California Regional Water Quality Control Board
North Coast Region

ORDER NO. R1-2013-0014
ID NO. 1B79133OHUM

WASTE DISCHARGE REQUIREMENTS

FOR

CLOSURE OF THE
HUMBOLDT WASTE MANAGEMENT AUTHORITY
CUMMINGS ROAD CLASS III SOLID WASTE DISPOSAL SITE

Humboldt County

The California Regional Water Quality Control Board, North Coast Region, (hereinafter the Regional Water Board) finds that:

1. Humboldt Waste Management Authority (HWMA) owns and operates the Cummings Road Landfill (hereinafter "Site") a Class III Solid Waste Disposal Site (SWDS). The Landfill's Solid Waste Information System (SWIS) No. is 12-AA-0005. HWMA is hereinafter referred to as "Discharger".

2. The Site is located in Humboldt County, two miles southeast of Eureka, California in the NE 1/4, Section 5, T4N, R1E, Humboldt Baseline and Meridian, as shown on Attachments "A" through "Q" incorporated herein and made part of this Order. The Site's physical address is 5775 Cummings Road, Eureka, California 95503 on a 107-acre parcel designated as Humboldt County Assessor Parcel Numbers 403-081-024 and 405-081-056. The latitude of the Site is 40.764^{o} North and the longitude is 124.088^{o} West.

3. The Site's property boundary ("waste management facility," as defined in California Code of Regulations (CCR) Title 27) includes a total area of approximately 107 acres and is shown on Attachments A and B. The current topography and site features are shown on Attachment C and the estimated pre-landfill topography is shown on Attachment D. The Class III Waste Management Unit (Class III WMU) encompasses approximately 33.6 acres of the total facility. HWMA purchased the Site from City Garbage Company of Eureka (then a subsidiary of Norcal Waste Systems, Inc., now known as Recology Humboldt County, and hereinafter referred to as "Recology") on June 16, 2000. A lot line adjustment was made in 2000 during the transfer of the property between HWMA and Recology which changed the Site's operational facility. The Site property had been previously identified as Assessor's Parcel Number 405-081-49, but is now identified as Parcel Numbers 403-081-024 and 405-081-056. The Class III WMU footprint was unchanged and still lies fully within the Site's operational area.

4. The Discharger submitted versions of the Joint Technical Document (JTD) package in 2002, 2004, 2006, and January 2010. Regional Water Board staff rejected the three earlier versions, and accepted the JTD package dated January 2010 including the *Final Closure and Post Closure Maintenance Plan* (Closure Plan) and Report of Waste Discharge (ROWD) by Lawrence and Associates (L&A), with revisions on November 5, 2010 and October 15, 2012. The JTD is supported by other reports including: *Record Drawing, Cummings Road Existing Conditions*, Oct 2005, by Winzler & Kelly Consulting Engineers (W & K); *Construction Quality Assurances Report Leachate and Gas Extraction Systems at the Cummings Road Landfill Summer 2006*, December 2006, by W & K; *Limits of Waste*, August 2007, by W & K; *Clean Closure of a Portion of the Cummings Road Landfill in Summer 2005*, August 2007, by W & K; *Analysis of Recommendations Regarding the Location of the Southern Boundary of the Official Waste Footprint*, July 2007, by Pacific Watershed Associates (PWA); *Cummings Road Landfill Burn Dump Limits of Waste Investigation*, October 2008, by PWA; *Work Plan for Piezometers to Evaluate Wet Spots on the Toe of Cummings Road Landfill*, April 2008, by L&A; *Report Presenting Toe Berm Survey Data for Cummings Road Landfill*, November 2008, by L&A; *Landfill-Gas Monitoring and Control Program Plan*, February 2009, by L&A; *Geotechnical Engineering Slope Stability Analyses Report*, November 2009, by Holdrege & Kull; *HRC Cummings Landfill Road Management Plan*, June 2010, by Humboldt Redwood Company, LLC; *Construction Quality Assurance Report for the Installation of Monitoring and Control System Upgrades*, October 2011, by L&A; *Request to Discontinue Toe Berm Surveying for Cummings Road Landfill*, July 2011, by L&A; and *Special Provisions for Cummings Road Landfill – Phase 1 Closure*, March 2012, by L&A.

Regulatory History and Background

5. Starting in 1933, both sides of the Cummings Road ridge, including the Site, were operated as a burn dump. In 1969, a portion of the burn dump was converted to an unlined cut and cover canyon landfill in a deep gully below a portion of the burn dump which became the Cummings Road Landfill. In 1974, Mr. Stig Strombeck, dba City Garbage Company of Eureka, received the first Waste Discharge Requirements for land disposal in the Cummings Road area. The Regional Water Board adopted WDR Order Nos. 74-173, 74-174, and 74-175 for City Garbage Company SWDSs A, B, and C, respectively (Attachment E). The Order classified the Site as a Class II-2, suitable for municipal refuse under the prevailing regulations of the time. The WDRs for these locations were updated in 1975 to WDR Order Nos. 75-200, 75-201, and 75-202 and reissued to Humboldt Motor Stages, Inc., dba City Garbage Company of Eureka. In 1975, City Garbage Company of Eureka, which changed its name to Recology in 2009, was incorporated and acquired

property from Stig and Marilyn Strombeck. This included the property regulated under WDR Order Nos. 75-200, 75-201, and 75-202. Recology then assumed landfill operations regulated by these WDRs. Land disposal occurred under WDRs at Site A only. Pursuant to information in WDR Order No. 79-133, Sites B and C were located on the next drainage west from Site A. Recology installed the first leachate collection trench in the downstream toe of the landfill in September 1976.

6. In 1979, the Regional Water Board rescinded the three 1975 WDRs and adopted WDR Order No. 79-133 for Site A, only. Recology did not seek new WDRs for Sites B and C, because they reportedly did not expect to use these areas for at least 20 years. Site A grew into the modern footprint of the Class III WMU. WDR Order No. 79-133 required the installation of a Phase II leachate collection trench, downgradient of the existing (Phase I) trench, which excavated through the first major groundwater aquifer, the Hookton Formation, and reached the first aquitard, which is the top of the Wildcat Group (a geologic formation). Recology completed construction of the Phase II trench in 1981, and used both trenches to remove leachate.

7. In 1981, the Regional Water Board Executive Officer (EO) issued Cleanup and Abatement Order (CAO) 81-230 for a discharge of earthen materials and refuse as a result of rainfall on the Phase II trench. The Board (EO) rescinded the CAO in 1982, under Order 82-139.

8. In 1988, the Regional Water Board rescinded WDR Order No. 79-133 and replaced it with WDR Order No. 88-66, updating the WDRs to reflect the 1984 changes to the landfill laws (Subchapter 15, Chapter 3, Title 23, CCR) and hydrogeologic information provided in a 1988 Solid Waste Assessment Test (SWAT) report submitted by Recology. The 1984 laws modified the landfill classification system, changing Class II-2 landfills to Class III landfills under the revised nomenclature. The Landfill was the only municipal solid waste site open in Humboldt County at the time and waste accepted consisted of nonhazardous municipal waste and nonhazardous nonmunicipal wastes consisting mainly of ash from wood waste fueled electric generating plants, seafood wastes from food processors, carbon from carbon manufacturing, non-friable asbestos, lime by-products from acetylene production and pulp mill operations, and wastewater treatment plant sludge. The SWAT report indicated that the Class III WMU does not conform to the siting criteria for five feet of separation between the waste and groundwater and that landfill leachate had migrated downgradient of the Class III WMU. Based on the results of the SWAT report, the Regional Water Board tasked Recology with performing further corrective action investigations. Recology made improvements to the leachate collection and recovery system (LCRS) in 1987, including installation of additional leachate collection and extraction galleries, leachate storage tanks, and a new surface irrigation system. Recology stopped

reinjecting leachate into the Site, and leachate that could not be spray irrigated on the SWDS was taken via tanker truck to the City of Eureka wastewater treatment plant. WDR Order No. 88-66 required that any new waste disposal cells constructed at the Site have a single clay liner and LCRS.

9. In 1990, the Regional Water Board EO issued CAO 90-53 to Recology because Recology had failed to inform the Regional Water Board of an increase in wood ash disposal from 30 tons per day to approximately 100 tons per day and discharged ash to surface waters without reporting the discharge. The CAO directed Recology to remove all waste that was in a position to discharge; review the actions that led to the discharge and change operations to prevent further discharges; report on compliance; characterize the ash to assure it was nonhazardous; and update the contingency plan. Following satisfactory efforts by Recology to comply with the CAO, the Regional Water Board EO issued Order 92-54 rescinding CAO 90-53.

10. In 1990, the Regional Water Board EO issued CAO 90-142 because Regional Water Board staff deemed Recology's 1990 Corrective Action Plan (CAP) for the Landfill to be inadequate to address release(s) at the Landfill. The CAO required that Recology complete a series of corrective action evaluations, submit various reports, and implement additional improvements to the LCRS and groundwater monitoring system. The CAO also directed Recology to submit an updated Report of Waste Discharge (ROWD) to implement the updated CAP. Following satisfactory efforts by Recology to comply with the CAO, the Regional Water Board EO issued Order 93-60 rescinding CAO 90-142.

11. In 1993, the Regional Water Board rescinded WDR Order No. 88-66 and replaced it with WDR Order No. 93-46 to include changes to operations and corrective action described in the March 1993 ROWD submitted to comply with CAO 90-142. WDR Order No. 93-46 required that Recology install an upgradient interception trench in the Hookton Formation aquifer; complete construction of a toe berm; install a permanent gas extraction system and LCRS; implement an updated monitoring and reporting program; submit preliminary and final closure plans; and close the Class III WMU. The WDR required that any new cells constructed for waste disposal have a composite liner consisting of two feet of clay and a 60-mil geomembrane with a LCRS. Recology constructed a waste management unit built to those specifications; this is referred to as the Subtitle D lined unit. Under WDR Order No. 93-46 all on-site leachate disposal ceased and Site operators were required to dispose of leachate by trucking the leachate to the City of Eureka wastewater treatment plant for treatment and disposal.

12. Recology began constructing the groundwater interception trench and toe berm in 1993 and completed construction in October 1998. Recology initially completed construction of the interception trench in 1996 with a French drain installed to

collect the water and drain it to the west end of the trench, where water was then piped to the adjacent drainage. During trench construction, a drop-down fault contact between the Hookton Formation and Wildcat Group was encountered, and Recology made a modification to the interception trench design to drain this area as well. The toe berm included a toe drain to intercept groundwater, using dendritic drains and side-slope collectors, in order to maintain stability. Since its construction, the toe berm has experienced tension cracks, requiring stability analyses and periodic monitoring. Per the *Report Presenting Toe Berm Survey Data,* prepared by L&A in November 2008, recent monitoring indicates that the toe berm is currently stable.

