

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER R5-2018-0072

AMENDING WASTE DISCHARGE REQUIREMENTS  
ORDER R5-2014-0084  
GLENN COUNTY  
GLENN COUNTY CLASS III MUNICIPAL SOLID WASTE LANDFILL

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

1. On 6 June 2014, the Central Valley Water Board adopted Waste Discharge Requirements (WDR) Order R5-2014-0084 revising WDRs for the Glenn County Class III Municipal Solid Waste Landfill (Glenn County Landfill). WDR Order R5-2014-0084 permitted the discharge of waste to the Class III landfill, and permitted the construction, operation, closure, post-closure maintenance, and corrective action at the Glenn County Landfill.
2. Order R5-2014-0084 stated that the final closure of the Area A Unit was scheduled for 2016, and required completion of final cover construction by 15 November 2018. In May 2018, the Discharger submitted the *Revised Final Closure and Post Closure Maintenance Plan (FCPCMP)* which updated closure estimate dates to allow use of available capacity while a transfer station is constructed. This has pushed back the initiation of closure operations to 2019, with completion of the final cover by 15 November 2020.
3. Following a tentative amendment and 30-day public comment period, Order R5-2014-0084 was revised to allow an extension of final closure of the Area A Unit to 2020. Additional text related to financial assurance amounts and a newly installed monitoring well was revised. The tentative amended WDR Order R5-2014-0084 is provided as Attachment 1.
4. Issuance of this Order for an 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 since this Order only serves to modify a WDR Order.
5. The Central Valley Water Board has notified the Discharger and interested agencies and persons of its intent to amend the WDR Order R5-2014-0084, and has provided them with an opportunity to submit their written views and recommendations.

**IT IS HEREBY ORDERED THAT:**

1. Waste Discharge Requirements Order R5-2014-0084 is amended in order to: 1) adjust the closure schedule of the final closure of the Area A Unit, and 2) to amend the Order as shown in underline/strikeout format in Attachment 1 to this order. **Effective immediately upon adoption**, Order R5-2014-0084 is amended in items 1.a through 1.b below.
  - a. Change the Order number throughout to R5-2014-0084-01.

- b. SIGNATURE PAGE. Modify the paragraph above the signatory line on the Signature Page as shown in underline format below:

I, Patrick Pulupa, Executive Officer, do hereby certify that this Order is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 6 June 2014, and amended by Order R5-2018-0072 on 5 October 2018.

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 of this Order, except that if the thirtieth day following the date of this Order 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, PATRICK PULUPA, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 5 October 2018.

ORIGINAL SIGNED BY PATRICK PULUPA

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PATRICK PULUPA, Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER R5-2014-0084-01

WASTE DISCHARGE REQUIREMENTS  
FOR  
GLENN COUNTY  
FOR  
CORRECTIVE ACTION AND FINAL CLOSURE  
GLENN COUNTY CLASS III MUNICIPAL SOLID WASTE LANDFILL  
GLENN COUNTY

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

1. Glenn County (hereafter Discharger) owns and operates the Glenn County Class III Municipal Solid Waste Landfill (Glenn County Landfill) located at the end of County Road 33, approximately five miles west of the town of Artois in Sections 26, 27, 34 and 35, T21N, R4W, MDB&M, as shown in Attachment A, which is incorporated herein and made part of this Order. The majority of the landfill property is located in Section 35. The landfill facility is comprised of Assessor Parcel Numbers (APN) 024-220-032-9, 024-220-034-9, 024-220-037-9, and 024-220-039-9.
2. The Glenn County Landfill facility is a municipal solid waste (MSW) landfill 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.
3. The entire Glenn County Landfill facility encompasses a total of 356.39 acres of land. The landfill consists of one unlined waste management unit (Unit) referred to as Area A covering approximately 76.3 acres, Expansion Area B located in the northeastern part of the property which is used for obtaining borrow soil and managing storm water, a perimeter access road around the Unit and Expansion Area B, an equipment shop located at the west end of the facility, and a scale house and recyclable material public drop off area at the eastern part of the property as shown on Attachment B, which is incorporated herein and made part of this Order by reference. At the west end of the facility, the Unit was formerly split by an access road leading to the equipment shop. Wastes are not buried beneath this access road or the equipment shop. In 2006, the Discharger began placing baled waste tires on the road. The baled waste tires are stacked on top of each other until sufficient elevation is reached. The tire bales are then covered with soil at an elevation that corresponds with proposed final cover contours and then graded to drain storm water away from the Unit. Waste tires are considered

inert waste, so this was not a lateral expansion of the Unit. The final cover proposed for the Unit will fully cover all of Area A, including the waste tire bales.

4. Household hazardous wastes (HHW) are collected at the site during specific collection events, and occasionally during load-checking of self-hauled wastes. The landfill contracts with a professional HHW contractor for removal of HHW within 90 days of collection. During the period before off-site disposal, HHW are stored in a building located near the scale house.
5. The Discharger uses a heavy reusable tarp for alternative daily cover (ADC) over compacted wastes. The tarp was approved for use as ADC by the Glenn County Solid Waste Local Enforcement Agency (LEA). Reusable tarps are adequate for limiting percolation of liquids through exposed wastes at the active face. Six inches of soil cover is applied every seven days at a minimum. Areas that do not receive waste for 180 days are covered with 12 inches of soil.
6. Landfills propose use of new ADC materials regularly in order to preserve landfill air space and to beneficially reuse waste materials. Title 27, section 20686 includes regulations for beneficial reuse, including use of ADC. Approval of ADC is primarily handled by the LEA and CalRecycle under Title 27, section 20690. This Order allows any new ADC (other than tarps) proposed for use at the facility after the adoption of this Order to be approved by Central Valley Water Board staff provided the Discharger has demonstrated it meets the requirements in Title 27, section 20705. The approved ADC materials should then be listed in the facility's WDRs during the next regular update or revision with information about the Discharger's demonstration. This Order also includes a requirement that ADC only be used in internal areas of the landfill unless the Discharger demonstrates that runoff from the particular ADC is not a threat to surface water quality. The demonstration can take sedimentation basins into account.
7. Glenn County Landfill is unlined and has no leachate collection and removal system (LCRS). Historically, leachate seeps have been observed at Glenn County Landfill after extended periods of precipitation. Leachate seeps have sometimes been observed discharging to areas outside of the existing Unit boundary and seeps are further exacerbated by rainfall that mobilizes pollutants for potential discharge to adjacent properties. In response to recurring leachate seeps at the site, the Discharger prepared an 11 September 2009 Leachate Management Master Plan that includes response actions to be implemented by Glenn County Landfill staff when leachate seeps are identified. The Leachate Management Master Plan was conditionally approved by Central Valley Water Board staff in a 17 September 2009 letter.
8. Originally, the Glenn County Landfill encompassed 192.62 acres that were leased from the Coleman Foley Marital Trust. The lack of ownership by the county created permitting difficulties and the county wanted to expand the facility

boundary to provide a buffer area around the landfill. The county elected to obtain the landfill and expansion area properties via eminent domain. In August 2009, the County of Glenn was awarded pre-judgment possession of the properties through an eminent domain action. The original landfill site and the added 163.77 acres of expansion area increased the total landfill property to 356.39 acres.

