

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) (https://www.waterboards.ca.gov/santaana)

WASTE DISCHARGE REQUIREMENTS ORDER R8-2022-0006

ORDER INFORMATION

Order Type(s): Waste Discharge Requirements (WDRs)
Status: TENTATIVE
Program: Title 27 Discharges to Land
Discharger(s): County of San Bernardino, Division of
Solid Waste Management
Facility: San Timoteo Sanitary Landfill
[aka San Timoteo Canyon Landfill]
Address: 31 Refuse Road,
Redlands, California 92373
County: San Bernardino County
GeoTracker ID: L10001343360

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 ____ March 2022.

JAYNE JOY
Executive Officer

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FINDINGS

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

1. **San Timoteo Sanitary Landfill** – The County of San Bernardino Solid Waste Management Division (Discharger) owns and operates the San Timoteo Sanitary Landfill (STSL or Facility). STSL is a Class III, non-hazardous municipal solid waste (MSW) landfill that began operations in 1980. The STSL is located at 31 Refuse Road within the City of Redlands; Section 8, Township 2 South, Range 3 West, San Bernardino Base and Meridian. The location of STSL is shown on **Figure 1 – Vicinity Map**.

The Facility is a canyon landfill consisting of two contiguous waste management units (WMUs), Unit 1 and Unit 2, within the San Timoteo Badlands. The subject property encompasses 366 acres, of which 114 acres are currently permitted by the Santa Ana Water Board (SAWB) and the California Department of Resources Recycling and Recovery (CalRecycle) for waste disposal. Unit 1 occupies approximately 37.15 acres of WMU disposal area and is unlined. Unit 2 occupies approximately 49.8 acres of WMU disposal area and is lined. Phase 5 is the next phase of landfill expansion within Unit 2 and is planned for future construction but no date has been scheduled at this time. Phase 5 will be lined and comprise approximately 27.05 acres.

2. **Site Capacity and Closure** – Based upon a 2018 estimate, STSL has a remaining solid waste disposal capacity of approximately 12.5 million cubic yards. The Discharger has no plans at this time to expand STSL beyond the 114-acre area currently permitted by SAWB and CalRecycle. Based upon these conditions and upon daily tonnage disposal totals within this permitted landfill area, the closure date for both Unit 1 and Unit 2 is projected to be December 2039.

Table 1—Waste Management Units (WMUs)

WMU	Class	Size (Acres)	Lined	Status
Unit 1	Class III	37.15	Unlined	Operating
Unit 2, Phases 1-4	Class III	49.8	Lined	Operating
Unit 2, Phase 5	Class III	27.05	Lined	Planned

Regulatory Framework

3. **Regulation of Non-Hazardous Municipal Solid Waste (MSW)** – STSL’s WMUs are subject to federal Municipal Solid Waste (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 40 C.F.R. part 258 (Part 258) and implemented in part through the provisions of California Code of Regulations, Title 27 (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 §13263, subdivision (a), this Order prescribes Waste Discharge Requirements (WDRs) incorporating applicable provisions of Title 27, 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. **1978 WDRs Order** – On July 14, 1978, the Santa Ana Water Board adopted WDRs Order No. 78-151 for the portion of the Facility that is now designated as “Unit 1.” The 1978 WDRs Order and its associated Monitoring and Reporting Program (MRP) predate the prescriptive requirements for waste disposal that are now codified in Title 27 and Part 258. No other individual WDRs have been issued for the Facility. Neither Unit 1 nor Unit 2 have ever been formally classified as WMUs under Title 27 in a WDRs order. This Order formally classifies both WMUs as Class III MSW Landfills (MSWLFs).
6. **1989 Solid Waste Assessment Test** – In accordance with Water Code §13273, a Solid Waste Assessment Test (SWAT) was conducted at STSL in 1988. As part of the SWAT, four groundwater monitoring wells, one piezometer, and one lysimeter were installed to evaluate vadose zone and groundwater conditions and groundwater quality beneath the site. A SWAT Report was submitted to the Santa Ana Water Board in June 1989. Minor elevated concentrations of inorganic compounds and tetrachloroethylene (PCE) were identified in groundwater samples at the site.
7. **1998 Revision Order** – On November 20, 1998, the Santa Ana Water Board adopted WDRs Revision General Order No. 98-99 (1998 Revision Order) for all MSW landfill facilities in the Santa Ana Region. The 1998 Revision Order and its associated MRP effectively revised the original 1978 WDRs Order and MRP to incorporate the substantive requirements of Title 27 and State Water Board Resolution No. 92-62.

