

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION**

2ND REVISED Cease and Desist Order No. R9-202423-00085 (Tentative)
United States Marine Corps
Las Pulgas Landfill

United States Marine Corps Base Camp Pendleton
San Diego County

The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) finds:

FINDINGS

Background

1. The United States Marine Corps (Discharger) owns and operates the Las Pulgas Landfill (Landfill). The Landfill is located on Basilone Road, North of Camp Pulgas, Marine Corps Base Camp Pendleton (MCBCP), Camp Pendleton, California 92055, in San Diego County in Area 43, Sections 28 and 29, T9S, R5W, SBB&M (33.365251°N, 117.419896°W).
2. The San Diego Water Board classified the Landfill as a series of Class III Waste Management Units (Units) in accordance with California Code of Regulations (CCR) title 27, sections 20240 and 20260 and Code of Federal Regulations (CFR) title 40, parts 258.10 through 258.15. The Landfill began operating in March 1971¹ and the San Diego Water Board began regulatory oversight of the Landfill in 1974.

¹ Exhibit 1, Final Joint Technical Document, December 18, 2009, section 1.3 at p. 1-3. All orders and concurrence described herein are public documents and will be submitted into the record.

3. The Landfill is comprised of three existing and three planned Units. Existing Units include a closed inactive legacy area, and two active areas (Phase I and II Units). The three planned Units are Phases III, IV, and V. The legacy area is the original 40-acre unlined footprint of the Landfill. The Phase I and II Units are lateral expansions of the Landfill footprint and provide 20 acres of additional waste disposal area. The Phase I and II Units are equipped with a required composite liner system² and leachate collection and removal system³ (LCRS).
4. The Discharger limits the acceptance of waste at the Landfill to municipal solid wastes generated within the boundaries of MCBCP, and the Landfill serves as the primary waste disposal site for MCBCP.
5. The Discharger filed a Notice of Intent (NOI) on April 7, 1992, to comply with State Water Resources Control Board (State Board) Water Quality Order No. 91-013-DWQ, *National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000001, Waste Discharge Requirements For Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities* (Order No. 91-013-DWQ) and was issued Waste Discharge Identification (WDID) No. 9 371005459. The State Board revised and renewed the requirements of Order No. 91-013-DWQ through the adoption of Order No. 97-03-DWQ, *Reissued Industrial Activities Storm Water General Permit* on August 17, 1997. The State Board adopted the latest version of the NPDES General Permit for Storm Water Discharges associated with Industrial Activities, Order No. 2014-0057-DWQ (Industrial Storm Water Permit) on April 1, 2014. The Discharger has remained enrolled under all iterations of the Industrial Storm Water Permit continuously since 1992 with the same WDID.

² “Liner system” means the entire sequence of individual liners, composite liners, and leachate collection system(s) which prevent or minimize releases from the Unit. “Liner” means a continuous layer of natural or artificial material, or a continuous membrane of flexible artificial material, or a continuous composite layer consisting of a membrane of flexible artificial material directly overlying a layer of engineered natural material, which is installed beneath or on the sides of a Unit, and which acts as a barrier to both vertical or lateral fluid movement. CCR title 27, section 20164.

³ “Leachate collection and removal system” or “LCRS” means that portion of a Unit’s containment system that is designed and constructed (pursuant to CCR title 27, section 20340) to collect all leachate that reaches it, and to convey such leachate to a designated collection area to minimize the buildup of leachate head on any underlying liner. The term does not include systems that are designed to collect groundwater outside the Unit’s liner, if any, including groundwater that has been polluted by leachate.

6. The Discharger submitted a Joint Technical Document to the San Diego Water Board in August 1998(1998 JTD) requesting to increase the Landfill's lateral footprint from 39.4 acres to 88.7 acres through the construction of the Phase I and II Units. I Discharger proceeded to line 7.5 acres of the Phase I Unit in 1999, without receiving comments or concurrence from the San Diego Water Board on the 1998 JTD. The Discharger began accepting waste in the Phase I Unit in 2000.
7. The San Diego Water Board issued Order No. 2000-54, *Waste Discharge Requirements for the U.S. Marine Corps, Marine Corps Base Camp Pendleton, Las Pulgas Landfill, San Diego County* (Order No. 2000-54) to the Discharger on May 10, 2000. Order No. 2000-54 updated existing waste discharge requirements (WDRs) for the Landfill and prescribed new liner design requirements for all future lateral expansion areas at the Landfill.
8. The Discharger identified two tears in the exposed Phase I Unit side slope liner system in June 2003.⁴ The Discharger voluntarily suspended operations to investigate the cause of the tears and determine the extent of damage. No additional tears were found, but additional damage was discovered in the liner system. The Discharger began investigating the source of the liner system failure⁵ in July 2003.
9. The San Diego Water Board issued Cleanup and Abatement Order No. R9-2006-0016⁶ (CAO) to the Discharger on January 27, 2006, as a result of the failure of the Phase I Unit side slope liner system. The CAO required the Discharger to a) determine the cause of the liner system failure, b) clean-close⁷ or repair/reconstruct the Phase I Unit side slope liner system, and c) cease waste acceptance in the Phase I Unit until all deficiencies were resolved to the satisfaction of the San Diego Water Board. The Discharger submitted a corrective action plan (CAP) on December 26, 2006 (2006 CAP), in response to the CAO. The San Diego Water Board provided comments regarding the 2006 CAP on February 22, 2007.

⁴ Exhibit 2, Notice of Violation No. R9-2004-0044, January 30, 2004.

⁵ Exhibit 3, Liner and Leachate Collection and Removal System Evaluation, Las Pulgas Landfill, Marine Corps Base Camp Pendleton, San Diego County, California, November 2004.

⁶ Exhibit 4, Cleanup and Abatement Order No. R9-2006-0016.

⁷ Clean closure of a landfill pursuant to CCR title 27, section 21090(f) means physically removing all waste and contaminated materials from the landfill and from its underlying and surrounding environs, such that the waste in the landfill no longer poses a threat to water quality.

10. The San Diego Water Board issued Addendum No. 1 to the CAO on April 13, 2007.⁸ Addendum No. 1 required the Discharger to either a) take corrective action to reconstruct the Phase I Unit in accordance with the applicable regulations of CCR title 27 and Order No. 2000-54 or b) clean close the Phase I Unit pursuant to CCR title 27, section 21090(f).
11. The Discharger submitted a revised 2006 CAP on December 13, 2007, which called for the removal and reconstruction of the Phase I Unit. The Discharger submitted another revised 2006 CAP on June 26, 2008, which proposed the design and construction of the Phase II Unit to support the Discharger's compliance with the CAO.
12. The Discharger submitted a draft JTD to the San Diego Water Board for the Phase II Unit lateral expansion of the Landfill, on December 3, 2008. The San Diego Water Board reviewed the JTD and provided comments. The Discharger submitted a final JTD to the San Diego Water Board on December 18, 2009 (2009 JTD).⁹ The 2009 JTD provided a detailed description of existing operations and planned changes to the liner design, closure, and post-closure land uses of the Landfill. The 2009 JTD included plans to develop the Phase II Unit to accept the waste generated from the clean closure of the Phase I Unit. The San Diego Water Board concurred with the 2009 JTD on February 11, 2010.¹⁰
13. The San Diego Water Board adopted Order No. R9-2010-0004, *Waste Discharge Requirements for the United States Marine Corps, Marine Corps Base Camp Pendleton, Las Pulgas Landfill, Camp Pendleton, California* (Order No. R9-2010-0004) on May 12, 2010.¹¹ Order No. R9-2010-0004 updated existing WDRs for the Landfill and prescribed new liner design requirements for all future lateral expansion areas. Subsequently, the San Diego Water Board adopted Order No. R9-2011-0039, Addendum No. 1 to Order No. R9-2010-0004 on May 11, 2011.¹²
14. The Discharger completed Phase II Unit construction, in accordance with the 2009 JTD, on June 19, 2012. The Discharger completed reconstruction of the Phase I Unit on November 19, 2015. The San Diego Water Board certified the Phase I Unit lateral expansion area on July 14, 2016.

