CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION

3737 Main Street, Suite 500
Riverside, CA 92501-3348
(951) 782-4130
Regional Board Website (https://www.waterboards.ca.gov/santaana)

WASTE DISCHARGE REQUIREMENTS ORDER R8-2023-0001

ORDER INFORMATION

Order Type(s):	Waste Discharge Requirements (WDRs)
Status:	ADOPTED
Program:	Title 27 Discharges to Land
Discharger(s):	City of Redlands
Facility:	California Street Landfill
Address:	2151 Nevada Street Redlands, California 92374
County:	San Bernardino County
GeoTracker ID:	L10004733296

CERTIFICATION

I, JAYNE JOY, Executive Officer, hereby certify that the following is a full, true, and correct copy of the order adopted by the California Regional Water Quality Control Board, Santa Ana Region, on June 9 2023.

Jayne Joy
Digitally signed by Jayne Joy
Date: 2023.06.15 09:57:07 -07'00'
Water Boards

JAYNE JOY
Executive Officer

FINDINGS

The Santa Ana Regional Water Quality Control Board (Santa Ana Water Board) hereby finds as follows:

1. **California Street Landfill** – The City of Redlands (Discharger) owns and operates the California Street Landfill (Facility). The Facility is a Class III, nonhazardous municipal solid waste (MSW) landfill. The County of San Bernardino began waste disposal operations at the site in 1963. The Discharger took possession of the Facility and has continued waste disposal operations for non-public use since 1970. The Facility is located at 2151 Nevada Street, City of Redlands, San Bernadino County; SE 1/4 of the SE 1/4 of Section 8, Township 1 South, Range 3 West, and North ½ of Section 17, Township 1 South, Range 3 West of the San Bernardino Baseline and Meridian. The location of the Facility is shown on **Figure 1** in Attachment C.

   The Facility is made up of two areas, the portion east of Nevada Street, known as the East Side Landfill (ESL), and the portion west of Nevada Street, known as the West Side Landfill (WSL), Unit 1 and Unit 2, the southern lateral expansion lined WMUs, Phases 1 through 4, and future WMUs, Phases 5 through 8. The ESL and WSL WMUs are shown on **Figure 2** in Attachment C. The Facility, which encompasses 115 acres of disposal area, is currently permitted by the Santa Ana Water Board and the Department of Resources Recycling and Recovery (CalRecycle) for waste disposal. The unlined 20-acre ESL and the 6-acre lower north-facing slope of the unlined WSL Unit 1 have been formally closed and accepted for partial closure since 2008. The Facility's current development and waste handling areas are conducted at the WSL Units 1 and 2. All existing and proposed Waste Management Units (WMUs) at the Facility are summarized in **Table 1**.

Table 1- Waste Management Units (WMUs)

WMU	Class	Size (Acres)	Lined	Status
East Side Landfill	Class III	20	Unlined	Closed
West Side Landfill Unit 1	Class III	43	Unlined	Operating
WSL Unit 2, Phase 1	Class III	12	Lined	Operating
WSL Unit 2, Phase 2	Class III	6	Lined	Operating
WSL Unit 2, Phase 3	Class III	6.2	Lined	Operating
WSL Unit 2, Phase 4	Class III	5	Lined	Operating
WSL Unit 2, Phase 5	Class III	4 to 6	Proposed	Proposed
WSL Unit 2, Phase 6	Class III	4 to 6	Proposed	Proposed
WSL Unit 2, Phase 7	Class III	4 to 6	Proposed	Proposed
WSL Unit 2, Phase 8	Class III	4 to 6	Proposed	Proposed

2. **Site Capacity and Closure** – Based on the 2019 JTD, the remaining capacity for waste is about 2.55 million tons; the total remaining capacity for waste plus daily cover is about 4.64 million cubic yards. Based on a total remaining capacity of 4.64 million cubic yards, the site life calculations indicate that the last receipt of waste would occur in the first half of 2053.

Regulatory Framework

3. **Regulation of Non-Hazardous Municipal Solid Waste (MSW)** – The Facility's WMUs are subject to federal MSW regulations promulgated under the Resource Conservation and Recovery Act (RCRA) (42 U.S.C. § 6901 et seq.). Typically referred to as "Subtitle D," such regulations are now codified as Code of Federal Regulations, title 40, part 258 (40 CFR part 258) and implemented in part through the provisions of California Code of Regulations, title 27, division 2, subdivision 1, *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste* (Title 27) and in accordance with State Water Resources Control Board (State Water Board) Resolution No. 93-62.

4. **Permitting under Waste Discharge Requirements (WDRs)** – Adopted pursuant to Water Code section 13263, subd. (a), this Order prescribes Waste Discharge Requirements (WDRs) incorporating applicable provisions of Title 27, 40 CFR part 258 and State Water Board Resolution No. 93-62, particularly with respect to siting, design, construction, operations, drainage and erosion control, water quality monitoring, and when necessary, groundwater remediation (i.e., corrective action).

5. **Facility Waste Discharge Requirements** – The Facility is currently regulated under Waste Discharge Requirements (WDRs), Santa Ana Water Board Order No. R8-2004-0008, as amended by Order No. R8-2008-0094 and General Order No. R8-2016-0052. The existing WDRs, listed in **Table 2**, contain discharge requirements, provisions, and monitoring and reporting requirements in accordance with Title 27, for landfill siting, design, construction, operations, drainage and erosion control, water quality monitoring, and groundwater remediation, when necessary.

Table 2 – Existing Waste Discharge Requirements

Order No.	Reason for WDR amendment	Date Adopted
R8-2004-0008	This order updates and replaces WDR Order No. 81-172 to incorporate substantive requirements of Title 27 and State Water Board Resolution No. 93-62 for site lateral expansion.	April 30, 2004
R8-2008-0094	This WDR amendment allows the acceptance of designated waste, including treated wood waste (TWW), for disposal at composite-lined units of the landfill, and includes provisions, monitoring and reporting requirements for the management and disposal of TWW and designated waste.	Nov. 21, 2008
R8-2016-0052	A blanket order that replaces WDR Amendment, Order No. R8- 2014-0006 to update acceptance criteria for the disposal of nonhazardous contaminated soils, CRT panel glass, and designated waste, and establish acceptance requirements for the beneficial reuse of contaminated soils and certain waste-derived materials at active MSW landfills in the region.	Oct. 28, 2016

6. **Terms and Acronyms** – Definitions of terms and acronyms used in this Order are included in Attachments A and B, respectively. Unless otherwise specified, the terms used in this Order are defined per Title 27, sections 20150, 20163, 20164, and 20415.

7. **Consolidation of Requirements** – This Order consolidates and supersedes the requirements contained in the existing WDRs Order, as well as those amendments effected in the subsequent General Orders, consistent with the current federal and State laws and regulations for MSW disposal.

Waste Acceptance

8. **Waste Classification** – Pursuant to Title 27, section 20200, subd. (a), wastes are classified based on their risk of impairment to groundwater. Nonhazardous

MSW are classified as Classes II and III wastes. The Facility's WMUs accept nonhazardous MSW and are classified as Class III MSWLFs.

9. **Waste Types and Quantities** – Only MSW generated within the City of Redlands are accepted at the Facility. The Facility is currently permitted to receive a maximum daily tonnage of 829 tons per day of MSW. Wastes accepted for disposal at the Facility include commercial and residential waste, construction and demolition waste, inert materials, sewage grits and screenings, dewatered sewage and water treatment sludge, and certain designated wastes approved by the Executive Officer (EO) of the Santa Ana Water Board. Waste accepted for recycling at the Facility includes green waste, construction and demolition wastes, tires, universal waste, white goods, and furniture. Processed waste material or waste-derived materials, such as shredded greenwaste and crushed asphalt concrete are reused at the Facility.

10. **Designated Waste** – Per Water Code section 13173, a "designated waste," a Class II waste, is defined as either of the following:

    a. Hazardous waste that has been granted a variance from hazardous waste management requirements pursuant to Health & Safety Code section 25143, or

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

11. **Disposal of Designated Wastes** - A designated waste that has been granted a variance by the California Department of Toxic Substances Control (DTSC) from hazardous waste management, or that could reasonably be expected not to release pollutants in concentrations exceeding applicable water quality objectives can be authorized by the EO of the Santa Ana Water Board for disposal at a composite-lined unit of a Class III landfill.

12. Pursuant to Title 27, section 20200, subd. (a)(1), a particular waste constituent or combination of constituents, such as a Class II, designated nonhazardous waste, that presents a lower risk of water quality degradation than indicated by classification may be regulated as a Class III waste.

13. A nonhazardous waste that might be considered a designated waste in Water Code section 13173(b), disposed under ambient conditions at a composite-lined unit of a Class III WMU, would not reasonably be expected to release pollutants in concentrations exceeding applicable WQOs and would not be reasonably

expected to affect beneficial uses of the waters of the state. WSL Unit 2, Phase 1 WMU is equipped with a single composite liner system, whereas WSL Unit 2, Phases 2 through 4 WMUs are equipped with a double composite liner system; the designs which are considered at least equivalent Class II MSWLF liner system design. In accordance with Title 27, section 20200, subd. (a)(1), this Order allows the disposal of certain designated wastes in all composite lined WMUs at the Facility when demonstrated by the Discharger.

14. **Waste Acceptance Program and Contaminated Soils** – Soils contaminated with moderate concentrations of total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), organochlorine pesticides, polychlorinated biphenyls (PCBs), and California Administrative Manual (CAM) metals, are “wastes” as defined in Water Code, section 13050, and are therefore required to be regulated under WDRs prescribed pursuant to Water Code section 13263, subd. (a). The discharge of such wastes to land for disposal or reuse could affect the quality of the waters of the State if not properly managed; however, land disposal or reuse of contaminated soils at properly engineered and managed MSW landfills (MSWLFs) is an efficient and economical means of minimizing the impacts to water quality from such discharge of waste.

    In October 2016, the Santa Ana Water Board adopted General Order R8-2016-0052, which replaced General Order R8-2014-0006, and amended the existing individual WDRs orders for the active landfills in the region. General Order R8-2016-0052 updated and prescribed new acceptance criteria for the disposal of nonhazardous contaminated soils, CRT panel glass, and designated waste, and for the beneficial reuse of contaminated soils and certain waste-derived materials. To comply with Order R8-2016-0052, landfill operators are required prepare and submit a Waste Acceptance Plan (WAP) for approval by the Santa Ana Water Board’s EO. The Discharger has elected not to accept contaminated soils at the Facility and not to submit a WAP. Therefore, Order No. R8-2016-0052 is not applicable to the Facility.

15. **Waste-Derived Materials** – Waste-derived materials are waste materials that have been treated, processed, or otherwise re-conditioned so that the material may be beneficially reused for structural, engineering, or other alternative purposes. Waste-derived materials include, but are not limited to, tire-derived aggregate, compost and other green materials, construction and demolition debris fines, and contaminated soils. In accordance with Title 27, sections 20686 and 20690, this Order allows the beneficial re-use of waste-derived materials at the Facility as alternative daily cover (ADC), alternative intermediate cover, final cover foundation layer, liner system operations layer, landfill gas collection trench fill, construction fill, road base, wet weather operation pads and access roads, and soil amendments for erosion control and landscaping. This Order requires

that beneficial reuse of new waste materials or waste-derived materials, including those prescribed under Title 27, section 20690, subd. (b), be evaluated and approved by the EO of the Santa Ana Water Board, on a case-by-case basis for water quality protection.