8. **Terms and Acronyms** – Definitions of terms and acronyms used in this Order are included in Attachments A and B, respectively. The terms used in this Order are contained in Title 27, §20150, §20163, §20164, and §20415.
9. **Consolidation of Requirements** – This Order consolidates requirements contained in the existing WDRs and updates these requirements to be consistent with the current federal and State laws and regulations for MSW disposal.

Waste Acceptance

10. **Waste Classification** – Pursuant to Title 27, §20200, subdivision (a), wastes are classified based on their risk of impairment to groundwater. Nonhazardous MSW are classified as Class III wastes and are disposed of at Class III landfills. The STSL waste management units (WMUs) accept nonhazardous MSW and are classified as Class III MSWLFs.
11. **Waste Types and Quantities** – The STSL is currently permitted to receive a maximum daily tonnage of 2,000 tons per day of MSW. Wastes accepted for disposal at the STSL include MSW, agricultural waste, construction/demolition/renovation waste, inert materials, tires, dead animals, appliances, non-hazardous high moisture content wastes (HMCW), non-hazardous contaminated soils, and designated wastes.
12. **Designated Waste** – Per Water Code §13173, a designated 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 waste management unit, could be released in concentrations exceeding applicable water quality objectives or that could reasonably be expected to affect beneficial uses of the waters of the state as contained in the appropriate state water quality control plan.
13. **Disposal of Designated Wastes** – A nonhazardous waste, that might be considered a designated waste, disposed under ambient conditions at a *composite-lined* unit of a Class III landfill, would not reasonably be expected to release pollutants in concentrations exceeding applicable water quality objectives (WQOs) and would not be reasonably expected to affect beneficial uses of the waters of the state. STSL WMU 2 has a composite liner, which is considered equivalent to a Title 27 Class II design. Accordingly, this Order allows the

disposal of wastes that might otherwise be considered designated wastes at STSL WMU 2 since it is a composite-lined waste management unit.

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, §13050 and are required to be regulated under waste discharge requirements pursuant to Water Code §13263, subdivision (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 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 Order No. R8-2016-0052, which replaced Order No. R8-2014-0006 and amended WDRs for active landfills in the Santa Ana Region including STSL. Order No. 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 No. R8-2016-0052, the Discharger prepared and submitted a Waste Acceptance Plan (WAP) in January 2017 that was approved by the Santa Ana Water Board’s Executive Officer. This Order requires the Discharger to continue implementing the WAP and revise it as needed to incorporate any updated regulatory soil screening criteria.

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, §20686 and §20690, this Order allows the beneficial re-use of waste-derived materials at STSL 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. However, this Order requires that beneficial reuse of new waste materials or waste-derived materials, including those prescribed under Title 27, §20690, subdivision (b), must be evaluated and approved by the Executive Officer 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*, as defined in California Health and Safety Code §25230.1, means 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* means wood waste that meets the requirements described in Health & Safety Code §25230.2.

In accordance with Health & Safety Code §25230.11, disposal of treated wood waste is only allowed at a Class I hazardous waste landfill or in a composite-lined portion of a solid waste landfill that meets all requirements applicable to disposal of MSW in California after October 9, 1993, and that is regulated by waste discharge requirements issued pursuant to the Porter-Cologne Water Quality Control Act (Porter-Cologne Act) (Wat. Code, §13000 et seq.) for discharges of designated waste, as defined in §13173 of the Water Code, or treated wood waste. A solid waste landfill that accepts treated wood waste shall comply with all of the requirements stated in Health & Safety Code §25230.11, subdivision (b).

Site Background and History

17. **Commencement of Site Operations and Expansions** – STSL consists of two WMUs (MSWLFs), Unit 1 and Unit 2. In 1980, STSL began waste disposal operations in Unit 1. Unit 1 is an unlined waste disposal area and waste was placed within the footprint area of Unit 1 from 1980 to 1996. Grading and construction of the Unit 2 expansion area at the STSL was completed in 1996. The Phase 1 and Phase 2 areas of Unit 2 were constructed with a prescriptive composite liner and leachate collection and recovery system (LCRS) in 1997. In 2008, Unit 2 was expanded to the south for construction of the composite-lined Phase 3-1 area. In 2020, Unit 2 was further expanded for composite-lined Phase 3-2 and composite-line Phase 4. The future Phase 5 area of Unit 2 has not yet been graded or constructed.
18. **Regional and Site Geology** – STSL is located near the northern margin of the San Jacinto Mountains structural block within the Peninsular Ranges Geomorphic Province of California. It is underlain by a thick sequence of semi-consolidated to consolidated Tertiary and Quaternary-age deposits of the San Timoteo Formation. The San Timoteo Formation is overlain by Quaternary to recent age alluvium composed of unconsolidated, slightly weathered crystalline

rock debris derived from the San Jacinto Mountains and sediment from the San Timoteo Formation.