⁸ Exhibit 5, Addendum No. 1 to Cleanup and Abatement Order No. R9-2006-0016.

⁹ Exhibit 1, Final Joint Technical Document, Las Pulgas Landfill, December 18, 2009.

¹⁰ Exhibit 6, San Diego Water Board Letter, February 11, 2010.

¹¹ Exhibit 7, Order No. R9-2010-0004 with Monitoring and Reporting Program.

¹² Exhibit 8, Order No. R9-2011-0039, Addendum No. 1 to Order No. R9-2010-0004.

15. The Phase I Unit side slope liner system failed again on January 11, 2017, due to previously unidentified shallow groundwater seeps below the liner system. The Discharger submitted a CAP (2017 CAP) to the San Diego Water Board on February 20, 2020, which outlined plans to remove and rebuild the liner system.¹³ The San Diego Water Board reviewed and approved the 2017 CAP, and adopted Addendum No. 2 to Order No. R9-2010-0004 on February 10, 2021.¹⁴ Addendum No. 2 prescribed requirements for the reconstruction of the system, which commenced on November 22, 2021.

Recent Non-Compliance at the Landfill

16. CCR title 27 defines leachate as “any liquid formed by the drainage of liquids from waste or by the percolation or flow of liquid through waste. It includes any constituents extracted from the waste and dissolved or suspending in the fluid. The term ceases to apply to such liquid upon its being mingled with groundwater outside the Unit's liner system. The term also ceases to apply to such liquid upon its being treated to the extent that it no longer contains any constituent of concern whose concentration exceeds the water quality objectives of groundwater in the uppermost aquifer underlying the waste management unit.” Therefore, leachate refers to liquids removed from the LCRS, stormwater that commingles with leachate, and stormwater that contacts waste.
17. The San Diego Water Board issued eight notices of violation (NOVs) to the Discharger over a 16-month period between 2022 and 2023. NOV Nos. R9-2022-0031, R9-2022-0051, and R9-2022-0158 relate to construction of the Phase I Unit side slope liner system. NOV Nos. R9-2023-0047, R9-2023-0076, R9-2023-0100, R9-2023-0101, and R9-2023-0180 relate to overall site maintenance.
- a. NOV No. R9-2022-0031: The San Diego Water Board issued NOV No. R9-2022-0031¹⁵ to the Discharger on February 15, 2022, for failure to implement construction quality assurance (CQA) oversight, in accordance with a) CCR title 27, section 20324; b) the Phase I unit Side Slope Liner System Design and Construction Requirements and the Reporting Requirements prescribed in Order No. R9-2010-0004; and c) the final 2017 CAP accepted by the San Deigo Water Board.

¹³ Exhibit 10, Pre-Final Corrective Action Plan for Phase I Slope Lining System Repair, Las Pulgas Landfill, February 20, 2020.

¹⁴ Exhibit 9, Addendum No. 2, section A.4.

¹⁵ Exhibit 11, Notice of Violation No. R9-2022-0031.

- b. NOV No. R9-2022-0051 & Investigative Order No. R9-2022-0056: The San Diego Water Board issued NOV No. R9-2022-0051 and Investigative Order No. R9-2022-0056¹⁶ to the Discharger on April 20, 2022, for damage to the Phase II Unit liner system. The Investigative Order required the Discharger to submit a work plan to determine the extent of damage to the Phase II Unit and to propose repairs. The San Diego Water Board concurred with the work plan on August 18, 2022. The Discharger has not submitted the final construction report to the San Diego Water Board.
- c. NOV No. R9-2022-0158: The San Diego Water Board issued NOV No. R9-2022-0158¹⁷ to the Discharger on October 10, 2022, for failure to protect 14 geosynthetic¹⁸ clay liner (GCL) panels from exposure to moisture overnight on August 28, 2022. The Discharger's actions violated the requirements of Order No. R9-2010-0004 and are inconsistent with the 2017 CAP. The Discharger voluntarily submitted a work plan to the San Diego Water Board in response to NOV No. R9-2022-0158. The Discharger's work plan outlined steps to demonstrate the integrity of the exposed GCL panels. The San Diego Water Board reviewed and concurred with the work plan on December 20, 2022, but the Discharger has not fully implemented the work plan, as of the date of this Order.
- d. NOV No. R9-2023-0047: The San Diego Water Board issued NOV No. R9-2023-0047¹⁹ to the Discharger on February 23, 2023, for failure to:
1. Prevent discharges of wastes to surface waters, land, and stormwater conveyance systems, in accordance with Basin Plan Prohibitions 1, 2, and 8, Discharge Specifications B.3, D.6.1, D.6.b, D.6.d, D.6.e, D.6.f, D.8.a, D.8.c, D.8.d, E.8.a, E.8.c, and General Provisions G.1 and G.5 of Order No. R9-2010-0004.

¹⁶ Exhibit 12, Notice of Violation No. R9-2022-0051 and Investigative Order No. R9-2022-0056.

¹⁷ Exhibit 13, Notice of Violation No. R9-2022-0158.

¹⁸ "Geosynthetic" means flexible materials in planar form manufactured to meet specific engineering purposes. The term includes, but is not limited to: geomembrane, an essentially impenetrable membrane used as a barrier to waste solids and fluids, and synonymous with synthetic liner and flexible membrane liner (FML); geocomposite liner (GCL), a manufactured material including geotextiles, geogrids, geonets, and/or geomembranes in laminated or composite form: geotextile (including geonet), any permeable textile used with foundation, soil, rock, earth or any other geotechnical engineering –related material as an integral part of a constructed project, structure or system (CCR title 27, section 20164).

¹⁹ Exhibit 14, Notice of Violation No. R9-2023-0047.

2. Maintain and operate the Landfill to prevent ponding and the exposure of wastes in accordance with Operation Specifications D.7.e, Construction Specifications E.4.e and E.10.a, Provision G.5.
3. Notify the San Diego Water Board of violations of WDRs in accordance with Reporting Requirements H.11 and H.12 of Order No. R9-2010-0004.

The San Diego Water Board requested the Discharger submit a soil sampling work plan to determine the effect of the unauthorized discharge of leachate. The Discharger submitted a draft soil sampling work plan to the San Diego Water Board. San Diego Water Board staff reviewed the draft soil sampling work plan and provided comments to the Discharger on April 12, 2023.

Subsequently, the Discharger notified the San Diego Water Board on January 16, 2023, that the Landfill's LCRS overflowed and discharged comingled landfill leachate and stormwater into the onsite stormwater detention basin and Las Flores Creek. San Diego Water Board staff inspected the Landfill on January 20, 2023, and observed ponding and significant erosion in the Phase I and II Unit construction areas and erosion at the point of leachate discharge. ~~The Discharger has not submitted a final soil sampling work plan to the San Diego Water Board, as of the date of this Order. The Discharger submitted a revised soil sampling work plan on August 25, 2023. The San Diego Water Board concurred with the revised soil sampling work plan on September 7, 2023, and the Discharger provided soil sampling results on September 26, 2023.~~

- e. NOV No. R9-2023-0076: The San Diego Water Board issued NOV No. R9-2023-0076²⁰ to the Discharger on March 17, 2023, for failure to prevent discharges of wastes to surface water and storm water conveyance systems in accordance with Basin Plan Prohibitions 1 and 8, Operation Specifications D.7.e, Landfill Construction Specifications E.4.e and E.10.a, Provision G.5 and Reporting Requirement H.12 of Order No. R9-2010-0004. The Discharger notified the San Diego Water Board on February 27, 2023, that the Phase I and II Unit construction areas sustained damage during storm events that occurred over the weekend of February 25, 2023. San Diego Water Board staff inspected the Landfill on March 2, 2023, and observed a) exposed waste and significant erosion in the Phase I and II Unit construction areas and b) a discharge of leachate to Las Flores Creek.