13. On September 27, 1993, the Regional Water Board adopted Order No. 93-83, General WDRs for Municipal Solid Waste Landfills, which amended existing requirements for municipal solid waste landfills throughout the Region, including those for the Cummings Road SWDS.

14. In 2001, the Regional Water Board adopted WDR Order No. R1-0106-65, reflecting the change in Site ownership, when the present Discharger purchased the Site from Recology. At that time, discharges at the Site were governed by Order Nos. 93-46 and R1-0106-65; and by General WDRs Order No. 93-83.

15. The Regional Water Board EO revised the Monitoring and Reporting Program for WDR Order No. 93-46 on January 6, 1999. Monitoring and Reporting Program R1-2013-0014 will replace this Order.

16. In 2002, the Regional Water Board EO issued CAO R1-2002-0101, which was a general order imposing a moratorium on placing decommissioned radioactive wastes in Class III and unclassified WMUs. To date, that CAO remains in effect, and applies to landfills within the North Coast Region, including the Site.

17. In the summer of 2005 the Discharger regraded the toe berm to decrease the slope. During this effort, the Discharger discovered wastes outside the legally designated Subtitle D footprint to the south of the Class III WMU, and excavated these wastes and placed them on the Subtitle D lined portion of the Class III WMU in preparation for final closure. The relocated wastes comprised approximately 75,000 cubic yards removed from approximately 2.9 acres. At the conclusion of the regrading project, most of the top deck of the Class III WMU had a minimum three percent slope; the side slopes are 3 to 1 or flatter, and most of the toe slopes at 4 to 1 with benches spaced every 50 feet vertically. A spring located in the side slope of the waste removal area was captured and routed to the interception trench to keep this water from flowing into the waste. Wet areas appeared on the toe after the regrading project and filter fabric and rip rap were added to stabilize the area. Subsequent investigations by L&A using newly installed piezometers in

the toe area showed that this is perched surface water caused by rainfall and possibly side slope spring water entering the soil fill farther up slope and flowing on top of a clay liner which then daylights down slope. Final capping of the Class III WMU should prevent water from these sources from entering the fill. The newly discovered springs above the toe area will be rerouted away from the cap during closure as part of run-on control.

18. In 2005, the Regional Water Board EO issued CAO R1-2005-0120 to the Discharger because of a failure of the drainage system and erosion control which caused a discharge of sediment to downgradient watercourses after regrading the toe berm area in preparation for landfill cap installation and the detection of uncontrolled leachate which was discovered as a result of the additional sampling done because of the sediment discharge. The order required that the Discharger develop and implement short-term and long-term erosion control measures; conduct a failure analysis; provide as-built drawings from the 2005 construction; report on erosion control progress; and conduct additional monitoring for leachate and sediment. The Regional Water Board EO rescinded and updated CAO R1-2005-0120 under Order R1-2006-0028. The new order updated the MRP; added requirements for additional wells and piezometers; and revised a due date for one deliverable. The Regional Water Board EO revised the MRP for this CAO on October 19, 2007 and November 20, 2007. The Discharger has completed all required work under this CAO except for installation of monitoring wells in the Wildcat Group and Hookton Formation groundwater aquifers. This outstanding issue is being addressed by Provision No. 43.

19. During the 2005 regrading activities, the Discharger found another portion of post-burn dump waste outside of the legally designated Subtitle D waste footprint along the western portion of the south Site boundary. Upon further investigation, the Discharger found that this waste had been placed before the 1993 Subtitle D requirements. The investigation of this waste was reported in *Analysis and Recommendations Regarding the Location of the Southern Boundary of the Official Waste Footprint*, July 2007, by PWA. This report indicated that leaving this waste in place and capping it with the Class III WMU would not impact water quality. Regional Water Board staff concurs that this waste may be capped in place with the waste defined within the official 1993 waste footprint.

Closure Plan

20. Closure of the Class III WMU prior to full waste capacity is part of the corrective action required by WDR 93-46 because of groundwater contamination caused by the Site. Placement of the final cover was to have commenced in 1998. Ownership changes and discussions regarding various closure plans submitted by the

Discharger have delayed implementation of closure at the Class III WMU. The Class III WMU is still in corrective action for groundwater contamination, and closure is considered a key component to minimizing water quality impacts from the Class III WMU.

21. On October 9, 1991, the United States Environmental Protection Agency (USEPA) promulgated federal municipal solid waste (MSW) regulations under the Resource Conservation and Recovery Act (RCRA), Subtitle D (Title 40, Code of Federal Regulations (CFR), Parts 257 and 258), hereinafter referred to as "Subtitle D." These regulations apply to all California Class III landfills accepting MSW, including the Cummings Road SWDS.

22. Effective July 18, 1997, the Water Quality Regulations for Class II and Class III disposal facilities formerly contained in Chapter 15, Title 23, CCR, and the Solid Waste Regulations formerly in Title 14, CCR, were re-codified into Chapters 1 through 7, Subdivision 1, Division 2, Title 27, CCR.

23. Regional Water Board staff comments on earlier versions of the Closure Plan included a request that the Discharger investigate whether portions of burn waste existed on their property in areas that were not converted into a Class III WMU. The Discharger submitted *Cummings Road Landfill Burn Dump Limits of Waste Investigation*, October 2008, by PWA in response to this request. This investigation report identified 1.23 acres of burn dump waste on HWMA's property that is not part of the modern landfill footprint. This burn dump waste is part of the disposal site known as the Cummings Road Burn Ash (Burn Ash Site) Site, SWIS No. 12-CR-0048. The Burn Ash Site is located on the former City Garbage Company of Eureka Project Location Map defined in the 1974 and 1975 WDRs. The Burn Ash Site may have included portions of the waste management units that were defined as Sites B and C in the 1974 and 1975 WDRs and that were never landfilled under these WDRs (see Findings 5. and 6., above). Therefore the Burn Ash Site is not subject to the same closure requirements as the Class III WMU. In 1975, Recology acquired property which included the entire Burn Ash Site and SWDS. As noted in Finding 3, above, during the change in property ownership in 2000, a lot line adjustment was made which changed the Site's operational facility boundary. The Burn Ash Site lies partly on property owned by the Discharger with the remaining burn dump waste on Recology's property. Closure of the Ash Burn Dump will be regulated by separate action because it is not subject to the same closure requirements as the Class III WMU and the multiple property owners will need to coordinate any construction work because of the slope configuration. The closure of Class III WMU will not interfere with any closure construction necessary at the Burn Ash Site.

24. The Class III WMU ceased accepting municipal refuse on June 16, 2000. The Class III WMU received minor amounts of inert soil and non-friable asbestos by special appointment until June 30, 2005. No further waste has been received since 2005.

25. Different portions of the Class III WMU are underlain by different types of liners, with the oldest portions, constructed as early as 1976, consisting of compacted clay with unknown specifications. As discussed in Finding 7, following the discovery of groundwater contamination, pursuant to WDR Order 88-66, any new waste disposal cells constructed at the Class III WMU were to have a single clay liner and LCRS and, as of 1993 (WDR 93-46), all new waste placement was required to be on a liner composed of 2 feet of compacted clay and a 60-mil high density polyethylene (HPDE) liner. Construction of the composite-lined Subtitle D area started in 1992 and ended in 1995. The Subtitle D liner covered both previous waste disposal areas and native soil (Subtitle D expansion area). The approximate locations of the known liners are shown on Attachment F.

26. The Class III WMU may accept waste from the off-footprint burn dump prior to final capping; this waste must be placed in areas of the Subtitle D liner that have not yet reached full build-out.

27. Final closure contours for the Class III WMU with or without this additional waste are described in the Closure Plan, as shown on Attachments G, H, H-1, and I. The lower sedimentation pond will be rebuilt during closure as shown on Attachment J.

28. Closure activities will heighten erosion control concerns and the MRP issued with this WDR Order will implement a monitoring strategy similar to monitoring done under CAO R1-2006-0028 until such time as the large scale earthwork is completed and erosion control measures are established. Once data collected demonstrates that the site erosion control is functioning at a high level, Regional Water Board staff will revise/reduce monitoring requirements as appropriate.

29. The total Site area is 107 acres, with approximately 32.2 acres used for waste disposal under WDRs within the legally designated Subtitle D waste footprint and approximately 0.75 acres of waste disposal outside the legally designated Subtitle D footprint (see Finding 17) that will be capped with the Class III WMU. With a liner termination allowance, approximately 33.6 acres of land are expected to be capped. The Class III WMU contains an estimated 1,450,000 cubic yards of waste within the area being capped.

30. Settlement from decay and compaction of the waste over a 30-year postclosure maintenance period is expected to range from 3 to 30 feet within waste that ranges in thickness from 20 to 200 feet.

31. As noted in Finding 18, the Discharger's property also encompasses 1.23 acres of burn dump waste, with an estimated waste volume of 11,156 cubic yards, on the Discharger's property. This burn dump waste is part of the Burn Ash Site where waste disposal occurred prior to regulation by the Regional Water Board, and the area was not converted to modern landfill use. The burn dump waste is not part of the Class III WMU, and is located both on land owned by the Discharger as well as on land owned by Recology. Closure of the Ash Burn Dump will be regulated by separate action because it is not subject to the same closure requirements as the Class III WMU and the multiple property owners will need to coordinate any construction work because of the slope configuration.

32. The Class III WMU area, as delineated in Attachments B, C, F, G, and H, meets the criteria contained in California Code of Regulations (CCR), title 27 for a Class III landfill for non-hazardous solid wastes. The Ash Burn Dump is not considered part of the Cummings Road Landfill Class III WMU.

33. The Class III WMU has both lined and unlined areas within it. The Class III WMU has a LCRS which has both sump collection and vertical extraction (Attachment K) and a gas extraction system (Attachment L), which is periodically burned off by an automated flare. An interception trench diverts surface water and a portion of the groundwater from the uppermost aquifer away from the waste footprint.

