

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER NO. R5-201X-XXXX

LIQUID WASTE MANAGEMENT, INC.  
McKITTRICK WASTE TREATMENT SITE  
CLASS II DISPOSAL FACILITY  
CONSTRUCTION, OPERATION, AND CLOSURE  
KERN COUNTY

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

1. Liquid Waste Management, Inc. (hereinafter Discharger); a wholly owned subsidiary of USA Waste of California, Inc. (A Delaware Corporation), wholly owned subsidiary of Waste Management, Inc. (a Delaware Corporation); owns and operates the McKittrick Waste Treatment Site (Facility). The Facility is approximately one mile south of the town of McKittrick, in the N ½ of Section 29, T30S, R22E, MDB&M, as shown in Attachment A, which is hereby incorporated into and made part of this Order by this reference. The Facility is a Class II waste disposal site that is regulated under authority given in Water Code section 13000 et seq. and California Code of Regulations, title 27 ("Title 27"), section 20005 et seq.
2. The Facility is on a 90-acre property at the intersection of State Highways 33 and 58. The Facility consists of two parcels (East and West Parcels). The East Parcel comprises 50 acres and the West Parcel 40 acres. State Highway 58 crosses the northwest corner of the West Parcel. The entire East Parcel and the majority of the West Parcel lie south of State Highway 58, approximately 0.25 miles west of the intersection of State Highway 33. The Facility comprises Assessor's Parcel Numbers (APN) 157-240-12 (East Parcel) and 157-240-11 (West Parcel).
3. The existing permitted area for waste disposal is approximately 27.1 acres within the East Parcel, of which approximately 23.4 acres have been developed. The Discharger proposes to expand the waste disposal area by an additional 23.9 acres for a total disposal area of approximately 51 acres. The Facility consists of five lined Class II waste management units ([WMUs] also referred to as "Modules" ) and is proposed to consist of an additional four lined WMUs as shown in Attachment B, which is hereby incorporated into and made part of this Order by this reference.
4. The Facility has been in operation since 1972 and consists of lined Class II WMUs, closed former Class II surface impoundments, a waste water treatment facility, a drum handling facility, a bioremediation facility, support facilities, and a stormwater sedimentation basin. The waste water treatment facility is used to solidify liquid waste prior to disposal. A soil bioremediation facility is currently permitted at the Facility but to date has not been used.
5. On 5 August 2014, the Discharger submitted an amended Report of Waste Discharge (ROWD) as part of the Joint Technical Document (JTD) for the landfill. Staff requested additional information in a 26 September 2014 letter and the final submittal revision to the ROWD/JTD was dated 30 January 2015 and submitted on 18 February 2015. The

information in the ROWD has been used in revising these waste discharge requirements (WDRs). The ROWD contains the applicable information required in Title 27. The ROWD and supporting documents contain information related to the proposed expansion of the permitted waste disposal area by approximately 23.9 acres and proposes the acceptance of treated wood waste.

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

<b><u>WMU</u></b>	<b><u>Area</u></b>	<b><u>Liner/LCRS<sup>1</sup> Components<sup>2</sup></u></b>	<b><u>Unit Classification &amp; Status</u></b>
Module A	6.9 acres	Dewatering system and 60-mil high density polyethylene (HDPE) geomembrane, and compacted fill (to achieve 5-foot separation between groundwater and the base of the liner).  24-inches of compacted clay with a permeability of $1 \times 10^{-6}$ centimeters per second (cm/s); 60-mil HDPE geomembrane; filter/cushion fabric; 12-inch granular LCRS on the base and a geocomposite LCRS on the side slopes; 12-inch operations layer	Class II, active
Module B-1	6.9 acres	12-inch compacted soil foundation; reinforced geosynthetic clay liner (GCL); 60-mil HDPE geomembrane; 12-inch granular LCRS on the base and a geocomposite LCRS on the side slopes; 12-inch operations layer	Class II, active
Module B-2	5.2 acres <sup>3</sup>	Same as Module B-1	Class II, active
Module C-1	3.5 acres	Same as Module B-1	Class II, active
Module C-2			
<i>Phase 1</i>	2.9 acres	Same as Module B-1	Class II, active
<i>Phase 2</i>	2.0 acres	Same as Module B-1	Class II, future
Module D	7.5 acres	12-inch compacted soil foundation; reinforced GCL; 60-mil double-textured HDPE geomembrane; geocomposite LCRS; 12-inch operations layer	Class II, future
Module E	5.6 acres	Same as Module D	Class II, future
Module F	4.8 acres	Same as Module D	Class II, future
Module G	6.0 acres	Same as Module D	Class II, future