16. **Treated Wood Waste** – In August 2021, the California Legislature adopted Assembly Bill 332 (AB 332), which allows disposal of treated wood waste at composite-lined units of Class III landfills in California. Treated Wood is defined per Health and Safety Code section 25230.1 as wood that has been treated with a chemical preservative for purposes of protecting the wood against attacks from insects, fungi, microorganisms, and other environmental conditions that can lead to decay of the wood, and the chemical preservative is registered pursuant to the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. §136 et seq.). Chemicals used to treat wood may include chromated copper arsenate, ammoniacal copper zinc arsenate, or chromated zinc chloride. Treated Wood Waste (TWW) means wood waste that meets the requirements described in Health & Safety Code section 25230.2.

    Health & Safety Code section 25230.11 provides that TWW may specifically authorized by WDRs for disposal at a composite-lined Class II or Class III MSWLF (i.e., compliant with all Subtitle D regulations effective as of Oct. 9, 1993). MSWLFs that accept TWW are required to comply with all applicable provisions of Health & Safety Code section 25230.11, subd. (b).

Site Background and History

17. **Commencement of Site Operations and Expansions** – The Facility consists of two *unlined* WMUs (ESL and WSL Unit 1), and four *lined* WMUs, (WSL Unit 2, Phases 1 through 4, post-Subtitle D lateral expansion of the WSL). In 1963, landfill operations began at the ESL. The ESL and the lower north-facing slope of the WSL Unit 1, as shown in **Figure 2** of Attachment C, have been officially closed with an evapotranspiration alternative final cover since 2008. The site's current waste handling and landfill operations are conducted exclusively at the WSL Units 1 and 2, which are shown in Error! Reference source not found.**2**.

18. **Regional and Site Geology** – The Facility is 4 miles south of the San Bernardino Mountains within the eastern portion of the Transverse Ranges Physiographic Province. This area of San Bernardino County is underlain primarily by the structurally down-dropped San Bernardino Valley block. Subsidence of this block promoted the accumulation of over 1,000 feet of alluvial sediments in the central San Bernardino Valley. Coalescing alluvial fans emanating from the surrounding mountains and hills formed the alluvial plain, which forms the valley floor. Subsurface soils encountered at the Facility were stratified and consisted predominately of alluvial silty sand material. The

maximum thickness of alluvium in the area is estimated to be greater than 1,200 feet approximately one mile northwest of the landfill. The maximum thickness of alluvium at the landfill is greater than 700 feet.

19. **Regional and Local Faulting** – The seismicity of the Facility site is dominated by the three nearest Holocene faults: the San Andreas (San Bernardino and Coachella sections), San Jacinto (San Bernardino and San Jacinto Valley sections), and Crafton Hills Zone Faults. The San Andreas Fault is located 4.8 miles north of the site. The San Jacinto Fault is located 4.6 miles south of the site. Due to the right-lateral movement of the San Andreas and San Jacinto Faults, the portion between them is being pulled apart, creating a series of normal faults. These faults encompass an area defined as the Crafton Hills Fault Zone.

20. **Site Terrain** – The Facility is located within the northeastern portion of the broad, east-west trending San Bernardino Valley. The regional natural terrain of the site and vicinity is relatively flat, with an approximate one percent gradient to the west. The Facility is underlain by a considerable thickness of Quaternary, younger alluvium deposits, which overlies the Mesozoic basement complex. The basement complex, underlying the alluvium and exposed in the San Bernardino Mountains north of the unit, consists of granitic and metamorphic rocks. Natural land surface elevations on the property range from about 1,200 feet above average mean sea level (msl) at the eastern edge of the site, to about 1,150 feet msl at the western site boundary.

21. **Regional and Site Hydrogeology; Beneficial Uses** – The Facility is located within the Bunker Hill-B Groundwater Management Zone, as set forth in the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan). Groundwater occurs in alluvial sediments at a depth of approximately 100 feet at the Facility. Historic and current groundwater elevation data indicate that groundwater flow beneath the Facility has generally been consistent with regional flow patterns, with westerly to southwesterly flow occurring at a gradient of about 0.01 foot/foot. Groundwater beneath the Facility ranges between 131.80 and 259.10 feet below ground surface (bgs). Groundwater beneath the Facility flows westerly to southwesterly at a velocity between 0.005 to 0.3 feet/day. As indicated in the Basin Plan, the Bunker Hill-B Groundwater Management Zone has the following beneficial uses:

    a. Municipal and Domestic Supply,

    b. Agricultural Supply,

    c. Industrial Service Supply, and

d. Industrial Process Supply.

22. **Receiving Surface Water Body** – Surface water that drains from the Facility is tributary to the Santa Ana River, Reach 5, which has beneficial uses as indicated in the Basin Plan. This Order does not authorize any discharges of wastewater to surface waters, including the Santa Ana River.

23. **Average Annual Precipitation –** The Facility is in an arid to semi-arid environment. Average annual precipitation in the area is estimated to be approximately 13 inches measured at the Redlands Station, which is located at latitude 34.03 and longitude -117.11, within the City of Redlands.

24. **Waste Containment System Design** – Pursuant to Title 27, section 20330, and Part 258 (i.e., Subtitle D regulations) require that a MSWLF waste containment system (WCS) which includes a composite liner of a prescriptive standard design (PSD) to be installed for lateral expansion beyond the WMU's lateral footprint as of 1993. This PSD must include, at a minimum, an upper synthetic geomembrane liner that is at least 40-mil (or 60-mil thick if a high-density polyethylene geomembrane liner is used), and a lower component of soil that is at least 2 feet thick with a hydraulic conductivity of no more than (≤) $1x10^{-7}$ centimeters per second (cm/s).

25. **Engineered Alternative Design** – Title 27, section 20080 allows for engineered alternative designs (EADs) to the PSD for a WCS, provided that the performance criteria contained in 40 CFR part 258.40(a)(1), (c) and Title 27, section 20080, subd. (b), are satisfied.

In accordance with Title 27, section 20080, subd. (b), the Santa Ana Water Board has approved following minimum required EADs to the PSD for the base and sideslope liner systems, from bottom up, at the Facility:

Table 3 - Approved Engineered Alternative Designs (EADs)

Prescriptive Std. Design (PSD)	EAD 1 for Base Liner System (EAD-B1)	EAD 2 for Base Liner System (EAD-B2)	EAD 3 for Sideslope Liner System (EAD-SS3)	EAD 4 for Sideslope Liner System (EAD-SS4)
Prepared Subgrade	Prepared Subgrade	Prepared Subgrade	Prepared Subgrade	Prepared Subgrade

Prescriptive Std. Design (PSD)	**EAD 1 for Base Liner System (EAD-B1)**	**EAD 2 for Base Liner System (EAD-B2)**	**EAD 3 for Sideslope Liner System (EAD-SS3)**	**EAD 4 for Sideslope Liner System (EAD-SS4)**
2-ft. compacted clay layer ($\leq 1x10^{-7}$ cm/s)	2-ft. compacted clay layer ($\leq 1x10^{-7}$ cm/s)	Min 1 ft. low permeability layer ($\leq 1x10^{-6}$ cm/s) Minimum 40-mil HPDE liner (moisture barrier) with a geosynthetic clay liner (GCL)	2-ft. compacted clay layer ($\leq 1x10^{-7}$ cm/s)	Min 1 ft. low permeability layer ($\leq 1x10^{-6}$ cm/s) Min. 40-mil HPDE liner (moisture barrier) with a geosynthetic clay liner (GCL)
60-mil thick HDPE geomembrane	Min. 60-mil thick HDPE geomembrane	Min. 60-mil thick HDPE geomembrane	Min. 60-mil thick HDPE geomembrane	Min. 60-mil thick HDPE geomembrane
Geotextile Cushion Fabric	----	----	----	----
12-in. thick drainage gravel layer	Double-sided geocomposite (a geonet with non-woven geotextile bounded on both sides) drainage layer	Double-sided geocomposite drainage layer	Double-sided geocomposite drainage layer	Double-sided geocomposite drainage layer
Geotextile Filter Fabric	----	----	----	----
A 2-ft. thick soil protective layer	2-ft. thick soil protective layer with leachate drainage gravel trenches or “windows”	2-ft. thick soil protective layer with leachate drainage gravel trenches or “windows”	2-ft. thick soil protective layer	2-ft. thick soil protective layer
Refuse	Refuse	Refuse	Refuse	Refuse

26. In compliance with federal Part 258 (Subtitle D) regulations and the existing WDRs, the Discharger has equipped each WMU at the Facility with a WCS for

each lateral landfill expansion. The liner systems, from bottom up, installed for Phases 1 through 4 at the Facility are summarized in **Table 4.**

Table 4 – As-Built Liner Systems for WMU Bottoms and Sideslopes

WMU	Area	Bottom (Ascending Order)	Sideslope (Ascending Order)
WSL Unit 2, Phase 1 Completed May 2004	12 Acres	● Prepared subgrade **[base]** ● 2-ft. thick ≤1x10^{-7} cm/s compacted clay layer ● 60-mil double-sided textured HDPE geomembrane ● Double-sided geocomposite drainage layer ● Leachate collection gravel trenches ● 2-ft. thick soil operations layer **[top]**	● Prepared subgrade **[base]** ● 2-ft. thick ≤1x10^{-7} cm/s compacted clay layer ● 60-mil double-sided textured HDPE geomembrane ● Double-sided geocomposite drainage layer ● 2-ft. thick soil operations layer **[top]**
WSL Unit 2, Phase 2 Completed March 2009	6 Acres	● Prepared subgrade **[base]** ● 1-ft. ≤1x10^{-6} cm/s low permeability layer ● 40-mil HDPE geomembrane with GCL ● Double-sided textured 60-mil thick HDPE geomembrane secondary liner ● Double-sided geocomposite leak detection layer ● 40-mil HDPE geomembrane with GCL ● Double-side textured 60-mil HDPE geomembrane primary liner ●Double-sided geocomposite drainage layer ● Leachate collection gravel trenches or “windows” ● 2-ft. thick soil operations layer **[top]**	● Prepared subgrade **[base]** ● 1-ft. ≤1x10^{-6} cm/s low permeability layer ● 40-mil HDPE geomembrane with GCL ● Double-side textured 60-mil thick HDPE geomembrane secondary liner ● Double-sided geocomposite leak detection layer ● 40-mil HDPE geomembrane with GCL ● Double-side textured 60-mil HDPE geomembrane primary liner ● Double-sided geocomposite drainage layer ● 2-ft. thick soil operations layer **[top]**

WMU	Area	Bottom (Ascending Order)	Sideslope (Ascending Order)
WSL Unit 2, Phase 3 Completed Dec. 2012	6.2 Acres	● Prepared subgrade **[base]** ● 1-ft. ≤1x10^{-6} cm/s low permeability layer ● 40-mil HDPE geomembrane with GCL ● Double-side textured 60-mil thick HDPE geomembrane secondary liner ● Double-sided geocomposite leak detection layer ● 40-mil HDPE geomembrane with GCL ● Double-side textured 60-mil HDPE geomembrane primary liner ● Double-sided geocomposite drainage layer ● Leachate collection gravel trenches or “windows” ● 2-ft. thick soil operations layer **[top]**	● Prepared subgrade **[base]** ● 1-ft. ≤1x10^{-6} cm/s low permeability layer ● 40-mil HDPE geomembrane with GCL ● Double-side textured 60-mil thick HDPE geomembrane secondary liner ● Double-sided geocomposite leak detection layer ● 40-mil HDPE geomembrane with GCL ● Double-side textured 60-mil HDPE geomembrane primary liner ● Double-sided geocomposite drainage layer ● 2-ft. thick soil operations layer **[top]**