²⁰ Exhibit 15, Notice of Violation No. R9-2023-0076.

- f. NOV No. R9-2023-0100: The San Diego Water Board issued NOV R9-2023-0100²¹ to the Discharger on April 20, 2023, after the Discharger notified the San Diego Water Board on March 15, 2023, that the Landfill's LCRS overflowed again and discharged comingled landfill leachate and stormwater into the onsite stormwater detention basin and Las Flores Creek. San Diego Water Board staff inspected the Landfill on March 17, 2023, and observed ponding, exposed waste, and significant erosion in the Phase I and II Unit construction areas and erosion at the leachate discharge point.
- g. NOV R9-2023-0101: The San Diego Water Board issued NOV No. R9-2023-0101²² to the Discharger on June 5, 2023, for exposure of waste and significant erosion in the Phase I and II Unit construction areas and a discharge of ~~wastewater~~leachate to Las Flores Creek, based on San Diego Water Board staff's inspection of the Landfill on March 24, 2023.
- h. NOV R9-2023-0180: The San Diego Water Board issued NOV No. R9-2023-0180²³ to the Discharger on September 12, 2023, for the failure to prohibit: the unauthorized~~d~~ discharge of ~~wastewater~~leachate to Las Flores Creek, ponding of stormwater at the Landfill, the exposure of waste on the Phase II Unit cover, and the erosion of the Legacy side slope. San Diego Water Board staff based NOV No. R9-2023-0180 on the Discharger's post-rain inspection report.

Threat to Water Quality

- 18. The Discharger pumped approximately four million gallons of leachate from the Phase I and II Unit construction area to the stormwater conveyance system between February 25 and March 24, 2023. This stormwater conveyance system empties into the stormwater detention basin, and subsequently discharges into Las Flores Creek. This volume is equivalent to over six and a half Olympic size swimming pools. The Discharger also removed approximately 593,000 gallons of leachate from the leachate tanks between January 16, 2023, and March 24, 2023, which is equivalent to nearly one Olympic size swimming pool. The leachate removed from the leachate tanks was appropriately collected, transported, and disposed of at the Northern and Southern Regional Tertiary Wastewater Treatment Plants. The total volume of leachate discharged to Las Flores Creek is unknown.

²¹ Exhibit 16, Notice of Violation No. R9-2023-0100.

²² Exhibit 17, Notice of Violation No. R9-2023-0101.

²³ Exhibit 18, Notice of Violation No. R9-2023-0180.

19. Leachate ~~is~~ **can be** a heavily polluted wastewater, containing the following four types of pollutants:²⁴

- a. Dissolved organic matter (e.g., organic carbon, fatty acids);
- b. Inorganic compounds (e.g., chlorides, ammonium, phosphates, nitrates);
- c. Heavy metals (e.g., copper, zinc, lead, mercury); and
- d. Xenobiotic organic compounds (XOCs) (e.g., benzene, phenols, phthalates).

The concentrations of these pollutants are typically measured in excess of applicable water quality standards and objectives.

20. The Discharger's unauthorized release of leachate into Las Flores Creek created and threatens to create a condition of pollution by exceeding water quality criteria for the receiving ground and surface waters in Las Flores Creek.²⁵

21. The Discharger's unauthorized releases from the Las Pulgas Landfill caused or threatens to cause harm to key Beneficial Uses and key areas within the San Diego Water Board's jurisdiction as defined in [San Diego Water Board Resolution No. R9-2017-0030](#). MCBCP municipal groundwater wells are a key area for drinking water supply. These wells are vulnerable to discharges from the Las Pulgas Landfill. Additionally, Las Flores Creek and its tributaries are a key area for habitats and ecosystems, with several federally listed species located downstream. Las Flores Creek and its tributaries are down gradient from the Landfill and receive Landfill storm water discharges as well as the documented historical unauthorized discharges of Landfill leachate.²⁶

²⁴ Exhibit 19, Present and long-term composition of MSW landfill leachate: a review. Crit Rev Environ Sci Technol. 2002;32(4):297–336.

²⁵ Exhibit 22, Technical Memorandum for Sediment Sampling at the Las Pulgas Landfill, September 26, 2023.

²⁶ Specific information related to the beneficial uses of Las Flores Creek and threatened/endangered species is provided in Attachment D.

22. “Disadvantaged Communities” (DACs) refers to the areas throughout California which most suffer from a combination of economic, health, and environmental burdens. These burdens include poverty, high unemployment, air and water pollution, presence of hazardous wastes as well as high incidence of asthma and heart disease. ~~According to the California Department of Water Resources DAC Mapping Tool, MCBCP is considered a Disadvantaged Community. Another~~ One way that the state identifies underserved communities is by collecting and analyzing environmental information for communities all over the state. CalEnviroScreen, an analytical tool created by the California Environmental Protection Agency (CalEPA), combines different types of information into a score to determine which communities are the most burdened or “disadvantaged.” According to CalEnviroScreen, MCBCP has a Pollution Burden Percentile²⁷ of 93% (where 100% is the most polluted), largely due to water quality related conditions.
23. Based on the non-compliance described above, the likelihood of continuing discharges, the need to protect beneficial uses, and environmental justice issues, this Order is necessary to prioritize corrective action to bring the Discharger into compliance with legal requirements, including CCR title 27 and Order No. 2010-0004.

Regulatory Authority

24. Water Code section 13301 authorizes the San Diego Water Board to issue a Cease and Desist Order (CDO) when it finds that a waste discharge is taking place, or threatening to take place, in violation of San Diego Water Board requirements or discharge prohibitions prescribed by the San Diego Water Board. The San Diego Water Board may, in a CDO, direct that those persons not complying with the requirements or discharge prohibitions to a) comply forthwith, b) comply in accordance with a time schedule set by the Board, or c) in the event of a threatened violation, take appropriate remedial or preventive action.
25. Water Code section 13300 authorizes the San Diego Water Board to require the Discharger to provide a detailed time schedule of specific actions it will take to correct or prevent violation of its WDRs.

²⁷ The “Pollution Burden percentile” is the percentile rank of the Pollution Burden score. The “Pollution Burden score” is the average of the Exposures component score and one half of the Environmental Effects component score (Environmental Effects may have a smaller effect on health outcomes than the indicators included in the Exposures component, thus they are weighted half as much as Exposures). [Mapping for Environmental Justice \(berkeley.edu\)](#)

26. This Order seeks a) appropriate investigation and determination as to whether the integrity of Phase I and II Unit containment structures was/were compromised due to poor construction practices, work stoppage, exposure to elements, and/or significant storm events; b) evaluation of both the stormwater and leachate management systems at the Landfill in order to prevent further discharges of leachate to receiving waters; and c) implementation of repairs and improvements to the Phase I and II Unit containment structures, and stormwater and leachate management systems so that future discharges will be prevented.
27. This Order directs the Discharger to immediately cease unauthorized discharges by providing off-site waste disposal and establishes a time schedule for the Discharger to demonstrate functionality of the stormwater management system, LCRS, and Phase I and II Unit liner systems, consistent with industry standards.
28. This Order will remain in effect until all directives have been completed; however, the Discharger may prioritize work to begin receiving waste in a Unit that no longer poses a threat to water quality. The minimum investigation and implementation of improvements that must be complete before waste is permitted for disposal in a specific Unit consistent with the WDRs is the following:
- a. Confirmation of the Unit's structural integrity;
 - b. Investigation of and improvements to the Landfill's LCRS and stormwater conveyance system; and
 - c. San Diego Water Board certification of the Unit.
29. Water Code section 13267(b)(1) provides that:
- In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or, discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports and shall identify the evidence that supports requiring that person to provide the reports.

