

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

ORDER NO. R2-2024-0015

**WASTE DISCHARGE REQUIREMENTS AND TERMINATION OF ORDER NO. 88-097
FOR:**

CITY OF PETALUMA

**PETALUMA LANDFILL
CLASS III SOLID WASTE DISPOSAL FACILITY
PETALUMA, SONOMA COUNTY**

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter the Regional Water Board), finds that:

DISCHARGER AND LOCATION

1. This Order prescribes waste discharge requirements (WDRs) for the closed Petaluma Landfill (Landfill) in Sonoma County, California. The Landfill is located in the City of Petaluma on an approximately 18-acre parcel near the Petaluma River at the end of Casa Grande Road. The location is shown in Figure 1. Approximately 9 acres of the 18-acre parcel are filled with solid waste materials. The remainder of the site is a former marshland area and undeveloped, seasonally flooded wetlands. The southwestern edge of the filled area is approximately 1,000 feet from the Petaluma River. An interior drainage ditch runs partly through the middle of the site, and two sloughs run approximately 100 feet from the site in a northeast/southwest direction towards the Petaluma River. The Landfill is currently maintained as a dog park.
2. The City of Petaluma (hereinafter, the Discharger) owned and operated the Landfill during its active life from the late 1940s to 1994. The Landfill was certified closed in 1996. The Discharger continues to own the Landfill and retains responsibility for managing and monitoring the Landfill and is responsible for compliance with this Order.

PURPOSE OF ORDER UPDATE

3. The primary objectives of this Order are to:
 - a. Acknowledge the Landfill was certified closed in 1996;
 - b. Establish new leachate and groundwater monitoring requirements; and
 - c. Terminate the previous WDRs (Order No. 88-097, as amended by Order No. R2-2022-0031).

REGULATORY HISTORY

4. The Regional Water Board regulates the Landfill under the authority of Title 27, Division 2 of the California Code of Regulations (CCR), which prescribes requirements for the disposal of waste to land, as well as 40 Code of Federal Regulations, part 258 (also known as the Subtitle D regulations). In 1977, the Regional Water Board adopted Order No. 77-4, which prescribed WDRs for the Landfill. The WDRs were updated in 1988 (Order No. 88-097). These orders established tasks necessary to characterize and contain landfill waste materials and to monitor and prevent impacts to water quality.
5. Order No. 88-097 prohibited the discharge of waste beyond the limits of the existing waste fill in 1988. Provision C.2 of Order No. 88-097 required the Discharger to submit a report delineating the lateral limits of the existing fill area. It is not clear whether the Discharger submitted the required report, and the lateral limits of waste remain undefined. In preparation for the Closure Plan in 1995, an unreported volume of waste was found outside the western boundary of the Landfill on an adjacent property and was removed. Provision C.5 of this Order requires the Discharger to submit a delineation report that documents the lateral limits of the Landfill. If any waste outside the final closure cap is identified, the Discharger is required to properly manage the waste outside the final closure cap and submit a technical report documenting the method(s) used.
6. Order No. 88-097 was amended in 2022 by Regional Water Board Order No. R2-2022-0031 (Amendment to Waste Discharge Requirements for Long-Term Flood Protection Considerations at Closed and Operating Municipal Solid Waste Bayfront Landfills). The 2022 amendment required the Petaluma Landfill (and other Bayfront landfills) to submit a Long-Term Flood Protection Plan that identifies strategies for the long-term protection of the Landfill from flooding and inundation due to sea level rise, groundwater rise, and extreme climate/weather events.

LANDFILL OPERATION

7. The Landfill was used from the late 1940s until about 1960 as a public sanitary landfill for municipal refuse. In 1960, it was closed to the public and used only by the City of Petaluma as a disposal site for approximately 3,000 to 4,000 cubic yards per year of demolition and construction debris (e.g., concrete blocks, fencing, wood), street sweepings, and yard wastes (e.g., leaves, tree trimmings, stumps, brush). The Landfill stopped accepting waste in 1994.

LANDFILL CLOSURE

8. The Discharger submitted a revised Closure Plan in June 1994. The Closure Plan was prepared to meet the regulatory requirements that existed at that time (i.e., CCR Title 14 and CCR Title 23, Division 3, Chapter 15). Closure activities began with clearing vegetation and debris from the Landfill surface. The existing cover was then stripped, and waste was regraded as needed. Side slopes were regraded to a

maximum 3:1 slope, and the landfill top was graded to a 3 to 5 percent slope to promote drainage. The final cover was then constructed by placing two feet of foundation soils over the regraded waste, followed by one foot of low-permeability soil, followed by one foot of vegetative topsoil. The Landfill was certified closed on May 8, 1996, and the Final Documentation Report was submitted on August 29, 1996.