19. **Regional and Local Faulting** – STSL is located within a seismically active and highly faulted geologic area. The active San Jacinto Fault runs northwest to southeast, and is approximately 800 feet southwest of the landfill property. The Banning Fault runs northwest to southeast approximately and is 1.8 miles northeast of the landfill property. The San Andreas Fault Zone runs northwest to southeast and is approximately 7 miles northeast of the landfill property. The Loma Linda Fault crosses the northeastern portion of the landfill property, but is not considered an active fault, however, the Loma Linda Fault appears to act as a groundwater barrier, causing a higher groundwater elevation on the northern side of the fault, where recharge is likely to be occurring. The Buchanan Fault and Morton's Fault are reported to cross the center and south sides of the landfill property, respectively. In addition to these faults, there are several minor active or potentially active faults associated with the San Andreas Fault Zone northeast of the landfill property.
20. **Site Terrain** – The STSL is located along the northeast flank of the San Timoteo Badlands – a northwest trending range of low hills extending northwest from the San Jacinto mountains. Erosion of the uplifted strata has resulted in topography characterized by deeply incised terrain of narrow canyons and steep-sided hills. The Badlands are composed of non-marine sedimentary rocks of the San Timoteo Formation, which overlies Mesozoic granitic basement rocks of the Peninsular Ranges batholith. The San Timoteo Formation is composed of fine- to coarse-grained sandstones and silty sandstones and form most of the hills in the STSL area. Natural elevations at the landfill property range from 1,500 feet above mean sea level (AMSL) at the northeast corner of the site to 2,200 feet AMSL at the southwest corner of the site.
21. **Regional and Site Hydrogeology** – STSL is located within the Bunker Hill B Groundwater Management Zone. Groundwater beneath STSL ranges between 221 and 448 feet below ground surface (bgs) with an average depth of 353 feet bgs. Groundwater beneath STSL flows northward at a velocity of 3.7 to 7.2 feet/day.
22. **Average Annual Precipitation** – The STSL is in an arid to semi-arid environment. Average annual precipitation in the area is estimated to be approximately 13.56 inches measured at the East Palm Avenue Station (KCAREDLA61) located at latitude 34.07 and longitude -117.21, within the City of Redlands.

23. **Receiving Surface Water Body** – Surface water that drains from the STSL is tributary to San Timoteo Creek, which has beneficial uses under the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan).
24. **Receiving Groundwater Body and Beneficial Uses** – STSL is located within the Bunker Hill – B Groundwater Management Zone, with the following beneficial uses under the Basin Plan:
 - a. Municipal and Domestic Supply,
 - b. Agricultural Supply,
 - c. Industrial Service Supply, and
 - d. Industrial Process Supply.

Waste Containment Systems

25. **Waste Containment System Design** – Title 27, §20330, and Part 258, stipulate that a WMU waste containment system (WCS) which includes a composite liner of a prescriptive standard design (PSD) must be installed for lateral expansion beyond the 1993 waste footprint at MSWLFs. 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 (\leq) 1×10^{-7} centimeters per second (cm/s).
26. **Engineered Alternative Design** – Title 27, §20080 allows for engineered alternative designs (EADs) to the PSD for a WCS, provided that the performance criteria contained in 40 C.F.R. §258.40(a)(1), (c) and Title 27, §20080, subdivision (b), are satisfied. In compliance with federal Subtitle D regulations and the existing WDRs, the Discharger has equipped each WMU at STSL with a WCS for each lateral landfill expansion since October 9, 1993. In accordance with Title 27, §20080, subdivision (b), the Santa Ana Water Board has approved EADs to the PSD for the WCS at STSL.

Note that the approved base and slope liner systems for Phase 3-2 and Phase 4 included minor modifications to address site specific stability and strength conditions. Future liner system designs shall also modify these components, as necessary, to meet site specific conditions. The approved EAD for the base and side slope liner systems is described below.