30. Water Code section 13267 is cited in this Order for the limited purpose of determining the extent of impacts of improper quality assurance practices related to Landfill construction to restore and/or confirm structural integrity as required by CCR title 27 and governing orders. This purpose is aimed at evaluating the necessary remedial actions, if any, that are required to restore or achieve the structural integrity of the GCL panels. The San Diego Water Board estimates that the burden and cost of compliance with an investigation to determine the extent of impacts in the GCL panels is \$15,000. If the evaluation requires destructive testing, the cost may increase. However, since this testing and repair seek compliance with Order No. R9-2010-0004 and subsequent NOVs, the cost analysis is not necessary. The information required by the reports is essential for the San Diego Water Board to evaluate the Discharger's progress with obtaining compliance with the requirements of this Order, Order No. R9-2010-0004, CCR title 27, 40 CFR, the Basin Plan, and the Water Code. Therefore, the burden of preparing the reports bears a reasonable relationship to the need for the reports and the benefit to be obtained from the reports.
31. This Order is an enforcement action and is exempt from the provisions of the California Environmental Quality Act (CEQA, Public Resources Code, section 21000 et seq.) in accordance with CCR Title 14, section 15321. This exemption does not apply to any improvements needed at the Landfill to comply with this Order.
32. The San Diego Water Board has notified all known interested persons and the public of its intent to adopt this Order, and has provided an opportunity to submit written comments, evidence, testimony, and recommendations.

DIRECTIVES

IT IS HEREBY ORDERED, in accordance with Water Code sections 13300, 13301, and 13267, and regulations set forth in CCR title 27 and 40 CFR, that the Discharger must immediately cease and desist from discharging and threatening to discharge waste in violation of the federal Clean Water Act (CWA), Water Code, Basin Plan discharge prohibitions, Order No. R9-2010-0004 as amended, and the Industrial Storm Water Permit, by complying with the following directives:

33. Cease accepting waste²⁸ at the Landfill until the Discharger has demonstrated the following:

²⁸ Cessation of waste encompasses accepting waste as well as the discharges of leachate to land, stormwater conveyance systems, the stormwater detention basin, and surface waters.

- a. The stormwater management system is capable of managing run-on and run-off from a 24-hour, 100-year storm event;
 - b. The LCRS is capable of managing the leachate produced at the Landfill, including during a 24-hour, 100-year storm event without unauthorized discharges of leachate to land, the stormwater conveyance system, or surface waters; and
 - c. The structural integrity of all liner components has been adequately evaluated, repaired and/or reconstructed as needed, and certified by the San Diego Water Board. This could occur by addressing structural integrity issues in Phase I Unit, Phase II Unit, or both Units at the same time.
34. The Discharger must post and maintain a clearly visible sign at the entrance to the Landfill prohibiting discharges of waste into the Landfill until otherwise noticed by the San Diego Water Board. Waste diverted from the Landfill must be taken to a licensed waste acceptance facility.
35. **Construction Storm Water Permit:** The Discharger must submit a NOI to comply with California State Water Resources Control Board Order No. 2009-0009-DWQ, as amended by Order Nos. 2010-0014-DWQ and 2012- 0006-DWQ, *National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Construction Storm Water Permit) for the Phase I Unit reconstruction **prior to construction or within 30 calendar days of issuance of this Order whichever comes first.** Reconstruction activities are regulated through enrollment under the Construction Storm Water Permit and not the Industrial Storm Water Permit. The Industrial Storm Water Permit regulates the day-to-day operations at the Landfill.

The Discharger must prepare a Construction Storm Water Permit SWPPP specific to the Phase I Unit reconstruction project area prior to construction, which may overlap with the following Stormwater and Leachate Management Investigation Work Plan. The Construction Storm Water SWPPP must include proposed structural and non-structural BMPs sufficient to address deficiencies identified through prior inspections and unauthorized discharges. Additionally, the Discharger must amend the Landfill's Industrial Storm Water Permit SWPPP to reflect that the Phase I Unit reconstruction project area is regulated under the Construction Storm Water Permit. Upon completion of the Phase I Unit reconstruction project, the Discharger must submit a Construction Storm Water Permit Notice of Termination and amend the Industrial Storm Water Permit SWPPP to reincorporate the Phase I Unit area.

All storm water reports and monitoring analysis results must be uploaded to the State Board's Stormwater Multiple Application and Report Tracking System (SMARTS)²⁹ and GeoTracker³⁰ databases within 48-hours of their receipt or creation. For Post-Rain Inspection Reports the Discharger must include a narrative description of site conditions, photo documentation of site conditions, maps identifying the locations of BMPs, and any issues encountered during the post-rain inspection. The Post Rain Inspection Report must also provide a narrative describing the steps proposed by the Discharger to address the issues observed during the post-rain inspection, and a timeline for implementation. Post-Rain Inspection Reports document site conditions and the effectiveness of structural and non-structural BMPs to control stormwater run-on and run-off after a storm event.

36. **Stormwater and Leachate Management Investigation Work Plan:** The purpose of this Work Plan is to evaluate the existing stormwater and leachate management systems to determine the cause(s) of the unauthorized discharges of stormwater and leachate that occurred at the Landfill. The Discharger must submit the Stormwater and Leachate Management Investigation Work Plan (Investigation Work Plan) to the San Diego Water Board for review and consideration ***within 60 calendar days*** of issuance of this Order.³¹ The Investigation Work Plan must include:
- a. A detailed plan to address the study questions included in Attachment A of this Order.
 - b. A detailed explanation of the cause(s) of the unauthorized discharges.
 - c. A detailed discussion on the measures or upgrades needed to prevent future unauthorized discharges at the Landfill. This discussion must include, but is not limited to:
 1. Structural and nonstructural BMPs to control stormwater and to protect the intermediate soil cover overlying waste prisms;
 2. Structural and nonstructural BMPs to prevent ponding of stormwater and accumulation of sediment in construction areas;

²⁹ <https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.xhtml>

³⁰ <https://geotracker.waterboards.ca.gov/regulators/login.asp>

³¹ The Discharger may request in writing an extension of this deadline if made prior to the deadline initially set forth in this Order, directed to Executive Officer and circulated to the relevant San Diego Water Board staff. A request should include the reason for the delay and a proposed schedule for completion of the deliverable. The Executive Officer may exercise their discretion in granting or denying the request in writing.

3. Monitoring of LCRS tanks to prevent overflow and unauthorized discharges; and
 4. Containment options for leachate management during storm events.
- d. A detailed prioritized list of actions necessary to prevent additional damage to the containment and management systems at the Landfill.³²³⁴

The San Diego Water Board will review and evaluate the Investigative Work Plan. The Discharger must receive a letter of concurrence from the San Diego Water Board prior to initiating implementation of the Investigation Work Plan. The Discharger must complete the work described in the Investigative Work Plan **within 60 days** from the date of the San Diego Water Board's letter of concurrence. The Discharger must submit Daily Progress Reports to the San Diego Water Board that document the Discharger's investigation and evaluation actions taken each day. The Discharger must ensure the San Diego Water Board receives the Daily Progress Reports by noon of the following day, for each day of the Investigative Work Plan implementation.³³³²

37. **Liner Evaluation Work Plan:** The purpose of this Work Plan is to propose a process to investigate and evaluate the impacts to each component of the Phase I and Phase II Unit liner systems. The Discharger must submit a Liner Evaluation Work Plan (Evaluation Work Plan) to the San Diego Water Board for review and consideration **within 60 calendar days**³⁴ of the issuance of this Order. The Evaluation Work Plan must include:
- a. A detailed plan to address the study questions included in Attachment A of this Order.

³²³⁴ The Investigation Work Plan aims to determine what effective BMPs should be installed throughout the Landfill to prevent stormwater discharges from commingling with leachate and then discharging into surface waters. BMPs may include the use of storage basins, sandbags, and protecting construction areas prior to rain events. Incorporating the information gathered from stormwater inspections and daily work reports into the Work Plan Reports builds on the improvements that are needed and should be implementable within 30 days of issuance of this Order, i.e., as soon as possible.

³³³² Daily Field Report Requirements can be found in Attachment A, section g.