WMU	Area	Bottom (Ascending Order)	Sideslope (Ascending Order)
WSL Unit 2, Phase 4 Completed Aug. 2020	5 Acres	● Prepared subgrade **[base]** ● 1-ft. ≤1x10^{-6} cm/s low permeability layer ● 40-mil HDPE geomembrane with GCL ● Double-side textured 60-mil thick HDPE geomembrane secondary liner ● Double-sided geocomposite leak detection layer ● 40-mil HDPE geomembrane with GCL ● Double-side textured 60-mil HDPE geomembrane primary liner ● Double-sided geocomposite drainage layer ● Leachate collection gravel trenches or “windows” ● 2-ft. thick soil operations layer **[top]**	● Prepared subgrade **[base]** ● A 1-ft. ≤1x10^{-6} cm/s low permeability layer ● A 40-mil HDPE geomembrane with GCL ● Double-side textured 60-mil thick HDPE geomembrane secondary liner ● Double-sided geocomposite leak detection layer ● 40-mil HDPE geomembrane with GCL ● Double-side textured 60-mil HDPE geomembrane primary liner ● Double-sided geocomposite drainage layer ● 2-ft. thick soil operations layer ● 12-mil thick UV protective scrim reinforced low density polyethylene (LLDPE) temporary layer ballasted with sandbags **[top]**

27. **Construction Quality Assurance** – Pursuant to sections 30323 and 30324 of Title 27, the Discharger is required to prepare and implement a Construction Quality Assurance Plan (CQA Plan) for all liner system installation projects. This CQA Plan shall describe a CQA program intended to ensure construction of a liner system in conformance with the approved construction documents and design specifications, and to identify and correct any problems or defects associated with the liner system and its construction. The program’s goal is to prevent any potential damage, tears, or other imperfections in the base and side slope liner systems during manufacture, construction, and installation.

28. **Five-Foot Separation Zone** – Title 27, section 20240, subd. (c) requires WMUs to be operated to maintain at least 5 feet of separation from the highest anticipated groundwater elevation. This is not an issue at the Facility, as the depth to groundwater exceeds 130 feet bgs.

29. **Environmental Control Systems** – Existing environmental control systems at the Facility include a leachate collection and removal system, landfill gas (LFG) extraction and treatment system, LFG condensate collection and conveyance

system, leachate and condensate containment systems, and a groundwater monitoring well network.

30. **Leachate Collection and Removal System** – A leachate collection and removal system (LCRS), consisting of a gecomposite drainage layer and dendritic leachate collection gravel trenches installed within the soil protective layer, has been installed in all the lined portions of the Facility. As leachate drains down through the layers of solid waste and gravel trenches and the geocomposite drainage layer, it is collected on top of the primary geomembrane and gravity-drained to the collection sumps installed in Phases 1 and 2 WMUs. Leachate is pumped from the sumps through a network of collection pipes for discharge to the adjacent City-owned Wastewater Treatment Plant.

31. **Landfill Gas (LFG) Extraction System** – LFG generated by decomposition of solid waste at the Facility is extracted and collected through the extraction and collection system (LFGECS), which consists of a series of horizontal collectors and vertical wells and conveyance pipes. At the Facility, the LFGES currently consists of 39 vertical and 24 horizontal LFG extraction wells and 8,500 linear feet of 10-inch diameter gas collection pipes. LFG is collected using centrifugal blowers to extract the LFG and deliver it to an internal combustion engine to generate electricity for operations at the adjacent City-owned wastewater treatment plant.

In accordance with the permit granted by the Southern California Air Quality Management District (AQMD), the LFG control system, which consists of the LFGECS and perimeter gas probes, are monitored quarterly. LFG extraction wells are analyzed for percentages of methane, carbon dioxide, oxygen, nitrogen, temperature, flow, and pressure. LFG perimeter probes are monitored for percentages of methane, carbon dioxide, oxygen, and nitrogen. If any probes with a methane level exceeding 5 percent (%), a soil gas sample is collected and analyzed for VOCs by EPA Method Toxic Organics-15 (TO-15).

32. **Landfill Gas Condensate Collection** – LFG condensate is generated as a result of cooling of LFG as it travels through collection pipes. The LFG condensate is collected and conveyed from the sumps through pipes via an automated pumping system, and combined with landfill leachate into one single waste stream for discharge to the Discharger's adjacent Wastewater Treatment Plant (WWTP).

33. **Landfill Leachate and Gas Condensate Disposal** –The Discharger discharges the Facility's leachate and LFG condensate to its WWTP. As required under Water Code sections 13267 and 13383 Investigative Order WQ-2020-0015-DWQ, from October 2020 to September 2021, the Discharger completed one year of quarterly monitoring of the landfill leachate and gas condensate

discharge for Per- and Polyfluoroalkyl Substances (PFAS). Among the PFAS, perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) were detected at levels above the State Notification Levels in the landfill leachate and LFG condensate. PFAS are contaminants of emerging concern; the federal and state regulatory levels of PFAS are evolving. To address source control of PFAS in influent discharges to the WWTP, the Discharger will be required to monitor for PFAS in the landfill leachate and gas condensate influent discharge under the WWTP's WDRs, Order No. 98-54, amended by Order No. R8-2006-0008.

Monitoring

34. **1988 Solid Waste Assessment Test** – In accordance with Water Code section 13273, a Solid Waste Assessment Test (SWAT) was conducted at the Facility in 1987 and 1988. As part of the SWAT, five groundwater monitoring wells and two lysimeters were installed to evaluate vadose zone and groundwater conditions and groundwater quality beneath the site. A SWAT Report was submitted to the Board in January 1989. An elevated concentration of manganese and a trace level of Tetrachloroethylene (PCE) was detected in groundwater samples.

35. **Water Quality Protection Standard** – A Water Quality Protection Standard (WQPS) is the analytical framework through which WMUs are individually monitored for releases and impacts to water quality; contiguous WMUs may be monitored together. (Title 27, section 20390, subd. (a)). In accordance with Title 27, this Order, by virtue of its incorporation of concurrently adopted **Monitoring & Reporting Program (MRP)** and subsequent revisions thereto, establishes a WQPS for each WMU at the facility.

36. **Groundwater** – Pursuant to Title 27, section 20385, the Discharger is required to perform monitoring for each WMU at the Facility. Underlying groundwater is impacted by perchlorate, PCE, trichloroethylene (TCE), and 1,2-dibromo-3-chloroporpane. In March 2004, in compliance with Title 27, section 20420, subd. (k)(7), the Discharger submitted an Optional Demonstration Report and successfully demonstrated that these impacts were originated from offsite sources other than the Facility, and were not the result of releases from onsite WMUs at the Facility. Currently, the Discharger is implementing a groundwater Detection Monitoring Program (DMP). The Discharger will continue to implement a water quality monitoring program in accordance with Title 27, section 20385, subd. (a)(1) and section 20420, and the attached MRP. The monitoring wells are depicted in **MRP Table 1** and **MRP Figure 1**. The required monitoring frequency and analytical constituents are specified in the MRP and subsequent amendments thereto.

37. **Vadose Zone Monitoring** – Pursuant to Title 27, section 20415, subd. (d), the Discharger is required to establish a monitoring system for the unsaturated zone (vadose zone) for each WMU. Currently, the Discharger monitors the vadose zone at the Facility using lysimeters, soil-pore liquid devices, and gas monitoring probes. (See **MRP Table 1** and **MRP Figure 1** herein.) The required monitoring frequency and analytical constituents are specified in the MRP and subsequent amendments thereto. Data generated from vadose zone monitoring activities will be evaluated as specified in the MRP to identify constituents for potential landfill releases and direct groundwater monitoring activities.

38. **Leachate and LFG Condensate Monitoring** – It is generally understood that there is a connection between groundwater contamination and the contaminants in collected leachate and LFG condensate. Consequently, constituents detected in leachate and gas condensate are considered potential threats to water quality. Based upon this connection, the Discharger has been monitoring and will continue to be required to monitor landfill leachate and gas condensate at monitoring points as shown in **MRP Table 1 and MRP Figure 1**. The required monitoring frequency and analytical constituents are specified in the MRP and subsequent amendments thereto. Results from these monitoring activities are evaluated and utilized as specified in the MRP to direct groundwater monitoring activities.

39. **Surface Water Monitoring** – Currently, the Discharger is required to continue to monitor the Santa Ana River at Monitoring Points SW-1 and SW-2, as shown in **MRP Table 1 and MRP Figure 1**, to detect any releases from the Facility WMUs.

Other Findings

40. **Drainage and Erosion Control** – Surface drainage control facilities at the Facility are designed, constructed, and maintained to collect and divert stormwater runoff resulting from a 100-year, 24-hour frequency storm event. The Facility's drainage control system is designed to divert run-on and runoff away from the WMUs. Run-on control structures have been designed and installed to control run-on from the streets and orchard. Onsite drainage is controlled by lateral sheet flow and by intercepting berms and benches. Runoff on benches is directed to downdrains and drainage channels that lead to drainpipes, retention basins, and storm drains, which discharge to the Santa Ana River, Reach 5. A flood control levee protects the northern edge of the Facility against high water flows from the Santa Ana River. Portions of the levee have a post and wire revetment owned by San Bernardino County Flood Control District. The San Bernardino County Flood Control District maintains the existing levees by reinforcing critical areas with riprap. Vegetation, erosion control blankets, and green waste mulch are examples of erosion control measures applied on side slopes at the Facility.

41. **Daily and Intermediate Cover Materials** – The Facility utilizes a minimum of 6 inches of compacted soil as daily cover material and/or approved ADCs, such as geosynthetic tarps and Mountain View Power Plant filter cake or water treatment sludge, at the end of each working day. The Mountain View Power Plant filter cake ADC is only used during dry weather. A layer of at least 12 inches of compacted intermediate soil cover is placed on all landfill surfaces where no additional refuse will be deposited within 180 days.

42. **Post-Closure Land Use** – Non-irrigated open space is the proposed land use for the Facility following cessation of disposal activities and closure of the facility. Currently, the Facility is expected to remain in operation until 2053.

43. **Preliminary Closure and Post-Closure Maintenance Plans** – Title 27, section 21769, subd. (b)(1) requires the Discharger to prepare a preliminary closure and post-closure maintenance plan for the Facility to enable development of a reasonable estimate of the maximum costs expected for a third party to close the Facility and to implement the first thirty years of post-closure maintenance. In its Joint Technical Document (JTD), dated September 2019, the Discharger included a preliminary closure plan and a post-closure maintenance plan. In addition, the Discharger included a cost estimate in the JTD for implementing these plans.

44. **Financial Assurance** – Title 27, sections 22207 and 22212 require that the Discharger establish a fund (financial assurance) to ensure implementation of the closure and post-closure maintenance plans. In its 2019 JTD for the Facility, the Discharger provided documentation demonstrating the establishment and maintenance of an enterprise fund for implementing the subject plans.

