order by reference.

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

F. MONITORING SPECIFICATIONS

1. The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater, surface water, and the unsaturated zone, and in accordance with Monitoring and Reporting Program (MRP) No. R5-2012-XXXX, and the Standard Monitoring Specifications listed in Section I of the SPRRs dated January 2012.
2. The Discharger shall, for any landfill unit in a corrective action monitoring program, comply with the corrective action monitoring program provisions of Title 27, MRP No. R5-2012-XXXX, and the Standard Monitoring Specifications listed in Section I of SPRRs dated January 2012.
3. The Discharger shall comply with the Water Quality Protection Standard as specified in this Order, MRP No. R5-2012-XXXX, and the SPRRs dated January 2012.
4. The concentrations of the constituents of concern in waters passing the Point of Compliance (defined pursuant to Title 27, section 20164 as a vertical surface located at the hydraulically downgradient limit of the landfill unit that extends through the uppermost aquifer underlying the unit) shall not exceed the concentration limits established pursuant to MRP No. R5-2012-XXXX.
5. For each monitoring event, the Discharger shall determine whether the landfill is in compliance with the Water Quality Protection Standard using procedures specified in MRP No. R5-2012-XXXX and the Standard Monitoring Specifications in Section I of the SPRRs dated January 2012.
6. The Discharger shall implement a corrective action program pursuant to Section 20430 of Title 27 to remediate the release of waste constituents from the Unit and to

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

ensure compliance with the WQPS. Corrective action shall be performed in accordance with a corrective action plan approved by the Executive Officer.

7. The Discharger shall operate and maintain a groundwater corrective action monitoring system for the purpose of monitoring the nature and extent of the release and the progress of corrective action. Sample collection and analysis shall coincide with Groundwater Detection Monitoring D.1 of Monitoring and Reporting Program No._____.
8. Prior to termination of corrective action measures required under Section 20430(c) of Title 27 and this Order, the discharger shall demonstrate, pursuant to Section 20430(f) of Title 27, that the constituents of the release have been reduced to levels below concentration limits throughout the entire zone affected by the release. During this “proof period”, the Discharger shall demonstrate that:
 - a. The concentration of each constituent in each sample from each monitoring point remained at or below its concentration limit for at least one year, beginning immediately after the suspension of corrective action measures; and
 - b. The individual sampling events for each monitoring point must have been evenly distributed throughout the proof period and have consisted of at least eight sampling events per year per monitoring point.
9. If either the Discharger or the Executive Officer determines that the corrective action program is not adequate (i.e. does not satisfy the provisions of Section 20430 of Title 27), the Discharger shall, within 90 days of making the determination, or of receiving written notification from the Central Valley Water Board of such determination, submit an amended report of waste discharge (RWD) to make appropriate changes to the program. The amended RWD shall include the following:

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

- a. A discussion as to why existing corrective action measures have been ineffective or insufficient.
- b. A revised evaluation monitoring plan if necessary to further assess the nature and extent of the release.
- c. A discussion of corrective action needs and options.
- d. Proposed additional corrective action measures, as necessary, for:
 - 1) Source control,
 - 2) Groundwater cleanup, and/or
 - 3) Landfill gas control.
- e. A plan to monitor the progress of corrective action measures consistent with Monitoring and Reporting Program No. _____.
- f. Cost estimates for implementing additional corrective action, including monitoring.
- g. An implementation schedule.

10. The Discharger shall comply with all Standard Monitoring Specifications and Response to a Release specifications listed in Sections I and J of the SPRRs dated January 2012.

G. PROVISIONS

1. The Discharger shall maintain a copy of this Order at the facility, including the MRP No. R5-2012-XXXX and the SPRRs dated January 2012 which are part of this Order,

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

and make it available at all times to facility operating personnel, who shall be familiar with its contents, and to regulatory agency personnel.

2. The Discharger shall comply with all applicable provisions of Title 27 and Subtitle D that are not specifically referred to in this Order.
3. The Discharger shall comply with MRP No. R5-2012-XXXX, which is incorporated into and made part of this Order by reference.
4. The Discharger shall comply with the applicable portions of the Standard Provisions and Reporting Requirements for Waste Discharge Requirements for Nonhazardous Solid Waste Discharges Regulated by Subtitle D and/or Title 27, dated January 2012, which are attached hereto and made part of this Order by reference.
5. If there is any conflicting or contradictory language between the WDRs, the MRP, or the SPRRs, then language in the WDRs shall supersede either the MRP or the SPRRs, and language in the MRP shall supersede the SPRRs.
6. All reports required by this Order shall be submitted pursuant to Water Code section 13267.
7. The Discharger shall complete the tasks contained in these waste discharge requirements in accordance with the following time schedule:

Task

Compliance Date

A. Construction Plans

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

Submit construction and design plans for review and approval.

90 days prior to proposed construction

(see all Construction Specifications in Section D, above and Section F of the SPRRs.)

B. Construction Report

Submit a construction report for review and approval upon completion demonstrating construction was in accordance with approved construction plans (see Standard Construction Specification F.27 in the SPRRs).

60 days prior to proposed discharge

C. Financial Assurance Review

1. Annual Review of Financial Assurance for initiating and completing corrective action (see Financial Assurance Specification E.1).

1 June each year

2. Annual Review of Financial Assurance for closure and post-closure maintenance (see Financial Assurance Specification E.3).

1 June each year

COUNTY OF KERN

TAFT RECYCLING AND SANITARY LANDFILL

KERN COUNTY

8. The Discharger shall comply with all General Provisions listed in Section K of the SPRRs dated January 2012.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on _____.

PAMELA C. CREEDON, Executive Officer