³⁴ The Discharger may request in writing an extension of this deadline if made prior to the deadline initially set forth in this Order, directed to the Executive Officer and circulated to the relevant San Diego Water Board staff. A request should include the reason for the delay and a proposed schedule for completion of the deliverable. The Executive Officer may exercise their discretion in granting or denying the request in writing.

- b. A detailed discussion and process outline to investigate and evaluate the Phase I Unit liner system installed in response to the 2017 CAP.
- c. A detailed discussion and process outline to investigate and evaluate the Phase II Unit liner system repair project.
- d. A detailed discussion on actions necessary to demonstrate and promote compliance with the design plans, technical specifications, and construction standards in Order No. R9-2010-0004 and CCR title 27.

The San Diego Water Board will review and evaluate the Evaluation Work Plan. The Discharger must receive a letter of concurrence from the San Diego Water Board prior to initiating implementation of the Evaluation Work Plan. The Discharger must complete the work described in the Evaluation Work Plan **within 60 days** from the date of the San Diego Water Board's letter of concurrence. The Discharger must submit Daily Progress Reports to the San Diego Water Board that document the Discharger's liner system investigation and evaluation actions taken each day. The Discharger must ensure the San Diego Water Board receives the Daily Progress Reports by noon of the following day, for each day of the Evaluation Work Plan implementation.

38. **Work Plan Completion Report.** The purpose of the Work Plan Completion Report is to document the results, findings, and conclusions based on the activities taken during the implementation of the Investigation Work Plan and Evaluation Work Plan. The Discharger must submit a Work Plan Completion Report to the San Diego Water Board for review and consideration **within 30 days** of completing the Work Plans. The Work Plan Completion Report must include:

- a. A detailed response to the study questions included in Attachment A of this Order.
- b. A detailed discussion of the investigation and evaluation results, findings, and conclusions.
- c. Copies of documents supporting the investigation and evaluation results, findings, and conclusions.
- d. A detailed explanation of the cause(s) of the unauthorized discharges from stormwater inundation and exposure to the elements.

Should the Discharger prefer to provide separate completion reports for the Investigation Work Plan and Evaluation Work Plan, they may submit a written request to the San Diego Water Board's Executive Officer. The Discharger's written request must identify the operational needs and benefits that justify submitting separate reports. The Discharger must receive approval from the San Diego Water Board Executive Officer prior to submitting separate Work Plan Completion Reports.

The San Diego Water Board will review and evaluate the Work Plan Completion Report(s). The Discharger must receive a letter of concurrence from the San Diego Water Board prior to submitting a CAP.

39. **Corrective Action Plan(s):** The purpose of the CAP is to propose the modifications, repairs, or reconstruction activities necessary to address the issues identified in the Workplan Completion Report and to bring the Landfill into compliance with Order No. R9-2010-0004 and CCR title 27. The Discharger must submit a CAP to the San Diego Water Board for review and consideration ***within 60 calendar days*** of the San Diego Water Board's Work Plan Completion Report concurrence letter(s). The CAP must include:

- a. A detailed description of all corrective action.
- b. A revised slope stability analysis, if the results of the Evaluation Work Plan indicate the liner component strength parameters are less than those used in the Discharger's final design and slope stability report, ~~3533~~ which was previously accepted by the San Diego Water Board.
- c. A detailed implementation schedule that includes proposed dates for all milestones, goals, and reports.

Should the Discharger prefer to provide separate CAPs to address the stormwater management and leachate collection and recovery systems, the Phase I Unit side slope liner system, and the Phase II Unit side slope liner system, they may submit a written request to the San Diego Water Board's Executive Officer. The Discharger's written request must identify the operational needs and benefits that justify submitting separate reports. The Discharger must receive approval from the San Diego Water Board Executive Officer prior to submitting separate CAPs.

~~3533~~ Exhibit 9, Addendum No. 2 to Order No. R9-2010-0004, Phase I Unit Side Slope Liner System Design and Construction, K.5 (a) and (b).

The San Diego Water Board will review and evaluate the CAP(s). The Discharger must: a) receive written concurrence from the San Diego Water Board on each CAP prior to initiating implementation of the respective CAP; and b) implement the respective CAP no later than **180 calendar days**³⁶³⁴ from the date of the San Diego Water Board's written concurrence, unless otherwise directed in writing by the Executive Officer.

If unforeseen circumstances arise that cause delays to the CAP Implementation Schedule, the Discharger may submit a written request to modify the schedule to the San Diego Water Board Executive Officer. The Discharger's written request must identify the operational needs and benefits that justify an adjustment to the CAP Implementation Schedule. The Discharger's written request must also identify the management measures that will be implemented to avoid future modifications to the CAP Implementation Schedule. The Discharger must receive approval from the San Diego Water Board Executive Officer prior to incorporating the modified CAP Implementation Schedule.

The Discharger must submit Daily Field Reports to the San Diego Water Board, documenting the Discharger's progress to implement the CAP(s). The Discharger must ensure the San Diego Water Board receives the Daily Field Reports by noon of the following day, for each day of the CAP implementation. The Discharger must notify San Diego Water Board staff that corrective actions under the CAP are complete.

40. **Corrective Action Completion Report:** The Discharger must submit a Corrective Action Completion Report (CAP Completion Report) to the San Diego Water Board for review and consideration **within 60 calendar days** of completing the last scheduled activity in each CAP.³⁷³⁵ The CAP Completion Report(s) must jointly verify that all proposed activities are complete and demonstrate that the Discharger completed all:

- a. Corrective actions necessary to cease and desist the effects of the unauthorized discharges of leachate to land, stormwater conveyance structures, and surface water.

³⁶³⁴ All investigation and evaluation activities proposed for the stormwater management system, LCRS, and Phase I and II units must be completed within 180 days of the concurrence of the CAP, regardless of whether the Discharger submits separate CAPs for individual components.

³⁷³⁵ Each CAP Completion Report must be submitted within 60 calendar days of completing the approved CAP, if the Discharger submits separate CAPs for individual components. These due dates must be included as part of the Implementation Schedule.

- b. Repair and/or reconstruction actions for the Phase I and II Units' liner systems.
 - c. Repair and/or upgrade actions to the LCRS and stormwater management system.
41. **No Further Corrective Action Letter:** The Discharger must submit all reports required by this Order, until compliance is achieved, and the Discharger receives written notification from the San Diego Water Board that no further corrective actions are needed. The Discharger must submit all plans and reports required by this Order to the San Diego Water Board via the GeoTracker database in compliance with CCR title 23, sections 3892(d) and 3893. The San Diego Water Board will review and consider all of the information presented by the Discharger, and will issue a no further corrective action letter after all the CAP Completion Reports have been received, reviewed, and concurred upon by San Diego Water Board staff.
42. **Reopener:** At any time prior to the "no further corrective action" letter described above, the San Diego Water Board can issue written notice to the Discharger that the implementation of corrective action has not been sufficiently completed and the right to accept waste in Phase I or Phase II Units will be revoked within 60 calendar days of the notice, unless deficiencies are cured.

