CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL VALLEY REGION

ORDER NO. R5-2012-XXXX

WASTE DISCHARGE REQUIREMENTS

FOR

CITY OF REDDING

BENTON CLASS III MUNICIPAL SOLID WASTE LANDFILL

POST-CLOSURE MAINTENANCE

SHASTA COUNTY

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

1. The City of Redding (hereinafter Discharger) owns and maintains the closed Benton Class III Municipal Solid Waste Landfill (facility) located off of Buenaventura Drive on the west side of Redding, in Section 3, T31N, R5W, MDB&M, as shown in Attachment A, which is incorporated herein and made part of this Order by reference. The City of Redding was also the operator of the facility during its active life. The facility is regulated under authority given in Water Code section 13000 et seq.; California Code of Regulations, title 27 ("Title 27"), section 20005 et seq.; and 40 Code of Federal Regulations section 258 (a.k.a, "Subtitle D") in accordance with State Water Resources Control Board (State Water Board) Resolution 93-62.

2. The landfill consists of one closed unlined waste management unit (Unit) covering 118 acres of the 450 acre site, as shown in Attachment B, which is incorporated herein and made part of this Order by reference. A dendritic underdrain leachate collection system

underlies the eastern 1/3 of the landfill Unit. The leachate collection system discharges leachate directly to the City of Redding sewer system. An active perimeter and infill gas extraction system with flare operates at the facility. The infill portion of the gas extraction system collects landfill gas from the leachate collection underdrain system. A community airport, known as Benton Airpark, is located directly north of the landfill. The landfill property is comprised of Assessor's Parcel Number (APN) 104-100-170.

3. On 26 March 2010, the Discharger submitted an updated Joint Technical Document (JTD) that included a revised Report of Waste Discharge (ROWD) and revised Post-Closure Maintenance Plan for the landfill. The information in the JTD has been used in updating these waste discharge requirements (WDRs). The JTD contains applicable information pursuant to Title 27, section 21585.

4. On 23 October 1987, the Central Valley Water Board issued Order No. 87-176 in which the landfill waste management unit was reclassified from an old Class II-2 landfill Unit to a Class III Unit for the discharge of non-hazardous solid waste and municipal solid waste. On 29 May 1991, the Central Valley Water Board issued Order No. 91-117, which prescribed standards for closure and post-closure maintenance of the landfill consistent with Chapter 15 of Title 23, CCR. This Order revises WDR Order No. 91-117 and requires compliance with applicable post-closure maintenance standards in accordance with Title 27.

5. Benton Landfill originally opened as a burn dump in the early 1930s in a canyon adjacent to the Linden Creek drainage. In the early 1960s, sanitary landfill procedures were implemented, and filling of the canyon began. The Discharger ceased accepting wastes in 1990. Approximately 1,964,000 cubic yards of waste were disposed in Benton Landfill. Wastes were placed to a final height of 746 feet mean sea level (MSL), and

have a maximum depth of 80 feet. The lowest elevation of waste disposal occurred in the eastern portion of the landfill down the Linden Canyon drainage at 620 feet MSL.

6. During its active life, Benton Landfill received municipal solid waste (MSW) consisting of 50% commercial waste, 40% residential waste, 6% demolition waste, 3% industrial waste, and 1% other waste.

7. On 11 August 1993, Central Valley Water Board staff approved the 16 April 1993 *Final Closure/Post-Closure Plans, Final Closure Plan for City of Redding Benton Landfill SWIS No. 45-AA-019* (hereafter, Final Closure Plan).

8. Final closure construction began in July 1994 and was completed in July 1995. A prescriptive final cover system consisting of (from bottom to top) a two-foot foundation layer compacted to 90% maximum dry density at 2% - 3% over optimum moisture, a one-foot clay soil layer with a maximum permeability of 5 x 10^{-7} cm/sec, and a one-foot vegetative layer was installed over the Benton Landfill Unit. A perimeter gas extraction system and flare were installed during summer 1995.