34. Postclosure land use and activities for the Site will be undeveloped, non-irrigated open space with the exception of maintenance, monitoring, and operating equipment for the landfill control systems and limited off-cap equipment access for timber operations. Existing Site infrastructure will remain. Additional gates will be constructed during closure to prevent unauthorized access. Other public, private, or county use of the Site is not currently planned. Any changes to post-closure land use, including landfill gas to electricity conversion, will require submittal of an amendment to the postclosure maintenance plan and Regional Water Board approval prior to implementation.

35. Surface and groundwater in the Site's vicinity has historically been used for domestic supply, stock watering, and recreation. The groundwater contamination from the Site created an impact to this beneficial use. Reportedly, none of the downgradient residents are currently using groundwater for domestic supply, but it is unknown whether some residents use the water for other purposes. Recology constructed a domestic water supply system, now operated by the Humboldt Community Services District, and connected residents willing to do so in exchange for environmental releases. At this time, all residents who were offered connection to the domestic water supply system at Recology's expense have

accepted the offer, and have been connected to the system. It is unknown whether Recology offered a connection to the water supply system to all downgradient residents.

36. Use of Site roads for logging access has been an existing land use. However, engineering features that have been installed for corrective action and closure require restricted use of Site roads for non-landfill activities to protect these features. The Discharger was required to submit a road management plan as part of the JTD. Regional Water Board staff received the *HRC Cummings Landfill Road Management Plan* by Humboldt Redwood Company, LLC, as part of the JTD. Logging equipment access is now limited to dry-weather summer access on the designated bench road on the east side of the groundwater interception trench and year around use of Cummings Road. Light vehicle access using the designated bench road may occur year around as long as all erosion control measures are inspected and repaired daily, as necessary, during periods of wet weather or winter season use. Any changes to this plan will require submittal of an amendment to the postclosure maintenance plan and Regional Water Board approval prior to implementation.

SITE DESCRIPTION

37. The Site is accessed by taking Myrtle Avenue out of Eureka and turning right onto Mitchell Road then a left onto Cummings Road and taking it to the end of public access on Cummings Road. The roads are paved until reaching the site, where Cummings Road becomes private and gravel beyond the site entrance. Cummings Road then continues beyond the Site onto private timberlands. The property is on hilly terrain above tidal sloughs of Humboldt Bay two miles southeast of Eureka. Surface elevations at the Site range from 250 to 700 feet above mean sea level.

38. A locked gate secures the Site during non-working hours. Both the landfill operator and private timberland owners have access to this gate. During closure, additional fencing will be built to allow timberland access to Cummings Road without access to the rest of the Site facilities. Land use in the vicinity of the Site is timber harvest and rural residential. There are 12 visible off-site structures within 1000 feet of the Site. The Discharger assumes all of these structures have wells, but that these structures have municipal water connections for consumptive purposes. Permanent structures onsite include a shop building, bathroom, gas flare system, and community water tanks. Other structures on-site include an office trailer and several leachate tanks. The Site is zoned Forestry Recreation, Special Building Site and the parcels are designated Public Facility in the Humboldt County General Plan.

SURFACE WATER

39. The Site is located in a small valley at the headwaters of a tributary to Freshwater Creek locally known as Spears Creek. Runoff from the Site flows to either Spears Creek or an unnamed tributary to Ryan Creek, which is located in the adjacent valley.

40. The Site is located within the Eureka Plain Hydrologic Unit. Spears Creek and Ryan Creek both flow into Freshwater Creek which flows into Humboldt Bay and into the Pacific Ocean.

41. The Basin Plan identifies the following existing and potential beneficial uses for Humboldt Bay and the Pacific Ocean:

    a. MUN – Municipal and Domestic Supply
    b. AGR – Agricultural Supply
    c. IND – Industrial Service Supply
    d. FRSH – Freshwater Replenishment
    e. NAV – Navigation
    f. REC-1 – Water Contact Recreation
    g. REC-2 – Non-Contact Water Recreation
    h. COMM – Commercial And Sport Fishing
    i. AQUA – Aquaculture
    j. COLD – Cold freshwater Habitat
    k. MAR – Marine Habitat
    l. WILD – Wildlife Habitat
    m. RARE – Preservation of Rare, Threatened, or Endangered Species
    n. MIGR – Migration of Aquatic Organisms
    o. SPWN – Spawning, Reproduction, and/or Early Development
    p. SHELL – Shellfish Harvesting
    q. EST – Estuarine Habitat
    r. CUL – Native American Culture
    s. POW – Hydropower Generation
    t. PRO – Industrial Process Supply

42. The Basin Plan identifies the following existing and potential beneficial uses for surface water in the vicinity of the Site:

    a. MUN – Municipal and Domestic Supply
    b. AGR – Agricultural Supply
    c. IND – Industrial Service Supply

d. GWR – Groundwater Recharge
e. FRSH – Freshwater Replenishment
f. NAV – Navigation
g. REC-1 – Water Contact Recreation
h. REC-2 – Non-Contact Water Recreation
i. COMM – Commericial And Sport Fishing
j. AQUA – Aquaculture
k. COLD – Cold freshwater Habitat
l. WILD – Wildlife Habitat
m. RARE – Preservation of Rare, Threatened, or Endangered Species
n. MIGR – Migration of Aquatic Organisms
o. SPWN – Spawning, Reproduction, and/or Early Development
p. EST – Estuarine Habitat
q. CUL – Native American Culture
r. POW – Hydropower Generation
s. PRO – Industrial Process Supply

43. The Freshwater Creek watershed, within the Eureka Plain Hydrologic Unit, is listed as an impaired water body for sedimentation and siltation, pursuant to section 303(d) of the Clean Water Act. At this time, Total Maximum Daily Loads have not been established for the Freshwater Creek watershed, but the region-wide sediment policy, established by R1-2004-0087,*Total Maximum Daily Load Implementation Policy Statement for Sediment-Impaired Receiving Waters in the North Coast Region* applies to sediment-impaired watersheds within the North Coast Region that do not have specific TMDL action plans. Given that these WDRs prohibit discharges of waste from the Landfill, and the Discharger must have and implement an *Erosion Control Plan*, the WDRs are not expected to allow the Discharger to discharge at levels which will cause, have the reasonable potential to cause, or contribute to increases in sediment and siltation levels in the Freshwater Creek watershed.

44. The Site is not located within a 100-year floodplain.

STORM WATER

45. The mean annual precipitation for the area is approximately 39.78 inches per year based on regional weather station information from the National Weather Service's Climatological Station at Woodley Island. The 100-year, 24-hour precipitation event, based on precipitation depth-duration-frequency table, is 6.02 inches. The 100-year, 5 minute precipitation event is 5.76 inches per hour. The mean annual evaporation is 31.64 inches as measured at Ferndale between the years 1963 and 1973.

46. Storm water from the Site is controlled by a series of drainage trenches and culverts which reroute rainfall to three settlement basin areas. The lower sedimentation pond and toe settling basins release storm water to Spears Creek and the upper sedimentation pond releases to a tributary of Ryan Creek (one ridge over from the Cummings Road SWDS). The interception trench reroutes upgradient Hookton Formation groundwater directly to a tributary of Ryan Creek. Storm water that enters the interception trench flows to the upper sedimentation pond which also is released to the same tributary of Ryan Creek.

47. Drainage features were designed for peak flow using the rational method. This peak flow exceeds that from a 100-year 24-hour storm event, providing a flow design that exceeds Title 27 CCR requirements. A storm intensity for a five-minute, 100-year storm of 5.76 inches per hour was used for drainage calculations.

48. This Order does not replace a future need for a National Pollutant Discharge Elimination System (NPDES) storm water permit, as required by provisions of the Clean Water Act. Cummings Road SWDS is currently enrolled for coverage under the NPDES Industrial Storm Water General Permit Order No. 97-03-DWQ, enrollment WDID No. 1 12I016518.

SITE GEOLOGY

49. The Site is located in the Coast Range Geologic Province of California, which is considered seismically active. This province is characterized by generally northwesterly trending mountain ranges and faults controlled by movements between the Pacific and North American tectonic plates. Geologic bedrock units of the Coast Range Province become progressively older to the east and represent a series of oceanic terrains that have become accreted to the continental margins and are known as the Franciscan Complex.

50. The Site falls in the westernmost Franciscan terrain known as the Coastal Belt which is Cretaceous to Paleogene in age. Coastal Belt Franciscan Complex rocks consist mainly of conglomerate, sandstone, and shale that were deposited in marine environments. Overlying the Coastal Belt Franciscan Complex is the Eocene Yager Formation consisting predominantly of greywacke deposited in marine basins. Overlying the Yager Formation are younger sedimentary units known as the Wildcat Group which are Miocene through Pleistocene in age and can be in excess of 4,000-feet thick. The Wildcat Group is a basin-filling sequence from deep-marine to shallow-marine/brackish. Overlying the Wildcat Group is

the non-marine to marine Hookton Formation. The Hookton Formation consists of fine-grained sand with occasional coarser-grained lenses.

51. The Site is immediately underlain by both the Hookton and Wildcat Group. The Hookton Formation sandstone caps the hilltops and unconformably overlies siltstone and sandstone of the Wildcat Group. Minor amounts of recent alluvium consisting of sand and gravel occur in the stream beds and unconformably overlies both the Hookton Formation and Wildcat Group. In this area the Hookton Formation consists of massive, yellow-brown to yellowish-orange sandstone to silty sandstone with thin layers and lenses of conglomerate. The Hookton Formation is poorly consolidated and friable. The upper 120 feet of the Wildcat Group in the vicinity consist of interbedded olive-green to gray siltstone/claystone and sandstone. The individual formations of the Wildcat Group have not been differentiated at or near the Site. It has a higher percentage of fines and is more consolidated than the Hookton Formation. There is commonly a thin gravel layer at the contact between the Hookton Formation and the Wildcat Group. The Wildcat Group in the area has a strike 75 degrees north and a dip of 7 degrees northwest.

52. The toe area of the Class III WMU is thought to be underlain by the Wildcat Group, while the upper portion of the Class III WMU is underlain by the Hookton Formation. The Site Map showing the interpreted bottom elevations of waste, Cross-Section A-A', and Cross-Section B-B' are shown on Attachments D, M, and N, respectively.

53. There are no known Holocene faults at or in the vicinity of the Site. The Site is not within an Alquist-Priolo Special Studies Zone. Fault blocks (graben structure) identified during the groundwater diversion trench installation do not have any surface expression indicating movement during the Holocene and are not thought to be active. This graben structure was 85-feet wide and showed a vertical displacement of approximately 35 feet.