9. The Discharger anticipates accepting wastes at the landfill through 2018, when final capacity should be reached based on current waste acceptance rates. The Discharger will construct and operate a solid waste transfer station and inert waste disposal cell before the landfill ceases to accept wastes for disposal. Inert wastes that will be accepted include concrete, cinder blocks, fully cured asphalt, bricks, and clean soil. The inert disposal cell will cover 0.98 acres and have a total capacity of approximately 20,000 cubic yards. Once the inert cell reaches capacity, a final cover consisting of three feet of compacted soil will be installed with appropriate erosion and sediment control best management practices (BMPs) implemented.
10. Glenn County first leased the landfill property in July 1971, and waste disposal operations began in 1972. Glenn County previously operated the site under Waste Discharge Requirements (WDRs) Order Nos. 95-161 and R5-2006-0119, which classified the Unit as a Class III Unit for the discharge of non-hazardous municipal solid waste. The site meets the siting criteria for a Class III Unit because (1) groundwater is more than five feet below the bottom of the waste, (2) the foundation is suitable for waste filling, (3) the site is not susceptible to rapid geologic change, (4) no known Holocene faults are present within seven miles of the landfill, and (5) the landfill is not susceptible to floods, inundation, seiches, or tsunamis. This Order continues to classify the Unit as a Class III Unit. This Order supersedes all previous WDRs and establishes a schedule for corrective action and landfill closure.
11. On 8 March 2013, the Discharger submitted an amended Report of Waste Discharge (ROWD) as part of the Joint Technical Document (JTD) for the landfill. The ROWD was revised again 12 February 2014 to include a description of the temporary and permanent (if needed) inert disposal cells and a preliminary closure and post-closure maintenance plan with cost estimates for both inert disposal cells. Additionally, in May 2018, the Discharger submitted the revised Final Closure and Post-Closure Maintenance Plans (FCPCMP) for the landfill. A temporary transfer station will not be constructed. The permanent transfer station will be available for use in 2018, at which point the landfill will cease accepting waste. The temporary inert disposal cell was not constructed. A permanent inert cell will be constructed during closure construction. The information in the ROWD/JTD and the FCPCMP has been used in revising these WDRs. The ROWD and the FCPCMP contain applicable information required in Title 27.

12. Groundwater quality has been impacted in the vicinity of Glenn County Landfill as a result of waste disposal activities, as described later in this Order. Additionally, it's estimated that the landfill will reach its design capacity in late 2018. The Discharger has proposed installation of a final cover system over buried wastes as corrective action in response to the groundwater impacts. The Discharger is also constructing, and will operate a transfer station north of the landfill scale house. An inert disposal cell will be constructed and operated near the existing household hazardous waste building.
13. On 9 October 1991, the United States Environmental Protection Agency (USEPA) promulgated federal MSW regulations under the Resource Conservation and Recovery Act (RCRA), Subtitle D. These regulations are under 40 Code of Federal Regulations section 258, and are hereafter referred to as either "Subtitle D" in reference to the RCRA federal law that required the regulations or "40 C.F.R. section 258.XX". These regulations apply to all California Class II and Class III landfills that accept MSW. State Water Board Resolution 93-62 requires the Central Valley Water Board to implement in WDRs for MSW landfills the applicable provisions of the federal MSW regulations that are necessary to protect water quality, and in particular, the containment provisions and the provisions that are either more stringent or that do not exist in Title 27.
14. 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 the attached Monitoring and Reporting Program (MRP) No. R5-2014-0084 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.
15. 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 LEA in charge of implementing CalRecycle's regulations.

## WASTE CLASSIFICATION AND UNIT CLASSIFICATION

16. Based on a site life projection included with the FCPCMP, the Discharger proposes to continue to discharge nonhazardous solid waste, including municipal solid waste, construction and demolition waste, green waste, and fiberglass to the unlined Class III Unit known as Area A through October 2018. These classified wastes may continue to be discharged only in accordance with Title 27, Resolution 93-62, and Subtitle D as required by this Order.

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

## SITE DESCRIPTION

17. Glenn County Landfill is located at the western edge of the Sacramento Valley where the terrain changes from relatively flat ground to the east to hilly ground to the west. Native slopes range from less than 5% in the valley bottoms to as steep as 2-to-1 (horizontal to vertical) on the side slopes of hills. The elevation ranges from 200 feet MSL in the drainage bottoms at the east edge of the property to over 300 feet MSL on the ridge top at the west edge of the property.
18. Glenn County Landfill is located on a drainage divide between shallow valleys located on the north and south of the landfill. Both valleys drain toward the east. The southern valley contains White Cabin Creek and the northern valley contains the headwaters of Wilson Creek. Both creeks flow under the Tehama-Colusa Canal east of the landfill and are tributary to Willow Creek a mile north of the town of Willows.
19. Land immediately surrounding the landfill is range land used for dry-land grazing of livestock. There are no irrigated lands adjoining the landfill property. The nearest permanent residence is approximately 5,000 feet northeast of the facility's eastern boundary. A seasonal residence used by sheepherders is located approximately 1,800 feet west of the facility's western boundary. The Tehama-Colusa Canal abuts the southeast boundary of the landfill property and the community of Artois is located approximately five miles east of the landfill.
20. The Land Use Element of the Glenn County General Plan specifies that use of land surrounding the landfill be limited to agriculture with minimum parcel sizes of

80 acres. In adopting the General Plan, the Glenn County Board of Supervisors designated the Glenn County Landfill as "Landfill" and the surrounding land as "Agriculture Preserve" and deemed these uses compatible. The landfill is consistent with the General Plan and a Use Permit is not required. The Glenn County Landfill is in conformance with the Glenn County Solid Waste Management Plan.