Standard Provisions

43. **Penalty of Perjury Statement:** All reports submitted to the San Diego Water Board required by this Order, must be signed by the duly authorized representative for the Discharger and must include the following statement:

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

44. **Licensed Professionals:** All work plans and final reports submitted to the San Diego Water Board must be signed and stamped by a professional engineer or geologist, representing either the CQA Officer of record, or from a neutral third-party, presenting qualifications to complete the assessments and evaluations, licensed in the state of California, in accordance with California Code of Regulations (CCR), title 27, sections 20324(b)(1) and (b)(2), and Business and Professions Code, sections 6735, 7835, and 7835.1.
45. **Consequences of Non-Compliance; Enforcement Authority:** If the Discharger fail to comply with the provisions of this Order, the San Diego Water Board Executive Officer is hereby authorized to take enforcement action or to request the Attorney General to take appropriate actions against the Discharger in accordance with Water Code sections 13308, 13331, 13350, and 13268. Such actions may include injunctive and civil remedies, if appropriate, or the issuance of an administrative civil liability complaint for the San Diego Water Board's consideration. The San Diego Water Board has authority to take enforcement for past unauthorized discharges of waste to waters of the State and/or U.S., or for violations arising out of noncompliance with this Order.
46. **Compliance with Other Regulatory Requirements:** Nothing in this Order excuses the Discharger from meeting any additional regulatory requirement that may be imposed by other local, state, or federal regulatory entities for corrective actions taken by the Discharger to comply with this Order.
47. **Laboratory Analysis:** Unless otherwise permitted by the San Diego Water Board, all chemical analyses must be conducted at a laboratory certified for such analyses by the Environmental Laboratory Accreditation Program (ELAP). Specific methods of analysis must be identified. If the Discharger proposes to use methods or test procedures other than those included in the most current version of "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846" (U.S. Environmental Protection Agency) or 40 CFR 136 "Guidelines Establishing Test Procedures for the Analysis of Pollutants; Procedures for Detection and Quantification," the exact methodology must be submitted for review and concurrence by San Diego Water Board staff prior to use. The director of the laboratory whose name appears on the certification must supervise all analytical work in his/her laboratory and must sign all reports submitted to the San Diego Water Board.

For geotechnical laboratory analyses, the Discharger must use applicable methods referenced in CCR Title 27 or other commonly used and applicable testing standards (e.g., American Society of Testing Materials – ASTM). All test procedures must be explicitly identified in the text and/or appendices of technical reports and workplan provided to the San Diego Water Board.

48. **Relation to Waste Discharge Requirements:** The Directives in this Order do not modify, suspend, or supersede any requirements of Order No. 2010-0004.

Effective Date

49. In accordance with Water Code section 13306, this Order shall become effective and final upon issuance by the San Diego Water Board.

I, David W. Gibson, do hereby certify the foregoing is a full, true, and correct copy of a Cease and Desist Order adopted by the California Regional Water Quality Control Board, San Diego Region on DATE.

TENTATIVE

DAVID W. GIBSON
Executive Officer

Attachment A³⁸³⁶

Requirements for all Work Plans and Written Submittals³⁹³⁷

**Study Questions for the Stormwater and Leachate Management Investigation
Work Plan (Investigation Work Plan) – Directive 36**

1. What immediate actions are needed to prevent stormwater impacts to the Landfill, including ponding, erosion, and exposure of waste during the rainy season and during implementation of the Investigation Work Plan, the Evaluation Work Plan, and the CAP?
2. What immediate actions are needed to prevent impacts to the Phase I and II Unit side slope liner components during implementation of the Investigation Work Plan, Evaluation Work Plan, and the CAP?
3. What investigations are needed to evaluate the integrity of containment structures, stormwater management systems, and the LCRS to allow these systems to operate in compliance with the WDRs?
4. What is the vertical and horizontal extent of contaminated soils located adjacent to the leachate tank and LCRS inspection port resulting from the unauthorized discharges of leachate?
5. What is the nature and extent of impacts to water quality in groundwater and beneficial uses from the unauthorized discharges of leachate?
6. How will the Discharger divert stormwater run-on to prevent exposed wastes and ponding in the Phase I and II Units during implementation of the Investigation Work Plan, Evaluation Work Plan, the CAP, and future storm events?
7. How will the Discharger manage ponded stormwater and sediment accumulation in the Phase I and II Unit construction areas during implementation of the Investigation Work Plan, Evaluation Work Plan, and the CAP?

³⁸³⁶ Attachment A may be updated to incorporate additional information or remove completed tasks as is appropriate. Updates to Attachment A will only be allowed in writing and will not need concurrence by the San Diego Water Board at a hearing. Extensions of time for deliverables under this Order may be sought and granted or denied at the discretion of the San Diego Water Board staff. Any extension of a deliverable beyond 60 calendar days must require briefing before the San Diego Water Board.

³⁹³⁷ This attachment provides specific requirements that apply to multiple written submittals and are enforceable as if they were set forth in the body of this Order.

8. What BMPs are needed to prevent sediment discharges into the Phase I and II Unit construction areas?
9. What BMPs or procedures are needed to prevent overflow of the stormwater detention basin resulting in discharges of sediment and leachate into the Las Flores Creek tributary?
10. How will the Discharger demonstrate that stormwater conveyance system is capable of managing stormwater flows from a 24-hour, 100-year design storm event as required by CCR title 27?
11. How will the Discharger demonstrate that the LCRS is capable of managing twice the anticipated daily volume of leachate generated at the Landfill as required by CCR title 27, section 20340(b)?
12. What additional actions will the Discharger take to prevent the exposure of waste and creation of leachate during future storm events?
13. How will the Discharger prevent unauthorized discharges of leachate to land, stormwater conveyance structures, and surface waters during future storm events?
14. What additional testing of soils,⁴⁰³⁸ and sediment⁴¹³⁹ will be implemented if there are exposed wastes that generate leachate during storm events?
15. How will the Discharger monitor the stormwater conveyance systems during future storm events?
16. How will the Discharger ensure that there is no build-up of hydraulic head on the underlying liner system during daily operation and storm events?
17. What modifications are needed to the monitoring and maintenance of the LCRS to prevent unauthorized discharges of leachate during storm events?
18. What are the long-term steps needed to prevent unauthorized discharges of leachate to land, stormwater conveyance systems, and surface waters?

⁴⁰³⁸ Soils are identified as either native materials in the Las Flores tributary or other areas of the Landfill, or clean engineered fill used to construct outer slopes of containment units, maintenance roads, etc.

⁴¹³⁹ Refers to sediment collected in the stormwater detention basin.

Study Questions for Liner Evaluation Workplan (Evaluation Work Plan) – Directive 37

25. How will the Discharger evaluate each component of the liner system installed to date to determine that the integrity of the materials have not been compromised?
26. How will the Discharger demonstrate that the liner system will be capable of containing waste and waste byproducts to prevent unauthorized discharges to groundwater and impacts to water quality and beneficial uses?
27. How will the Discharger demonstrate that the GCL panels exposed during construction activities in 2022, meet the design and technical specifications approved by the San Diego Water Board?
28. How will the Discharger determine the evaluation locations, methods, and the pass/fail criteria proposed for use in the investigation?
29. What are the pass/fail criteria proposed to identify areas in need of further evaluation or repair?
30. What are the pass/fail criteria proposed to determine if a liner component needs to be reconstructed or repaired to meet the approved design criteria?
31. How will the Discharger ensure that there is adequate Construction Quality Assurance oversight during investigation, repair, and/or reconstruction activities?

Work Plan Completion Report Requirements – Directive 38

32. A discussion of the results of the Investigation Work Plan including the following:
 - a. Description of all activities completed to evaluate the stormwater conveyance system and the LCRS.
 - b. Steps the Discharger will take to protect the waste prisms and containment structures from stormwater inundation during construction and/or repair activities.
 - c. Description of immediate actions required to prevent stormwater impacts, i.e., ponding, erosion, and exposed waste, to the Landfill.
 - d. Methods of analysis and analytical results of any soil, sediment, or surface water sampling completed to determine the extent of impacts from past discharges of leachate.
 - e. Results of the delineation of impacts to land, stormwater conveyance detention basin, and receiving waters.

- f. Any calculations and data used to evaluate the ability of the LCRS to convey leachate and prevent the build-up of hydraulic head above the liner.
 - g. Demonstration that the LCRS is operating as designed and intended and was not damaged during storm events of the 2022 - 2023 wet season.
 - h. Steps the Discharger will take to prevent the unauthorized discharges of leachate to land, stormwater conveyance structures, and surface waters during future storm events.
 - i. Conclusions based on the results of the investigation and recommendations for the path to completion of the Phase I Unit construction project.
- 33. A discussion of the results of the Evaluation Work Plan including the following:
 - a. Description of all activities completed to evaluate the integrity of the Phase I Unit containment structures.
 - b. Methods of analysis or testing completed during the evaluation.
 - c. Map identifying the locations of evaluation activities.
 - d. Tabulated results of each method or test conducted as part of the evaluation, as well as the pass/fail criteria.
 - e. Description of observations made, or problems identified during evaluation activities.
 - f. Description of the results of the visual survey.
 - g. Demonstration of the integrity of the Phase I Unit containment structures to confirm that they were not compromised due to poor construction practices, work stoppage, exposure to the elements, or past storm events, and that the liner components constructed to date will perform as designed and intended.
- 34. Comprehensive summary, conclusions, and recommendations based on the results of the investigation.