9. In August 2010, the Discharger began construction of a runway safety overrun originating from Benton Airpark. The safety overrun extends the Benton Airpark runway approximately 190 feet to the south and onto the northern limit of the landfill Unit. The runway safety overrun will be constructed in two phases, with the first phase consisting of drainage improvements to Linden Creek and installation of a Geogrid in the vicinity of the runway safety overrun. ~~placement of soil necessary for construction of the safety overrun onto the landfill to create as much surcharging as possible and speed up settlement.~~ Phase 2 ~~consists of~~ involves placement of the soil necessary to construct the runway safety overrun on top of the landfill surface and installation of ~~removing the soil used for surcharging to allow for installation of~~ a 60-mil ~~low~~ linear low

density polyethylene (LLDPE) liner and a ~~Geogrid~~ geocomposite drainage ~~system~~ layer over the runway safety overrun~~where the safety overrun crosses the landfill~~. ~~The safety overrun will then be built over the liner with the soil used for surcharging.~~ Permanent erosion and sediment control features will also be installed at the end of construction.

10. 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 part of this Order. Monitoring and reporting requirements are included in 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 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.

11. 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.

SITE DESCRIPTION

12. Benton Landfill is located on the western edge of the Redding basin, the northern most sub-basin of the Sacramento Valley basin. Bedrock underlying all geologic units beneath the site is Copely Greenstone. Locally, Copely Greenstone is relatively fine grained and highly fractured, although the fractures do not appear to be systematic. Unconformably overlying the Copely Greenstone is the Chico Formation of the late Cretaceous age, which consists of marine sandstone containing connate saline water that is not used as a drinking water aquifer. Unconformably overlying the Chico Formation is the Pliocene Tehama Formation. The Tehama Formation generally consists of interbedded clay, silt, sand, and gravel, or mixtures thereof. The Tehama Formation is moderately to highly permeable with moderate to high groundwater yields. Overlying the Tehama Formation is the Quaternary Red Bluff Formation. The Red Bluff Formation is flat-lying and consists of well-rounded and indurated boulder-to-pebble conglomerate in a reddish brown matrix of sand, silt, and clay.

13. On the western side of the landfill property, the Copely Greenstone is overlain directly by the Red Bluff Formation. On the eastern side of the landfill property, the Tehama Formation may be present between the Red Bluff Formation and the Copely Greenstone. The Red Bluff Formation is the primary geologic unit underlying waste at the site, and is characterized in well boring logs of OB-1, OB-2, and OB-3.

14. Aquifer pumping/recovery tests conducted in monitoring wells OB-1, OB-4, OB-5, OB-7, OB-8, OB-9, and OB-10 were used to calculate the hydraulic conductivity of the geologic units underlying the site. Well OB-1 is installed in the Red Bluff Formation, and wells OB-4, OB-5, OB-7, OB-8, OB-9, and OB-10 in the Tehama Formation. In general, the hydraulic conductivity in the Red Bluff Formation is on the order of 8.5×10^{-5} cm/sec, and the hydraulic conductivity of the Tehama Formation ranges from 2.36×10^{-4} cm/sec to 7.34×10^{-4} cm/sec. Hydraulic conductivity testing of the Copley Greenstone has not

been directly measured at the site, but the nature of the rock type is considered "non-water bearing" and hydraulic conductivity is estimated at 1 x 10^{-8} cm/sec. Secondary permeability within the Copley Greenstone may occur within and between fractures of the Formation, but the extent of the interconnected permeability may be limited.

15. Land use zoning within 1,000 feet of the facility includes industrial, office, open space, and single family residences.

16. Two wells have been identified within one mile of the landfill property. A Pacific Gas and Electric industrial well is located more than 3,000 feet southeast of the site and a hand-dug well 30 feet deep and four feet in diameter is located less than 500 feet north of the landfill. Neither of these wells is used as a drinking water source. Potable water for residential and industrial uses near the landfill is supplied by the City of Redding Municipal Utilities. No municipal water supply wells are located within one mile of the landfill.