54. The nearest active faults are the Little Salmon Fault (the most active), located approximately six to 10 miles southwest; and the Cascadia Subduction Zone approximately five mile west of the Site. The design seismic event for the Site was the Cascadia Subduction Zone, because it is capable of producing the highest acceleration at the Landfill.

GROUNDWATER

55. The bottom of the Class III WMU is less than five feet above naturally occurring high ground water levels.

56. The Site is located on the margin of the Eureka Plain Groundwater Basin (Basin Number 1-9) as defined by the California Department of Water Resources. This basin is bound on the south by the Little Salmon Fault, on the west and north by Humboldt Bay, on the northeast by Freshwater Fault and on the east by Wildcat Group deposits. The primary water-bearing unit of the basin is the Hookton Formation, and to a lesser extent Holocene dune sand and alluvial deposits near the bay margins. The Hookton Formation is capable of yielding up to 800 gallons per minute in some areas. Recharge is from infiltration of precipitation, seepage of stream flow, and lateral groundwater movement from adjacent formations.

57. Past investigations at the Site have identified three aquifers. The uppermost aquifer occurs at the base of the Hookton Formation, where the lower permeability Wildcat Group serves as an aquitard, impeding the downward movement of groundwater. Groundwater well locations are shown on Attachment O. The Hookton Formation aquifer is unconfined in the vicinity of the Site. Two aquifers in the sandstone units of the Wildcat Group have been identified beneath the Site. These aquifers are separated from each other and the Hookton Formation aquifer by low-permeability siltstone/claystone aquitards. Wildcat aquifers are confined aquifers. Site investigation has been limited to the depth necessary for landfill monitoring wells, so it is unknown whether there are additional aquifers within the Wildcat Group beneath the Landfill beyond the two that have been identified to date. Groundwater contours for the Hookton Formation and Wildcat Group are shown on Attachments P and Q, respectively.

58. Both the Hookton Formation and Wildcat Group aquifers show a groundwater gradient north to north-northeast. The magnitude of the gradient, as measured in March 2008, was 0.060 feet/foot in the Hookton Formation aquifer, and ranged from 0.049 to 0.088 feet/foot in the Wildcat Group aquifer. Horizontal seepage rates were estimated to be about 0.04 to 2.2 feet per day in the Hookton Formation and 0.14 to 1.4 feet per day in the Wildcat Group. Monitoring well depths range from 15 to 327 feet below ground surface, depending on the aquifer they monitor and where they lie on the topography.

59. The southern (upper) part of the Class III WMU intercepts the aquifer in the basal conglomerate of the Hookton Formation. When the downgradient contamination was discovered in 1986 during sampling for the SWAT report, it was attributed to the infiltration of groundwater from the Hookton Formation. Recology built the interception trench in an effort to address this contamination. Recology installed monitoring piezometers P-43-H and P-44-H in 1993 in the Hookton Formation aquifer to monitor the groundwater levels immediately downgradient of the interception trench. Data from these piezometers indicate that the interception trench only diverts a portion of the groundwater at maximum operation. The

uppermost Wildcat Group sandstone unit intersects the base of the Class III WMU and contacts waste in the very lowest elevations of waste. The lower area of the Class III WMU allows groundwater from the Hookton Formation and Wildcat Group to commingle, because canyon erosion has exposed both aquifers. Landfill liners have reduced groundwater levels downgradient of the Site.

60. There are several springs located within a mile of the Site, most of which emanate from the contact between the Hookton Formation and the Wildcat Group. Some of these springs were used for drinking water or stock watering. None are currently known to be used, because of contamination from the Site. Eleven of these springs are included in the monitoring program (Attachment O).

61. Beneficial uses of areal groundwaters include:

    a. domestic water supply
    b. agricultural water supply

Environmental Monitoring Systems

62. Monitoring points included in the current groundwater monitoring system consist of fourteen detection monitoring wells, thirteen corrective action wells, six piezometers, and eleven springs. Two of the springs have two sampling locations. As noted above, CAO R1-2006-0028 included a requirement for the installation of two additional Wildcat Group monitoring wells and one Hookton Formation well downgradient of the current wells. These new wells have not been installed as of May 2013. The Discharger must install these wells or submit documentation acceptable to the Executive Officer of the Regional Water Board (Executive Officer) demonstrating why these wells cannot or should not be installed (See D. Provision No. 44).

63. Groundwater Monitoring Wells MW-14-H, MW-19-H, MW-22-H, MW-29-H, MW-30-H, MW-31-H, MW-32-H, MW-38-H, MW-39-H, MW-40-H, MW-51-H, and MW-53-H monitor the Hookton Formation. Groundwater Monitoring Wells MW-7-W, MW-15-W, MW-18-W, MW-21-W, MW-23-W, MW-25-W, MW-26-W, MW-28A-W, MW-45-W, MW-46-W, MW-47-W, MW-48-W, MW-49-W, and MW-52-W monitor the Wildcat Group. MW-5-AL monitors the alluvium of Spears Creek. Piezometers MW-43-H and MW-44-H monitor the groundwater levels in the groundwater diversion trench. MW-33-W, MW-34-W, MW-41-W, and MW-42-H serve as upgradient piezometers.

64. Springs SP-1, SP-2, SP-3, SP-4, SP-5, SP-6, SP-7-W, SP-7-H, SP-8, SP-9, SP-10, Woodgulch Spring A, and Woodgulch Spring are considered as part of the

groundwater monitoring rather than surface water, though some may then flow into surface water. The springs are thought to be monitoring groundwater at the Hookton Formation – Wildcat Group contact.

65. Surface water sampling is performed in conjunction with storm water sampling, as the storm water discharges immediately into the nearby creeks. The two surface water sampling points are S-1 and S-9, which are considered to be the downgradient and upgradient points, respectively. Sampling locations are shown on Attachment O. The Class III WMU was built in the headwaters of Spears Creek and the creek now begins flowing just below the toe of the Class III WMU. S-1, the downgradient sampling point, is located in Spears Creek at the property line. Since there is not a true upgradient sampling point for surface water, S-9 located upstream on the next drainage over from the Class III WMU on a tributary to Ryan Creek. The interception trench and upper sedimentation basin discharge to a point on this creek below S-9.

66. Storm water sampling points include the two surface water monitoring points S-1 and S-9; and S-1A, S-7, and S-8 to monitor various discharges from the Site. S-1A is located at the discharge of the gabion just below where the lower sedimentation pond discharges into the gabion system. S-7 is located in the unnamed tributary to Ryan Creek at the point below the discharge from the interception trench. S-8 is located at the discharge pipe of the upper sedimentation pond. S-6 is a former sampling point located above the interception trench, but has been mainly dry since the trench installation, so is no longer used. Surface seeps S-A, S-B, S-C, S-D, S-E, S-F, S-G, S-H, and S-I, and drains FD-1, FD-2, and SD-1 in the toe area are also monitored as needed to assure leachate is captured.

67. There is no unsaturated zone monitoring system at the Site and, to date, there has been no unsaturated zone monitoring program for the Site. Since the liners at the Class III WMU do not have pan lysimeters, the existing landfill gas monitoring wells will now be used for unsaturated zone monitoring. In addition to the landfill-gas monitoring required by CalRecycle, the shallow and deep probes in GP-5; GP-1/D_2; and the gas extraction well EW-12 will be analyzed for VOC vapors using TO-15 in fall 2013 and spring 2014 during regular probe sampling. These samples will be used to determine future discrete sampling frequency, which must be at least once every five years.

68. The current leachate monitoring program consists of sampling from the leachate collection tanks to obtain data necessary for disposal at the Eureka WWTP. The Closure Plan recommends adding leachate piezometer monitoring; leachate-well flow data reporting; discrete leachate sampling; flow monitoring of the toe drains

and keyway discharges; and diagnostic sampling of the keyway and toe drains. Flow meters and sample taps will be installed in the toe drain at three locations during closure.

69. The leachate monitoring system includes eight piezometers that are used to monitor leachate levels within the waste and surrounding soils. Some of these piezometers are also used for gas extraction. Piezometer LP-5R was deepened to 77 feet below ground surface in 2011 because the original LP-5 was not deep enough to be used to monitor leachate in the waste. The other piezometers are LP-1, LP-2, LP-3 (EW-45), LP-4 (EW-40), LP-6, EWF-2, and EPU-1 (L-3). In addition to monitoring leachate constituents in the collection tanks, the Discharger proposes discrete monitoring of the leachate in EW-11R, L-11R, L-15, L-17R, L-22 and L-20-R-2.

70. The landfill gas monitoring system consists of seven wells; GP-1, GP-1/D_2/D_3/D_4, GP-2, GP-3, GP-4, GP-5, and GP-6. GP-1 was meant to be one location with five probes, but the location of GP-1/D_2/D_3/D_4 had to be moved away from GP-1 because of drilling constraints. GP-1/D_2/D_3/D_4 is screened at high and low groundwater in the Hookton Formation and the first Wildcat Group aquifer. The remaining wells have three probes at a shallow, intermediate, and deep depth in the Hookton Formation. Quarterly gas monitoring and reporting will be performed per the *Perimeter Landfill-Gas Monitoring Plan* submitted with the JTD.

Control Systems

71. Since 1986, when groundwater contamination was first found, the Cummings Road Landfill has been in corrective action. As a result of corrective action, the Site has added a number of environmental control systems which are described below.

72. Groundwater control includes the groundwater interception trench, the LCRS, and the toe area groundwater control.

73. Water collected in the groundwater interception trench is diverted to a tributary of Ryan Creek. Discharge from the diversion trench is routinely monitored as part of the MRP to assure that it continues to show no impacts from the Site. The efficacy of the interception trench has decreased over time and the interception trench will be rehabilitated during closure.

74. The LCRS includes leachate extraction from L-20R-2, L-8, EW-L-8R, L-11R, L-12, L-8RD, L-14RR, L-15, L-16-E, L-17R, L-21, L-22, and L-2 which are leachate-only extraction wells; LS-1 which is a leachate extraction sump with four risers; EW-

46, EW-48, EW-54, EW-55, and EW-11R which are dual leachate-gas extraction wells; and the toe area groundwater control. L-22 is a six-inch diameter well installed in 2011 near L-17R to facilitate removal of leachate from the lowest elevations of the landfill. L-11R is a vertical well that discharges to a leachate collection sump in a clay lined cell. Two leachate sumps are in the Subtitle D lined area, L-20 (L-20-1, L-20-2) and L-21. L-20-1 and L-20-2 are still present, but no longer used because of pipe bending during settlement and were replaced by L-20R-1 and L-20R-2. The LCRS is operated under the *Leachate Collection Operations Plan,* included in the JTD, which will be updated as needed.