<sup>1</sup> LCRS – Leachate collection and removal system. <sup>2</sup> All liner systems are composite liner systems unless otherwise noted. <sup>3</sup> Four acres of Module B-2 have been constructed. The remaining 1.2 acres will be constructed with Module C-2.

7. On 17 October 2003, the Central Valley Water Board issued WDRs Order No. R5-2003-0160 in which the WMUs at the Facility were classified as a Class II units for the discharge of designated waste. This Order continues to classify the WMUs as Class II units in accordance with Title 27. All Class II surface impoundments were later clean closed in accordance with Title 27.
8. 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 I of these WDRs below, and in 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, (SPRRs), which are attached hereto and made part of this Order. Monitoring and reporting requirements are included in the Monitoring and Reporting Program (MRP) No. R5-201X-XXXX and in the SPRRs. In general, requirements that are either in regulation or otherwise apply to all facilities regulated under Title 27 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 I) of these WDRs, and the requirement in the WDRs supersedes the requirement in the SPRRs.
9. 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.

#### **WASTE CLASSIFICATION AND UNIT CLASSIFICATION**

10. The Discharger proposes to continue to discharge designated waste to lined Class II WMUs including primarily the following: scrubber wastes; oily wastes; neutralized acid wastes; drilling muds; treated wood waste; brines, tank bottom sediments; miscellaneous oil field waste; sewage sludge; auto shredder waste; water treatment plant sludge; other wastes and sediments from industries and cleanup projects; visqueen; drums and other rigid containers containing waste; and, nonhazardous waste containing total lead in excess of 350 milligrams per kilogram provided that an extract obtained from the waste contains lead concentration of less than 5 milligrams per liter. Liquid waste is solidified onsite prior to disposal. These classified wastes may be discharged only in accordance with Title 27 as required by this Order.
11. Water Code section 13173 defines "Designated Waste" as either of the following:
  - a. Hazardous waste that has been granted a variance from hazardous waste management requirements pursuant to Health and Safety Code section 25143.

- b. Nonhazardous waste that consists of, or contains, pollutants that, under ambient environmental conditions at a waste management unit, could be released in concentrations exceeding applicable water quality objectives or that could reasonably be expected to affect beneficial uses of the waters of the state as contained in the appropriate state water quality control plan.

Designated waste can be discharged only at Class I waste management units, or at Class II waste management units which comply with Title 27 and have been approved by the regional board for containment of the particular kind of waste to be discharged.

12. The Discharger proposes to continue 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).
13. Title 22, section 67386.11 allows treated wood waste to be discharged to a composite-lined portion of a landfill unit that meets all the requirements applicable to disposal of municipal solid waste in California after October 9, 1993, and 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 disposed 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 the unit where treated wood is discharged, the disposal of treated wood will be 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.
14. Leachate is collected in sumps constructed for each WMU and periodically pumped into a trailer mounted poly-tank. Leachate is profiled, solidified, and disposed of onsite or used for dust control by spraying it over the lined areas of landfill. Leachate may only be applied to the WMU from which it originated. The use of leachate for dust control is not employed during rain events.