17. Benton Landfill is not located within an Alquist-Priolo Earthquake Fault Zone, and no active faults are known to pass through the site. The closest Holocene fault to the site is the Hat Creek fault zone located approximately 41 miles northeast of the site. The closest potentially active fault is the Battle Creek Fault located approximately 15 miles east-southeast of the site. Historical records indicate that 248 earthquakes have occurred within a 100 mile radius of the site between the years 1800 and 2000. Of the 248 earthquakes, 51 events had moment magnitudes (M_w) of 5.0 or greater, four events had an M_w of 6, and one event had an M_w of 6.5. The closest earthquake to affect the site was an M_w 4.0 located approximately one mile away on 29 October 1930. The most recent earthquake to affect the site was an M_L 5.2 that occurred on 26 November 1998, approximately five miles northwest of the landfill in the Keswick

area. The greatest horizontal acceleration that the landfill has been subject to is estimated at 0.22g. No known surface ruptures are associated with these events.

18. The facility receives an average of 40 inches of precipitation per year. The mean pan evaporation is estimated to be 80 inches per year, as reported in Department of Water Resources, November 1979, *Evaporation from Water Surfaces in California,* Bulletin 73-79.

19. The 100-year, 24-hour precipitation event is estimated to be 8 inches. The estimated maximum and minimum annual precipitation for 100-year frequencies is estimated at 84 and 17 inches, respectively.

20. 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 No. 0603602585E.

SURFACE WATER AND GROUNDWATER CONDITIONS

21. The *Water Quality Control Plan for Sacramento and San Joaquin River Basins, Fourth Edition* (hereafter Basin Plan), designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin.

22. Surface drainage from the landfill is toward Linden Creek in the Enterprise Flat Hydrologic Area (508.10) of the Sacramento Hydrologic Basin. Linden Creek is a tributary of the Sacramento River.

23. The designated beneficial uses of the Sacramento River apply to its tributaries, including Linden Creek. The beneficial uses of the Sacramento River, as specified in the Basin Plan, are municipal and domestic supply, agricultural supply; industrial service supply and

hydropower generation; water contact and non-contact water recreation; warm and cold fresh water habitat; warm and cold water migration; warm and cold water spawning; wildlife habitat; and navigation.

24. Groundwater beneath Benton Landfill is characterized by a "perched" groundwater zone in the Red Bluff Formation on the west side of the facility (hydraulically upgradient), and multiple zones separated by cemented strata confined within the Tehama Formation on the east side of the facility (hydraulically downgradient). The first encountered groundwater in the perched zone of the Red Bluff Formation is about six to 17 feet below the native ground surface. Groundwater in the confined Tehama Formation at the toe of the landfill on the east side tends to be artesian. Based on groundwater elevations, it's possible that some of the waste pile is in contact with groundwater at various times of the year.

25. Since 2005, monitoring data indicates background groundwater quality (excluding data from upgradient well OB-3B – see explanation in Finding 37 below) has an electrical conductivity (EC) ranging between approximately 367 and 458 micromhos/cm, with total dissolved solids (TDS) ranging between approximately 232 and 268 mg/l.

26. In the western portion of the landfill, groundwater flow is toward the southeast and at the eastern portion of the landfill, groundwater flow is toward the east. The average groundwater gradient is approximately 0.01 to 0.05 feet per foot. The groundwater velocity is estimated to be 0.12 to 5.20 feet per day.

27. The designated beneficial uses of the groundwater, as specified in the Basin Plan, are domestic and municipal water supply, agricultural supply, industrial service supply, and industrial process supply.