75. The toe area groundwater control includes the toe keyway (known as SD-1); finger drains; and sideslope drains located beneath the toe of the landfill; plus ESW-1 which collects a seep near the toe known as EWSK. Because traces of volatile organics (VOCs) have been detected in the toe diversion areas, liquid collected from this area is disposed of with the leachate collected in the LCRS.

76. The landfill gas (LFG) extraction system currently has 36 gas-extraction wells within waste (called infill wells); horizontal gas collection; and 14 sentry wells located outside of the waste that are used to prevent perimeter migration. Fifteen of the infill wells are dual extraction wells that are leachate extraction wells fitted with a well head that allows LFG extraction. Infill wells are EW-2, EW-3R, EW-11R, EW-30, EW-31, EW-32, EW-33, EW-40 (LP-4), EW-45 (LP-3), EW-46 B (duel), EW-48 (duel), EW-49, EW-50, EW-51, EW-52, EW-53, EW-54 (dual), EW-55 (dual), EW-56, EW-57, EW-58, EW-59, EW-EP10A, EW-L-3(EPU-1), EW-L-4RS, EW-L-4RD, L-7R, EW-L-8, EW-L-8R, EW-L-8RS, EW-L9RS, EW-L9RD, EW-L9RM, EW-L-10, L-11R, and L-20R-2. The LCRS Cleanout and horizontal gas collectors installed in 2011 are also used to extract LFG. LFG collection is summarized in the *Landfill Gas System Operations Plan* submitted with the JTD which will be updated as necessary.

CLOSURE AND FINANCIAL ASSURANCES

77. Since the Site was not closed prior to the federal deadline (October 9, 1991), the closure requirements of Subtitle D apply.

78. California Code of Regulations, title 27, sections 20950(f) and 20380(b) require that the Discharger establish a formal financial mechanism to fund Site closure; post-closure maintenance; and remediation of the known or reasonably foreseeable releases from the facility. HWMA has a fully funded Trust Fund with CalRecycle for closure at the Site. The $299,992 annual average post-closure maintenance and $1.88 million for the reasonably foreseeable release are funded by a Pledge of Revenue Agreement signed by HWMA May 30, 2002.

79. The Discharger is required to update approved cost estimates annually to account for inflation.

80. Plans for final closure activities are described in the report entitled *Cummings Road Landfill, Joint Technical Document for Final Closure and Post Closure*, dated January 2010, with November 5, 2010 and October 15, 2012 revisions prepared by Lawrence and Associates. Closure will be conducted in accordance with the Construction Quality Assurance Plan (CQA Plan) contained in the Closure Plan.

81. The Class III WMU cap consists of a two foot minimum thickness foundation layer, overlain by a 60-mil textured linear low-density polyethylene (LLDPE) geomembrane barrier layer. On side slopes the geomembrane barrier layer will be overlain by a geocomposite drainage layer. The geocomposite drainage layer will be topped by an eighteen-inch minimum thickness vegetation layer, except at the drainage swales where the vegetative layer thickness will be twelve-inches. Where the barrier layer is 60-mil Super Gripnet™ LLDPE geomembrane barrier layer and drain net combination, a geotextile will be used instead of the geocomposite drainage layer. The foundation and vegetation layers will be excavated from on-site borrow areas. The foundation layer will be compacted to the maximum density obtainable at optimum moisture content, which is generally no less than a relative compaction of 90 percent of the maximum dry density.

82. The low hydraulic conductivity layer of a 60-mil LLDPE geomembrane meets the minimum barrier layer requirements of California Code of Regulations, title 27, section 21090(a)(2). The lowest hydraulic conductivity liner element in the Class III WMU is the HDPE liner. Therefore a 60-mil textured LLDPE geosynthetic cap is proposed to provide an equally low hydraulic conductivity. The proposed closure grades for the cap are shown in Attachments G, H, and I.

83. The geocomposite drainage layer will need a transmissivity no lower than 3.48 x 10^{-4} meters squared per second (m^2/sec) and seepage collection trenches at a minimum of every 50 feet on 4 to 1 slope and at 70 feet on 3 to 1 slopes.

84. The steepest slopes on the Class III WMU are slightly flatter than 3 to 1 with most slopes flatter than 4 to 1; however, since the cap uses a geosynthetic low hydraulic conductivity layer, California Code of Regulations, title 27, section 21090(f)(5) requires a slope stability report. Dynamic slope stability analyses using the computer program SLIDE 5.0™ calculated dynamic factors of safety of less than 1.5 for the critical slopes. Deformation analyses using a peak ground acceleration of 0.7-g for an earthquake magnitude of 8.25 showed deformation on the critical slip surfaces of 23.6 to 59 inches for Cross section A-A' and 7.5 to 19.7

inches for Cross section B-B' (Attachments M and N). The JTD states that movement can be accommodated without jeopardizing the integrity of the landfill foundation or the structures which control leachate, surface drainage, erosion, or gas. Repair costs for the possible earthquake event will be included in the non-water release corrective action cost estimate. The *Geotechnical Engineering Slope Stability Analyses Report*, November 2009 by Holdrege & Kull was submitted in the JTD.

85. The final cap surface is sloped to promote drainage away from the Class III WMU. The cap surface has been designed to have a minimum of three percent slope and one 15-foot wide bench every 50 vertical feet. The Discharger will make improvements to the slope on the toe area benches to provide adequate drainage. Appropriate channel linings or culverts will be used on drainages to control channel erosion. Erosion control efforts on the vegetative layer will consist of seeding and mulching at the end of each phase of closure construction. Additional vegetation maintenance will be performed as necessary.

86. The lower sedimentation pond will be rebuilt during closure after borrow soil is removed from the area. The upper sedimentation pond will remain in its current configuration. All but the last gabion dam in the toe area will be removed during or soon after closure. The last dam will be used as an energy dissipator for the lower sedimentation pond discharge pipe.

87. The interception trench will be rehabilitated during closure to maximize the amount of groundwater diverted away from the Class III WMU. The pipes will be cleaned, vegetation will be removed and/or the base of the trench will be regraded to maximize flow.

88. A minimum of two survey monument control points will be established off of the Class III WMU to monitor settlement per California Code of Regulations, title 27, section 20950(d). These survey monuments will be documented in the Closure Report and included on updated post-closure site maps.

89. A closure report prepared and certified by the Construction Quality Assurance (CQA) Officer must be submitted under penalty of perjury to the Regional Water Board and other appropriate agencies. The report, at a minimum, will include the certificate of closure; daily summary reports; material acceptance reports; final CQA documentation; laboratory testing results; field testing results; and an as-built topographic map of the capped area, prepared at a scale of one-inch to 100 feet, with a contour interval of two feet.

PROCEDURAL REQUIREMENTS AND OTHER CONSIDERATIONS

90. This order implements:

    a. *The Water Quality Control Plan for the North Coast Region (Basin Plan)*;

    b. The minimum prescriptive standards (and, where deemed reasonable and appropriate, standards above and beyond those minimums) and performance goals of the California Code of Regulations, title 27, sections 20005-22278 (Non-Hazardous Solid Waste) , and of Resource Conservation and Recovery Act (RCRA) Subtitle D, 40 CFR Part 258 (Criteria for Municipal Solid Waste Landfills); and

    c. State Water Resources Control Board Resolution No. 93-62, *Policy for Regulation of Discharges of Municipal Solid Waste*, adopted June 17, 1993.

91. As lead agency, HWMA prepared and approved a mitigated negative declaration for closure of the Cummings Road Landfill. The Notice of Determination was filed on January 25, 2003, to satisfy the requirements of the California Environmental Quality Act (CEQA). While the proposed project has had some minor technical changes (both in the proposed project and the circumstances under which the project is undertaken), these changes will not results in any new significant effects, or substantially more severe significant effects than previously examined. The Regional Water Board, as a responsible agency under CEQA, has considered the mitigated negative declaration pursuant to California Code of Regulations, title 14, section 15096, subdivision (f). Mitigation measures identified in the mitigated negative declaration are incorporated as conditions of this Order.

92. The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge, and has provided them with an opportunity to submit their written comments and recommendations.

93. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge.

94. The permitted discharge is consistent with the provisions of State Water Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California.* The impact on existing water quality will be insignificant.

THEREFORE, IT IS HEREBY ORDERED that WDRs Orders No. 93-46 and R1-0106-65 and Cleanup and Abatement Order R1-2006-0028 are rescinded and General Order No. 93-83 is amended to delete Cummings Road Solid Waste Disposal Site, Class III Waste Management Unit. It is further ordered that the Discharger, in order to meet the provisions contained in Division 7 of the California Water Code (CWC) and regulations adopted thereunder, shall comply with the following:

A. DISCHARGE PROHIBITIONS

1. The discharge of any waste in any manner not specifically described or quantified in the findings and regulated by this Order is prohibited.

2. The discharge of solid and liquid wastes, with the exception of solid wastes from the Burn Ash Site, at this landfill is prohibited. Water may be discharged in amounts reasonably necessary for dust control, compaction, fire control, and the establishment and maintenance of vegetation.

3. The Discharger shall not cause the concentration of any Constituent of Concern (COC) to exceed its respective concentration limit in any monitored medium. COC means any waste constituent(s), reaction product(s), and hazardous constituent(s) that is reasonably expected to be in or derived from waste contained in a WMU. The concentration limit for each monitoring parameter shall be set at the background concentration. Data analysis shall be performed in accordance with the approved Monitoring and Reporting Program.

4. The discharge of "hazardous wastes" and "designated wastes" at this facility, as defined in California Code of Regulations, title 27 is prohibited. The discharge of leachate at this facility is prohibited.

5. The discharge of wastes, including leachate, solids, or waste-derived gas to surface waters, surface water drainage systems, or groundwater is prohibited.

6. The discharge of waste to surface waters or within 50 feet of surface waters is prohibited.

7. The discharge of wastes into ponded water from any source is prohibited.

8. Ponding of liquids, including rainfall runoff and leachate, over solid waste disposal cells is prohibited.

9. The discharge of wastes to any portion of storm water control system is prohibited.

10. Creation of a pollution, contamination, or nuisance, as defined by Water Code section 13050 is prohibited.

B. GENERAL SPECIFICATIONS

1. The discharge of wastes shall not cause water quality degradation by allowing a statistically or non-statistically significant increase over background or baseline concentrations, as determined in accordance with Monitoring and Reporting Program No. R1-2013-0014.