45. **Deed Notification After Closure** – After completion of landfill closure activities, the Discharger is required to file a deed notification with the San Bernardino County Recorder for future land use at the Facility. The deed notification shall be added to the property profile, in perpetuity, to inform and advise any potential purchaser of the property that:

    a. The parcels have been used as an MSW landfill;

    b. Unless other post-closure land use alternative(s) are approved via a JTD Addendum by CalRecycle and the Santa Ana Water Board, the land use options for the parcel are restricted in accordance with the post-closure land uses set forth in the PCMP; and

    c. If the Discharger defaults in carrying out either the PCMP or any corrective action needed to address a release, the responsibility for carrying out such work falls to the property owner, if other than the Discharger.

46. **Requirement for Water Quality Control Plan** – Water Code section 13263, subd. (a) requires that waste discharge requirements implement relevant water quality control plans. The requirements contained herein are intended to assure compliance with the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan), including water quality objectives (WQOs) and beneficial uses.

47. **Basin Plan** – The Santa Ana Water Board adopted a revised Basin Plan that became effective on January 24, 1995. The Basin Plan specifies beneficial uses and water quality objectives for waters in the Santa Ana Region. The water quality objectives and the groundwater basin boundaries, now known as groundwater management zones, were updated in February 2016.

48. **Industrial General Stormwater Permit** – Stormwater discharges from the Facility are regulated by the General Permit for Storm Water Discharges Associated with Industrial Activities (Industrial General Permit or IGP), Order No. 2014-0057-DWQ, as amended by Orders No. 2015-0122-DWQ and the 2018 Amendment documents (NPDES Permit No. CAS000001). Construction activities associated with landfill operations, maintenance, improvement, or development projects (such as expansion) at the Facility are also covered under the IGP.

49. **Public Notification** – The Santa Ana Water Board has notified the Discharger and interested agencies and persons of the Board's intent to update the existing waste discharge requirements and has provided them with an opportunity to submit their written views and recommendations.

50. **Assembly Bill 2108** – Water Code section 13149.2, subd. (d) requires that the Santa Ana Water Board, "[w]hen issuing … individual [WDRs] … that regulate activity or a facility that may impact a disadvantaged[1] or tribal community,[2] and that includes a time schedule in accordance with subd. (c) of Section 13263 for achieving an applicable [WQO], an alternative compliance path that allows time

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[1] For the purposes of this requirement, a "disadvantaged community" is defined as a "community in which the median household income is less than 80 percent of the statewide annual median household income level." (Wat. Code section 13149.2, subd. (f)(1).)

[2] For the purposes of this requirement, a "tribal community" is defined as a "community within a federally recognized California Native American tribe or non-federally recognized Native American tribe on the contact list maintained by the Native American Heritage Commission for the purposes of Chapter 905 of the Statutes of 2004." (Wat. Code section 13149.2, subd. (f)(2).)

to come into compliance with [WQOs], or a water quality variance…," must include finding(s) regarding "potential environmental justice, tribal impact, and racial equity considerations" that are relevant to the permitting action. This Order does not incorporate a time schedule for compliance with applicable WQOs, or any of the other provisions described in Water Code section 13149.2, subd. (d). Accordingly, no additional findings are necessary under section 13149.2.

51. **Public Hearing** – The Santa Ana Water Board, in a public meeting, heard and considered all comments pertaining to updating the existing WDRs for the Facility.

52. **California Environmental Quality Act (CEQA) Compliance** – A Final Environmental Impact Report for the Facility expansion was prepared by the Discharger in accordance with section 15167 of the CEQA Guidelines. The Redlands City Council certified the Environmental Impact Report for expansion of the Facility on October 1, 2002. A Notice of Determination was filed with the Clerk of the County of San Bernardino on October 10, 2002 and the State Clearinghouse on October 16, 2002. In July 2007, the Discharger prepared an Initial Study for the acceptance of Mountain View water treatment sludge for disposal at the Facility. On August 7, 2007, the Redlands City Council certified a Mitigated Negative Declaration for the acceptance of Mountain View water treatment sludge for disposal in double composite-lined WMUs at the Facility.

53. Santa Ana Water Board staff has reviewed and commented on the Environmental Impact Report and Mitigated Negative Declaration. If the project is carried out in a manner that implements all the mitigation measures provided for in the CEQA documents and the Discharger complies with this Order, adequate protection to water quality will be provided.

54. **Antidegradation Policy**—The State Water Board's *Statement of Policy with Respect to Maintaining High Quality Waters in California*, Resolution 68-16 (*Antidegradation Policy*) prohibits the Santa Ana Water Board from authorizing degradation of "high quality waters" unless it is shown that such degradation: (1) will be consistent with the maximum benefit to the people of California; (2) will not unreasonably affect beneficial uses, or otherwise result in water quality less than as prescribed in applicable policies; and (3) is minimized through the discharger's best practicable treatment or control.

Consistent with Title 27, this Order requires the Discharger to maintain the Facility to contain waste within WMUs, thereby preventing degradation of water quality. To the extent that there are releases from WMUs, the Discharger will be required to address such releases through a Corrective Action Program (CAP). (Title 27, sections 20385, 20415, 20430.) Additionally, to the extent that this Order authorizes waste discharges outside the footprint of established WMUs, or

otherwise outside of established WCSs (e.g., per the approved WAP), no degradation in water quality will occur as a result. Because this Order does not authorize any degradation in water quality, it complies with the *Antidegradation Policy*.

55. **Delegation of Authority** – In accordance with Order R8-2019-0056, the EO of the Santa Ana Water Board may:

    a. Require the Discharger to submit a proposed plan and/or methods and procedures for accepting, monitoring, managing, reusing and/or disposing, and reporting of MSW such as contaminated soils, and new waste materials or waste-derived materials at the Facility in response to newly discovered or developed information and/or regulatory or industrial standards and guidelines.

    b. Require additional liner design beyond the minimum engineered alternative design(s), approved by the Santa Ana Water Board to protect water quality based on new information and/or technology available and best industrial practices.

    c. Revise the attached MRP to incorporate modifications to the monitoring and reporting requirements for the Facility.

REQUIREMENTS

IT IS HEREBY ORDERED, pursuant to Water Code sections 13263 and 13267: that WDRs Orders R8-2004-0008 and R8-2008-0004 are rescinded (except for enforcement purposes); that General Order R8-2016-0052 is superseded and no longer applicable to the Facility; and that the Discharger shall henceforth comply with the following requirements.

A. Discharge Specifications

1. **Control of Wastes** – All wastes shall be maintained on property owned or controlled by the Discharger.

2. **Groundwater** – The discharge of wastes at the Facility shall not cause or contribute to the contamination or pollution of groundwater, as indicated by the most appropriate statistical or non-statistical data analysis and retest methods.

3. **Acceptable Waste** – Wastes disposed to WMUs at the Facility shall be limited to non-hazardous MSW, treated wood waste, and designated

wastes, as provided below. Wastes meeting the following conditions shall be accepted for disposal at the Facility:

a. **Non-Hazardous Solid Wastes** – Non-hazardous MSW, as defined under Title 27, section 20220, subd. (a), means all putrescible and non-putrescible solid, semi-solid and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semi-solid wastes, and other discarded wastes (whether of solid or semi-solid consistency), provided that such wastes do not contain wastes which must be managed as hazardous wastes.

b. **Dewatered Sludge** – Dewatered water and sewage treatment sludge, including sewage treatment grit and screening residues, provided that the following criteria in Title 27, section 20220, subd. (c) are met:

   i. The WMU is equipped with a LCRS, adequately designed to collect, and remove leachate to ensure no buildup of hydraulic head on the liner (Title 27, section 20340);

   ii. The waste is not hazardous as defined in California Code of Regulations, title 22 (Title 22), section 66261.3 et seq.;

   iii. The sludge contains at least 20 percent solids (by weight) if primary sludge, or at least 15 percent solids if secondary sludge, mixtures of primary and secondary sludges, or water treatment sludge; and

   iv. A minimum solid to liquid ratio of 5:1 (by weight) shall be maintained to ensure that the co-disposal will not exceed the initial moisture holding capacity of the nonhazardous solid waste, or a solid to liquid ratio as determined by the EO of the Santa Ana Water Board based on site specific conditions.

c. **Non-Hazardous Contaminated Soil** – Non-hazardous contaminated soils may be accepted for disposal at the Facility, provided that it is managed in accordance with a Waste Acceptance Program approved by the EO of the Santa Ana Water Board.

d. **Cathode Ray Tube Panel Glass** – Cathode ray tube panel glass (CRT) is a non-hazardous waste and may be accepted for disposal at the Facility provided that it is managed in accordance with Title 22.

e. **Treated Wood Waste** –TWW may be accepted for disposal at the Facility provided that it is managed and disposed of in accordance with the conditions and requirements stated in Health & Safety Code section 25230.11. If monitoring at the composite lined WMU that has received TWW indicates a release, the disposal of TWW to that WMU shall immediately cease until corrective action, implementing the requirements of Title 27, section 20385, results in cessation of the release.

f. **Designated Waste** – Acceptance of designated wastes for disposal at the Facility shall be evaluated and approved by the EO of the Santa Ana Water Board on a case-by-case basis. A designated waste that meets the following criteria, as defined in Water Code section 13173, that are approved by the EO may be authorized for disposal at composite-lined WMUs at the Facility:

i. **DTSC Variance** – The waste has been granted a variance by the DTSC for disposal at a composite-lined WMU of the Facility, and the Discharger has developed procedures for acceptance, management, and disposal of the waste. To satisfy this requirement, the Discharger shall provide satisfactory documentation that establishes necessary acceptance, management, and disposal procedures for disposal of the proposed designated waste; or

ii. **Satisfactory Documentation for Soluble Pollutants** – The waste shall not release soluble pollutants in concentrations exceeding applicable water quality objectives in groundwater. To satisfy this requirement, the Discharger shall provide satisfactory documentation demonstrating compliance with Title 27, section 20200, subd. (a)(1).

4. **Waste-Derived Materials** – Non-hazardous waste-derived materials may be accepted at the Facility for onsite reuse provided that the following requirements are met:

a. **Case-by-Case Approval by EO** – The beneficial reuse of waste materials or waste-derived materials at the Facility shall be

evaluated and approved by the Santa Ana Water Board's EO on a case-by-case basis.

b. **Interim Cover** – For use as interim cover (alternative daily cover and intermediate cover), waste-derived materials shall be designed, managed, and constructed to minimize percolation of liquids through waste as required under Title 27, section 20705, subd. (b).

c. **Limitations for Use as Cover Materials** – Waste-derived materials used for interim or alternative daily cover shall meet the requirements stated in Title 27, section 20705, subd. (e) and shall consist of only those materials that comply with the following:

i. **Match Unit Classification** – Waste-derived materials shall meet the classification criteria for wastes that can be discharged to the Facility. Therefore, a material that would be classified as a designated waste cannot be utilized for daily or intermediate cover, or other re-use at the Facility unless that material is approved for discharge (as a waste) to that landfill pursuant to Title 27, section 20200, subd. (a)(1), or is authorized by these WDRs, and

ii. **Composition** – Waste-derived materials shall only consist of materials whose constituents (other than water) and foreseeable breakdown byproducts, under the chemical, biochemical, and temperature conditions which they are likely to encounter within the Facility, either:

(A) For non-composite lined portions of the Facility, are mobilizable only at concentrations which would not adversely affect beneficial uses of waters of the State, in the event of release, or

(B) For composite-lined portions of the Facility, are included in the group of constituents that are regularly monitored and analyzed as part of the MRP for the Facility.

d. **Demonstration or Justification** – To satisfy the requirements of 4.c.i and 4.c.ii, above, the Discharger shall complete either of the following:

i. Perform a demonstration with the proposed materials for use as alternative cover and submit a performance evaluation report for approval by the EO; or

ii. Provide satisfactory documentation and justification for use of proposed materials as alternative cover for review and approval by the EO.