GROUNDWATER AND LEACHATE MONITORING

28. Eight wells make up the current groundwater detection monitoring system. Three of these wells (OB-1, OB-2, and OB-3B) provide background (hydraulically upgradient) water quality data. The five remaining wells (OB-4, OB-5, OB-7, OB-8, and OB-23) provide compliance (hydraulically downgradient) water quality data. The groundwater monitoring well network is shown on Attachment B. Details of the monitoring wells utilized in the groundwater detection monitoring system are listed in Table 1 below:

Table 1: Groundwater Monitoring Well Details

Well ID	Designation	Location	Reference Point (feet MSL)	Depth (feet)	Screen Interval (feet bgs)
OB-1	Background	Upgradient, north of landfill	717.00	50.10	44 - 49
OB-2	Background	Upgradient, northeast of landfill	718.90	51.10	40 - 50
OB-3B	Background	Upgradient, northwest of landfill	737.40	67.00	NA
OB-4	Compliance	Downgradient, east of landfill	607.80	75.10	69 - 74
OB-5	Compliance	Downgradient, east of landfill	607.00	40.10	29 - 39
OB-7	Compliance	Downgradient, east of landfill	606.90	51.00	25 - 30 35 - 40 45 - 50
OB-8	Compliance	Downgradient, east of landfill	607.00	26.00	10 - 15 20 - 25

OB-23	Compliance	Downgradient, southeast of landfill	696.60	87.00	60 - 76

NA = Not available

Over time, 18 additional groundwater monitoring wells were installed to provide more accurate data used for contouring groundwater. These wells are not included as part of the routine groundwater detection monitoring system. However, additional wells may be added or subtracted from the groundwater monitoring network as warranted.

29. A leachate-control and collection system was installed in various stages during the active life of the landfill to help reduce groundwater contact with leachate. The leachate collection system consists of an eight-inch diameter vitrified clay pipe placed along the axis of the Unit, with eight-inch diameter perforated lateral lines placed in trenches and filled with three to six-inch diameter cobble. Leachate that collects in the lateral lines drains into the central eight-inch vitrified clay pipe, which discharges to the City of Redding sewer line on Linden Avenue. Leachate flow is continuously monitored and samples are obtained semiannually prior to entering the sewer system.

30. There is no vadose zone monitoring at the facility. The existing downgradient groundwater monitoring network is sufficient to evaluate changes in water quality due to or resulting from a release.

31. The Discharger's detection monitoring program for groundwater at the landfill satisfies the requirements contained in Title 27.

32. 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 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 through 4. However, Title 27 does not specify a specific method for non-statistical evaluation of monitoring data.

33. 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.

34. 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, this Order specifies a non-statistical method for the evaluation of monitoring data. 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 will 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.

35. The Discharger has not submitted a Water Quality Protection Standard (WQPS) report proposing statistical data analysis methods to calculate concentration limits for each monitored constituent. This Order requires the Discharger to submit a WQPS Report in accordance with the time schedule listed in Provision H.14 below.

GROUNDWATER CONDITIONS

36. Prior to installation of the landfill final cover system, much of the waste pile was saturated with water. The source of the water was infiltration of precipitation through the interim soil cover and from inflow of groundwater upgradient of the site. Previous WDR Order No. 91-117, Provision C.15 required the Discharger to monitor the water level within and around the landfill to determine the effect of the final cover system (installed 1994-1995) on reducing the saturated interval within the waste pile. Central Valley Water Board records find no evaluation of the water levels within the landfill Unit or evaluation of the effectiveness of the final cover system at reducing saturated intervals within the waste. This order requires the Discharger to provide these evaluations.

37. The Discharger's evaluation of water quality in the vicinity of upgradient well OB-3B suggests that potential non-landfill influences may be affecting background water quality. Well OB-3B was installed in summer 1999 to replace well OB-3A, which was closer to the landfill Unit and exhibited elevated constituent concentrations compared to other background wells. The Discharger's consultant suggested that elevated mineral constituents in OB-3A could have been caused by a combination of landfill influence and the composition of the well seal. Detections of VOCs in OB-3A were interpreted as

representing landfill gas migration, since OB-3A is located between the Unit and the perimeter gas-control system header. Additionally, it was suggested that chemical reactions between landfill gas and the well seal were causing calcium and other parameters to be elevated. This resulted in OB-3A being judged inadequate as a background monitoring point, and as a result, OB-3B was installed further away from the landfill. Since its installation, OB-3B has shown some similar characteristics as OB-3A, with increasing trends for chloride and various low concentrations of VOCs including MtBE. The Discharger suggests that influences on groundwater quality in OB-3B may be related to pollution from underground storage tanks that were located nearby at City of Redding Fire Station No. 2. These tanks were removed in 1989. This Order requires the Discharger to further investigate potential non-landfill influences on groundwater quality in the vicinity of well OB-3B.