2. Leachate collection and removal systems shall be operated so as to minimize the buildup of leachate in the landfill and to ensure that wastes in the landfill are not saturated.

3. Any leachate generated and collected at the Site shall be handled and disposed of in a manner approved by the Regional Water Board. The currently approved manner of leachate disposal is delivery via tanker truck for disposal at the Eureka Waste Water Treatment Plant.

4. Materials used to construct or to repair leachate collection and removal systems shall have appropriate physical and chemical properties to ensure the required transmission of leachate through the systems over the closure and post-closure maintenance period. Materials shall have sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and equipment used on the landfill.

5. Surface drainage from tributary areas or internal site drainage shall not contact or percolate through wastes discharged at the Site.

6. Precipitation and drainage control systems for storm water run-off shall be designed and constructed to limit, to the greatest extent possible, ponding, inundation, erosion, slope failure, washout and overtopping from precipitation conditions of a 100-year, 24-hour storm event, and for the peak flows from a 25–year, 24-hour storm event.

7. Precipitation and drainage control systems for storm water run-on shall be designed to control and intercept and isolate uncontaminated surface water. These systems shall be designed and constructed to limit, to the greatest extent

possible, ponding, inundation, erosion, slope failure, washout and overtopping from precipitation conditions of peak discharge from a 25-year storm.

8. Surface drainage from tributary areas and internal Site drainage from surface or subsurface sources shall not contact or percolate through wastes discharged at this Site. Drainage ditches shall be located, to the maximum extent practicable, so that they do not cross over the Class III WMU. Site drainage over the Class III WMU shall be contained in man-made drainage conveyance structures such as corrugated metal pipe or in drainage ditches which are lined with at least one foot of compacted soil having an in-place permeability of 1×10^{-6} cm/sec or less.

9. The interception trench will be maintained to maximize diversion of surface water and groundwater around the Class III WMU. Maintenance may include actions such as pipe cleaning, vegetation removal at the base of the trench, channel regrading to maximize flow.

10. Prior to the anticipated rainy season, but no later than October 1st annually, any necessary erosion control measures shall be implemented, and any necessary construction, maintenance, or repairs of precipitation and drainage control facilities shall be completed to prevent erosion or flooding of the facility and to prevent surface drainage from contacting or percolating through wastes. All disturbed areas shall be seeded with an appropriate vegetation mixture to minimize sedimentation. Rainfall runoff from disturbed areas shall be channeled through sedimentation basins or other appropriate structures to minimize sedimentation in surface drainage courses downgradient of the Site. Sedimentation basins and other appropriate structures shall be cleaned out during the rainy season as necessary to maintain adequate sedimentation capacity. The Executive Officer may delete the requirement of submitting annual erosion control reports upon finding that no erosion control work is necessary prior to the return of winter rains. By October 15, annually, the Discharger shall submit a report to the Executive Officer describing measures taken to comply with this specification.

C. CLOSURE SPECIFICATIONS

1. Waste Management Unit (WMU) containment structures shall be designed, constructed, and operated to prevent inundation or washout due to floods with a 100-year return period. WMU containment structures shall be constructed and maintained to prevent, to the greatest extent possible, ponding, infiltration, inundation, erosion, slope failure, washout, and overtopping under 100-year, 24-hour precipitation conditions.

2. All WMU containment structures and erosion and drainage control systems shall be designed and constructed under the direct supervision of a California registered professional civil engineer, or a certified engineering geologist, and shall be certified by that individual as meeting the prescriptive standards and performance goals of California Code of Regulations, title 27. Designs shall include a Construction Quality Assurance Plan, the purpose of which is to:

    a. demonstrate that the structures have been constructed according to the specifications and plans approved by the Regional Water Board, and

    b. provide quality control on the material and construction practices used to construct the structures and to prevent the use of inferior products and/or materials that do not meet the approved design plans and specifications.

3. Materials used for final cover construction or repair shall have appropriate physical and chemical properties to ensure containment of wastes over the closure and post-closure maintenance period. Construction quality assurance information and as-built drawings shall be submitted to the Regional Water Board within 60 days of the completion of any phase of final cover construction or repair.

4. Final cover of the Class III WMU shall consist of at least two feet of compacted foundation materials, overlain by a 60-mil textured LLDPE geomembrane barrier layer. On side slopes the geomembrane barrier layer will be overlain by a geocomposite drainage layer. The geocomposite drainage layer will be topped by an eighteen-inch minimum thickness vegetation layer, except at the drainage swales where the vegetative layer thickness will be twelve inches. Where the barrier layer is a 60-mil super Gripnet™ LLDPE geomembrane barrier layer and drain net combination, a geotextile will be used instead of the geocomposite drainage layer. The foundation layer will be compacted to the maximum density obtainable at optimum moisture content, which is generally no less than a relative compaction of 90 percent of the maximum dry density. Permeability of final cover shall be determined in the laboratory using techniques approved by the Executive Officer. Construction methods and quality assurance procedures shall be sufficient to ensure that all parts of the final cover meet the permeability and stability requirements. Final cover materials shall be designed and constructed to function with a minimum of maintenance. Installation of final cover shall be under the direct supervision of a California registered professional civil engineer or certified engineering geologist. Materials and construction techniques shall meet the specifications and requirements in the final closure plan.

5. The geocomposite drainage layer or Super Gripnet™ must have a transmissivity no lower than 3.48 x 10^{-4} meters squared per second (m^2/sec) and seepage collection trenches at a minimum of every 50 feet on 4 to 1 slope and at 70 feet on 3 to 1 slopes.

6. Vegetation shall be established immediately upon completion of any phase of the final cover. Vegetation shall be selected to require a minimum of irrigation and maintenance. Rooting depth shall not exceed the vegetative soil thickness.

7. A geoelectric leak test will be performed on the LLDPE geomembrane barrier layer after the placement of the vegetative layer. Any leaks detected by this testing will be repaired in conformance with the Closure Plan's CQA requirements.

8. The interception trench will be rehabilitated during closure to maximize the amount of groundwater diverted away from the Class III WMU. The pipes will be cleaned, vegetation will be removed and/or the base of the trench will be regraded to maximize flow.

9. Closed landfill units shall be designed, graded, and maintained to promote drainage away from the Class III WMU, prevent ponding, and to prevent soil erosion due to high velocity run-off. All portions of the final cover shall have a slope of at least a three-percent grade and maintained to prevent ponding and infiltration.

10. The cap surface shall have a minimum of three percent slope and one 15-foot wide bench every 50 vertical feet. The Discharger shall make improvements to the slope on the toe area benches to provide adequate drainage. Appropriate channel linings or culverts shall be used on drainages to control channel erosion. Erosion control efforts on the vegetative layer shall consist of seeding and mulching at the end of each phase of closure construction. Additional vegetation maintenance shall be performed as necessary.

11. Final cover shall conform to criteria specified in Construction Specifications contained in this Order. The Discharger shall install and maintain a sufficient number of permanent survey monuments on and near the landfill from which elevation of the disposal cells can be determined. Such monuments shall be installed by a California licensed surveyor or registered professional civil engineer.

12. Closure of each WMU shall be performed under the direct supervision of a California registered professional civil engineer or certified engineering geologist.

Appropriate documents will be maintained by the Discharger, and provided at the request of the Executive Officer, to document that supervision.

13. All containment structures shall meet the general criteria set forth in California Code of Regulations, title 27, section 20320.

14. All containment structures shall meet the requirements of California Code of Regulations, title 27, sections 20310 through 20370.

D. PROVISIONS

1. A copy of this Order shall be maintained at the facility and be available at all times to operating personnel. Key operating personnel shall be familiar with its contents.

2. The Discharger shall comply with these WDRs and the attached Monitoring and Reporting Program No. R1-2013-0014, incorporated herein by reference. A violation of the Monitoring and Reporting Program is a violation of these WDRs.

3. Use of Site roads for logging access had been an existing land use. However, engineering features that have been installed for corrective action and closure require restricted use of Site roads for non-landfill activities to protect these features. The Discharger was required to submit a road management plan as part of the JTD. Regional Water Board staff received the *HRC Cummings Landfill Road Management Plan* by Humboldt Redwood Company, LLC, as part of the JTD. Logging equipment and non-landfill operation access shall be limited to dry-weather summer access on the designated bench road on the east side of the groundwater interception trench; year around use of Cummings Road; or limited light vehicle access on the designated bench road on the east side of the groundwater interception trench during periods of wet weather or winter season use. All erosion control measures shall be inspected and repaired daily, as necessary, if light vehicles use the designated bench road during periods of wet weather or winter season use. Any changes to this plan shall require submittal of an amendment to the postclosure maintenance plan and Regional Water Board approval prior to implementation.

4. The Discharger may file a written request, including appropriate supporting documents, with the Executive Officer proposing modifications to Monitoring and Reporting Program No. R1-2013-0014. The Discharger shall implement any changes in the revised Monitoring and Reporting Program upon receipt from the Executive Officer of a signed copy of the revised Monitoring and Reporting Program.

5. The Discharger shall further comply with all applicable provisions of California Code of Regulations, title 27 and Subtitle D not specifically referred to in this Order.

6. Leachate collection and removal systems shall be operated to prevent the buildup of leachate in the landfill and to minimize conditions of saturated garbage. Leachate removed from the landfill shall be discharged into above ground structurally sound storage tanks. Storage tanks shall have a berm or other revetment of adequate size and integrity to contain the largest potential discharge of leachate from the storage tanks.

7. The Discharger shall report as a part of each regularly scheduled monitoring report the volume of leachate collected each month since the previous monitoring report, in accordance with California Code of Regulations, title 27, section 20340(h).

8. In accordance with California Code of Regulations, title 27, section 20340(d), any leachate collection and removal system shall be tested annually to demonstrate proper operation. Results shall be compared with earlier tests made under comparable conditions. The results shall be submitted with the next regularly scheduled monitoring report.

9. Prior to any construction, the Discharger shall obtain any and all permits required under federal, state, or local laws.

10. During times of active closure construction or any periods of repair to the waste containment, drainage, or monitoring facilities, legible copies of the daily CQA field notes and summary reports shall be submitted to the Regional Water Board via facsimile at (707) 523-0135 or via email to Gina.Morrison@waterboards.ca.gov by noon the following weekday. The facsimile or email shall be addressed to the Regional Water Board, Land Disposal Unit, and include the name of the staff person assigned to the Site.