### SITE DESCRIPTION

15. The Facility is located within the McKittrick Oil Fields in a bowl-shaped topographically low area in the foothills of the east flank of the Temblor Range. The Temblor Range is part of the Southern Coastal Range and is bordered by the San Andreas fault to the west and the San Joaquin Valley to the east. Ground surface elevations at the Facility range from approximately 1,240 feet to 1,340 feet above mean seal level (msl).
16. Land use within one mile of the Facility is or has been used for oil and gas exploration and production and cattle grazing.
17. There are **no** municipal, domestic, industrial, or agricultural groundwater supply wells within one mile of the Facility.
18. The Facility is underlain by about 12 to 15 feet of fill material or alluvium overlying the Monterey Formation marine shale. The Tulare Formation overlies the Monterey Formation in portions of the western expansion area. Available boring logs indicate that the Monterey Formation is fractured and silicified in the vicinity of the Facility. The McKittrick thrust fault is located along the northeast boundary of the Facility and dips to the southwest. It is a dominant geologic structure and hydrogeologic boundary. The upper portion of the Monterey Formation is generally deeply weathered and highly fractured and is the upper water-bearing zone west of the fault. The younger Ridge Reef Formation consists of weakly consolidated fine- to medium-grained sandstone and is the upper water-bearing zone east of the fault.
19. Folded and fractured Upper Miocene Monterey shale underlies the Facility and has resulted in ubiquitous tar and spring seeps on and around the Facility and primarily along the McKittrick thrust fault. A majority of tar and spring seeps lie to the north along the East and West Parcel lines. Shallow groundwater above an elevation of 1,260 feet msl flows towards the northeast and discharges into nearby springs.

20. The measured hydraulic conductivity of the native soils underlying the waste management units vary between  $4.2 \times 10^{-3}$  cm/s and  $3.7 \times 10^{-7}$  cm/s centimeters per second (cm/s). The higher hydraulic conductivities are representative of the shallow groundwater zone (generally less than 100 feet deep), where groundwater flows in highly fractured and weathered bedrock. The lower hydraulic conductivities are representative of the lower groundwater zone (generally greater than 100-foot deep), where the fracture intensity is much less.
21. Based on a site-specific seismic analysis, the controlling maximum credible earthquake (MCE) for the site is a moment of magnitude 7.8 event along the San Andreas Fault. It is estimated that a MCE event would produce a peak ground acceleration of 0.34 g at the site.
22. The Facility receives an average of 5.50 inches of precipitation per year as measured at the Buttonwillow Station. The mean pan evaporation is 95 inches per year as measured at the Taft KTKR Radio Station.
23. The 1,000-year, 24-hour precipitation event for the Facility is estimated to be 3.9 inches, based on information submitted in *Permit Level Design Report, Western Expansion, McKittrick Waste Treatment Site, Kern County, California*, dated September 2013.
24. The 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 060075-0950 B.

### **SURFACE WATER AND GROUNDWATER CONDITIONS**

25. 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. Groundwater and spring water within a 0.5 mile radius of the Facility are not suitable, or potentially suitable, for municipal or domestic supply.
26. Surface water drainage from the Facility is regulated under the *General Permit to Discharge Storm Water Associated with Industrial Activity* adopted by the State Water Resources Control Board in 1997.
27. Groundwater occurs beneath the Facility in two zones. The first zone (shallow zone) comprises shallow alluvium and shallow weathered and fractured bedrock and the second zone (deep zone) is deep fractured bedrock. Unconfined conditions are exhibited primarily within the shallow alluvium, whereas unconfined, partially confined, or artesian conditions occur within the bedrock.
28. Shallow groundwater flow is unconfined and topographically controlled and flows consistently to the east-northeast with an average gradient of approximately 0.028. Shallow groundwater discharges at several spring locations along the McKittrick thrust fault. The springs are related to a decrease in hydraulic conductivity across the fault zone.

29. The Facility currently measures water levels on a semiannual basis. Review of hydrographs submitted with semiannual and annual monitoring reports, which include quarterly groundwater elevation data collected prior to 2008, show no significant change in upgradient versus downgradient position of wells. Additionally, no groundwater production wells exist within a one mile of the MWTS to cause fluctuations in groundwater flow. Semiannual water level measurements are sufficient for determining groundwater flow direction and gradient below the MWTS.
30. Deep groundwater flow is toward the southeast with an average gradient of approximately 0.037 and is controlled by fracture flow and the regional drainage system located directly east of the Facility. Deep groundwater flow is parallel to the McKittrick thrust fault. The fault appears to act as an impermeable boundary to deep groundwater flow.
31. Formation water in the McKittrick area is generally above 10,000 parts per million of total dissolved solids (TDS) and occurs at depths of several hundred feet below ground surface. Naturally occurring oil, high evaporation rates, percolation through marine sediments, and upwelling connate groundwater (water trapped in sediment at the time of deposition) along faults contribute to the overall poor groundwater quality. Petroleum compounds and the following volatile organic compounds (VOCs) are naturally occurring in groundwater at the Facility: benzene, carbon disulfide, isopropylbenzene, 1,2,4-trimethylbenzene, n-propylbenzene, and naphthalene.