38. Trilinear diagrams and stiff patterns of major ions indicate differences between leachate, well OB-3B, background wells OB-1 and OB-2, and downgradient wells OB-4, OB-5, OB-6 and OB-8, and crossgradient well OB-23. The trilinear diagram shows three general groupings of the data. Downgradient wells at the toe of the landfill plot together and can be classified as having no dominant cation - bicarbonate type. Background wells OB-1 and OB-2 can be classified as calcium - bicarbonate type, while crossgradient well OB-23 and leachate can be classified as magnesium - bicarbonate type. However, there is overlap between the background wells, OB-23, and leachate. Wells OB-3 (replaced by OB-3A) and OB-3A (replaced by OB-3B) can be classified as calcium + magnesium - bicarbonate type. Well OB-3B plots differently than the other groupings, and can be classified as magnesium - chloride type. The main difference between OB-3B and other wells and leachate is the anion type; OB-3B has chloride as the primary anion, while all other wells have bicarbonate as the main anion. The shape of stiff

patterns also illustrates the differences between OB-3B and the other wells and leachate, with OB-3B having relatively higher chloride than any other pattern.

39. The last round of VOC and SVOC analyses in April 2008 identified chloromethane above the MDL but below the RL (estimated concentrations) in wells OB-1, OB-7 and OB-8. Well OB-8 also identified toluene between the MDL and the RL. However, chloromethane and toluene were also identified in the Trip Blank, indicating laboratory contamination. In well OB-3B, chloromethane and tetrachloroethene were detected at low concentrations above the RL. The SVOC compounds butyl benzyl phthalate and di-n-butyl phthalate were also detected at estimated concentrations in the wells and in the method blank. This Order will increase the frequency of VOC analyses to semiannually and include analyses for total organic carbon, dissolved inorganic compounds, SVOC's, chlorophenoxy herbicides, and organophosphorus compounds every five years.

LANDFILL CLOSURE

40. Closure and post-closure maintenance requirements for solid waste landfills are found in California Code of Regulations, Title 27, section 21090. This section 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 $1x10^{-6}$ 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 - not applicable for unlined Benton Class III Municipal Solid Waste Landfill).
    d. One-foot soil erosion resistant/vegetative layer.

41. On 11 August 1993, the Central Valley Water Board Executive Officer approved the 16 April 1993 Final Closure and Post-Closure Maintenance Plan for the facility.

42. Between July 1994 and July 1995, the Discharger constructed a prescriptive final cover system consisting of, in ascending order, the following layers:

    a. Two-foot soil foundation layer compacted to 90% of maximum dry density at 2-3% over optimum moisture content.
    b. One-foot compacted clay soil layer with a maximum hydraulic conductivity of $5x10^{-7}$ cm/s.
    c. One-foot erosion resistant soil layer, with vegetation.

43. In accordance with Title 27, section 21090, a seismic and slope-stability report is not required for the facility because (1) slopes are less than three-to-one (horizontal to vertical) with minimum 15-foot wide benches every 50 vertical feet, and (2) synthetic components were not used in the final cover system.

44. In 1992, The Discharger did complete a slope stability analysis for the slope at the toe of the landfill on the east side of the facility, which is the maximum relief at the site based on final closure contours. The slope-stability model "SB-Slope" was used to find the minimum factor-of-safety for earth slices, using the Simplified Bishop Method of analysis. A minimum factor-of-safety of 1.81 was calculated for this eastern slope of the landfill. This exceeds the minimum factor-of-safety of 1.5 required by Title 27, section 21750(f).