- a. **Base Liner System** – The base liner system shall consist, at a minimum, of the following layers, from top-to-bottom:

- i. 2-foot thick (minimum) operations layer (3" maximum particle size)
 - ii. 8-ounce per square yard filter geotextile
 - iii. 9-inch thick (minimum) leachate collection and removal system (LCRS) gravel drainage layer
 - iv. 12-ounce per square yard non-woven cushion geotextile
 - v. 60-mil HDPE double-sided textured geomembrane
 - vi. Geosynthetic clay liner (GCL)
 - vii. 60-mil HDPE double-sided textured geomembrane
 - viii. 1-foot thick (minimum) low permeability layer ($\leq 1.0 \times 10^{-6}$ cm/sec)
 - ix. 1-foot thick (minimum) engineered fill (subgrade material over excavated and recompacted to 95% relative compaction)
 - x. Prepared subgrade
- b. **Slope Liner System** – The slope liner systems for Phase 3-2 and Phase 4 consist of a composite liner section comprised of the following layers, from top-to-bottom:
- i. 24-inch thick (minimum) operations layer (1" maximum particle size)
 - ii. 16-ounce per square yard non-woven cushion geotextile
 - iii. 60mil HDPE *single-sided* textured geomembrane above first bench
 - iv. Geosynthetic clay liner (GCL)
 - v. 60mil high density polyethylene (HDPE) double-sided textured geomembrane
 - vi. Prepared subgrade
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 goal of the CQA program 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, §20240, subdivision (c) stipulates that there shall be a 5-foot separation zone between MSW and the highest anticipated elevation of underlying groundwater. Accordingly, the landfill and liner designs are required to incorporate subdrain systems beneath liner systems to ensure that a 5-foot zone of separation is maintained between groundwater and the lowest element of the liner system. The depth to groundwater at the STSL is more than 200 feet bgs, thus providing well more than 5 feet of separation.
29. **Environmental Control Systems** – Existing environmental control systems at STSL include a leachate collection and removal system, landfill gas extraction and treatment system, landfill gas 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) has been installed in all of the lined portions of STSL. The LCRS at STSL consists of a network of perforated and non-perforated HDPE collection pipes installed within a 9-inch thick layer of drainage gravel. These LCRS components are situated on top of the primary geomembrane portion of the liner. As leachate drains down through the layers of solid waste it collects on top of the primary geomembrane and gravity drains through the LCRS gravel and pipelines to the leachate collection sump. The leachate is pumped from the sump or gravity drains to two 12,700-gallon leachate collection tanks located adjacent to the flare station near the landfill entrance. In 2020, approximately 29,250 gallons of leachate were collected at STSL every month and approximately 351,000 gallons were collected for the year. Leachate collected at STSL is either reused onsite for dust control in lined areas only or removed from the site and disposed of at an appropriately licensed facility.
31. **Landfill Gas Extraction System** – Landfill gas (LFG) generated by decomposition of solid waste at the landfill is extracted and collected through the landfill gas extraction system (LFGES) – a complex system of wells and pipes. At STSL, the LFGES currently consists of 82 active gas extraction wells, approximately 21,000 linear feet of LFG conveyance headers (pipes), and 53 active perimeter monitoring probes. The LFGES is modified as needed to accommodate the construction of new lined waste cells, to control surface emissions and subsurface LFG migrations, and otherwise maintain compliance with applicable regulations. Extracted LFG is piped through the headers to the

on-site flare station located near the landfill entrance. The LFG is burned off immediately via an enclosed LFG flaring system. In 2020, approximately 21,938,580 scf (standard cubic feet) of gas were extracted and flared through the LFGES on a monthly basis. In accordance with the permit granted by the Southern California Air Quality Management District, LFG extraction wells and perimeter gas probes are monitored on a monthly. LFG extraction wells are analyzed for methane, carbon dioxide, oxygen, nitrogen, temperature, flow, and pressure. LFG perimeter probes are monitored for methane, carbon dioxide, oxygen, nitrogen, and relative pressure.

32. **Landfill Gas Condensate Collection** – As LFG travels through the LFGES, it cools, and a portion of the LFD condenses and likewise travels through the system. The LFG condensate is collected in a tank located adjacent to the flare station near the landfill entrance. The condensate is injected into the flare system and is burned off with the LFG. In 2020, approximately 5,872 gallons of condensate were collected and burned off at the flare each month.

Monitoring

33. **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. (Title 27, §20390, subdivision (a).) Under Title 27, a WQPS is ordinarily separately established for each WMU in WDRs, though contiguous WMUs may be monitored together. (*Id.*) 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.
34. **Groundwater**— Pursuant to Title 27, §20385, the Discharger is required to perform monitoring for each WMU at the facility. Currently, the Discharger is implementing a groundwater Detection Monitoring Program (DMP) at STSL in accordance with Title 27, §20385, subdivision (a)(1) and §20420, and the attached Monitoring and Reporting Program (MRP). As part of the groundwater DMP, the STSL is monitored at wells ST-2, ST-5C, ST-7A, ST-8, ST-10, ST-12, and ST-13, and at piezometer ST-3. In addition, groundwater elevation is monitored in piezometer ST-6. The monitoring wells and the piezometers are depicted on **Figure 2 – Site Map**.
35. **Vadose Zone Monitoring** – Pursuant to §20415, subdivision (d) of Title 27, the Discharger is required to establish a monitoring system for the unsaturated zone (vadose zone) for each WMU at the facility. Currently, the Discharger monitors the vadose zone at four soil-pore gas probes on-site. (See MRP Table 1 and Figure 1 herein.) As part of the monitoring program for STSL, the Discharger is required to continue monitoring these soil-pore gas probes on a semi-annual