21. Potable water for the landfill and its employees is provided by bottled water. Water for dust control is obtained from the adjacent Tehama-Colusa Canal via a portable pump. Non-potable water and dust control water are also obtained from on-site wells located near the equipment shop at the west end of the landfill, the household hazardous waste collection and storage facility east of the scale house, and south of the household hazardous waste facility.
22. The ROWD identified four parcels with structures and possible domestic water supply wells located within one mile of the landfill. Use of these wells is unknown.
23. Glenn County Landfill is located in the northwestern part of the Colusa Sub-basin, a sub-basin of the Sacramento Valley groundwater basin. In the area near the landfill, the Sacramento Valley groundwater basin is filled with Tertiary-age sediments that are thickest in the central part of the valley and thin to the east and west.
24. Geologic units occurring at the surface in the western part of the Colusa Sub-basin are, from youngest to oldest, recent stream deposits consisting of unconsolidated gravel, sand, silt, and clay; the Pleistocene-age Modesto and Riverbank Formations; Stony Creek alluvial fan deposits; and the Pliocene-age Tehama and Tuscan Formations. The Oligocene to late-Miocene-age Upper Princeton Gorge Formation and the late-Jurassic to Cretaceous-age Great Valley Sequence are subsurface geologic units near the landfill.
25. The Modesto Formation consists of unconsolidated, slightly weathered gravel, sand, silt, and clay. The Riverbank Formation consists of unconsolidated to semi-consolidated gravel, sand, silt and minor clay. These units were deposited by streams on the eroded surface of the older underlying units. The Modesto and Riverbank Formations can contain groundwater, but these units do not support the main water-supply aquifers in the area.
26. Glenn County Landfill is located west of the Stony Creek alluvial fan, which consists of unconsolidated sediment from Stony Creek and the Sacramento River. It has a maximum thickness of 120 feet with an average thickness of 50 to 80 feet. The Stony Creek alluvial fan is approximately 14 miles wide and 26 miles long running from southern Tehama County to the town of Willows. Unconfined groundwater occurs in the alluvial fan and water from Stony Creek can move into the fan deposits replenishing groundwater in the area.



27. The Tehama Formation underlies the landfill area and parts of the Stony Creek alluvial fan. The Tehama Formation consists of interbedded clay, silt, sand, and gravel that are thought to be alluvial in origin. The Tehama Formation is one of the main water-bearing formations in the Sacramento Valley groundwater basin. In general, the Tehama Formation is moderately to highly permeable with moderate to high (100 to over 1,000 gallons per minute) groundwater yields.
28. To the east of the landfill, the Tuscan Formation is interfingered with the Tehama Formation. Sediment in the Tuscan Formation originated from volcanic terrains in the Cascade Mountains east of the Sacramento Valley, rather than the Coast Ranges. The Tuscan Formation consists of volcanic mudflows, ash beds, tuff breccias, and tuffaceous sandstones and conglomerates, which do not occur beneath the landfill.
29. The Oligocene to late-Miocene age Upper Princeton Gorge Formation underlies the Tehama and Tuscan Formations east of the landfill. The Upper Princeton Gorge Formation consists of non-marine sandstone with shale or conglomerate interbeds, and is a source of natural gas.
30. The late-Jurassic to Cretaceous-age Great Valley Sequence or Chico Formation underlies the Tertiary-age units in the western part of the basin. These units consist of well-consolidated to cemented, interbedded sandstone and shale. In general, these units contain poor quality groundwater with low yields.
31. Relatively undisturbed samples from borings that were later converted to monitoring wells at the landfill had laboratory measured vertical permeabilities ranging between  $2.33 \times 10^{-7}$  and  $1.0 \times 10^{-9}$  centimeters per second (cm/sec). Undisturbed soil samples collected from pits near the borrow area had measured permeabilities ranging between  $1.3 \times 10^{-6}$  and  $1.9 \times 10^{-6}$  cm/sec. In general, the undisturbed silt layers that form aquitards or perching strata beneath the landfill have very low permeability, in the range of  $1 \times 10^{-6}$  to  $1 \times 10^{-7}$  cm/sec. Sand lenses have much higher permeabilities ranging from  $1 \times 10^{-3}$  to  $1 \times 10^{-4}$  cm/sec.
32. The closest Holocene fault to the Glenn County Landfill that shows surface rupture and has the potential to produce the greatest seismic acceleration at the site is the Bartlett Springs Fault, located approximately 30 miles to the west. Only a small portion (five miles) of the fault is considered active. However, conservative calculations using the magnitude for the entire fault produced the highest anticipated bedrock acceleration of 0.16 g at the landfill. After adding sediment amplification, the deterministic seismic acceleration is 0.18 g.
33. The facility receives an average of 16.59 inches of precipitation per year as measured at the Willows Station. Nearly all the precipitation occurs as rain during the wet season (November – March). Hot, dry weather is prevalent during the rest of the year.

34. The 100-year, 24-hour precipitation event for the facility is estimated to be 4.0 inches, as depicted on Isopluvials of 100-Year 24-Hour Precipitation For Northern California, NOAA Atlas 2, Volume XI (1890 – 2000).
35. There is no short duration (less than 24 hours) data for the Willows Station, so the Department of Water Resources (DWR) Sacramento Airport Station was used to estimate shorter duration rainfall events. The Sacramento Airport Station has similar annual rainfall to the Willows Station. At the Sacramento Airport Station, the 100-year 1-hour storm is 1.07 inches.
36. The mean Class A pan evaporation at the DWR Willows 6S and the U.S. Bureau of Reclamation Willows Stations is approximately 117 inches per year, based on the California DWR, November 1979, *Evaporation from Water Surfaces in California, Bulletin 73-70*. True evaporation is assumed to be 75% of Class A pan evaporation, or about 57.61 inches.
37. The landfill is not within a 100-year flood plain based on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map, Community-Panel Number 0600570350B.
38. Storm water sedimentation basins are located north of the shop building and east of the northern part of the Unit in the west part of the soil borrow area. The larger sedimentation basin in the soil borrow area receives runoff from a roadside ditch along a portion of the north side of the landfill. Discharge from the basin crosses the perimeter road and enters an ephemeral drainage course to the north. The basin in the west part of the sedimentation basin receives water from portions of the north side of the landfill, scale area, and the current borrow area. This basin is operated as a retention basin. That is, runoff that enters the basin either infiltrates or evaporates. Although there is no formal outlet to the retention basin, if outflow occurs, it will be to the north into the ephemeral drainage.