45. Pursuant to the 26 March 2010 Joint Technical Document for the facility, inspections of the final cover system consists of (1) an annual walkover of the landfill surface and spot checks of surface cracks and ponded areas, (2) five-year iso-settlement surveys, (3)

an annual settlement survey of the runway overrun, (4) quarterly monitoring of the drainages around the safety overrun during the wet season or after rainfall events exceeding an intensity of one-inch per hour or five inches in 24 hours, and (5) monthly inspections for leachate breakouts.

LANDFILL POST-CLOSURE MAINTENANCE

46. The Discharger submitted a revised Post-Closure Maintenance Plan in the 26 March 2010 updated JTD. Post-closure maintenance activities include inspection of the final cover system consisting of (1) an annual walkover of the landfill surface to identify ponded areas and to conduct spot checks of surface cracks for landfill gas leaks, (2) five-year iso-settlement surveys, (3) an annual settlement survey of the runway overrun, (4) quarterly monitoring of the drainages around the safety overrun during the wet season or after rainfall events exceeding an intensity of one-inch per hour or five inches in 24 hours, and (5) monthly inspections for leachate breakouts during the wet season of October through May. Repairs to any containment structure or monitoring device will be completed as needed.

47. The final cover system is inspected annually for surface cracks in accordance with permit requirements of the Shasta County Air Quality Management District. The inspection consists of traversing the landfill surface perpendicular to the long axis of the landfill on parallel paths that are approximately 100 feet apart. The final cover system is visually inspected for cracks or erosion. Cracks in the landfill surface are monitored for methane gas using a landfill gas analyzer. Cracks that emit methane are repaired with a bentonite slurry.

FINANCIAL ASSURANCES

48. Title 27, sections 21840 and 22211 require a cost estimate for post-closure maintenance. The Discharger maintains financial assurances for remaining post-closure maintenance costs at the landfill. The City of Redding established an Enterprise Fund for post-closure maintenance in 1990 via Resolution No. 90-223. The City of Redding augments this fund via a 22 cent monthly surcharge on utility bills. The latest post-closure maintenance cost estimate assumes annual costs of $141,598, with a remaining fund balance of $1,455,332 for the rest of the post-closure maintenance period. 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.

49. The Discharger ceased accepting wastes for disposal in 1990. Therefore, the Discharger is not subject to corrective action financial assurances in accordance with Title 27, section 22220(b).

CEQA AND OTHER CONSIDERATIONS

50. The action to revise waste discharge requirements for this existing facility is exempt from the provisions of the California Environmental Quality Act (CEQA), Public Resource Code section 21000, et seq., and the CEQA guidelines, in accordance with Title 14, section 15301.

51. This order implements:

    a. *The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth 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; and

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.

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

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

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

53. 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.

54. 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

55. 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.

56. 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.

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

58. 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 30th 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 laws 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.

IT IS HEREBY ORDERED, pursuant to California Water Code sections 13263 and 13267, that Order No. 91-117 is rescinded, and that the City of Redding, 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 any waste to land, groundwater, or surface water at this facility is prohibited.

2. The discharge of sediment to surface water or surface water drainage courses in excess of Basin Plan standards is prohibited.

3. The Discharger shall comply with all applicable Standard Prohibitions listed in Section C of the Standard Provisions and Reporting Requirements (SPRRs) dated January 2012 which are attached to and made part of this Order.

B. DISCHARGE SPECIFICATIONS

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

C. FACILITY SPECIFICATIONS

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

E. CLOSURE AND POST-CLOSURE MAINTENANCE SPECIFICATIONS

1. The Discharger shall comply with all applicable Standard Closure and Post-Closure Specifications listed in Section G of the SPRRs dated January 2012 which are part of this Order.

F. FINANCIAL ASSURANCE SPECIFICATIONS

1. The Discharger shall obtain and maintain assurances of financial responsibility with CalRecycle for post-closure maintenance of the landfill in at least the amounts described in Finding 48, adjusted for inflation annually. All reports to CalRecycle regarding financial assurances for post-closure maintenance shall be copied to the Central Valley Water Board by **1 June of each year**. 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 comply with all applicable Standard Financial Assurance Specifications listed in Section H of the SPRRs dated January 2012 which are part of this Order.