basis. Samples will be collected semi-annually from these monitoring points (and any additional vadose monitoring points subsequently installed at the site) and analyzed for all of the volatile organic compounds listed in "Table A" of the MRP, as well as methane, oxygen, carbon dioxide, and nitrogen. Data generated from these monitoring activities will be evaluated and used for advising groundwater monitoring activities.

36. **Leachate and Landfill Gas Condensate Monitoring** – It is generally understood that there is a connection between groundwater contamination and the contaminants in landfill leachate and landfill gas condensate. Consequently, constituents detected in leachate and gas condensate are considered potential threats to water quality upon release from STSL. Based upon this connection, the Discharger has been monitoring and will continue to be required to monitor landfill leachate and landfill gas condensate generated at the landfill. The requirements for monitoring frequency and the analytical constituents are specified in the concurrently-adopted MRP and subsequent amendments thereto. Results from these monitoring activities are evaluated and utilized as specified in the MRP to direct groundwater monitoring activities.

Other

37. **Drainage and Erosion Control** – Surface drainage control facilities at STSL are designed, constructed, and maintained to collect and divert rainfall runoff resulting from a 100-year, 24-hour frequency storm event. STSL's drainage control system is designed to divert run-on away from the WMUs and route onsite surface runoff away from the WMUs. Onsite drainage is controlled by lateral sheet flow and by intercepting berms and benches. Sheet flow erosion is minimized by reducing velocity and discharge using a shallow gradient on top deck areas and by limiting the size of runoff areas as much as possible. Benches intercept sheet flow runoff from side slopes to prevent excessive erosion. Runoff on benches is directed to downdrains, drainage channels, and culverts that lead to sedimentation basins. Vegetation and shredded greenwaste mulch are examples of erosion control measures applied on side slopes at STSL.
38. **Daily and Intermediate Cover Materials** – STSL utilizes a minimum of 6 inches of compacted soil as daily cover material and/or approved alternative daily cover (ADC) materials, such as geosynthetic blankets or other approved ADCs, at the end of each working day. 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.
39. **Post-Closure Land Use** – Non-irrigated open space is the proposed land use for STSL following cessation of disposal activities and closure of the facility. Currently, STSL is expected to remain in operation until 2039.

40. **Preliminary Closure and Post-Closure Maintenance Plans** – Title 27, §21769 (b)(1) requires the Discharger to prepare a preliminary closure and post-closure maintenance plan for STSL to enable development of a reasonable estimate of the maximum costs expected for a third party to close STSL and to implement the first thirty years of post-closure maintenance. In its Joint Technical Document (JTD), dated July 2020, 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.
41. **Financial Assurance** – Title 27 §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 JTD for STSL, the Discharger provided documentation demonstrating the establishment and maintenance of an enterprise fund for implementing the subject plans.
42. **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 STSL. 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.
43. **Requirement for Water Quality Control Plan** – Water Code §13263, subdivision (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.
44. **Santa Ana Region 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.

45. **Industrial General Storm Water Permit** – Stormwater discharges from STSL are regulated by the General Permit for Storm Water Discharges Associated with Industrial Activities, Order No. 2014-0057-DWQ, as amended by Order No. 2015-0122-DWQ, and as amended by Order No. 2018-XXXX-DWQ (NPDES Permit No. CAS000001)(Industrial General Permit or IGP). Construction activities associated with landfill operations, maintenance, improvement, or development projects (such as expansion) at STSL are also covered under the IGP.
46. **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.
47. **Public Hearing** – The Santa Ana Water Board, in a public meeting, heard and considered all comments pertaining to updating the existing WDRs for STSL.
48. **CEQA Compliance** – This project involves the adoption of waste discharge requirements for an existing facility for which waste discharge requirements need to be updated, and as such, is categorically exempt from the California Environmental Quality Act in accordance with §15301, Chapter 3, Title 14, California Code of Regulations.
49. **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. (See Title 27, §§20385, 20415, 20430.) Because this Order does not authorize any degradation in water quality from WMU discharges, it complies with the *Antidegradation Policy*.

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 Discharger's approved WAP), no degradation in water quality will occur as a result of such discharges.