### **GROUNDWATER, UNSATURATED ZONE, AND SURFACE WATER MONITORING**

32. The existing surface and groundwater monitoring network consists of two spring locations (SP-1 and SP-1A), four monitoring wells (M-4, M-5, M-11, M-12R), and two piezometers (P-15 and M-7) as shown on Attachment B. Shallow zone groundwater occurs below the eastern and western areas and is monitored for the earliest detection of a release. The deep zone groundwater is not monitored for groundwater quality. Several additional piezometers were historically used to assess the groundwater elevation and gradient (MD-4, PD-15, PD-16, P-17, P-21, P-22, P-23, P-24, and P-25). These piezometers are being evaluated for decommissioning as part of the landfill expansion.
33. The western expansion area is upgradient of the active eastern area and existing groundwater monitoring wells and springs. Additionally, groundwater flows from the west below the expansion unit to the east-northeast below the active eastern area and towards the existing water quality monitoring points at the point of compliance. The eastern and western areas will also be built out as continuous waste units. Due to these factors, the existing monitoring points would be sufficient to detect a potential release from both the east and west areas. However, due to declining groundwater levels and drought conditions, monitoring points within the DMP have gone dry. This Order requires the Discharger submit an evaluation of its DMP. If the DMP is determined to be inadequate, the Discharger shall include proposed changes and a time schedule to bring its DMP into compliance.

34. The Discharger has demonstrated that the installation of unsaturated zone monitoring devices such as suction lysimeters is infeasible based on site hydrogeology. Unsaturated zone monitoring is accomplished through the monitoring of pan lysimeters installed directly beneath or as near as practical below each leachate collection and removal system (LCRS) sump.
35. In accordance with the *Proposal for Modifications to the Detection Monitoring Program*, dated 25 July 2001 and approved by Staff on 7 May 2002, possible releases are evaluated using trend analysis for concentrations of both anthropogenic and non-anthropogenic VOCs. Additionally, analytical results for inorganic constituents are not statistically analyzed since they were determined to not be reliable indicators of a release at the Facility due to the naturally occurring poor quality of groundwater beneath the Facility. The approved data evaluation methods are included in MRP No. R5-201X-XXXX.

### **GROUNDWATER DEGRADATION AND CORRECTIVE ACTION**

36. The anthropogenic VOCs 1,1-Dichloroethane (1,1-DCA) and methyl tertbutyl ether (MTBE) were released to groundwater beneath the site. No other organic or inorganic constituents were identified as part of this release, which was attributed to former unlined surface impoundments. The Facility was placed into a corrective action program (CAP) in 2002, which consisted of monitored natural attenuation. The concentrations of 1,1-DCA and MTBE attenuated to background water quality conditions by 2006 and 2009, respectively. Corrective action for 1,1-DCA and MTBE was deemed complete and the Facility returned to detection monitoring in 2015.

### **DESIGN OF WASTE MANAGEMENT UNIT(S)**

37. 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 in waste discharge requirements or orders for the discharge of waste at solid waste disposal facilities.
38. 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 section 20080(c)(1) or (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 §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(s) provides protection against water quality impairment equivalent to the prescriptive standard in accordance with Title 27 section 20080(b)(2) of Title 27 and that any proposed engineered alternative is consistent with the performance goal in accordance with Title 27 sections 20240, 20250, and 20310.
39. The Discharger proposes a liner system which will be designed, constructed, and operated to prevent migration of wastes from the Unit to adjacent natural geologic materials, groundwater, or surface water during disposal operations, closure, and the

postclosure maintenance period in accordance with the criteria set forth in Title 27 for Class II WMUs.