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

39. 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.
40. Surface water drainage on the north side of the landfill is toward an unnamed intermittent tributary of Wilson Creek and surface drainage on the south and west sides of the landfill is toward intermittent White Cabin Creek in the Colusa Trough Hydrologic Subarea (520.21) of the Sacramento Hydrologic Basin. Wilson Creek and White Cabin Creek flow under the Tehama-Colusa Canal east of the facility and both creeks are tributary to Willow Creek a mile north of the town of Willows.

Willow Creek flows into Colusa Trough near the town of Colusa, and is tributary to the Yolo Bypass and the Sacramento River.

41. The beneficial uses of the Sacramento River apply to its tributaries, including Wilson Creek and White Cabin Creek. The designated beneficial uses of the Sacramento River from Shasta Dam to the Colusa Basin Drain, as specified in the Basin Plan, are municipal and domestic supply; agricultural supply; industrial service supply; water contact and non-contact water recreation; warm and cold freshwater habitat; fish migration and spawning and wildlife habitat; and navigation.
42. The first encountered groundwater in the vicinity of the landfill ranges from about 59 to 68 feet below the native ground surface (at well M-7A). Multiple gravel/sand layers at varying depths have been observed in borings from site monitoring wells. Most of the gravel/sand intervals above about 120 feet mean sea level (MSL) are laterally discontinuous and do not exhibit fully saturated conditions. The deepest continuously saturated aquifer penetrated to date at the landfill occurs about 90 to 100 feet MSL and groundwater in this zone is confined.
43. Monitoring data indicate background groundwater quality for first encountered groundwater at well M-6 has electrical conductivity (EC) ranging between 320 and 450 micromhos/cm, with total dissolved solids (TDS) ranging between 150 and 260 milligrams per liter (mg/L).
44. The direction of the groundwater gradient in the uppermost continuously saturated interval beneath the site is generally toward the south at magnitudes ranging from 0.0041 to 0.0090 feet per foot. The estimated average groundwater velocity is 14 feet per year.
45. 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 UNSATURATED ZONE MONITORING**

46. The current groundwater monitoring network for the landfill consists of 12 wells (M-4, M-5A, M-5B, M-6, M-7A, M-7B, M-8, M-9, M-10, M-11, M-12 and M-13), although three of these wells have been dry since installation (M-5A, M-9 and M-10). These WDRs require the Discharger to continue gauging wells M-5A, M-9, and M-10 for the presence of water each semiannual monitoring event and to collect samples if sufficient water is encountered during a monitoring event. Groundwater monitoring wells at the landfill have been installed in at least four different higher-permeability gravel intervals across the site, which are described in more detail below. Wells M-7A and M-7B are nested in the same boring and monitor different higher-permeability intervals. Wells M-4, M-6, M-11, M-12 and

M-13 are installed into the deepest laterally continuous aquifer penetrated beneath the site at approximately 90 to 100 feet MSL.

47. Well M-4, which is installed into the deeper laterally continuous aquifer (Zone D as described below), is the only well monitoring the hydraulically downgradient edge of the Unit. The hydraulically downgradient edge of the Unit is approximately 950 feet long. Well M-4 has been dry or contained insufficient water for sampling purposes nine times over the last 17 quarterly monitoring events (September 2009 through September 2013). The Discharger was required to install at least one additional groundwater monitoring well along the hydraulically downgradient edge of the Unit into the deeper laterally continuous aquifer that is penetrated by wells M-4, M-6, M-11, and M-12. In July 2015, monitoring well MW-13 was installed on the south west side of the landfill in order to provide consistent water samples at the Point of Compliance (as defined in Title 27, section 20164) and for assessing the efficacy of the corrective action program.
48. Three additional wells (M-1, M-2, and M-5) were formerly part of the groundwater monitoring system. Wells M-1 and M-2 were destroyed in 2002. Well M-5 was located at the southeast corner of the Unit and consistently contained water. Groundwater quality in the vicinity of well M-5 was impacted with elevated inorganic constituent concentrations and consistent low-concentration volatile organic compounds (VOCs). Impacted groundwater quality in the vicinity of well M-5 is described in more detail in Finding 61 below. Well M-5 was destroyed in December 2010 and replaced with two new wells, M-5A and M-5B, with well M-5A monitoring a shallow higher-permeability interval between 41 and 56 feet below ground surface (bgs) and M-5B monitoring a deeper zone between 103 and 123 feet bgs. Well M-5A has always been dry while M-5B has consistently contained sufficient water for sampling.
49. Groundwater monitoring wells at Glenn County Landfill have been completed in at least four different sand/gravel higher-permeability intervals. To better understand the groundwater monitoring network and the water-bearing zones the wells penetrate, the sand/gravel higher-permeability intervals are referenced as Zone A (shallowest zone located between 140 and 200 feet MSL), Zone B (located between 120 and 140 feet MSL), Zone C (located between 100 and 120 feet MSL), and Zone D (deepest zone penetrated located between 90 and 100 feet MSL). Zone D is the only higher-permeability interval being monitored by at least three wells. The other zones appear laterally discontinuous and are monitored by less than three wells.
50. Well construction details for the current groundwater monitoring system are provided below:

Well ID	Installation Date	Total Depth	Screen Interval	Well Type
M-4	August 1990	163.3 ft bgs	152 – 162 ft bgs	Compliance (Zone D)
M-5A	December 2010	57 ft bgs	41 – 56.5 ft bgs	Compliance (Zone A)
M-5B	November 2010	124 ft bgs	103 – 123 ft bgs	Compliance (Zone B)
M-6	September 1990	142.87 ft bgs	132 -142 ft bgs	Background (Zone D)
M-7A	October 2002	146.5 ft bgs	59.75 – 69.75 ft bgs	Compliance (Zone A)
M-7B	October 2002	146.5 ft bgs	109.75 – 144.75 ft bgs	Compliance (Zone C)
M-8	October 2002	167 ft bgs	145 – 165 ft bgs	Compliance (Zone B)
M-9	October 2007	125 ft bgs (backfilled with bentonite from 87 to 125 ft bgs)	65 – 85 ft bgs	Compliance (Zone A)
M-10	October 2007	135 ft bgs (backfilled with bentonite from 110 to 135 ft bgs)	97 – 107 ft bgs	Compliance (Zone B)
M-11	August 2012	170 ft bgs	142 – 162 ft bgs	Compliance (Zone D)
M-12	August 2012	275 ft bgs	219 – 229 ft bgs	Background (Zone D)
M-13	July 2015	200 ft bgs	125 – 145 ft bgs	Compliance (Zone D)

51. As described in Finding 47 above, the Discharger’s corrective action monitoring program for groundwater at the landfill required installation of an additional groundwater monitoring well along the hydraulically downgradient edge of the Unit.