50. **Delegation of Authority** – This Order delegates authority to the Executive Officer of the Santa Ana Water Board to:
- a. Require the Discharger to revise the existing waste acceptance plans, or develop a new 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 STSL in response to newly discovered or developed information and/or regulatory or industrial standards and guidelines.
 - b. 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.
 - c. Revise the attached MRP to incorporate modifications to the monitoring and reporting requirements for STSL.

REQUIREMENTS

IT IS HEREBY ORDERED, pursuant to Water Code §13263 and §13267: that WDRs Order No. 78-151 is rescinded (except for enforcement purposes); applicability of General Order No. R8-2016-0052 is terminated; and that the Discharger shall 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 STSL 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 STSL shall be limited to non-hazardous municipal solid wastes, liquids or semi-solid waste, non-hazardous contaminated soils, incinerator ash, inert solid wastes, treated wood waste, and designated wastes. CRT panel glass constitutes a non-hazardous solid waste, provided that it is managed according to a plan approved by the Executive Officer. Wastes meeting the following conditions shall be accepted for disposal at STSL:

- a. **Non-Hazardous Solid Wastes** – Non-hazardous municipal solid wastes (MSW), as defined under Title 27, §20220, subdivision (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. **Liquids or Semi-Solid Waste** – Liquids or semi-solid waste (or high moisture content waste), including sewage treatment plant grit and screening residues, dewatered sewage sludge, water treatment sludge, provided that the following criteria in Title 27, §20200, subdivision (d) are met.
- c. **Non-Hazardous Contaminated Soils** – Non-hazardous contaminated soils meeting waste acceptance criteria in the approved WAP may be accepted for disposal or reuse at STSL provided that it is accepted, disposed, or reused in accordance with Discharge Specification A.7 below.
- d. **Inert Waste** – Inert waste, as defined in Title 27, §20230, means that subset of solid waste that does not contain hazardous waste or soluble pollutants at concentrations in excess of applicable water quality objectives, and does not contain significant quantities of organic, putrescible, or decomposable waste.
- e. **Treated Wood Waste** – Treated Wood Waste (TWW) may be accepted for disposal at STSL provided that it is managed and disposed of in accordance with the conditions and requirements stated in Health & Safety Code §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, §20385, results in cessation of the release.
- f. **Cathode Ray Tube Panel Glass** – Cathode ray tube panel glass (CRT) is a non-hazardous waste and may be accepted for disposal at STSL provided that it is managed in accordance with Title 22.

- a. **Case-by-Case Approval by Executive Officer** – The beneficial reuse of waste materials or waste-derived materials at STSL, excluding contaminated soils, shall be evaluated and approved by the Santa Ana Water Board’s Executive Officer 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, §20705, subdivision (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, §20705, subdivision (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 STSL. Therefore, a material that would be classified as a designated waste cannot be utilized for daily or intermediate cover, or other re-use at STSL unless that material is approved for discharge (as a waste) to that landfill pursuant to Title 27, §20200, subdivision (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 STSL, either:
 - (A) For non-composite lined portions of STSL, 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 STSL, are included in the group of constituents that are regularly monitored and analyzed as part of the MRP for STSL.
- d. **Demonstration or Justification** – To satisfy the requirements of 8.c.i and 8.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 Executive Officer; or
- ii. Provide satisfactory documentation and justification for use of proposed materials as alternative cover for review and approval by the Executive Officer.

B. Discharge Prohibitions

1. **General** – The treatment or disposal of wastes at STSL shall not contribute to, cause, or threaten to cause a condition of contamination, pollution, or nuisance, as defined in the Water Code §13050.
2. **Discharge Within Existing WMUs** – The discharge of waste to any area of STSL beyond the existing WMUs is prohibited unless such discharge is to an area equipped with a WCS in compliance with Section C.4 of this Order.
3. **Hazardous Waste Prohibition** – The discharge of hazardous waste as defined under the state hazardous waste regulations (Title 22, §66261.3 et seq) at STSL is prohibited.
4. **Discharges to Unlined WMUs** – TWW and other Designated Waste shall not be discharged to Unit 1.
5. **Discharge of Pollutants into Waters of the State** – Operations and activities at STSL 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 §402. Further, the discharge of wastes at STSL 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. **Limitations on TWW Discharges** –TWW and other Designated Waste shall not be discharged to Unit 1, which is unlined.
7. **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 STSL is prohibited, unless the following conditions are met:
- a. The liquids that are being returned to, or reused at, STSL originated at STSL;
 - b. The portion of STSL 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 STSL that is regulated or waived under a separate order or treated in accordance with a plan approved by the Executive Officer 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 STSL.
8. **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 STSL.
9. **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 STSL.