11. A closure report for each construction season of closure activities and a full closure report once final closure is achieved shall be prepared and certified by the Construction Quality Assurance (CQA) Officer and submitted, under penalty of perjury, to the Regional Water Board and other appropriate agencies in accordance with California Code of Regulations, title 27, sections 20324(c), 20324(d), and 21880. The reports, at a minimum, shall include the certificate of closure; daily summary reports; material acceptance reports; final CQA documentation; laboratory testing results; field testing results; and an as-built topographic map of the capped area (for each construction season then for the completed project), prepared at a scale of one-inch to 100 feet, with a contour interval of two feet.

12. By January 2018, January 2023, and at least every five years thereafter, the Discharger shall produce and submit to the Regional Water Board an iso-settlement map accurately depicting the estimated total change in elevation of the final cover's low-hydraulic-conductivity layer. If full closure has not been achieved by October 2017, the

iso-settlement map may include just the portion of the landfill that has had the final cap placed. For each portion of the landfill, this map shall show the total lowering of the surface elevation of the final cover, relative to the baseline topographic map to be submitted in the Closure Report, and shall indicate all areas where visually noticeable differential settlement may have been obscured by grading operations. The map shall be drawn to the same scale and contour interval as the topographic map in the Closure Report, but showing the current topography of the final cover, and featuring overprinted isopleths indicating the total settlement to date. Land surveying to a one-foot contour interval rather than aerial surveying may be substituted to produce the iso-settlement map [California Code of Regulations, title 27, section 21090 (e) (2)].

13. The Discharger shall note on a map of the Site the approximate location and outline of any areas where differential settlement is visually obvious prior to conducting periodic grading operations on the closed landfill [California Code of Regulations, title 27, section 21090(e)(4)]. This information shall be included in the Annual Monitoring Report, as well as, each five-year iteration of the iso-settlement map. The map shall show all areas where differential settlement has been noted since the previous map submittal, and shall highlight areas of repeated or severe differential settlement. Map notations and delineations made pursuant to this paragraph need not be surveyed, so long as all areas where differential settlement was visually identifiable prior to regrading can be relocated. Such notation and delineation shall be made by, or under the supervision of, a California registered professional civil engineer or registered geologist.

14. Throughout the post closure maintenance period, the Discharger shall [California Code of Regulations, title 27, section 21090 (c)]:

    a. maintain the structural integrity and effectiveness of all containment structures, and maintain the final cover as necessary to correct the effects of settlement or other adverse factors;

    b. continue to operate the leachate collection and removal system as long as leachate is generated and detected;

    c. continue to operate the gas collection and removal system as long as gas is generated and detected;

    d. maintain monitoring systems and monitor the groundwater, surface water, and the unsaturated zone in accordance with applicable requirements of California Code of Regulations, title 27, article 1, chapter 3, subchapter 3, subdivision 1 (section 20380 et seq.);

    e. prevent erosion and related damage of the final cover due to drainage; and

f. protect and maintain surveyed monuments.

15. The Discharger shall provide proof to the Regional Water Board within sixty days after completing final closure that the deed to the landfill facility property, or some other instrument that is normally examined during title search, has been modified to include, in perpetuity, a notation to any potential purchaser of the property stating that:

    a. the parcel has been used as a municipal solid waste landfill;

    b. land use options for the parcel are restricted in accordance with the post-closure land uses set forth in the post-closure plan and in WDRs for the landfill; and

    c. in the event that the Discharger defaults on carrying out either the post-closure maintenance plan or any corrective action needed to address a release, the responsibility for carrying out such work falls to the property owner.

16. The Discharger shall obtain and maintain adequate assurances of financial responsibility for closure, post-closure maintenance, and corrective action for all known or reasonably foreseeable releases from a WMU at the facility in accordance with California Code of Regulations, title 27, sections 20380(b), 20950(f), 22210, 22211, 22212, 22220, 22221, and 22222.

17. By January 15, 2018, 2023, and every five years thereafter, for the term of this WDR, the Discharger shall provide as part of the Annual Monitoring Report an updated post-closure costs and corrective action cost estimate to the Regional Water Board for review. The Discharger shall demonstrate to CalRecycle and report to the Regional Water Board that it has established an acceptable financial assurance mechanism described in California Code of Regulations, title 27, section 22228 in at least the amount of the cost estimate approved by the Executive Officer. The Executive Officer may delete the requirement of submitting updated cost estimates, with the exception of inflation adjustments, upon finding that the need for further corrective action is unlikely and that post-closure costs are likely to remain constant.

18. The Discharger is required to update approved cost estimates annually to account for inflation, in accordance with California Code of Regulations, title 27, section 22236.

19. The Discharger shall maintain an emergency response plan as required in California Code of Regulations, title 27, section 21860.

20. In the event that the Regional Water Board determines that the Discharger has failed to pay or is failing to perform corrective action as required by law, Regional Water Board may request that CalRecycle direct the Discharger to pay from the pledged revenue such amounts as are necessary to ensure sufficient corrective action. The Discharger shall be obligated to use such funds for corrective action in accordance with the directive of the Regional Water Board.

21. The Discharger shall maintain waste containment facilities and precipitation and drainage control systems throughout the post-closure maintenance period. The Discharger shall immediately notify the Regional Water Board of any flooding, equipment failure, slope failure, or other change in site conditions that could impair the integrity of waste or leachate containment facilities or of precipitation and drainage control structures.

22. The Discharger shall continue to monitor the Class III WMU, surface drainage, and underlying medium throughout the post-closure maintenance period, per Monitoring and Reporting Program No. R1-2013-0014. Monitoring shall continue until the Regional Water Board determines that the Landfill no longer threatens water quality.

23. The Discharger or persons employed by the Discharger shall comply with all notice and reporting requirements of the State Department of Water Resources with regard to the construction, alteration, destruction, or abandonment of all monitoring wells used for compliance with this Order or with Monitoring and Reporting Program No. R1-2013-0014, as required by Water Code, sections 13750 through 13755.

24. Monitoring points and Points of Compliance for groundwater, leachate, and landfill gas shall be as listed in the Monitoring and Reporting Program No. R1-2013-0014 for the Landfill. Potential leachate seeps, if encountered, shall be sampled in accordance with Monitoring and Reporting Program No. R1-2013-0014.

25. The Discharger shall provide Regional Water Board staff a minimum of **one week** notification prior to commencing any field activities related to the installation, repair, or abandonment of monitoring devices, and a minimum 48 hour notification prior to the collection of samples associated with a detection monitoring program, evaluation monitoring program, or corrective action program.

26. The Water Quality Protection Standard for organic compounds which are not naturally occurring and not detected in background groundwater samples shall be taken as the detection limit of the analytical method used (i.e., US EPA Methods 8260 and 8270). The repeated detection of one or more non-naturally occurring organic compounds in samples above the Water Quality Protection Standard from detection monitoring wells is evidence of a release from the WMU.

27. For any given monitored medium, the samples taken from all monitoring points and background monitoring points to satisfy the data analysis requirements for a given reporting period shall all be taken **within a span not to exceed 15 days**, unless a longer time period is approved, and shall be taken in a manner that ensures sample independence to the greatest extent feasible. Specific methods of collection and analysis must be identified. Sample collection, storage, and analysis shall be performed according to the most recent version of US EPA Methods, such as the latest editions, as applicable, of: (1) Methods for the Analysis of Organics in Water and Wastewater US EPA 600 Series), (2) Test Methods for Evaluating Solid Waste (SW-846, latest edition), and (3) Methods for Chemical Analysis of Water and Wastes (US EPA 600/4-79-020), and in accordance with the approved Sample Collection and Analysis Plan.

28. If methods other than US EPA-approved methods or Standard Methods are used, the exact methodology shall be submitted for review and approval prior to use.

29. The **methods of analysis and the detection limits** used must be appropriate for the expected concentrations. For the monitoring of any constituent or parameter that is found in concentrations which produce more than 90% non-numerical determinations (i.e., "trace" or "ND") in data from background monitoring points for that medium, the analytical method having the lowest method detection limit (MDL) shall be selected from among those methods which would provide valid results in light of any matrix effects or interferences.

30. **"Trace" results** - results falling between the MDL and the practical quantitation limit (PQL) - shall be reported as such, and shall be accompanied both by the estimated MDL and PQL values for that analytical run.

31. **MDLs and PQLs** shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. These MDLs and PQLs shall reflect the detection and quantitation capabilities of the specific analytical procedure and equipment used by the lab, rather than simply being quoted from US EPA analytical method manuals. In relatively interference-free water, laboratory-derived MDLs and PQLs are expected to closely agree with published US EPA MDLs and PQLs.

32. If the laboratory suspects that, due to a change in matrix or other effects, the true detection limit or quantitation limit for a particular analytical run differs significantly from the laboratory-derived MDL/PQL values, the results shall be flagged accordingly, along with estimates of the detection limit and quantitation limit actually achieved. The **MDL shall always be calculated such that it represents the lowest achievable concentration associated with a 99% reliability of a nonzero result**. The PQL shall always be calculated such that it represents the lowest constituent concentration at

which a numerical value can be assigned with reasonable certainty that it represents the constituent's actual concentration in the sample. Normally, PQLs should be set equal to the concentration of the lowest standard used to calibrate the analytical procedure.

33. All **QA/QC data** shall be reported, along with the sample results to which they apply, including the method, equipment, analytical detection and quantitation limits, the percent recovery, an explanation for any recovery that falls outside the QC limits, the results of equipment and method blanks, the results of spiked and surrogate samples, the frequency of quality control analysis, and the name and qualifications of the person(s) performing the analyses. Sample results shall be reported unadjusted for blank results or spike recoveries. The accompanying sample results shall be appropriately flagged in cases where contaminants are detected in QA/QC samples (i.e., field, trip, or lab blanks).

34. Unknown chromatographic peaks shall be reported, flagged, and tracked for potential comparison to subsequent unknown peaks that may be observed in future sampling events. Identification of unknown chromatographic peaks that recur in subsequent sampling events may be required.