52. A suction lysimeter (SL-1) is located along the northwestern boundary of the Unit. Total depth of SL-1 is 26.5 feet bgs. Suction lysimeter SL-1 will be monitored for the parameters and constituents and at the frequency listed in Table II of MRP No. R5-2014-0084.

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

54. 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.
55. In order to provide the best assurance of the earliest possible detection of a release of non-naturally occurring waste constituents from a landfill Unit, the SPRRs specify a non-statistical method for the evaluation of monitoring data for non-naturally occurring compounds. The specified non-statistical method for evaluation of monitoring data provides two criteria (or triggers) for making the determination that there has been a release of non-naturally occurring waste constituents from a landfill Unit. The presence of two non-naturally occurring waste constituents above their respective method detection limit (MDL), or one non-naturally occurring waste constituent detected above its practical quantitation limit (PQL) [a.k.a, laboratory reporting limit (RL)], indicates that a release of waste from a Unit has occurred. Following an indication of a release, verification testing must be conducted to determine whether there has been a release from the landfill Unit or the detection was a false detection. The detection of two non-naturally occurring waste constituents above the MDL as a trigger is appropriate due to the higher risk of false-positive analytical results and the corresponding increase in sampling and analytical expenses from the use of one non-naturally occurring waste constituent above its MDL as a trigger.
56. For a naturally occurring constituent of concern, Title 27 requires concentration limits for each constituent of concern be determined as follows:
  - a. By calculation in accordance with a statistical method pursuant to Title 27, section 20415(e)(8); or
  - b. By an alternate statistical method meeting the requirements of Title 27, section 20415(e)(8)(E).
57. The Discharger submitted a 23 February 2009 Water Quality Protection Standard (WQPS) report proposing statistical data analysis methods to calculate concentration limits for each monitored constituent in accordance with Title 27.

The WQPS report proposed use of Shewhart-CUSUM control charts for evaluating groundwater monitoring data. The WQPS concentration limits were updated in the 12 January 2015 Revised WQPS Report.

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

58. Between December 2000 and October 2006, each monitoring well included in the groundwater monitoring program had at least one detection of a volatile organic compound above its respective PQL. Between December 2007 and December 2010, Bis(2-ethylhexyl)phthalate was detected at low concentrations in wells M-4, M-6, M-7A, and M-7B and Di-n-butyl phthalate was detected below the PQL in wells M-5B and M-7B. Wells M-5B, M-7A, and former well M-5 also exhibit elevated inorganic constituent concentrations as compared to other site monitoring wells.
59. On 14 October 2003, 10 dual completion soil gas monitoring wells were sampled for volatile organic compounds using EPA Method TO-14. The gas monitoring wells have shallow (5-10 feet bgs) and deep (25 to 30 feet bgs) screened intervals. The 14 October 2003 soil gas samples were obtained during a period of high atmospheric pressure. Sample results identified 26 different VOCs found throughout the landfill at varying concentrations. Eighteen of the 20 soil gas probes had at least one detection of VOCs. On 4 and 5 December 2003, additional soil gas samples were obtained during a period of low atmospheric pressure. During the December 2003 soil gas sampling event, VOCs were detected in all but one soil gas probe. These VOC detections in soil gas around the landfill may be an indication that landfill gas is contributing to observed groundwater impacts at the site.
60. Suction lysimeter SL-1 located along the northwestern edge of the Unit has been monitored for VOCs since 2006. During that time, 27 different VOCs were detected in soil pore liquid. In September 2013, acetone, 1,4-dichlorobenzene, 1,1-DCA, cis-1,2-di-chloroethene, methyl iodide, and MtBE were detected above laboratory reporting limits in soil pore liquid from SL-1.
61. Groundwater quality in the vicinity of former well M-5 has been impacted from elevated inorganic constituent concentrations and consistent low-concentration VOCs. In July 2010, the Discharger inspected the integrity of well M-5 using down-hole video and discovered that the PVC casing was damaged at several joints beginning at 28 feet bgs allowing leachate to enter the well. The well casing acted as a direct conduit for leachate migration to groundwater causing water quality impacts. Well M-5 was destroyed in December 2010 and replaced with two new wells, M-5A and M-5B.
62. Trilinear diagrams and Stiff patterns for former well M-5, wells M-5B and M-7A, and leachate are similar, although the leachate pattern is about five times larger

than well patterns. Some inorganic parameters in former well M-5 had concentrations approaching the concentrations found in pure leachate because the damaged well casing allowed leachate to directly contact groundwater. Water quality in well M-7A shows a more “muted leachate signature” possibly from undergoing chemical changes during downward migration of leachate through the subsurface.

63. The uppermost continuously saturated zone beneath the landfill as represented by wells M-4, M-6, M-11, M-12 and M-13 does not show impacts from leachate migration. However, isolated shallower higher-permeability intervals have shown groundwater impacts, as represented by wells M-5B, M-7A, and former well M-5.
64. In November 2011, the Discharger submitted a report titled *Hydrogeological Evaluation and Site Review for Glenn County Landfill*. This report concluded that groundwater pollution at the Glenn County Landfill appears to be caused mainly by leachate migration, although landfill gas has the potential to impart VOCs to groundwater. This report recommended installation of a final cover system over the Unit with passive gas venting as the preferred corrective action for the site.

### **LANDFILL CLOSURE**

65. 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 a bottom liner).
  - d. One-foot soil erosion resistant/vegetative layer.
66. 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.
67. The Discharger submitted a January 2013 *Final Closure and Post-Closure Maintenance Plan* (FCPCMP) for closure and post-closure maintenance of the Unit. The FCPCMP proposes an alternative final cover system as described in Finding 68 below. In May 2018, the Discharger submitted the *Revised Final Closure and Post-Closure Maintenance Plan* (FCPCMP) which updated closure estimate dates to facilitate greater use of available landfill capacity. The Discharger anticipates receiving wastes through October 2018. The Discharger’s contractor will complete installation of the foundation layer as described in the FCPCMP and in accordance with the approved Construction Quality Assurance



Plan during the summer construction seasons of 2019/2020. This Order requires completion of final closure construction activities **by 15 November 2020**.