C. Provisions

1. **General** – The Discharger shall comply with all discharge specifications, discharge prohibitions, provisions, and Monitoring and Reporting Program No. R8-2022-0006 (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 STSL 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 landfill with this Order; and
 - d. To sample any discharge from the landfill.
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. §20310 [General Construction Criteria];
 - b. §20320 [General Criteria for Containment Structures];
 - c. §20323 [CQA Plan];
 - d. §20324 [CQA requirements];
 - e. §20330 [Liners];
 - f. §20340 [Leachate Collection and Removal Systems (LCRS)];
 - g. §20360 [Subsurface Barriers];

- h. §20365 [Precipitation and Drainage Controls];
 - i. §20370 [Seismic Design]; and
 - j. §21750(f)(5) [Stability Analysis].
5. **Engineered Alternative Liner Design (EAD)** – An EAD that satisfies the performance criteria contained in 40 CFR §258.40(a)(1), (c), and in Title 27, §20080, subdivision (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 EAD for the base and sideslope liner systems. The approved EAD is minimum design requirements; the Executive Officer 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 using approved EADs, the following shall apply:
- a. At least 90 days prior to the scheduled WCS construction for each WMU expansion at STSL, 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 STSL 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 Item 6.b., above, can be evaluated. Daily reports, including conformance testing data and relevant construction

activities, shall be submitted 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; and
 - g. If an approved EAD fails to perform as expected, the Executive Officer of the Santa Ana Water Board has the authority to require additional protective measures.
7. **New EAD Proposed** – In accordance with Title 27, §21585, subdivision (a)(4), the Discharger shall submit an amended ROWD, in the form of a numerically-sequential addendum to the JTD, for any new EAD proposed for WCS at STSL. 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, §20080(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 STSL
 8. **LCRS Performance Testing** – In accordance with Title 27, §20340, subdivision (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 landfill.
 9. **Operating Record** – The Discharger shall maintain an operating record for STSL 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 STSL 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 landfill 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 STSL 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 landfill, 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 Executive Officer 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 landfill gas collection and recovery system as landfill operations progress to prevent the migration of landfill gas to groundwater and to the environment.
20. **Use of ADC** – ADC may be used consistent with Title 27, §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. **Executive Officer Authorization** – The Executive Officer is hereby 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 STSL:
 - i. Contaminated soils;
 - ii. Treated wood waste;

- iii. Designated wastes;
 - iv. Liquid or semi-liquid wastes;
 - v. Waste-derived materials; and
 - vi. 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 STSL; 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, §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 STSL (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 STSL 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 STSL.
5. **Registered or Certified Supervision** – All 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 Santa Ana Water Board staff within 7 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 TABLE 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 landfill 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 STSL, it shall be corrected without delay.
3. **Measurably Significant 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 STSL, 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 seven days of such determination [(Title 27, §20420, subdivision (j)(1))] and shall carry out a single discrete retest in accordance with Title 27, §20415, subdivision (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.
4. **Optional Demonstration** – If measurably significant evidence of a release is verified per Section E.3, 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 STSL is not the cause of the release in accordance with Title 27, §20420, subdivision (k)(7).

5. **Response to Verified Evidence of a Release** – If measurably significant evidence of a release is verified per Section E.3, above, and it is determined that STSL is the cause of the release, then the Discharger shall:
 - a. Implement those response actions described in Title 27, §20420, subdivision (k);
 - b. Implement an Evaluation Monitoring Program (EMP) pursuant to Title 27, §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, §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.

6. **Release Beyond Facility Boundary** – Any time the Discharger or Santa Ana Water Board staff concludes that a release from STSL has proceeded beyond the STSL 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, §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, §20415, subdivision (e)(12)(B).
3. **Concentration Limits** – The concentration limit for any given Monitoring Constituent in a given monitored medium at STSL shall be established and maintained in accordance with Title 27, §20400. These limits are specified in the attached MRP.
4. **Groundwater Surface Elevation** – In accordance with Title 27, §20415, subdivision (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, §20415, subdivision (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 Executive Officer of the Santa Ana Water Board, in accordance with Water Code §13267. Failure or refusal to furnish these reports or falsifying any information provided therein may render the Discharger guilty of a misdemeanor and subject to the penalties stated in Water Code §13268. 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 terminating 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, §21585(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 STSL beyond the existing waste disposal limits;
 - c. responding to a release from the landfill;
 - d. making any material change or proposed change in the character, location, volume, treatment, or disposal methods of any discharge of waste; and
 - e. any change in control or ownership of land or waste discharge facilities.
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.
6. **Planned Facility Changes** – The Discharger shall give advance notice to Santa Ana Water Board staff of any planned changes in permitted activities at STSL 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 STSL.
8. **Change in Facility Ownership** – In the event of any change in control or ownership of land or waste discharge facilities currently owned or controlled by the Discharger, 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 Executive Officer 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, §21780, subdivision (c)(3), final closure and PCMPs for solid waste landfills shall be submitted 2 years prior to the anticipated date of closure. In lieu of submitting a new or updated preliminary closure and PCMP as part of a SWFP 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, §22205;
 - b. Post-closure maintenance activities pursuant to Title 27, §22210;
 - c. Operating liability pursuant to Title 27, §22215; and
 - d. Corrective action activities pursuant to Title 27, §22220.
11. **Filing a Deed After Closure** – Upon completing closure at STSL, 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 landfill 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 landfill, 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.
12. **Superseding and Replacement** – This Order supersedes and replaces Order No. 78-151 and also terminates STSL’s coverage under Order No. 98-99; therefore, these orders are no longer applicable to STSL.