40. The Discharger has demonstrated that the prescriptive design is unreasonably and unnecessarily burdensome and will cost substantially more than an alternative which will meet the criteria contained in §20080(b). The Discharger has also demonstrated that the proposed engineered alternative is consistent with the performance goals of the containment structures for a Class II WMUs and affords equivalent protection against water quality impairment.
41. The Discharger proposes a liner system for the Class II WMUs consisting of the following, from bottom to top:
  - a. 12-inch prepared soil subgrade foundation;
  - b. a reinforced double-sided geotextile carrier type GCL;
  - c. a 60-mil double-sided textured HDPE geomembrane;
  - d. a double-sided LCRS geocomposite (non-woven geotextile/HDPE geonet bonded on both sides);
  - e. 12-inch minimum thick operations layer.
42. The LCRS will drain to a sump where leachate is collected. A leak detection system (LDS) in the form a pan lysimeter will be constructed beneath the western expansion LCRS sump. The Discharger proposes a LDS consisting of the following, from bottom to top:
  - a. 12-inch prepared subgrade foundation;
  - b. a reinforced geotextile carrier type GCL;
  - c. a 60-mil HDPE geomembrane;
  - d. a double-sided LCRS geocomposite (non-woven geotextile/HDPE geonet bonded on both sides);
  - e. 18-inch minimum thick layer of granular material with a hydraulic conductivity of 1cm/s, in the floor area of the LDS to accommodate the LDS riser pipe;
  - f. a reinforced geotextile carrier type GCL;
  - g. 24-inch compacted clay liner with a hydraulic conductivity of  $1 \times 10^{-7}$  cm/s or less.
43. Construction can proceed only after all applicable construction quality assurance plans have been approved by Executive Officer.

## LANDFILL CLOSURE

44. Title 27, section 21090 provides the minimum prescriptive final cover components for landfills consisting of, in ascending order, the following layers:
  - a. Two-foot soil foundation layer.
  - b. One-foot soil low flow-hydraulic conductivity layer, less than  $1 \times 10^{-6}$  cm/s or equal to the hydraulic conductivity of any bottom liner system.
  - c. Geomembrane layer (this layer is required for composite-lined landfills for equivalency to bottom liner).
  - d. One-foot soil erosion resistant/vegetative layer.
45. Title 27 allows engineered alternative final covers provided the alternative design will provide a correspondingly low flow-through rate throughout the post-closure maintenance period.
46. The Discharger submitted a February 2015 *Preliminary Closure and Postclosure Maintenance Plan* for closure and post-closure maintenance of all the landfill units at the Facility.
47. The Discharger proposes an engineered alternative final cover consisting of, in ascending order, the following layers:
  - a. Prepared foundation layer.
  - b. 3-foot thick evapotranspirative (ET) soil layer.
  - c. Vegetative layer (included as part of the 3-foot thick ET soil layer).
48. The Discharger submitted a January 2010 *Design Report, Alternative Final Cover, McKittrick Waste Treatment Site* for the proposed final cover, which was approved by Central Valley Water Board staff on 28 April 2010.
49. The Discharger has demonstrated that the engineered alternative final cover meets the performance goals of Title 27 and that it is equivalent to the prescriptive standard.
50. Side slopes for the closed landfill will be sloped at 3H:1V and will include 20-foot wide benches every 50 vertical feet as required by Title 27.
51. The Discharger performed a slope stability analysis for the proposed final cover. The Discharger's static and dynamic stability analysis demonstrates that the side slopes of the final cover will be stable in accordance with the requirements of Title 27.
52. Pursuant to Title 27, section 21090(e)(1), this Order requires a survey of the final cover following closure activities for later comparison with iso-settlement surveys required to be conducted every five years.

53. This Order approves the proposed final cover and requires that a final closure and post-closure maintenance plan, design documents, and CQA plan be submitted for review and approval at least 180 days prior to actual closure.

### **LANDFILL POST-CLOSURE MAINTENANCE**

The Discharger submitted an August 2014 *Preliminary Closure and Postclosure Maintenance Plan* for closure and post-closure maintenance. The plan includes inspection, maintenance, and monitoring of the landfill during the post-closure maintenance period, and includes a post-closure maintenance cost estimate for the entire facility. Inspection and maintenance will include the condition of the final cover, drainage features, LCRS, groundwater monitoring wells, unsaturated zone monitoring points, access roads, and site security. The plan will be implemented for a minimum period of 30 years or until the waste no longer poses a threat to environmental quality, whichever is greater.