68. The Discharger proposes an engineered alternative final cover consisting of, in ascending order, the following layers:
- a. 2-foot thick foundation layer.
  - b. 40-mil HDPE or LLDPE geomembrane, whichever is less costly.
  - c. Geocomposite drainage layer for slopes steeper than 19.4%.
  - d. 8-oz geotextile cushioning layer (or several inch thick sand layer if sand is available).
  - e. 1.5-foot thick vegetative layer.
69. The HDPE or LLDPE geomembrane proposed for use as the low-hydraulic conductivity layer of the final cover system has permeability much less than the prescriptive standard of  $1 \times 10^{-6}$  cm/s contained in Title 27, section 21090.
70. A passive landfill gas collection and venting system will be installed in the upper layer of waste immediately below the foundation layer. Landfill gas will be collected in horizontal collection pipes and vented to the atmosphere at risers installed at the ends of each row.
71. Side slopes for the closed landfill will not exceed a ratio of 3H:1V and the flatter top deck will have a minimum slope of 3% or greater. Side slopes do not exceed 50 vertical feet in elevation, so benches are not proposed.
72. The Discharger performed a slope stability analysis for the proposed final cover using Geoslope's model Slope/W Version 4.0. The slope stability analysis calculated a static and pseudostatic factor of safety for the weakest failure plane (foundation layer side slopes with geocomposite drainage layer) of 2.48 and 1.52, respectively. 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 and have a dynamic factor of safety greater than 1.5.
73. 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.

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

74. The Discharger submitted a May 2018 *Revised Final Closure and Post-Closure Maintenance Plan* (FCPCMP) for closure and post-closure maintenance of Glenn County Landfill. 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. Post-closure maintenance

inspections will assess the condition of the final cover, drainage features, groundwater monitoring wells, access roads, passive landfill gas collection and venting system, 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.

75. Once every five years during the post-closure maintenance period, topographic maps of the closed landfill area will be made to identify and evaluate landfill settlement. Iso-settlement maps will be prepared to determine the amount of differential settlement occurring over the previous five years. Pursuant to Title 27, section 21090(e)(2), this Order requires iso-settlement maps to be prepared and submitted every five years after the Initial Survey and Map are prepared after final closure construction is completed.
76. The completed final cover will be periodically assessed for damage or defects during annual inspections of the final cover system pursuant to Title 27, section 21090(a)(4)(A). Defects will be repaired and tested for adequacy based on the Construction Quality Assurance (CQA) Plan used during closure.

#### **INERT CELL CLOSURE AND POST-CLOSURE MAINTENANCE**

77. The Discharger submitted a Preliminary Closure and Post-Closure Maintenance Plan for the temporary and permanent (if needed) inert disposal cells with the ROWD. The temporary inert cell was never constructed. The permanent inert cell will be constructed during closure construction. When the inert disposal cell reaches capacity, it will receive a final cover system consisting of three feet of compacted soil. The soil final cover will be fertilized and seeded with native grasses as an erosion and sediment control BMP. A cost estimate for closure of the permanent inert cell is estimated to be \$109,591, with post-closure maintenance costs estimated at \$149,012, both in 2014 dollars.

#### **FINANCIAL ASSURANCES**

78. Title 27, sections 21820 and 22206 require a cost estimate for landfill closure. The cost estimate must be equal to the cost of closing the landfill at the point in its active life when the extent and manner of operation would make closure the most expensive. When closing units in phases, the estimate may account for closing only the maximum area or unit of a landfill open at any time. The Discharger's January 2013 *Final Closure and Post-Closure Maintenance Plan* includes a cost estimate for landfill closure. The total amount of the closure cost estimate in 2017 dollars is \$10,549,017 including a 20% contingency. This Order requires the Discharger to maintain financial assurance with the California Department of Resources Recycling and Recovery (CalRecycle) in at least the amount of the closure cost estimate adjusted annually for inflation. As of 2017, the trust fund

balance for closure costs was \$5,000,285. The Discharger intends to apply for a low-interest loan to fund the remaining portion of landfill closure.

79. Title 27, sections 21840 and 22211 requires a cost estimate for landfill post-closure maintenance. The Discharger's January 2013 *Final Closure and Post-Closure Maintenance Plan* includes a cost estimate for landfill post-closure maintenance. The amount of the cost estimate for post-closure maintenance in 2017 dollars is \$4,001,318. This Order requires the Discharger to maintain financial assurance with CalRecycle in at least the amount of the post-closure maintenance cost estimate adjusted annually for inflation. The Discharger does not have a funding mechanism for post-closure maintenance. The Discharger anticipates establishing a Pledge of Revenue or similar mechanism for post-closure maintenance prior to closure.
80. Title 27, section 22100(b) requires owners and operators of disposal facilities that are required to be permitted as solid waste landfills to provide cost estimates for initiating and completing corrective action for known or reasonably foreseeable releases of waste. Title 27, section 22101 requires submittal of a *Water Release Corrective Action Estimate* and a *Non-Water Release Corrective Action Cost Estimate*. The *Water Release Corrective Action Estimate* is for scenarios where there is statistically significant evidence of a release of waste to ground or surface water. The *Non-Water Release Corrective Action Cost Estimate* is for complete replacement of the landfill final cover system, however a site-specific corrective action plan pursuant to Title 27, section 22101(b)(2) may be provided in lieu of the final cover replacement cost estimate. Title 27, section 22221 requires establishment of financial assurances in the amount of the approved *Water Release Corrective Action Estimate* or an approved *Non-Water Release Corrective Action Cost Estimate*, whichever is greater.
81. In the January 2013 FCPCMP, the Discharger provided a *Water Release Corrective Action Estimate* in the amount of \$695,500 for a groundwater pump-and-treat system with discharge of treated groundwater to an evaporation pond on-site. The total amount in 2017 dollars is \$722,238. In the 23 January 2015 *Non-Water Release Corrective Action Cost Estimate*, the Discharger provided an estimate of \$158,900. The amount of the non-water release corrective action cost estimate in 2017 dollars is \$165,014. This Order requires the Discharger to maintain financial assurances in the amount of the approved *Water Release Corrective Action Estimate* or an approved *Non-Water Release Corrective Action Cost Estimate*, whichever is greater.
82. The Discharger has established financial assurances for closure and post-closure maintenance costs associated with the inert disposal cell. Finding 77 above lists the closure and post-closure maintenance cost estimates.