LIST OF ATTACHMENTS

Attachment A Definition of Terms
Attachment B Acronyms
Attachment C Maps/Figures

Monitoring and Reporting Program No. R8-2022-0006 (separate document)

ENFORCEMENT

If, in the opinion of the Executive Officer, the Dischargers fail to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order may result in the assessment of Administrative Civil Liability of up to \$10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including §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 §13320 and California Code of Regulations, Title 23, §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) (http://www.waterboards.ca.gov/public_notices/petitions/water_quality). Copies will also be provided upon request.

ATTACHMENT A DEFINITION OF TERMS

"40 CFR §258" means the regulations under Code of Federal Regulations, Title 40, part 258 (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 the Landfill. Under 40 C.F.R. §258.55(g)(1)(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 Title 40 of the Code of Federal Regulations §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 §258.

"Appendix II Constituents" means the suite of 213 hazardous constituents used as the default constituent of concern list in 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.

"Composite Retest" means a particular means of validating a preliminary indication of a release, for a given compliance Well/MPar pair, whereby the discharger applies an approved data analysis method to two new samples for that Well/MPar pair. The retest validates the preliminary indication if either or both of the retest samples triggers a measurably significant increase indication. The scope of the retest, at any given compliance well, is limited to only those Monitoring Parameters that gave a preliminary indication at that monitoring point. However, all the data obtained from the initial sampling event is considered as part of the comprehensive statistical analysis for subject monitoring period.

"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 the 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 the Landfill back into compliance with the Water Standard.

"Constituents of Concern (COCs)" is a part of the Landfill's Water Quality Protection Standard and means the list of constituents that could be released from the 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 (or Uninvolved Parameters) 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, §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, §20415(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, §20420.

"EMP" means an Evaluation Monitoring Program that implements the requirements under Title 27, §20425. This state program constitutes a stepping stone to a Corrective Action Program, in response to the Landfill's having exhibited a measurably significant increase of a release or to its having exhibited physical evidence of a release [see Title 27, §20385, subdivision (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 Title 40 of the Code of Federal Regulations 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 [§20164 of Title 27], in which it would be reasonable to anticipate that waste constituents migrating from the Landfill could be detected, and in any perched zones underlying the Landfill, any bodies of surface water that could be measurably affected by a release, soil-pore liquid beneath and/or adjacent to the Landfill, and oil-pore gas beneath and/or adjacent to the Landfill.

"Monitored Natural Attenuation" means a remedial measure that relies on natural processes to decrease or "attenuate" concentrations of contaminants in soil and groundwater. Monitoring typically involves collecting soil and groundwater samples to analyze them for the presence of contaminants and other landfill-related characteristics. The entire process is called "monitored natural attenuation" or "MNA." Regular monitoring is necessary to ensure that MNA continues to work.

"Monitoring Parameter (MPar)" is a part of the 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 leachate 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 and

general minerals that 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 Title 40 of the Code of Federal Regulations Part 258 by virtue of having received municipal solid waste (household waste) at any time and having received any waste after October 9, 1991.

"Point of Compliance (POC)" is, for the ground water medium, a part of the 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 the 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 258.51), whereas the Regional Water Quality Control 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, §20415, subdivision (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 Practical Quantitation Limit for carcinogens is the Method Detection Limit multiplied by 5, and for non-carcinogens is the Method Detection Limit multiplied by 10. These estimated PQLs are listed in Appendix II to Part 258. Generally, these are target values that may not reflect the constraints of matrix effects; therefore, the Regional Water Quality Control Board requires the 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 the 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, §20415, subdivision (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 "*composite retest*."

"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, ground water, and landfill gas condensate). 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

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ATTACHMENT C MAPS/FIGURES

Figure 1 Vicinity Map

Figure 2 Site Map

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PLACEHOLDER PAGE FOR FIGURE 2

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