### **FINANCIAL ASSURANCES**

54. Title 27, sections 21820 and 22206 require a cost estimate for landfill closure for the existing and proposed expansion WMUs. The Discharger submitted an updated closure cost estimate in the ROWD. The total amount of the closure cost estimate in 2014 dollars is \$3.9 million. 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.
55. Title 27, sections 21840 and 22211 requires a cost estimate for landfill post-closure maintenance for the existing and proposed expansion WMUs. The Discharger submitted an updated post-closure cost estimate in the ROWD. The amount of the cost estimate for post-closure maintenance in 2014 dollars is \$4.3 million. 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.
56. Title 27, section 22221 requires a cost estimate for corrective action of all known or reasonably foreseeable releases. The Discharger submitted a 2014 cost estimate of \$0.1 million for corrective action of all known or reasonably foreseeable releases. 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.
57. Title 27 section 22101 requires a cost estimate for non-water release corrective action. The Discharger submitted a 2014 cost estimate of \$0.02 million for non-water release corrective action. Title 27 section 22221 requires establishment of financial assurances in the amount of an approved water release corrective action estimate or an approved non-water release corrective action cost estimate, whichever is greater.

### **CEQA AND OTHER CONSIDERATIONS**

58. On 10 December 2013, the Kern County Board of Supervisors certified the final environmental impact report for the Facility and adopted a Mitigation Monitoring and Reporting Plan for the expansion of the existing Facility into the 40-acre West Parcel.
59. This order implements:
- a. *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.
60. Based on the threat and complexity of the discharge, the Facility is determined to be classified 3-B as defined below:
- a. Category 3 threat to water quality, defined as, "Those discharges of waste that could degrade water quality without violating water quality objectives, or could cause a minor impairment of designated beneficial uses as compared with Category 1 and Category 2."
  - 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."
61. Groundwater and spring water within a 0.5 mile radius of the Facility are not suitable, or potentially suitable, for municipal or domestic supply. Furthermore, this Order requires full containment of wastes and does not permit degradation of surface water or groundwater. Therefore, further anti-degradation analysis is not needed. The discharge is consistent with the anti-degradation provisions of State Water Resources Control Board Resolution No. 68.16.
62. 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.
63. The technical reports required by this Order and the attached "Monitoring and Reporting Program No. R5-201X-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.

## PROCEDURAL REQUIREMENTS

64. 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.
65. 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.
66. The Central Valley Water Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to California Water Code sections 13263 and 13267, that Order No. R5-2003-0160 is rescinded except for purposes of enforcement for violations that occurred prior to the adoption of this Order, and that Liquid Waste Management, Inc., 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' 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.
2. The discharge of solid waste or liquid waste to surface waters, surface water drainage courses, or groundwater is prohibited.
3. The discharge of wastes outside of a waste management unit (WMUs) or portions of a WMU specifically designed for their containment is prohibited.
4. The Discharger shall comply with all Standard Prohibitions listed in Section C 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, (SPRRs).
5. Discharge of municipal solid waste, except on-site generated dry trash, is prohibited.

### B. DISCHARGE SPECIFICATIONS

1. The discharge shall not cause a condition of pollution or nuisance as defined by the Water Code section 13050.

2. Prior to the discharge of waste to a Class II WMU, all water wells within 500 feet of the unit shall have sanitary seals or shall be properly abandoned. A record of the sealing and/or abandonment of such wells shall be sent to the Central Valley Water Board and to the State Department of Water Resources.
3. The Discharger shall discharge treated wood wastes only to landfill units equipped with a composite liner system and a LCRS. If a verified release is detected from the WMU where treated wood is disposed, the disposal of treated wood shall be terminated at the unit with the verified release until corrective action ceases the release.
4. The Discharger shall manage treated wood waste in accordance with California Health and Safety Code sections 25143.1.5 and 25150.7 and shall comply with all prohibitions listed in Title 22, section 67386.3.
5. The Discharger may not use any material as alternative daily cover (ADC) that is not listed as approved ADC in the Findings of these WDRs unless and until the Discharger has demonstrated it meets the requirements in Title 27, section 20705, and the Discharger has received approval 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. 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 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 composite lined modules listed in Finding 6 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.