B. Discharge Prohibitions

1. **General** – The treatment or disposal of wastes at the Facility shall not contribute to, cause, or threaten to cause a condition of contamination, pollution, or nuisance, as defined in the Water Code section 13050.

2. **Discharge Within Existing WMUs** – The discharge of waste to any area of the Facility beyond the existing WMUs is prohibited unless such discharge is to an area equipped with a WCS per Section C.4 herein.

3. **Hazardous Waste Prohibition** – The discharge of hazardous waste as defined under the state hazardous waste regulations (Title 22, section 66261.3 et seq) at the Facility is prohibited.

4. **Discharges to Unlined WMUs** – Dewatered water and sewage treatment sludge, TWW, and other Designated Waste shall not be discharged to the West Side Landfill, Unit 1.

5. **Discharge of Pollutants into Waters of the United States** – Operations and activities at the Facility shall not cause a discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the Clean Water Act, including, but not limited to, the National Pollutant Discharge Elimination System (NPDES) requirements, pursuant to Title IV, section 402. Further, the discharge of wastes at the Facility shall neither cause nor contribute to any surface water contamination, pollution, or nuisance, including, but not limited to:

a. Floating, suspended, or deposited macroscopic particulate matter or foam;

b. Increases in bottom deposits or aquatic growth;

c. An adverse change in temperature, turbidity, or apparent color change beyond natural background levels and occurrences;

d. The creation or contribution of visible, floating, suspended, or deposited oil or any other products of petroleum origin; and

e. The introduction or increase in concentration of toxic or other pollutants/ contaminants resulting in unreasonable impairment of beneficial uses of the waters of the State.

6. **Liquid Usage and Disposal** – The discharge of liquids, including extracted groundwater, leachate, landfill gas condensate, and wastewater, or their use for dust control or irrigation at the Facility is prohibited, unless the following conditions are met:

a. The liquids that are being returned to, or reused at, the Facility originated at the Facility;

b. The portion of the Facility to which these liquids are discharged is equipped with a composite liner and leachate collection and removal systems or approved equivalent;

c. The liquids are reused and/or disposed of in accordance with a disposal and management plan approved by Santa Ana Water Board staff.

d. Restrictions under this section shall not apply to extracted groundwater, leachate, landfill gas condensate, or wastewater generated from landfill operations or other industrial activities at the Facility that is regulated or waived under a separate order or treated in accordance with a plan approved by the EO of the Santa Ana Water Board prior to being used for dust control, recharge, irrigation, or any other beneficial uses over areas beyond the landfill waste footprint at the Facility.

7. **Prohibition of Radioactive Waste** – No radioactive waste, including low level radioactive waste, as defined by the agency with jurisdictional authority, shall be disposed of at the Facility.

8. **Medical and Similar Wastes** – No infectious materials or medical or laboratory wastes, except those authorized for disposal to land by official agencies charged with control of plant, animal and human diseases shall be disposed of at the Facility.

C. Provisions

1. **General** – The Discharger shall comply with Monitoring and Reporting Program R8-2023-0001 (MRP) of this Order upon its adoption.

2. **Maintain Copy of This Order** – The Discharger shall maintain a copy of this Order and the operative MRP at the Facility and make it available at all times to landfill operating personnel.

3. **Santa Ana Water Board Access** – The Discharger shall permit Santa Ana Water Board staff:

   a. Entry upon premises where a discharge source is located;

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

   c. To photograph or create video recordings of any structures, facilities, activities, or other phenomena that could result in adverse impacts to water quality and that are pertinent to compliance of the Facilityl with this Order; and

   d. To sample any discharge from the Facility.

4. **Waste Containment System (WCS)** – All WMUs shall be equipped with a waste containment or liner system that is designed, constructed, and managed in accordance with the standard of the industry, and that meets the requirements of the State Water Board's Resolution No. 93-62, Section III [Containment] and the following, but not limited to, relevant sections of Title 27 and subsequent revisions to these sections thereof:

   a. Section 20310 [General Construction Criteria].

   b. Section 20320 [General Criteria for Containment Structures].

   c. Section 20323 [CQA Plan].

   d. Section 20324 [CQA requirements].

   e. Section 20330 [Liners].

   f. Section 20340 [Leachate Collection and Removal Systems (LCRS)].

   g. Section 20360 [Subsurface Barriers].

h. Section 20365 [Precipitation and Drainage Controls].

i. Section 20370 [Seismic Design].

j. Section 21750, subd. (f)(5) [Stability Analysis].

5. **Engineered Alternative Liner Design (EAD)** – An EAD that satisfies the performance criteria contained in 40 CFR part 258.40(a)(1), (c), and in Title 27, section 20080, subd. (b), shall be allowed where the performance of the alternative composite liner's components, in combination, equal or exceed the waste containment capability of the prescriptive system design (PSD). The Discharger has proposed, and the Santa Ana Water Board has approved the EADs, as shown in **Table 3** for the base and sideslope liner systems. Any approved EADs may be used for subsequent unit expansion at the Facility. The approved EADs are minimum design requirements; the EO of the Santa Ana Water Board may require additional liner design components beyond the minimum approved as new information, technology, or industrial best standard practices are discovered and/or new regulatory standards and guidelines are developed for effective waste containment.

6. **Approved EADs** – For each phase of liner system construction proposing to use approved EADs, the following shall apply:

   a. At least 90 days prior to the scheduled WCS construction for each WMU expansion at the Facility, the Discharger shall submit technical design plans and construction documents for the proposed WCS that demonstrate compliance with Section C.4, above, for review and approval by Santa Ana Water Board staff.

   b. Each phase of construction at the Facility shall be completed in accordance with the approved design and construction documents. Any liner system design or construction variance from the approved documents must be approved by Santa Ana Water Board staff prior to implementation.

   c. All mitigation measures proposed by the Discharger and approved by Santa Ana Water Board staff shall be implemented to protect water quality.

   d. The Discharger and its contractors shall submit progress reports daily to Santa Ana Water Board staff during construction so that compliance with Section C.6.b., above, can be evaluated. Such reports, including conformance testing data and relevant

construction activities, shall be prepared in accordance with the criteria set forth in the applicable CQA Plan and Design Report.

e. The Discharger and its contractors shall submit look-ahead schedules weekly to Santa Ana Water Board staff during construction so that compliance and work progress can be tracked and evaluated. During construction, look-ahead schedules shall be submitted weekly in accordance with the criteria set forth in the applicable CQA Plan and Design Report, and shall delineate specific portions and areas of construction and include estimates of work progress for at least the three subsequent weeks.

f. Following completion of liner installation and construction activities and within a reasonable time approved by Santa Ana Water Board staff, the Discharger shall submit a final as-built report including, at a minimum: as-built drawings; maps; CQA/CQC field reports and testing data; a discussion on deviations from approved plans, and certification.

g. If an approved EAD fails to perform as expected, the EO of the Santa Ana Water Board has the authority to require additional protective measures.

7. **New EAD Proposed** – In accordance with Title 27, section 21585, subd. (a)(4), the Discharger shall submit an amended Report of Waste Discharge (ROWD), in the form of a numerically-sequential addendum to the JTD, for any new EAD proposed for WCS at the Facility. A JTD addendum for any new EAD(s) shall demonstrate compliance with the performance criteria specified under 40 CFR part 258.40(a)(1) and (c), and Title 27, section 20080, subd. (b). Upon review of the amended ROWD by Santa Ana Water Board staff and approval of the newly proposed EAD(s) by the Santa Ana Water Board, the Discharger shall be permitted to use the newly approved EAD(s) for WCS construction at the Facility.

8. **LCRS Performance Testing** – In accordance with Title 27, section 20340, subd. (d), the Discharger shall perform periodic testing of the LCRS to demonstrate its efficiency during the operational, closure, and post-closure maintenance periods of the Facility.

9. **Operating Record** – The Discharger shall maintain an operating record for the Facility in accordance with 40 CFR part 258.29(a). All records of landfill operations, landfill construction, inspection, monitoring, remediation, and copies of design plans, CQA/QC documents, monitoring

reports, and technical reports that are submitted to regulatory agencies, shall be included in the operating record.

10. **Disposal During Expected Precipitation** – During the months when precipitation can be expected, disposal activities shall be confined to the smallest area possible based on operational procedures and the anticipated quantity of wastes that will be received.

11. **Managing Proscribed Waste Disposal** – The Discharger shall remove and properly dispose of any wastes that are placed at the Facility in violation of the requirements in this Order.

12. **Boundary Monuments** – The Discharger shall establish and maintain permanent monuments in California coordinates (or equivalent) to define the boundary of the footprint of the Facility WMUs. The benchmarks shall be certified by a licensed surveyor or a professional civil engineer authorized to practice in California.

13. **Water Use for Operations** – Water used during landfill operations shall be limited to the minimum amount reasonably necessary for dust control, fire suppression, construction, and maintenance.

14. **Managing Wastewater During Precipitation Events** – During periods of precipitation, when the use of wastewater or non-stormwater for dust control, construction, or other landfill operations over the composite-lined WMUs is not necessary, all wastewater collected at the Facility shall be stored or disposed of offsite at a licensed facility.

15. **Expanding Monitoring Network** – Prior to the initiation of waste discharge in the approved expansion area phases, the Discharger shall install an approved, expanded groundwater monitoring network as necessary.

16. **Adequate Cover** – Adequate cover shall be placed over all lifts in each WMU at all times, except for the active face of the Facility, which receives daily cover or an approved ADC at the end of each operating day.

17. **Placement of Daily Cover** – At the end of each operating day or if landfilling operations cease for more than a 12-hour period, daily cover or an approved ADC must be placed over the active face in a quantity and depth sufficient to prevent any waste from daylighting or as directed by Santa Ana Water Board staff.

18. **Additional Monitoring Devices** – The Discharger shall install any additional groundwater, soil pore liquid, soil pore gas, or leachate

monitoring devices determined by the EO of the Santa Ana Water Board to be necessary to comply with this Order.

19. **Expanding Landfill Gas System** – The Discharger shall expand the existing LFG collection and recovery system as landfill operations progress to prevent the migration of LFG to groundwater and to the environment.

20. **Use of ADC** – ADC may be used consistent with Title 27, section 20690 and the provisions and specifications of this Order.

21. **Liquid Waste Containment System** – All liquid waste secondary containment structures shall be designed and constructed to provide a minimum containment capacity of 110 percent (110%) of the largest storage tank.

22. **Maintaining Liquid Waste Containment** – All liquid waste containment structures shall be inspected and maintained periodically to assess their conditions and to initiate correction actions necessary to ensure their effectiveness in preventing commingling of leachate and gas condensate with surface run-on and runoff.

23. **Facility Survey** – The facility shall be surveyed annually by aerial surveillance or by conventional ground survey by a licensed surveyor, a registered civil engineer, or under the directions of a registered civil engineer to assure compliance with the one percent (1%) slope requirements in Section D.1, below.