Corrective Action Plan(s) – Directive 39

The CAP addresses any water quality impacts from previous discharges at the Landfill. Proposed actions should be consistent with the analysis required in submitting workplans, and the Discharger and San Diego Water Board can cooperatively develop remedial actions, or such actions can be the subject of a future cleanup and abatement order pursuant to Water Code section 13304, if necessary.

General Requirements for All Written Submittals

Work plans⁴²⁴⁰ must include maps that clearly illustrate the location of structural and nonstructural BMPs implemented throughout the Landfill to control stormwater run-on, run-off, to protect the interim cover overlying existing waste prisms, and other measures implemented to remove ponded water or accumulated sediment.

Work plans must include maps that provide all relevant information associated with the proposed investigative activities. Work plans must include maps that clearly identify the locations of all proposed investigative activities associated with each evaluation or sampling event.

a. Sample Locations

Proposed locations for evaluation activities.

b. Methods of Analysis

Proposed constituents of concern and corresponding analytical methods for groundwater, surface water, soil, and/or sediment sampling.

c. Field Parameters

Proposed field parameters (i.e., dissolved oxygen, pH, turbidity, temperature, etc.) measured during each sampling event.

d. Field Methods

Proposed field methods for liner material testing, as needed.

⁴²⁴⁰ Includes Evaluation Plan, Landfill Investigation Work Plan, Landfill Construction Operation Work Plan, Implementation Schedule, and the CAP.

e. **Quality Assurance Plan**

The Quality Assurance Plan must describe the proposed objectives, procedures and the quality assurance/quality control (QA/QC) protocols associated with each evaluation or sampling event. The Quality Assurance Plan must also reference the portions of the approved Construction Quality Assurance Plans⁴³⁴¹ for the side slope liner construction projects if an evaluation includes analysis of the liner components.

f. **Waste Management Plan**

The Waste Management Plan must describe the proposed measures used to manage and dispose of wastes generated during the evaluations or sampling events.

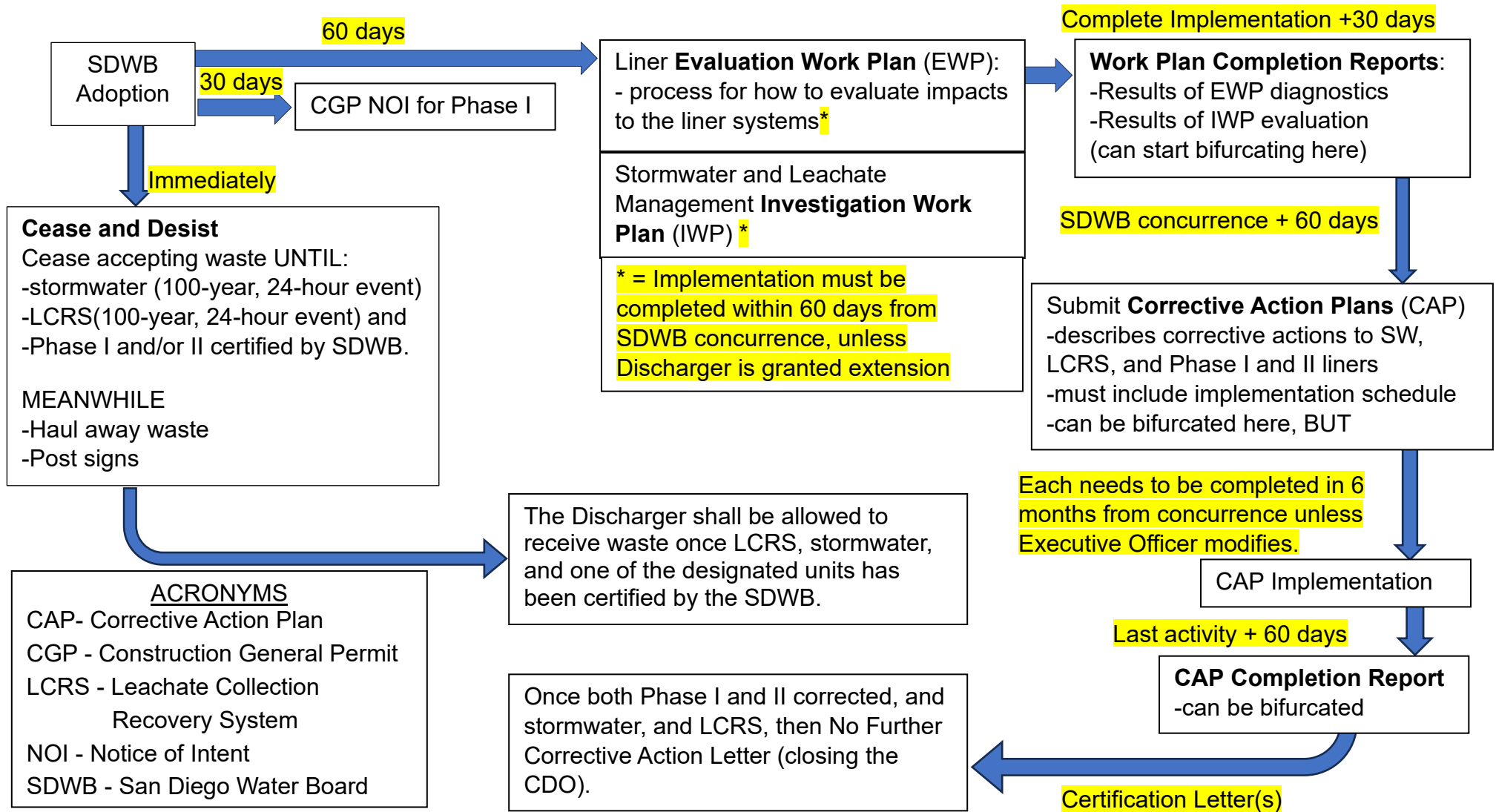
g. **Daily Field Reports must be submitted by noon the following day and must include the following:**

1. Map identifying the location of the evaluation activities;
2. Detailed description of the evaluation activities performed;
3. Discussion of observations made during evaluation activities;
4. Discussion of any problems identified during evaluation activities;
5. Photo documentation of the evaluation activities; and
6. Signature of a licensed professional conducting or overseeing the evaluation activities.

⁴³⁴¹ Exhibit 10, Appendix F and Exhibit 20, Phase II Composite Liner System Design Report, December 2009 (concurred upon by the San Diego Water Board on September 24, 2019).

Attachment B

Deliverables Flowchart



Attachment C

Exhibits to Cease and Desist Order No. R9-20243-00085

1. Final Joint Technical Document, December 18, 2009.
2. Notice of Violation No. R9-2004-0044, January 30, 2004.
3. Liner and Leachate Collection and Removal System Evaluation, November 2004.
4. Cleanup and Abatement Order No. R9-2006-0016.
5. Addendum No. 1 to Cleanup and Abatement Order No. R9-2006-0016.
6. San Diego Water Board Letter, February 11, 2010.
7. Order No. R9-2010-0004.
 - a. WDRs' main document
 - b. Monitoring and Reporting Program
8. Order No. R9-2011-0039, Addendum No. 1 to Order No. R9-2010-0004.
9. Addendum No. 2 to Order No. R9-2010-004.
10. Pre-Final Corrective Action Plan for Phase I Slope Lining System Repair, Las Pulgas Landfill, February 20, 2020.
11. Notice of Violation No. R9-2022-0031.
12. Notice of Violation No. R9-2022-0051 and Investigative Order No. R9-2022-0056.
13. Notice of Violation No. R9-2022-0158.
14. Notice of Violation No. R9-2023-0047.
15. Notice of Violation No. R9-2023-0076.
16. Notice of Violation No. R9-2023-0100.
17. Notice of Violation No. R9-2023-0101.
18. Notice of Violation No. R9-2023-0180.
19. Present and long-term composition of MSW landfill leachate: a review. Crit Rev Environ Sci Technol. 2002
20. Phase II Composite Liner System Design Report, December 2009.
21. Final Joint Integrated Natural Resources Management Plan for Marine Corps Base and Marine Corps Air Station Camp Pendleton, California, March 2018.
22. Technical Memorandum for Sediment Sampling at the Las Pulgas Landfill, September 26, 2023.