### **C. FACILITY SPECIFICATIONS**

1. Annually, prior to the anticipated rainy season but no later than **1 November**, any necessary construction, maintenance, or repairs of precipitation and drainage control facilities shall be completed and reported in compliance with MRP No. R5-201X-XXXX.
2. The Discharger shall comply with all Standard Facility Specifications listed in Section E of the SPRRs.

### **D. DESIGN AND CONSTRUCTION SPECIFICATIONS**

1. The Discharger shall comply with all Standard Design and Construction Specifications listed in Section E of the SPRRs.
2. The Discharger shall construct the liner system of new Class II WMUs as described in Finding 6 of this Order in accordance with the following approved liner design (from bottom to top):
  - a. 12-inch prepared soil subgrade foundation;
  - b. a reinforced double-sided geotextile carrier type GCL;
  - c. a 60-mil double-sided textured HDPE geomembrane;
  - d. a double-sided LCRS geocomposite (non-woven geotextile/HDPE geonet bonded on both sides);
  - e. 12-inch minimum thick operations layer.
3. The Discharger shall construct the LDS beneath any LCRS sump in the western expansion in accordance with the following approved design (from bottom to top):
  - a. 12-inch prepared subgrade foundation;
  - b. a reinforced geotextile carrier type GCL
  - c. a 60-mil HDPE geomembrane;
  - d. a double-sided LCRS geocomposite (non-woven geotextile/HDPE geonet bonded on both sides);
  - e. 18-inch minimum thick layer of granular material with a hydraulic conductivity of 1cm/s, in the floor area of the LDS to accommodate the LDS riser pipe;
  - f. a reinforced geotextile carrier type GCL;

- g. 24-inch compacted clay liner with a hydraulic conductivity of  $1 \times 10^{-7}$  cm/s or less
3. The Discharger shall not proceed with liner construction (other than earth moving and grading in preparation for liner construction) until the construction plans, specifications, and all applicable construction quality assurance plans have been approved by the Executive Officer.
4. 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.

#### **E. CLOSURE AND POST-CLOSURE MAINTENANCE SPECIFICATIONS**

1. Prior to closure, the Discharger shall submit a Final Closure and Post-Closure Maintenance Plan prepared by a California-registered civil engineer or certified engineering geologist, and that contains all applicable information required in Title 27 section 21769. The plan shall include any closure/post-closure elements proposed in the ROWD, and shall meet the requirements of this Order.
2. The Discharger shall close landfill units with a final cover as proposed in the *Design Report, Alternative Final Cover, McKittrick Waste Treatment Site*, dated January 2010, and as approved by this Order. The components of the approved final cover as proposed are listed in Finding 47.
3. The Discharger shall obtain revised WDRs prior to closure with any other final cover design than the design or designs approved in this Order, except when modifications are necessary for problematic areas of the final cover needing repair so long as the barrier layer remains intact, and the modifications are approved by Central Valley Water Board staff.
4. The Discharger shall comply with all Standard Closure and Post-Closure Specifications listed in Section G and all Standard Construction Specifications that are applicable to closure in Section F of the SPRRs.

#### **F. FINANCIAL ASSURANCE**

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 54 and 55, 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 October 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 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 F.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 56. A report regarding financial assurances for corrective action shall be submitted to the Central Valley Water Board by **1 October 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.

## **G. 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. R5-201X-XXXX, and the Standard Monitoring Specifications listed in Section I of the SPRRs.
2. The Discharger shall, for any waste management unit in a corrective action monitoring program, comply with the corrective action monitoring program provisions of Title 27, MRP No. R5-201X-XXXX, and the Standard Monitoring Specifications listed in Section I of SPRRs.
3. The Discharger shall comply with the Water Quality Protection Standard as specified in this Order, MRP No. R5-201X-XXXX, and the SPRRs.
4. The concentrations of the constituents of concern in waters passing the Point of Compliance (defined pursuant to Title 27, section 20164 as a vertical surface located at the hydraulically downgradient limit of the waste management unit that extends through

the uppermost aquifer underlying the unit) shall not exceed the concentration limits established pursuant to MRP No. R5-201X-XXXX. Concentration limits are not prepared for the Facility as inorganic constituents are not reliable indicators of a release and analytical results for inorganic constituents will not be statistically analyzed. Possible releases from the Facility are evaluated statistically using trend analysis of VOC concentrations.