24. **EO Authorization** – The EO is authorized to:

    a. Require, based upon newly discovered or newly developed information and/or regulatory guidelines, that the Discharger revise the existing waste acceptance or management plans or develop new plans and/or methods and procedures for accepting, managing, reusing, disposing, monitoring, and reporting of the materials listed below at the Facility:

        i. Treated wood waste;

        ii. Designated wastes;

        iii. Dewatered water and sewage treatment sludge;

        iv. Waste-derived materials; and

v. Onsite wastewater

b. Approve revised or new waste acceptance and management plans;

c. Require site investigation and technical reports needed to protect water quality;

d. Require additional liner design beyond the minimum design approved to protect water quality based on new information and/or technology available and best industrial practices;

e. Approve new designated waste for disposal at the Facility; and

f. Revise and approve changes to the attached MRP.

D. Drainage and Erosion Control

1. **Site Management for 100-Year, 24-Hour Storm** – WMUs shall be designed, constructed, and maintained to limit, to the greatest extent possible, ponding, infiltration, inundation, erosion, slope failure, and washout which could occur as a result of precipitation from a 100-year, 24-hour frequency storm. This shall be accomplished by, at a minimum, the following:

   a. WMUs shall be designed, constructed, and maintained to achieve compliance with Title 27, section 20365;

   b. Top deck surfaces shall be constructed and maintained to achieve a minimum of one percent (1%) slope and to direct flows to downdrains or other drainage control structures;

   c. Downdrains or any other necessary drainage diversion structures must be constructed for all sideslopes as necessary; and

   d. All components of the facility drainage system must be designed, constructed, and maintained to withstand site-specific maximum intensity precipitation (peak flow) from a 100-year, 24-hour storm.

2. **Drainage and Erosion Control Measures** – The Discharger shall design, construct, and maintain:

   a. A run-on drainage control system to prevent flow from off-site sources onto the disposal areas of the Facility (active or inactive portions), and to collect and divert the peak flow calculated volume

resulting from a 100-year, 24-hour frequency storm from off-site sources;

b. A runoff drainage control system to collect and divert the peak flow calculated volume resulting from a 100-year, 24-hour frequency storm away from the WMUs;

c. Drainage control structures to divert natural seepage and to prevent such seepage from entering the WMUs; and

d. Erosion control best management practices to reduce the discharge of pollutants to waters of the state.

3. **Periodic Inspections** – All drainage and erosion control structures shall be periodically inspected and maintained to assess their conditions, to initiate corrective actions necessary to maintain compliance with the requirements of this Order, and to prepare the Facility in advance of each rainy season.

4. **Drawings for New Elements** – The Discharger shall submit as-built drawings within 90 days of completing construction of any new elements of the drainage control system at the Facility.

5. **Registered or Certified Supervision** – AII design plans, construction plans, and operation and maintenance plans shall be prepared by, or prepared under the direct supervision of, a registered civil engineer or a certified engineering geologist.

E. Contingency Responses

1. **Liquid Waste Spill and Seep** – The Discharger shall notify Santa Ana Water Board staff by telephone or email within 24 hours (or one business day) upon discovery of any liquid waste spill or seep in the WMU area. A written report shall be filed with Board staff within seven days, containing at least the following information:

   a. **Map** – A map showing the location(s) of the discharge(s).

   b. **Flow Rate** – An estimate of the flow rate of the discharge(s).

   c. **Description** – A description of the nature and extent of the discharge(s) (e.g., all pertinent observations and analysis).

d. **Waste Characterization** – A sample of the spilled liquid waste or seep shall be collected, if possible, and analyzed for Appendix II constituents (**MRP TABLES 3 and 4**).

e. **Corrective Measures** – A description of the corrective measure(s) implemented, and any proposed mitigation measures for approval by Santa Ana Water Board staff.

2. **Facility Failure** – The Discharger shall notify Santa Ana Water Board staff by telephone and/or email within 48 hours (or 2 business days) of any slope failure or failure of facilities necessary to maintain compliance with the requirements in this Order. Within 7 days, the notification shall be submitted in writing to Santa Ana Water Board staff. Any failure that threatens the integrity of the waste containment features of the Facility shall be promptly corrected after a remediation workplan and schedule have been approved by Santa Ana Water Board staff. However, if a slope failure poses an immediate threat to the environment or to any containment structures at the Facility, it shall be corrected without delay.

3. **Special Occurrence** – The Discharger shall notify Santa Ana Water Board staff by telephone and/or email within 48 hours (or 2 business days) of any special occurrence at the facility, such as landfill fire, subsurface elevated temperature, etc., necessary to maintain compliance with the requirements in this Order. Within 7 days, the notification shall be submitted in writing to Santa Ana Water Board staff. Any failure that threatens the integrity of the waste containment features of the Facility shall be promptly corrected after a remediation workplan and schedule have been approved by Santa Ana Water Board staff. However, if a special occurrence poses an immediate threat to the environment or to any containment structures at the Facility, it shall be corrected without delay.

4. **Response to Tentative Evidence of a Release** – If previously undetected measurably significant evidence of a release, as described in the attached MRP, has tentatively been identified in groundwater at the Facility, the Discharger shall immediately notify the designated Santa Ana Water Board staff by phone and/or email. The Discharger shall also provide written notification within 7 days of such determination (Title 27, section 20420, subd. (j)(1)) and shall carry out a single discrete retest in accordance with Title 27, section 20415, subd. (e)(8)(E). The Discharger shall inform Santa Ana Water Board staff of the outcome of the retest as soon as the results are available and submit written results within seven days of receipt of the final retest laboratory report.

5. **Optional Demonstration** – If measurably significant evidence of a release is verified per Section E.4, above, but is believed to be derived from off-site sources or due to natural changes in water chemistry, the Discharger may propose to demonstrate that the Facility is not the cause of the release in accordance with Title 27, section 20420, subd. (k)(7).

6. **Response to Verified Evidence of a Release** – If measurably significant evidence of a release is verified per Section E.4, above, and it is determined that the Facility is the cause of the release, pursuant to Title 27, section 20385, subd. (a)(3), the Discharger shall:

    a. Implement those response actions described in Title 27, section 20420, subd. (k);

    b. Implement an Evaluation Monitoring Program (EMP) pursuant to Title 27, section 20425;

    c. **Implement a Corrective Action Program (CAP)** – If Santa Ana Water Board staff determines that the Discharger has satisfactorily implemented and completed the EMP release response actions described above, the Discharger shall implement a CAP pursuant to Title 27, section 20430, based upon results of the EMP and other monitoring activities; and

    d. Conduct any additional investigations stipulated in writing by Santa Ana Water Board staff for the purpose of identifying the cause of the release.

7. **Release Beyond Facility Boundary** – Any time the Discharger or Santa Ana Water Board staff concludes that a release from the Facility has proceeded beyond the Facility boundary, the Discharger shall notify all persons who either own or reside upon land that directly overlies any part of the plume (Affected Persons).

    a. **Initial Notice** – Initial notifications to Affected Persons shall be accomplished within 14 days of making this conclusion and shall include a description of the Discharger's current knowledge of the nature and extent of the release.

    b. **Updated Notice** – Subsequent to initial notification, the Discharger shall provide updates to all Affected Persons, including any persons newly affected by a change in the boundary of the release, within 14 days of concluding there has been any material change in the nature or extent of the release.

c. **Submittal** – Each time the Discharger sends a notification to Affected Persons, the Discharger shall, within 7 days of sending such notification, provide Santa Ana Water Board staff with both a copy of the notification and a current mailing list of all Affected Persons.

F. Monitoring, Sampling and Analysis Specifications

1. **Monitoring and Sampling** – All water quality monitoring, sampling, and analysis shall be performed in accordance with Title 27, section 20415 and the attached MRP.

2. **Sampling Period** – For any given monitored medium, samples shall be taken from all monitoring points to satisfy the data analysis requirements. All samples shall be taken during each monitoring period such that semi-annual sampling events are approximately six months apart and shall be taken in a manner that ensures sample independence to the greatest extent feasible, in accordance with Title 27, section 20415, subd. (e)(12)(B).

3. **Concentration Limits** – The concentration limit for any given Monitoring Constituent in a given monitored medium at the Facility shall be established and maintained in accordance with Title 27, section 20400. These limits are specified in the attached MRP.

4. **Groundwater Surface Elevation** – In accordance with Title 27, section 20415, subd. (e)(13), the groundwater monitoring program shall include an accurate determination of the groundwater surface elevation at each well every time groundwater is sampled. Groundwater elevations taken prior to purging the well and sampling for monitoring constituents shall be used to fulfill groundwater monitoring requirements specified in the attached MRP.

5. **Groundwater Flow Rate and Direction** – Groundwater flow rate and direction shall be monitored and reported in accordance with the attached MRP.

6. **Data Analysis** – Data analysis for all monitoring activities shall be carried out as soon as the monitoring data are available, in accordance with Title 27, section 20415, subd. (e) and the attached MRP.

G. Reporting Requirements

1. **Reporting and Required Reports/Notices** – The Discharger shall furnish, under penalty of perjury, technical or monitoring program reports,

requested by the EO of the Santa Ana Water Board, in accordance with Water Code, section 13267, subd. (b)(1).[3] Additionally, technical and monitoring reports shall be prepared and signed by a registered civil engineer or registered geologist.

2. **Information Requests** – The Discharger shall furnish, within a reasonable time, any information the Santa Ana Water Board may request to determine whether cause exists for modifying, reissuing, or rescinding this Order. The Discharger shall also furnish to the Santa Ana Water Board, upon request, copies of records that this Order requires the Discharger to maintain.

3. **JTD Addenda** – The Discharger shall file an amended ROWD, in the form of a numerically-sequential addendum to the JTD, in accordance with Title 27, section 21585, subd. (a)(4), with the Santa Ana Water Board at least 120 days prior to its implementation for:

   a. proposing a new EAD, not already approved by the Santa Ana Water Board;

   b. proposing any expansion at the Facility beyond the lateral expansion area identified in **Figure 2** of this Order;

   c. responding to a release from a WMU; and

   d. any change in control or ownership of the Facility.

4. **Certification by Discharger** – Applications, reports or information submitted to the Santa Ana Water Board shall be signed and certified by either a principal executive officer or ranking elected/appointed official of the Discharger.

5. **Plan/Report Certification** – All design plans, construction plans, operation and maintenance plans, and technical reports, shall be prepared by, or prepared under the direct supervision of, a registered civil engineer or a certified engineering geologist.

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[3] Failure or refusal to furnish reports or falsifying any information provided therein may render the Discharger guilty of a misdemeanor and subject to the penalties stated in Water Code section 13268.

6. **Planned Facility Changes** – The Discharger shall give advance notice to Santa Ana Water Board staff of any planned changes in permitted activities at the Facility that may result in noncompliance with this Order.

7. **Proposed Change in Ownership or Responsibility** – The Discharger shall notify the Santa Ana Water Board in writing of any proposed change in ownership or responsibility for construction, operation, closure, or post-closure maintenance of the Facility.

8. **Change in Facility Ownership** – In the event of any change in control or ownership of the Facility property, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter. A copy of this letter shall be signed by the new owner accepting responsibility for complying with this Order and shall be forwarded to the EO of the Santa Ana Water Board. The notification letter shall be given to the succeeding owner/operator 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 follow this Order and any revisions thereof.

9. **Closure and Post-Closure Maintenance Plans (PCMP)** – In accordance with Title 27, section 21780, subd. (c)(3), Final Closure and PCMPs shall be submitted two years prior to the anticipated date of closure. In lieu of submitting a new or updated preliminary closure and PCMP as part of a Solid Waste Facility Permit review or revision, the operator *may* instead submit the final closure and PCMP provided that closure is anticipated to occur within 5 years of submittal.