## CEQA AND OTHER CONSIDERATIONS

83. Closure of the landfill and opening a new landfill or transfer station was described in a Programmatic Environmental Impact Report (PEIR) that evaluated several options for waste management within Glenn County. Therefore, final closure of the Phase A Unit at the landfill was evaluated in conformance with the California Environmental Quality Act (CEQA), although a Notice of Determination for the PEIR pertained only to expanding the property boundary. Because the previous Notice of Determination did not explicitly address landfill closure, an Initial Study for closure of the landfill and operation of temporary and permanent transfer stations (if needed) will be prepared. The Initial Study will be circulated per the CEQA process, and the appropriate environmental document will be prepared and certified. The Discharger filed a Notice of Determination for landfill closure and operation of a transfer station in June 2014.
84. The action to revise waste discharge requirements for this existing facility is exempt from the provisions of the CEQA, Public Resource Code section 21000, et seq., and the CEQA guidelines, in accordance with California Code of Regulations, title 14, section 15301.
85. 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.
  - 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.
86. 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.”

87. 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 discharged or discharging, or who proposed to discharge waste 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 waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports.”
88. The technical reports required by this Order and the attached "Monitoring and Reporting Program No. R5-2014-0084" 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**

89. 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.
90. 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.
91. 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. R5-2006-0119 is rescinded except for purposes of enforcement, and that Glenn County, its agents, successors, and assigns, in order to meet the provisions of Division 7 of the California Water Code and the regulations adopted thereunder, shall comply with the following:

#### **A. PROHIBITIONS**

1. The discharge of 'hazardous waste' or 'designated waste' is prohibited. For the purposes of this Order, the term 'hazardous waste' is as defined in California Code of

Regulations, Title 23, section 2510 et seq., and 'designated waste' is as defined in Water Code section 13173.

2. The discharge of any material other than concrete (including fiberglass or steel reinforcing bar embedded in the concrete), cinder blocks, fully cured asphalt, bricks, or clean soil to the inert disposal cells is prohibited, unless the Discharger first receives written approval from Central Valley Water Board staff and the Glenn County Local Enforcement Agency (LEA) for a material other than those listed above.
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 hereto and made part of this Order by reference.

## **B. DISCHARGE SPECIFICATIONS**

1. The Discharger shall only discharge the wastes listed or allowed under the Waste Classification and Unit Classification section in the Findings of this Order.
2. The Discharger shall only discharge concrete (including fiberglass or steel reinforcing bar embedded in the concrete), cinder blocks, fully cured asphalt, bricks, or clean soil to the inert disposal cell, unless the Discharger first receives written approval from Central Valley Water Board staff and the Glenn County LEA for a material other than those listed above.
3. 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 demonstrates it meets the requirements in Title 27, section 20705, and the Discharger has received Central Valley Water Board approval that it may begin using the material as ADC. Currently, the Discharger is only approved to use tarps as ADC.
4. The Discharger shall use approved ADC only in internal areas of the landfill that do not drain outside of the limits of the Unit 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.
5. 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.

6. The Discharger shall comply with all applicable Standard Discharge Specifications listed in Section D of the SPRRs dated January 2012 which are attached hereto and made part of this Order by reference.

### **C. FACILITY SPECIFICATIONS**

1. **Prior to the start of the wet weather season and no later than 31 October annually**, the Discharger shall construct a wet weather tipping pad (if landfill activity is ongoing) and install any necessary erosion and sediment control best management practice needed to limit erosion and off-site transport of sediment.
2. The Discharger shall maintain a Storm Water Pollution Prevention Plan (SWPPP) that is site specific and addresses operation and closure of the Phase A MSW disposal area and the transfer station and inert cell in accordance with State Water Resources Control Board Order No. 97-03-DWQ and subsequent replacement Orders. The SWPPP shall be updated prior to constructing and operating the transfer station and inert cell. Any storm water discharge off-site shall be done in accordance with applicable storm water regulations.
3. 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 attached hereto and made part of this Order by reference.

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

1. The Discharger shall close the landfill Unit with a final cover as proposed in the January 2013 *Final Closure and Post-Closure Maintenance Plan (FCPCMP)* and as approved by this Order. The components of the approved final cover as proposed in the FCPCMP are listed in Finding 68.
2. The Discharger shall close the inert disposal cell after reaching capacity with a three-foot compacted soil cover, graded to drain away from the waste pile, with appropriate erosion and sediment control best management practices implemented.
3. The Discharger shall obtain revised WDRs prior to closing the landfill with any other final cover design than the design or designs approved in this Order.
4. The Discharger shall close the landfill with side slope steepness of 3H:1V or less, and top deck areas shall be sloped at three percent or greater.

5. The Discharger shall install a passive landfill gas collection and venting system beneath the foundation layer of the final cover system during landfill closure. If VOC concentrations increase in groundwater monitoring wells around the landfill after installation of the final cover system, then the Discharger may be required to install an active landfill gas extraction system to reduce VOC impacts to groundwater.
6. The Discharger shall test the critical interfaces of the final cover in a laboratory to ensure minimum design shear strengths are achieved and include the results in the final documentation report. If needed, the Discharger may recalculate the factor of safety based on the tested shear strengths and, if needed, use a more rigorous displacement analysis to demonstrate conformance with Title 27.
7. The Discharger shall ensure that the vegetative/erosion resistant layer receives necessary seed, binder, and nutrients to establish the vegetation proposed in the final closure plan. The Discharger shall install necessary erosion and sedimentation controls to prevent erosion and sediment in runoff from the closed landfill during the period that vegetation is being established.
8. **By 15 November 2020**, the Discharger shall complete final closure activities, including installation of the passive landfill gas collection and venting system, installation of the final cover system, and installation of all necessary erosion and sediment control best management practices. The Discharger shall provide a Final Closure Construction Report including all CQA data **by 31 January 2021**.
9. The Discharger shall comply with all applicable 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 dated January 2012 which are attached hereto and made part of this Order by reference.

## F. FINANCIAL ASSURANCE SPECIFICATIONS

1. The Discharger shall obtain and maintain assurances of financial responsibility with CalRecycle for closure of the landfill in at least the amount described in Finding 78 (\$10,549,017) or as described in the most recently approved closure cost estimate, adjusted for inflation annually. A report regarding financial assurances for closure shall be submitted to the Central Valley Water Board by **1 June of each year (beginning in 2015)**. 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 obtain and maintain assurances of financial responsibility with CalRecycle for post-closure maintenance in at least the amount described in Finding 79 (\$4,001,318) or as described in the most recently approved post-closure



maintenance cost estimate, adjusted for inflation annually. A report regarding financial assurances for post-closure maintenance shall be submitted to the Central Valley Water Board by **1 June of each year (beginning in 2015)**. 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.