35. The statistical method shall account for data below the practical quantitation limit (PQL) with one or more statistical procedures that are protective of human health and the environment. Any PQL validated pursuant to California Code of Regulations, title 27, section 20415(e)(7) that is used in the statistical method shall be **the lowest concentration (or value) that can be reliably achieved** within limits of precision and accuracy specified in the WDRs for routine laboratory operating conditions that are available to the facility. The Discharger's technical report, pursuant to California Code of Regulations, title 27, section 20415(e)(7), shall consider the PQLs listed in Appendix IX to Chapter 14 of Division 4.5 of California Code of Regulations, title 22, for guidance when specifying limits of precision and accuracy. For any given constituent monitored at a background or downgradient monitoring point, an indication that falls between the MDL and the PQL for that constituent (hereinafter called a "trace" detection) shall be identified and used in appropriate statistical or nonstatistical tests. Nevertheless, for a statistical method that is compatible with the proportion of censored data (trace and ND indications) in the data set, the Discharger can use the laboratory's concentration estimates in the trace range (if available) for statistical analysis, in order to increase the statistical power by decreasing the number of "ties".

36. If the Discharger determines that there is measurably significant evidence of a release from the WMUs, as defined in California Code of Regulations, title 27, section 20164, the Discharger:

a. shall immediately notify the Regional Water Board verbally and take all necessary corrective actions. Written notification by certified mail shall be provided within 7 days of occurrence. [California Code of Regulations, title 27, section 20420(j)(1)]

b. can immediately initiate the verification procedure pre-approved by the Regional Water Board to verify the release. [California Code of Regulations, title 27, section 20420(j)(2)]

37. Immediately following detection of a release, or after completion of the retest, the Discharger:

a. Shall immediately sample all Monitoring Points in the affected medium at the WMUs and determine the concentration of all COCs. [California Code of Regulations, title 27, section 20420(k)(1)]

b. Within 90 days of determining measurably significant evidence of release, submit an amended ROWD to establish an evaluation monitoring program, in accordance with California Code of Regulations, title 27, section 20420(k)(5).

c. Within 180 days of verifying measurably significant evidence of a release from a WMU, submit an engineering feasibility study for a corrective action program. The corrective action program shall, at a minimum, meet the requirements of California Code of Regulations, title 27, section 20430. [California Code of Regulations, title 27, section 20420(k)(6)]

38. The Regional Water Board may make an independent finding that there is a measurably significant evidence of release. The Regional Water Board shall send written notification of such a determination to the Discharger by certified mail, return receipt requested. The Discharger shall comply with all provisions of California Code of Regulations, title 27, section 20420 and Provisions in this Order that are required in response to a measurably significant evidence of release.

39. The Discharger shall report to the Regional Water Board by certified mail the results of both the initial statistical test and the results of the verification procedure, as well as all concentration data from samples collected for use in these tests within seven days of the last laboratory analysis of the samples collected for the verification procedure. [California Code of Regulations, title 27, section 20415(e)(8)(E)(6)]

40. If the Discharger verifies that there has been a measurably significant release from the WMUs, the Discharger may demonstrate that a source other than the WMUs caused the evidence of a release or that the evidence is an artifact caused by an error in sampling, analysis or the data analysis protocol. [California Code of Regulations, title 27, section 20420(k)(7)] The Discharger may make this demonstration in addition to or in lieu of

submitting an amended ROWD and an engineering feasibility study pursuant to California Code of Regulations, title 27, section 20420(k)(5) and California Code of Regulations, title 27, section 20420(k)(6). The Discharger is not relieved of the requirements specified in California Code of Regulations, title 27, sections 20420(k)(5) and (k)(6) unless the demonstration report is accepted by the Executive Officer. In making a demonstration, the Discharger shall:

a. Within 7 days of determining measurably significant evidence of a release, submit a report to the Regional Water Board by certified mail stating that the Discharger intends to make a demonstration pursuant to California Code of Regulations, title 27, section 20420(k)(7)(A).

b. Within 90 days of determining measurably significant evidence of a release, submit a report to the Regional Water Board that demonstrates that a source other than the WMU caused the apparent release. [California Code of Regulations, title 27, section 20420(k)(7)(B)]

c. Within 90 days of determining measurably significant evidence of a release, submit an amended ROWD to make any appropriate changes to the detection monitoring program. [California Code of Regulations, title 27, section 20420(k)(7)(C)]

41. If the Discharger determines that there is significant physical evidence of a release, as described in California Code of Regulations, title 27, section 20385(a)(3), or that the detection monitoring program does not meet the requirements of California Code of Regulations, title 27, section 20420, the Discharger shall:

a. notify the Regional Water Board by certified mail within 7 days of such a determination [California Code of Regulations, title 27, section 20420(l)(1)]; and

b. within 90 days of such a determination, submit an amended ROWD to the Regional Water Board to make any appropriate changes to the program [California Code of Regulations, title 27, section 20420(1)(2)]

42. Any time that the Regional Water Board determines that the detection monitoring program does not satisfy the requirements of California Code of Regulations, title 27, section 20420, the Regional Water Board shall send written notification of such a determination to the Discharger by certified mail, return receipt requested. The Discharger shall, within 90 days after receipt of notification by the Regional Water Board, submit an amended ROWD to make any appropriate changes to the program. [California Code of Regulations, title 27, section 20420(m)]

Compliance Time Schedule

43. Pursuant to Water Code, section 13267(b), the Discharger shall complete the tasks outlined in these WDRs and the attached Monitoring and Reporting Program No. R1-2013-0014, in accordance with the following time schedule:

Action	Compliance Date
The Discharger shall submit a work plan for the installation of two Wildcat Group wells downgradient of MW-46W and one Hookton Formation well downgradient of wells MW-39H and MW-40H or shall submit a report, with confirming documentation, of why these wells cannot or should not be installed. Either report shall be prepared and signed by a professional engineer or geologist licensed in the State of California, with experience in well installation, hydrogeologic modeling, and contaminant transportation.	April 30, 2014
The Discharger shall complete well installation detailed in the above-referenced work plan, if required.	September 30, 2014
The Discharger shall provide a report describing installation of the new wells within 60 days of completion at the last location, if required. This report shall, at a minimum, include boring logs and well installation details for all new locations; site map showing the locations of all the Landfill's monitoring wells, leachate piezometers, leachate extraction wells, gas monitoring probes, and gas extraction wells; updated groundwater contour and flow direction maps for the Hookton and upper Wildcat aquifers; updated geologic cross-sections; well development data including pumping rates and recharge data; well surveying data; and an evaluation of the adequacy of the Landfill's groundwater monitoring network and hydrogeologic model. The completion report shall be prepared and signed by a professional engineer or engineering geologist licensed in the State of California, with experience in well installation, hydrogeologic modeling and leachate collection and recovery system installation.	60 days after completion of the wells; no later than November 30, 2014

44. The Discharger shall notify the Regional Water Board in writing of any proposed change of ownership or responsibility for construction, operation, closure or post-closure maintenance of the WMU. This notification shall be given prior to the

effective date of the change, and shall include a statement by the new Discharger that construction, operation, closure, and post-closure maintenance will be performed in compliance with any existing WDRs and any revisions thereof. The Regional Water Board shall amend the existing WDRs to name the new Discharger.

45. After notice and opportunity for hearing, this Order may be terminated or modified for cause, including but not limited to:

    a. violation of any term or condition in this Order;

    b. obtaining this Order by misrepresentation, or failure to disclose fully all relevant facts; or

    c. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

46. The Discharger shall remove and relocate any wastes discharged at this Landfill in violation of this Order.

47. Severability

    Provisions of these WDRs are severable. If any provision of these requirements is found to be invalid, the remainder of these requirements shall not be affected.

48. Operation and Maintenance

    The Discharger shall maintain in good working order and operate as efficiently as possible any facility or control system installed by the Discharger to achieve compliance with the WDRs.

49. Change in Discharge

    The Discharger shall promptly report to the Regional Water Board any material change in the character, location, or volume of the discharge.

50. Signatory Requirements

    a. All applications, reports, or information submitted to the Regional Water Board Executive Officer shall be signed by either a principal executive officer, ranking elected official, or a responsible corporate officer. For purposes of this provision, a responsible corporate officer means:

i. a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation; or

ii. the manager of one or more manufacturing, production, or operating facilities, if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

b. Reports required by this Order, other information requested by the Regional Water Board may be signed by a duly authorized representative provided:

i. The authorization is made in writing by a person described in paragraph (a) of this provision;

ii. the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company; and

iii. the written authorization is submitted to the Regional Water Board prior to or together with any reports, information, or applications signed by the authorized representative.

c. Any person signing a document under paragraph (a) or (b) of this provision shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted, is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

51. Change in Ownership

In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall

notify the succeeding owner or operator of the following items by letter, a copy of which shall be forwarded to the Regional Water Board:

a. existence of this Order, and

b. the status of the Discharger's annual fee account.

52. Vested Rights

This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, nor protect the Discharger from his liability under federal, state, or local laws, nor create a vested right for the Discharger to continue the waste discharge.

53. Inspections

The Discharger shall permit authorized staff of the Regional Water Board:

a. entry upon premises in which a waste source is located or in which any required records are kept;

b. access to copy any records required to be kept under terms and conditions of this Order;

c. to inspect monitoring equipment or records; and

d. to sample any discharge.

54. Noncompliance

In the event the Discharger is unable to comply with any of the conditions of this Order due to:

a. breakdown of waste treatment equipment;

b. accidents caused by human error or negligence; or

c. other causes such as acts of nature;

the Discharger shall notify the Executive Officer by telephone as soon as it or its agents have knowledge of the incident and shall confirm this notification in writing within two weeks of the telephone notification. The written notification shall include pertinent information explaining reasons for the noncompliance, and shall indicate the steps taken to correct the problem and the dates thereof, and the steps being taken to prevent the problem from recurring.

55. Accidental Spills, Incident Reporting and Monitoring

    The Discharger shall comply with the Contingency Planning and Notification Requirements Order No. 74-151 and the Monitoring and Reporting Program No. R1-2013-0014 and any modifications to these documents as specified by the Executive Officer. Such documents are attached to this Order and incorporated herein. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services.

    a. Order No. 74-151 requires immediate incident reporting of unintentional or accidental spills (including Emergency Response actions) and diligent action to abate the effects of the discharge. Written confirmation of the incident is required within two weeks of notification.

    b. General Monitoring and Reporting Provisions require sampling and analysis performance criteria in addition to compliance reporting criteria and timeframes.

56. Revision of Requirements

    The Regional Water Board will review this Order periodically and may revise requirements when necessary.

57. This Regional Water Board requires the Discharger to file a ROWD at least 120 days before making any material change or proposed change in the character, location, or volume of the discharge.

<u>Certification</u>

I, Matthias St. John, 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, North Coast Region, on May 2, 2013.

Original Signed By

_____

Matthias St. John
Executive Officer