10. **Financial Assurance Plans** – The Discharger shall maintain and update assurances of financial responsibility for:

    a. Closure activities pursuant to Title 27, section 22205;

    b. Post-closure maintenance activities pursuant to Title 27, section 22210;

    c. Operating liability pursuant to Title 27, section 22215; and

    d. Corrective action activities pursuant to Title 27, section 22220.

11. **Filing a Deed After Closure** – Upon completing closure at the Facility, the Discharger or the property owner shall file a deed, and amend it thereof as needed, with the County Recorder. The deed must restrict any post-development of the Facility and must include a notation advising any potential purchaser of the property that:

a. The parcel had been used as an MSW landfill;

b. The 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 Facility, and;

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

ENFORCEMENT

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

ADMINISTRATIVE REVIEW

Any person aggrieved by this Santa Ana Water Board action may petition the State Water Board for review in accordance with Water Code section 13320 and California Code of Regulations, Title 23, section 2050 et seq. To be timely, the petition must be received by the State Water Board by 5:00 pm on the 30th day after the date of this Order; if the 30th day falls on a Saturday, Sunday or state holiday, the petition must be received by the State Water Board by 5:00 pm on the next business day. The law and regulations applicable to filing petitions are available on the State Water Board website (http://www.waterboards.ca.gov/public_notices/petitions/water_quality). Copies will also be provided upon request.

LIST OF ATTACHMENTS

Attachment A: Definition of Terms

Attachment B: Acronyms

Attachment C: Maps

Monitoring and Reporting Program R8-2023-0001 (separate document)

ATTACHMENT A: DEFINITION OF TERMS

"**40 CFR part 258**" means the regulations under Code of Federal Regulations, title 40, part 258 that apply to municipal solid waste (MSW) landfills (MSWLFs).

"**Affected Medium**" means any natural medium that consists of or contains waters of the state (e.g., ground water, surface water, or the unsaturated zone) that has been affected by a release from a waste management unit.

"**Affected Persons**" means all people who own, or reside upon, land outside the facility boundary that is underlain by any portion of the release from a landfill. Under 40 CFR part 258.55(g)(l)(iii), the discharger must keep an up-to-date list of all such people and must assure that they are invited to the discussion of proposed corrective action measures, pursuant to 40 CFR part 258.56(d).

"**Appendix I Constituents**" means the suite of 47 volatile organic constituents and 17 metals used as the default monitoring parameter list in 40 CFR part 258.

"**Appendix II Constituents**" means the suite of 213 hazardous constituents used as the default constituent of concern list in 40 CFR part 258.

"**Background**" means the concentrations or measures of constituents or indicator parameters in water or soil that has not been affected by waste constituents or leachate from the waste management unit being monitored.

"**Background Monitoring Point**" means a well, device, or location specified in the waste discharge requirements at which monitoring for background water quality or background soil quality is conducted.

"**Title 27**" means the State Water Resources Control Board's regulations, in Division 2 of Title 27 of the California Code of Regulations, applicable to the discharge to land of waste that is not hazardous waste.

"**Concentration Limit**" is a part of a landfill's Water Standard and means the reference background data set, or reference concentration value, for a given constituent against which one compares current compliance well data to identify, in detection mode, the arrival of the release at a given well and to identify, in tracking mode, if the corrective action measures are bringing a landfill back into compliance with the Water Standard.

"**Constituents of Concern (COCs)**" is a part of a landfill's Water Quality Protection Standard and means the list of constituents that could be released from a landfill, including the foreseeable breakdown products of all such constituents. For the ground water medium at a municipal solid waste landfill, this list must include all Appendix II constituents and general minerals. A constituent on this list becomes a Monitoring

Parameter only after being detected (at trace level or above) and then verified by a well specific retest in a periodic scan of compliance wells affected by the release.

“**CAP**” means a Corrective Action Program that implements the requirements under Title 27, section 20430.

"**Detect**" when applied to a scan of leachate or ground water, means that the constituent for which the scan is conducted shows up at trace level or higher. For Constituents of Concern and Monitoring Parameters that are rarely detected in background, the term means analyses done using a laboratory analytical method that complies with Title 27, section 20415, subd. (e)(7).

"**Detection Mode**" for a given compliance well/Monitoring (well/MPar) pair, means a state in which one tests for a measurably significant increase, for that Monitoring Parameter at that well, using an appropriate statistical or non-statistical data analysis method. Once that well/MPar pair exhibits a measurably significant increase (including an initial indication verified by a discrete retest), it is monitored, thereafter, in "tracking mode" until the completion of the proof period, following successful completion of corrective action.

“**Double Quantification (DQ)**” rule is a quasi-statistical rule, defined in the 2009 USEPA Unified Guidance for Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, to address infrequently detected constituents (i.e. constituents detected above the reporting limit in 10% or less of the background data), whereby a confirmed exceedance is registered if a Well/MPar pair in the infrequently detected constituent group exhibits quantified measurements (i.e. at or above the reporting limit) in two consecutive sample events (i.e. the initial sample event and the subsequent resample event).

"**DMP**" means a Detection Monitoring Program that implements the State Water Resources Control Board's requirements, under Title 27, section 20420.

"**EMP**" means an Evaluation Monitoring Program that implements the requirements under Title 27, section 20425. This state program constitutes a steppingstone to a Corrective Action Program, in response to a landfill's having exhibited a measurably significant increase of a release or to its having exhibited physical evidence of a release. (See Title 27, section 20385, subd. (a)(2)-(3).)

"**Indicator Parameters**" in this Order means a suite of parameters that are considered capable of providing reliable indication of a release from a landfill.

"**Inter-Well Comparison**" means a type of statistical or non-statistical data analysis, applied to a given detection mode compliance Well/MPar pair, in which one compares current concentration data, for that Monitoring Parameter and well, with a suite of

background data from the appropriate upgradient well(s) to determine if that Monitoring Parameter has produced a measurably significant increase at that well. Generally speaking, the use of upgradient background data tends to produce higher false-positive and false-negative rates than the intra-well comparison approach, but is appropriate in those cases where it is not feasible to validate that a compliance well's own historical data reflects water quality in the absence of a release.

"**Intra-Well Comparison**" means a type of statistical or non-statistical data analysis, applied to a given detection mode compliance Well/MPar pair, in which one compares current concentration data, for that Monitoring Parameter, with a suite of background data consisting of selected historical data from that same· well to determine if that Monitoring Parameter has produced a measurably significant increase at that well.

Typically, the use of a compliance well's own historical data, for a Monitoring Parameter, provides better statistical power (to identify a real release and to avoid producing false-positive indications) than does the inter-well comparison approach, but only in a case where it is reasonable to assume that the compliance well's own historical data does not reflect the presence of a release for that Monitoring Parameter.

“**LFG**” means landfill gas, including any Volatile Organic Compounds (VOCs).

"**MRP**" means the Monitoring and Reporting Program that is an attachment to the Waste Discharge Requirements (or other order) and that is incorporated by reference by the Waste Discharge Requirements.

"**Matrix Effect**" means any increase in the Method Detection Limit or Practical Quantitation Limit for a given constituent as a result of the presence of other constituents, either of natural origin or introduced through a release, that are present in the sample of water or soil-pore gas being analyzed.

"**Measurably Significant Increase**" means a condition in which an appropriate data analysis method shows an initial indication of a release, for a given detection mode compliance well/MPar pair, that is verified by a discrete retest (for that well and Monitoring Parameter).

"**Method Detection Limit (MDL)**" means the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte's concentration is greater than zero, as defined in 40 CFR part 136, Appendix B.

"**Monitored Media**" means those water and/or gas-bearing media (if applicable) that are monitored pursuant to a monitoring and reporting program. The monitored media may include: groundwater in the uppermost aquifer or in any other portion of the zone of saturation [Title 27, section 20164], in which it would be reasonable to anticipate that waste constituents migrating from a landfill could be detected, and in any perched

zones underlying a landfill, any bodies of surface water that could be measurably affected by a release, soil-pore liquid beneath and/or adjacent to a landfill, and soil-pore gas beneath and/or adjacent to a landfill.

"**Monitoring Parameter (MPar)**" is a part of a landfill's Water Quality Protection Standard (WQPS) and means a list consisting of those constituents that are likely to be present or present at a detectable level in ground or surface water. This is the subset of the Constituents of Concern (COCs) that is subject to testing for a measurably significant increase, in detection mode, at all compliance wells. For ground water, at a landfill with a functioning Leachate Collection and Removal System (LCRS), this suite includes all Appendix II constituents that have been detected (at trace level or above) and verified in landfill leachate and gas condensate and, subsequently, have been detected (at trace level or above) and verified in a Constituents of Concern scan of ground water at compliance wells affected by the release. For ground water, at a landfill without a functioning Leachate Collection and Removal System, this suite includes all Appendix II constituents that have been detected (at trace level or above) and verified in landfill gas condensate and, subsequently, have been detected and verified in a Constituents of Concern scan of ground water at any compliance well affected by the release.

"**Monitoring Point or Well**" for any given monitored medium (surface water, ground water, or the unsaturated zone), means a location, including any installed access device (e.g., well or lysimeter), that is named in the Monitoring and Reporting Program as a place where the discharger monitors that medium: 1) to detect the arrival of the release front for each Monitoring Parameter that is in detection mode at that location; 2) to detect changes in the concentration of each Monitoring Parameter that is in tracking mode at that location; and 3) in case where the location that is in tracking mode for most Monitoring Parameters that are involved in the release, to detect the presence, at trace level or above, of any Constituents of Concern that have not previously been detected in that medium (Constituents of Concern newly detected and verified in that medium become Monitoring Parameters for that medium).

"**MSW Landfill**" means any landfill that is subject to any portion of the federal regulations under 40 CFR part 258 by virtue of having received municipal solid waste (household waste) at any time and having received any waste after October 9, 1991.

“Pass-1-of-2 Retesting” is an approach whereby the retest sample result, for a given constituent at a well, does not exceed its concentration limit (or retest-triggering concentration), as indicated in the initial sample. This qualifies as passing the 1-of-2 retest; therefore, statistical evidence of a release is not confirmed [2009 USEPA Unified Guidance for Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities].

“**Point of Compliance (POC)**” is, for the ground water medium, a part of a landfill’s Water Quality Protection Standard and means a conceptual vertical surface that is

located, in map view, along the hydraulically downgradient limit of waste placement at a landfill and that extends downward through the uppermost aquifer underlying the Unit. The federal municipal solid waste regulations require one or more ground water monitoring points along this vertical surface to monitor the quality of ground water passing it (see 40 CFR part 258.51), whereas the Santa Ana Water Board will name other ground water monitoring points (not along this vertical surface) as needed to provide the earliest possible detection and measurement of a release. (See Title 27, section 20415, subd. (b)(l).)

"**Practical Quantitation Limit (PQL)**" means the value established as a target value by the United States Environmental Protection Agency that is the lowest concentration of a substance that can be consistently determined within +/- 20% of the true concentration by 75% of the laboratories tested in a performance evaluation study. Alternatively, if performance data are not available, the PQL for carcinogens is the MDL multiplied by 5, and for non-carcinogens is the MDL multiplied by 10. These estimated PQLs are listed in Appendix II to 40 CFR part 258. Generally, these are target values that may not reflect the constraints of matrix effects; therefore, the Santa Ana Water Board requires a discharger to keep an up-to-date listing of the applicable laboratory-specific PQL and MDL estimates for each analyte on the Constituent of Concern list.