3. The Discharger shall submit **by 1 September 2014** a *Non-Water Release Corrective Action Cost Estimate* in accordance with Title 27, section 22101(b).
4. **By 31 December 2014**, 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 approved *Water Release Corrective Action Estimate* (\$722,238) or a *Non-Water Release Corrective Action Cost Estimate* (\$165,014), whichever is greater, adjusted for inflation annually. A report regarding financial assurances for corrective action shall be submitted to the Central Valley Water Board by **1 June of each year (beginning in 2015)**. 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.
5. The Discharger shall establish financial assurances for closure and post-closure maintenance of the inert disposal cell in the amounts of the cost estimates listed in Finding 77, prior to constructing and operating the cell.
6. The Discharger shall comply with all applicable Standard Financial Assurance Specifications listed in Section H of the SPRRs dated January 2012 which are attached hereto and made part of this Order by reference.

## **G. MONITORING SPECIFICATIONS**

1. The Discharger shall comply with the corrective action monitoring program provisions of Title 27, section 20430, for groundwater and the unsaturated zone in accordance with Monitoring and Reporting Program (MRP) No. R5-2014-0084, and the Standard Monitoring Specifications listed in Section I of the SPRRs dated January 2012 which are attached hereto and made part of this Order by reference.
2. **By 1 September 2014**, the Discharger shall submit for review and approval a work plan proposing installation of an additional groundwater monitoring well along the southern, hydraulically downgradient edge of the Unit. After receiving approval of the work plan, the Discharger shall complete installation of the new groundwater monitoring well **by 15 December 2014**. Once the new well is installed, the Discharger

shall begin sampling the well in accordance with the methods and frequencies listed in Table 1 of Monitoring and Reporting Program No. R5-2014-0084.

3. **By 31 December 2014**, collect a sample from the non-potable equipment shop well and analyze the sample for the Field Parameters, Monitoring Parameters, and annual Constituents of Concern (no Chlorophenoxy Herbicides or Organophosphorus Compounds) listed in Table 1 of Monitoring and Reporting Program No. R5-2014-0084. Provide the sample results and a description of the construction details (total depth, screen interval, etc.) for the equipment shop well with the 2014 Annual Monitoring Report, **due by 1 February 2015**.
4. **By 15 January 2015**, the Discharger shall provide an updated Water Quality Protection Standard (WQPS) report in accordance with Title 27, sections 20390 through 20410. The updated WQPS report shall list all constituents of concern, their calculated concentration limits, identify all monitoring points and the point of compliance, and describe the compliance period.
5. 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 in the WQPS Report.
6. 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. R5-2014-0084 and the Standard Monitoring Specifications in Section I of the SPRRs dated January 2012 which are attached hereto and made part of this Order by reference.
7. The Discharger shall provide Semiannual Progress Reports pursuant to Title 27, section 20430(h) regarding the effectiveness of the corrective action program in accordance with MRP No. R5-2014-0084. Semiannual Progress Reports shall also include information regarding the status of constructing the foundation layer of the final cover system in accordance with the 12 November 2013 *Foundation Layer Installation Plan* and the schedule included with that plan. Semiannual Progress Reports may be included with the corresponding semiannual monitoring reports required by MRP No. R5-2014-0084.
8. The Discharger shall comply with all applicable Standard Monitoring Specifications and Response to a Release specifications listed in Sections I and J of the SPRRs dated January 2012 which are attached hereto and made part of this Order by reference.

## H. PROVISIONS

1. The Discharger shall maintain a copy of this Order at the facility, including MRP No. R5-2014-0084 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. R5-2014-0084, which is incorporated into and made part of this Order by reference.
4. The Discharger shall comply with the applicable portions of the SPRRs for Waste Discharge Requirements for Nonhazardous Solid Waste Discharges Regulated by Subtitle D and/or Title 27, dated January 2012, which are attached hereto and made part of this Order by reference.
5. If there is any conflicting or contradictory language between the WDRs, the MRP, or the SPRRs, then language in the WDRs shall supersede either the MRP or the SPRRs, and language in the MRP shall supersede the SPRRs.
6. All reports required by this Order shall be submitted pursuant to Water Code section 13267.
7. The Discharger shall complete the tasks contained in these waste discharge requirements in accordance with the following time schedule:

<u>Task</u>	<u>Compliance Date</u>
<b>A. Financial Assurances</b>	
Submit a Non-Water Release Corrective Action Cost Estimate for review and approval. (see Financial Assurance Specification F.3 above).	<b>By 1 September 2014</b>
Submit proof of financial assurances for corrective action in the amount of the approved Water Release Corrective Action Estimate or a Non-Water Release Corrective Action Cost Estimate, whichever is greater. (see Financial Assurance Specification F.4 above).	<b>By 31 December 2014</b>

## **B. Final Closure Construction**

Complete all final closure construction activities.  
(see Closure and Post-Closure Maintenance  
Specification E.8 above). **By 15 November 2020**

Submit a Final Closure Construction Report.  
(see Closure and Post-Closure Maintenance  
Specification E.8 above). **By 31 January 2021**

## **C. Monitoring Specifications**

Submit a work plan proposing installation of a  
new groundwater monitoring well along the  
hydraulically downgradient edge of the Unit.  
(see Monitoring Specification G.2 above). **by 1 September 2014**

Complete installation of the new groundwater  
monitoring well. (see Monitoring Specification  
G.2 above). **By 15 December 2014**

Sample the non-potable equipment shop well.  
(see Monitoring Specification G.3 above). **By 31 December 2014**

Submit an updated Water Quality Protection  
Standard Report. (see Monitoring Specification  
G.4 above). **By 15 January 2015**

8. 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.
9. The Discharger shall comply with all Storm Water Provisions listed in Section L of the SPRRs dated January 2012 which are attached hereto and made part of this Order by reference.

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

Any person aggrieved by this 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 of this Order, except that if the thirtieth day following the date of this Order 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, PATRICK PULUPA, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 6 June 2014, and amended by Order R5-2018-0072 on 5 October 2018.

ORIGINAL SIGNED BY PATRICK PULUPA

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PATRICK PULUPA, Executive Officer

DPS