Attachment D**Information Related to Identified Beneficial Uses, Regulatory Guidelines and Impacted Species**

State Board Resolution No. 68-16, *Statement of Policy With Respect to Maintaining High Quality of Waters in California*, known as the Nondegradation objective, establishes the intent that where waters of the State (surface waters, ground waters, and wetlands) are of higher quality than required by state policies, including Water Quality Control Plans, such higher quality "shall be maintained to the maximum extent possible" consistent with the maximum benefit to the people of the State.

The Landfill is in the Las Pulgas Hydrologic Subarea (901.52) of the San Onofre Hydrologic Area (901.50) of the San Juan Hydrologic Unit (HU 901.00) and discharges into a tributary of Las Flores Creek, which is located within Las Pulgas Canyon. Las Flores Creek discharges into a lagoon and then into the Pacific Ocean.

- a. The [Water Quality Control Plan for the San Diego Basin](#) (9) (Basin Plan) designates the following existing beneficial uses of groundwaters for the San Onofre Hydrologic Area (901.50):
 1. Municipal and Domestic Supply (MUN): Includes uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply; and
 2. Agricultural Supply (AGR): Includes uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.
- b. The overall direction of groundwater flow at the Las Pulgas Landfill is to the south and southeast towards Las Flores Creek. The local hydrogeology of the Las Pulgas Landfill includes a shallow alluvial aquifer and a deeper bedrock aquifer.⁴⁴⁴²

⁴⁴⁴² Exhibit 1, The Final Joint Technical Document, December 18, 2009, at p. 3-10 identifies groundwater in the alluvial aquifer occurring between 29 and 48 feet below ground surface (bgs) and groundwater in the deep aquifer occurring between 43 and 100 feet bgs. Depth to groundwater measurements in the *2022/2023 Annual Water Quality Monitoring Report for the Las Pulgas Landfill* (April 2023) report depth to groundwater measurements for the alluvial aquifer between 14.47 feet bgs and 76.38 feet bgs, and for the deep aquifer between 17.83 feet bgs and 52.88 feet bgs.

- c. Domestic water for MCBCP is supplied by wells that extract groundwater from four of its five aquifers. MCBCP produces domestic, agricultural, and industrial water from groundwater aquifers, which are recharged by percolation from overlying rivers and streams. The aquifers are also recharged through the exercise of the MCBCP's water rights. Unlike most other water systems in southern California, MCBCP does not currently rely on imported water to meet its water requirements.⁴⁵⁴³ "There are no water supply wells located within a 1-mile radius of the Landfill. The nearest [MCBCP] production wells, identified as well numbers 41611, 41613, and 41621, are located approximately five miles southwest of the Landfill."⁴⁶⁴⁴
- d. The Basin Plan designates the following existing and potential beneficial uses of inland surface waters for Las Flores Creek and its tributaries:
1. Agricultural Supply (AGR): Includes uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.
 2. Water Contact Recreation (REC-1): Includes uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and SCUBA diving, surfing, white water activities, fishing, or use of natural hot springs.
 3. Non-Contact Water Recreation (REC-2): Includes the uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.
 4. Warm Freshwater Habitat (WARM): Includes uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish or wildlife, including invertebrates.
 5. Wildlife Habitat (WILD): Includes uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

⁴⁵⁴³ Exhibit 21, Final Joint Integrated Natural Resources Management Plan for Marine Corps Base and Marine Corps Air Station Camp Pendleton, California, March 2018, at last paragraph of p. 3-9.

⁴⁶⁴⁴ Exhibit 7 at paragraph 7 of WDRs. However, there are three supply wells approximately 4.5 miles downgradient from the Landfill, near the coast.

e. Under the federal Endangered Species Act of 1973 (16 U.S.C., sections 1531-1544), plant and animal species may be listed as either endangered or threatened. “Endangered” means a species is in danger of extinction throughout all or a significant portion of its range. “Threatened” means a species is likely to become endangered within the foreseeable future. The California Endangered Species Act (Fish & Game Code, sections 2050-2115.5) is a California environmental law that conserves and protects plant and animal species at risk of extinction.

1. Tidewater Goby (*Eucyclogobius newberryi*)

- a. Tidewater Goby is a federally listed endangered species of the United States.
- b. Tidewater Goby has been documented at the Las Flores Creek Lagoon.⁴⁷⁴⁵

2. Vernal Pools

- a. Vernal pools are shallow, isolated ephemeral wetlands with very specific hydrologic characteristics, occurring within a Mediterranean climate region, but only within soil types where there is a seasonally perched water table. The vernal pool resource at MCBCP is the second largest in San Diego County, behind only Marine Corps Air Station (MCAS) Miramar, supporting some of the most important examples of endangered and sensitive species dependent on vernal pools in the region. On MCBCP, four species associated with vernal pools are federally listed as threatened or endangered: Riverside fairy shrimp (*Streptocephalus woottoni*), San Diego fairy shrimp (*Branchinecta sandiegonensis*), San Diego button-celery (*Eryngium aristulatum* var. *parishii*) and spreading navarretia (*Navarretia fossalis*).⁴⁸⁴⁶
- b. Fairy Shrimp
Riverside and San Diego fairy shrimp have been documented in vernal pools south of the landfill near the downstream reaches of Las Flores Creek.⁴⁹⁴⁷ Riverside and San Diego fairy shrimp are both a federally listed endangered species of the United States.

⁴⁷⁴⁵ Exhibit 21, Figure 3-6, Federally Listed Fish Species Occurrences at p. 3-40.

⁴⁸⁴⁶ Exhibit 21, third full paragraph at p. 3-35.

⁴⁹⁴⁷ Exhibit 21, Figure 3-5, Federally Listed Fairy Shrimp Species Occurrences at p. 3-39.

3. Federally Listed Bird Species.
 - a. The following federally listed bird species have been documented near the Landfill and/or Las Flores Creek and its tributaries:⁵⁰⁴⁸
Least Bell's Vireo (*Vireo bellii pusillus*); Coastal California Gnatcatcher (*Polioptila californica californica*); Southwestern Willow Flycatcher (*Empidonax traillii extimus*); and Western Snowy Plover (*Charadrius nivosus nivosus*).
 - b. Least Bell's Vireo. Least Bell's Vireo is a federally listed endangered species of the United States.
 - c. Coastal California Gnatcatcher. Coastal California Gnatcatcher is a federally listed threatened species of the United States.
 - d. Southwestern Willow Flycatcher. Southwestern Willow Flycatcher is a federally listed endangered species of the United States.
 - e. Western Snowy Plover. Western Snowy Plover is a federally listed threatened species of the United States.
4. Federally Listed Plant Species
 - a. Thread-leaved Brodiaea. Thread-leaved Brodiaea is a federally listed threatened species of the United States and is listed as an endangered Species in California.
 - b. The Thread-leaved Brodiaea (*Brodiaea filifolia*) has been documented near the Landfill and Las Flores Creek and its tributaries.⁵¹⁴⁹

⁵⁰⁴⁸ Exhibit 21, Figure 3-8, Federally Listed Bird Species Occurrences at p. 3-42.

⁵¹⁴⁹ Exhibit 21, Figure 3-10, Federally Listed Plant Species Occurrences at p. 3-44.