"**Release**" means the three-dimensional portion of the monitored medium (groundwater, surface water, or the unsaturated zone) comprised of all locations therein that are affected by one or more Monitoring Parameters that have migrated from a landfill to such an extent that a properly constructed monitoring point, at that location, would trigger a measurably significant increase over the applicable concentration limit, using an appropriate data analysis method meeting the requirements of Title 27, section 20415, subd. (e)(9) and a background data set sample size of 16 or more data points.

"**Reporting Period**" means the duration separating the submittal of a given type of monitoring report from the time the next iteration of that report is scheduled for submittal.

"**Retest**" when applied to a scan to detect the presence of an appropriate list of analytes in leachate, landfill gas, or ground water (at an affected monitoring point), means taking a single additional sample from the indicating medium (or, for ground water, the indicating monitoring point) to determine whether the initial detection, for that analyte, is valid. When applied to the six-monthly monitoring effort for a given compliance Well/MPar pair in detection mode, see "*Pass-1-of-2 Retesting*."

"**Sample Size**" for a given compliance Well/MPar pair in detection mode, means the number of data points used to represent the variability of the background population or to represent the present compliance status of the Monitoring Parameter at that well, when applying an appropriate data analysis method.

"**Scan**" means a determination as to whether any of a given list of constituents are detectable (at the trace level or above) in the monitored medium (typically leachate, landfill gas condensate, and groundwater). The term includes both the initial measurement and, for a newly detected constituent, the results of the single retest sample. To identify a newly detected constituent, the constituent must be detected (at trace level or above) and then verified by being detected in the single sample retest.

ATTACHMENT B: ACRONYMS

ADC – Alternative Daily Cover

AMP – Assessment Monitoring Program

CalRecycle – California Department of Resources Recycling and Recovery

CAP – Corrective Action Program

CCL – Compacted Clay Liner

CCR – California Code of Regulations

CEQA – California Environmental Quality Act

CFR – Code of Federal Regulations

CNSDAM – California Non-statistical Data Analysis Method

COC – Constituent of Concern

CQA/QC – Construction Quality Assurance and Quality Control

CRT – Cathode Ray Tube

CWC – California Water Code

DMP – Detection Monitoring Program

DTSC – California Department of Toxic Substances Control

EAD – Engineered Alternative Design

EDF – Electronic Deliverable Format

EFS – Engineering Feasibility Study

EMP – Evaluation Monitoring Program

EO – Executive Officer

ESI – Electronic Submittal of Information

FML – Flexible Membrane Liner

JTD – Joint Technical Document

LCRS – Leachate Collection and Removal System

LFG – Landfill Gas

MCL – Maximum Contaminant Level

MDL – Method Detection Limit

MPars – Monitoring Parameters

MRP – Monitoring and Reporting Program

MSW – Municipal Solid Wastes

ND – Non-detect

NPDES – National Pollutant Discharge Elimination System

PCMP – Post-Closure Maintenance Plan

PDF – Portable Document Format

POC – Point of Compliance

PQL – Practical Quantitation Limit

PSD – Prescriptive Standard Design

QA/QC – Quality Assurance/Quality Control

RL – Reporting Limit

ROWD – Report of Waste Discharge

TWW – Treated Wood Waste

USEPA – United States Environmental Protection Agency

VOCs – Volatile Organic Compounds

WCS – Waste Containment System

WDRs – Waste Discharge Requirements

WMUs – Waste Management Units

WQPS – Water Quality Protection Standard

ATTACHMENT C: MAPS

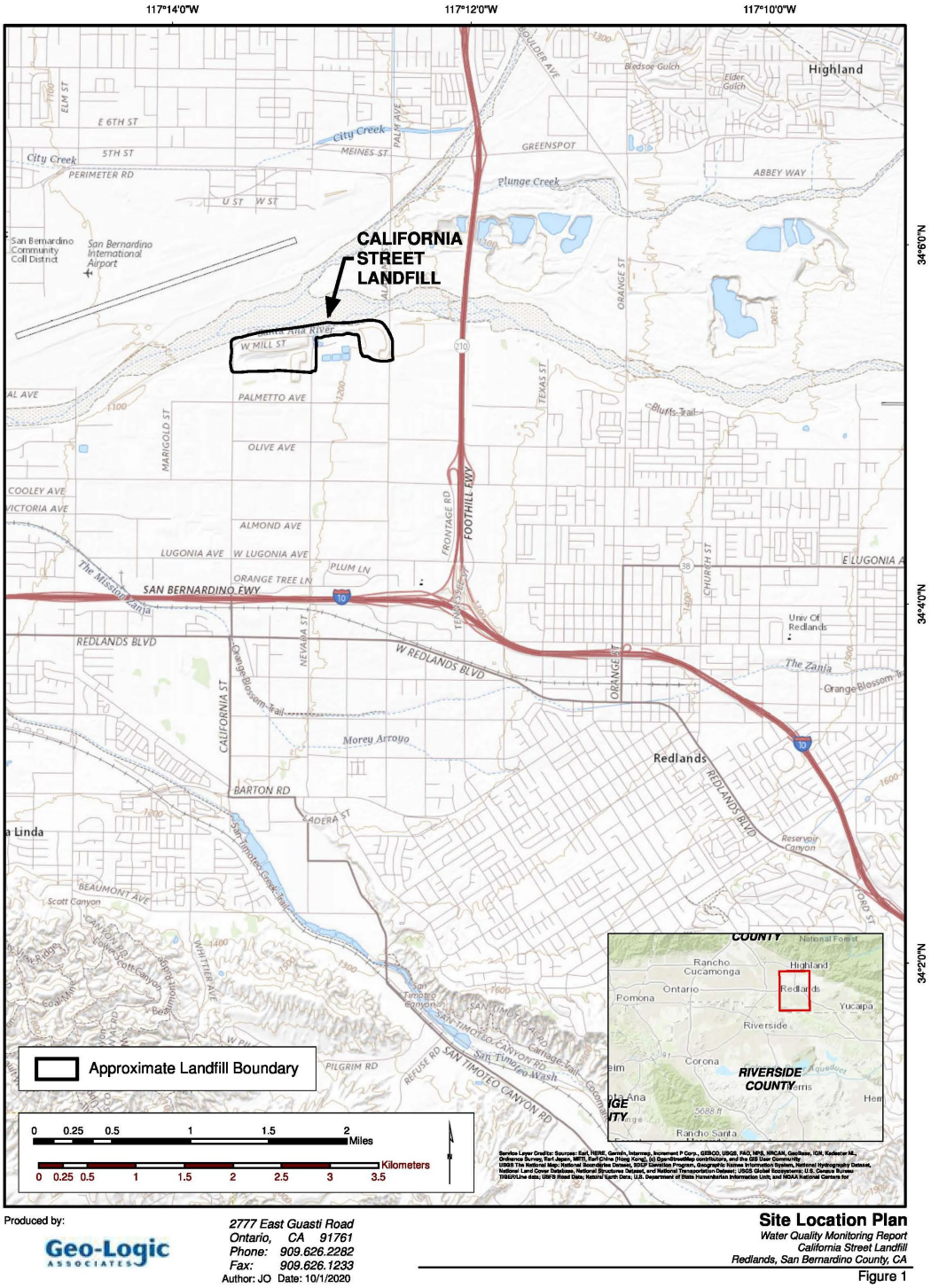

Figure 1—Site Vicinity Map

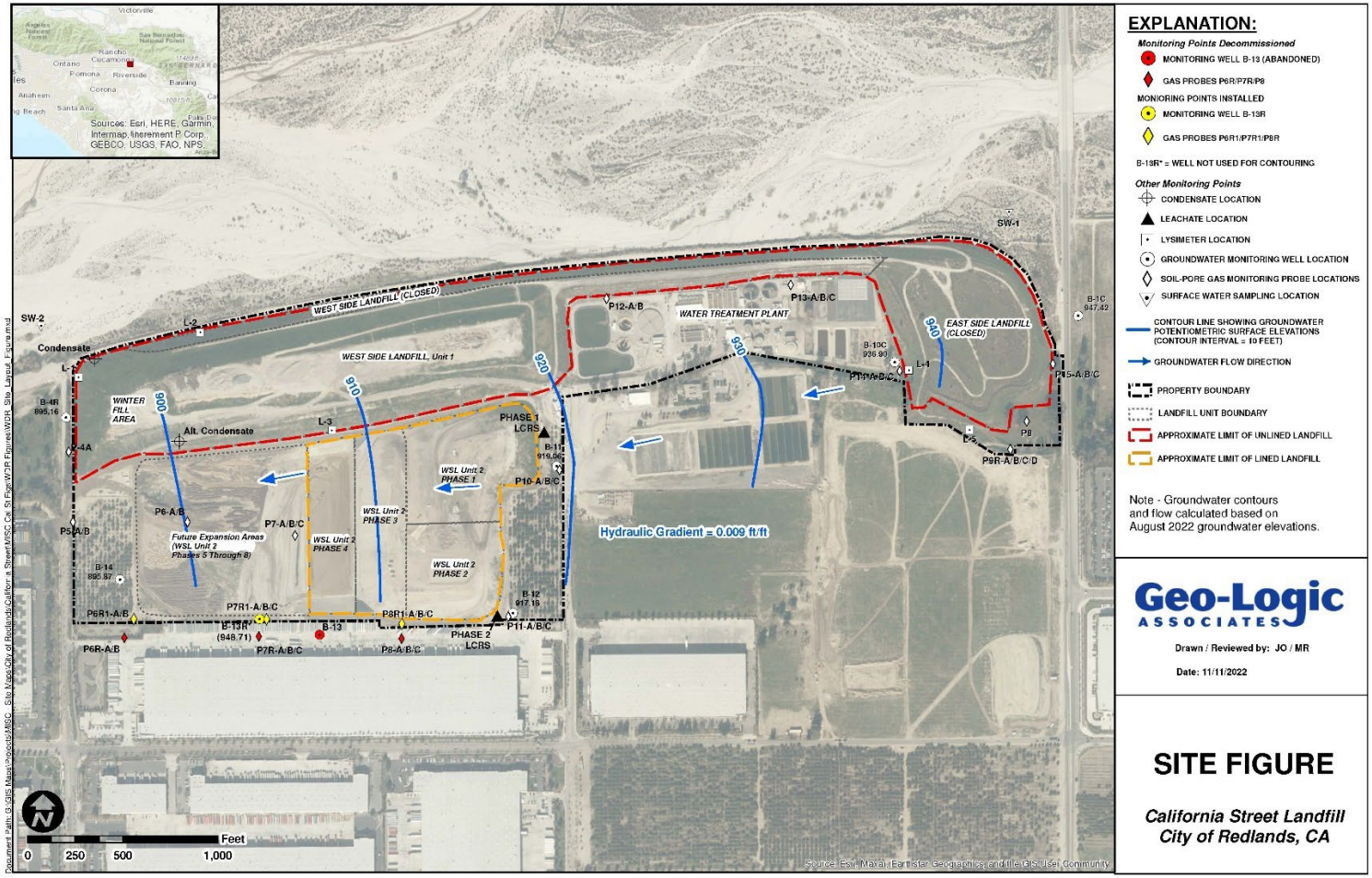

Figure 2—Facility Map of East Side Landfill and West Side Landfill, Units 1 and 2