5. At the time Order R5-2003-0160 was adopted, the Discharger's detection monitoring program (DMP) for groundwater at the landfill satisfied the requirements contained in Title 27. However, due to declining groundwater levels and drought conditions, monitoring wells within the DMP have gone dry. **By 30 April 2016**, the Discharger shall submit an evaluation of its DMP. If the DMP is determined to be inadequate, the Discharger shall include proposed changes and a time schedule to bring its DMP into compliance.
6. For each monitoring event, the Discharger shall determine whether the waste management unit is in compliance with the Water Quality Protection Standard using procedures specified in MRP No. R5-201X-XXXX and the applicable Standard Monitoring Specifications in Section I of the SPRRs.
7. The Discharger shall comply with applicable portions of the Standard Monitoring Specifications and Response to a Release specifications listed in Sections I and J of the SPRRs.

## H. PROVISIONS

1. The Discharger shall comply with the applicable portions of the SPRRs. The SPRRs contain important provisions and requirements with which the Discharger must comply. A violation of any of the SPRRs is a violation of these waste discharge requirements.
2. Pursuant to Water Code section 13267, the Discharger shall comply with Monitoring and Reporting Program No. R5-201X-XXXX, which is hereby incorporated into and made part of this Order by this reference. This compliance includes, but is not limited to, maintenance of waste containment facilities and precipitation and drainage controls and monitoring groundwater, the unsaturated zone, and surface waters throughout the active life of the waste management units and any applicable post-closure maintenance period. A violation of Monitoring and Reporting Program No. R5-201X-XXXX is a violation of these waste discharge requirements.
3. Prior to discharging waste to a Class II WMU, the Discharger shall establish Financial Assurance funds for closure and corrective action.
4. The Discharger shall maintain a copy of this Order at the Facility and make it available at all times to Facility operating personnel, who shall be familiar with its contents, and to regulatory agency personnel.

5. The Discharger shall comply with all applicable provisions Title 27 that are not specifically referred to in this Order.
6. The Discharger shall, in a timely manner, remove and relocate any wastes discharged at this Facility in violation of this Order and of the California Water Code.
7. The Discharger shall immediately notify the Central Valley Water Board of any flooding, equipment failure, slope 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. In the event of any change in control or ownership of the Facility or disposal areas, the Discharger must notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office. To assume operation as Discharger under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. 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 paragraph of General Provision K.2.e in the SPRs 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 California Water Code. Transfer shall be approved or disapproved by the Executive Officer.
9. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code sections 6735, 7835, and 7835.1. As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.
10. The following reports shall be submitted pursuant to Section 13267 of the California Water Code:

Task

Compliance Date

**A. Construction Plans**

Submit construction and design plans for review and approval.

**90 days prior to proposed construction**

### **B. Construction Report**

Submit a construction report for review and approval upon completion demonstrating construction was in accordance with approved construction plans.

**60 days prior to proposed discharge**

### **D. Final Closure Plans**

Submit a final or partial final closure and post-closure maintenance plan, design plans, and CQA plan for review and approval.

**Two years prior to closure**

### **E. Financial Assurance Review**

Annual Review of Financial Assurance for Post-closure maintenance.

**1 October of each year**

Annual Review of Financial Assurance for initiating and completing corrective action.

**1 October of each year**

### **F. Monitoring**

Submit an evaluation of the detection monitoring program (DMP). If DMP is determined to be inadequate, include proposed changes and a time schedule to bring DMP into compliance.  
(See Monitoring Specification G.5)

**By 30 April 2016**

11. In the event of any change in ownership of this 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.
12. The Central Valley Water Board will review this Order periodically and may revise requirements when necessary.
13. This Order shall take effect upon the date of adoption.
14. The Discharger shall comply with all General Provision listed in Section K of the SPRRs.

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 or with the WDRs may result in the assessment of administrative civil liability 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 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](http://www.waterboards.ca.gov/public_notices/petitions/water_quality)

or will be provided upon request.

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 \_\_\_\_\_.

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PAMELA C. CREEDON, Executive Officer