G. MONITORING SPECIFICATIONS

1. The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater in accordance with Monitoring and Reporting Program (MRP) No. R5-201X-XXXX, and the Standard Monitoring Specifications listed in Section I of the SPRRs dated January 2012.

2. The Discharger shall provide a Water Quality Protection Standard report in accordance with the compliance schedule contained in Provision H. 14. Once approved, the Discharger shall comply with the Water Quality Protection Standard as specified in this Order, MRP No. R5-201X-XXXX, and the SPRRs dated January 2012.

3. 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. R5-201X-XXXX.

4. 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. R5-201X-XXXX and the Standard Monitoring Specifications in Section I of the SPRRs dated January 2012.

5. The Discharger shall comply with all applicable Standard Monitoring Specifications listed in Section I of the SPRRs dated January 2012 which are part of this Order.

H. PROVISIONS

1. The Discharger shall maintain a copy of this Order at the facility, including the MRP No. R5-201X-XXXX and the SPRRs dated January 2012 which are part of this Order, 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. R5-201X-XXXX, which is incorporated into and made part of this Order.

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 hereby incorporated into this Order.

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. The Discharger shall provide a Water Quality Protection Standard report pursuant to Title 27, Subchapter 3, Article 1 and in accordance with the time schedule listed in Provision H.14 below.

7. The Discharger shall provide a report evaluating the water level within and around the landfill to determine the effect of the final cover system on reducing the saturated interval within the waste pile. The report shall address groundwater elevations in

relation to waste elevations and include cross sections of the Unit and monitoring points. Groundwater elevations at gas monitoring wells should be considered during this assessment. The report should evaluate all data since the cover was installed in 1995, including annual repairs to the low hydraulic conductivity layer of the final cover system. The report shall be provided in accordance with the schedule listed in Provision H.14 below.

8. The Discharger shall investigate groundwater impacts observed in the vicinity of monitoring well OB-3B. If the Discharger determines that the Unit is not the cause of the groundwater impacts, then an optional demonstration (that the Unit is not the cause) may be proposed pursuant to Title 27, section 20420(k)(7). A work plan for this investigation shall be submitted in accordance with the time schedule listed in Provision H.14 below.

9. The Discharger shall submit a Sample Collection and Analysis Plan for the facility in accordance with the schedule listed in Provision H.14 below.

10. The Discharger shall complete an iso-settlement survey of the landfill Unit and submit a report and map comparing results to contour elevations of the Unit at the time of closure in 1995. The iso-settlement survey report shall be provided in accordance with the schedule listed in Provision H.14 below, and updated iso-settlement surveys shall be provided every five years thereafter. Areas of differential settlement identified during the iso-settlement surveys shall be repaired promptly.

11. All reports required by this Order shall be submitted pursuant to Water Code section 13267.

12. The Discharger shall comply with all applicable General Provisions listed in Section K of the SPRRs dated January 2012 which are part of this Order

13. The Discharger shall comply with all applicable Storm Water Provisions listed in Section L of the SPRRs dated January 2012 which are part of this Order.

14. The Discharger shall complete the tasks contained in these waste discharge requirements in accordance with the following time schedule:

Task	Compliance Date
A. Water Quality Protection Standard	
Submit a Water Quality Protection Standard report for review and approval. (see Provision H.6 above).	**by 1 October 2012**
B. Evaluation of Landfill Final Cover System	
Submit a report evaluating the effectiveness of the final cover system at reducing the saturated interval within the waste pile. (see Provision H.7 above).	**by 1 December 2012**

C. Groundwater Quality Investigation

Submit a work plan proposing investigation of groundwater impacts observed in the vicinity of Monitoring well OB-3B. (see Provision H.8 above).	**by 1 October 2012**

D. Sample Collection and Analysis Plan

Submit a Sample Collection and Analysis Plan for the facility. (see Provision H.9 above).	**by 1 October 2012**

C. Iso-Settlement Survey	**by 1 September 2013**
Submit iso-settlement survey report for landfill Unit. (see Provision H.10 above).	

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

<DPS>