GEOLOGICAL AND HYDROGEOLOGICAL SETTING

Surface Hydrology

9. The Landfill is situated on the west-central side of the Petaluma Valley. Near the Landfill, the valley is comprised of flat lying alluvium which slopes towards the north from the site. Site topography is relatively flat with elevations ranging from 3 feet above mean sea level (msl) at the outlet of an unnamed drainage at the Landfill, to 20 feet above msl at the highest point of the Landfill. Landfilled areas have been raised 15 to 17 feet above the natural topography.
10. Portions of the Landfill are within the limits of the 100-year flood boundary. The Petaluma River, located approximately 1,300 feet southwest of the landfill, is under tidal influence from San Pablo Bay in the vicinity of the Landfill. Two small sloughs of the Petaluma River are located along the east border of the Landfill. Saline river water reaches the northern part of the sloughs during a 7-foot (or greater) tide. The sloughs and the interior drainage ditch within the landfill collect and drain precipitation from the Landfill area to the Petaluma River.
11. The mean annual precipitation at the site is about 25 to 33 inches. The 100-year, 24-hour storm event is estimated to be 5.3 inches.
12. On July 6, 2023, the Discharger submitted a Long-term Flood Protection and Adaptation Plan (Plan), as required by Regional Water Board Order No. R2-2022-0031. The Plan describes how vulnerable features and infrastructure at the Landfill will be protected prior to projected sea level and groundwater rise and associated extreme storm event impacts. Options under consideration include protecting the Landfill from erosion by raising the elevation of the access road and including rock features next to the Landfill. The Discharger also proposed to raise or relocate existing groundwater monitoring wells, as needed, in anticipation of rising groundwater levels. Leachate wells are not anticipated to be impacted. The Regional Water Board concurred with this Plan in a letter dated November 17, 2023, and encouraged the exploration of feasible nature-based solutions in lieu of the rock features. Provision C.6 of this Order requires the Discharger to submit updates to the Plan every five years.

Geology

13. Geologic formations in the vicinity of the landfill range from recent alluvium to Cretaceous and Jurassic undifferentiated rocks. The younger alluvium predominates

in the vicinity of the landfill and is comprised of unconsolidated silt and clay containing thin, discontinuous lenses of sand and gravel. The younger alluvium is thickest near San Pablo Bay where the maximum thickness has been estimated to be 300 feet. Closer to the landfill, the younger alluvium appears to be about 200 feet thick. The younger alluvium yields small to moderate quantities of good quality groundwater in wells towards the northern part of the Petaluma Valley. In the southern part of the valley closer to the Landfill, the alluvium consists of mostly clay and silt and the well yields are relatively low, and the water is brackish.

Earthquakes and Seismic Hazards

14. The Landfill is in the seismically active Coast Ranges region. The entire region experiences moderate seismic activity as the result of strike-slip movement along the regional San Andreas Fault System. The closest active fault to the Landfill is the Tolay Fault, approximately 1.5 miles north of the Landfill. The maximum probable earthquake along the Tolay fault would be a 5.7 to 6.1 moment magnitude earthquake. The Rogers Creek Fault is approximately 6 miles to the northeast of the Landfill. The maximum probable earthquake on the Rogers Creek Fault is a 6.8 to 7.2 moment magnitude.

Hydrogeology

15. The depth to groundwater ranges from 3.7 to 17.2 feet below grade in the Landfill. Groundwater is about 2 to 4 feet below the base of the landfill material.

WATER QUALITY

Water Quality Impacts

16. Groundwater monitoring in the vicinity of the Landfill indicates that groundwater mixes with saline water from the Petaluma River. Groundwater monitoring in October 2023 indicates specific conductance ranged from 1,400 to 52,000 micromhos per centimeter ($\mu\text{mhos/cm}$); total dissolved solids ranged from 840 to 36,000 milligrams per liter (mg/l); and trace metals ranged up to 46 micrograms per liter ($\mu\text{g/l}$) (arsenic), 1,000 $\mu\text{g/l}$ (zinc), 29 $\mu\text{g/l}$ (nickel), 53 $\mu\text{g/l}$ (lead), 630 $\mu\text{g/l}$ (copper), and 9.7 $\mu\text{g/l}$ (total chromium). Purgeable halocarbons were below detection levels. No other organic materials have been analyzed.

17. Pursuant to State Water Resources Control Board (State Water Board) Order WQ 2019-0006-DWQ ("Water Code Section 13267 Order for the Determination of the Presence of Per- and Polyfluoroalkyl Substances"), the City of Petaluma submitted an investigation workplan for a one-time leachate and groundwater assessment of PFAS impacts in May 2019. The Order was issued to landfills across the state to gain an understanding of PFAS occurrence. The Regional Water Board approved the work plan in September 2019, and the investigation was conducted in January 2020. No PFAS were detected in leachate or groundwater during the investigation.

MONITORING PROGRAMS

Groundwater

18. The current water quality monitoring network at the Landfill consists of three groundwater monitoring wells and two leachate monitoring wells (see Figure 2):
 - a. BC1 and BC2 (downgradient groundwater);
 - b. BC3 (upgradient groundwater); and
 - c. BC4 and BC5 (leachate).
19. Downgradient groundwater monitoring wells BC-1 and BC-2 are located on the southwest and southeast edges of the fill material, respectively. Upgradient groundwater monitoring well BC-3 is located at the north entrance to the site. Water surface elevations in these wells fluctuate seasonally as well as daily in response to tidal fluctuations in the Petaluma River.
20. Landfill leachate elevations are monitored in wells BC4 and BC5. Leachate elevations in monitoring wells normally show smaller fluctuations in water surface elevations compared with the groundwater monitoring wells.
21. The previous WDRs required semi-annual groundwater and leachate monitoring for pH, electrical conductivity, total dissolved solids, chloride, nitrate (as nitrogen), sulfate, turbidity, and metals (arsenic, copper, nickel, and zinc, constituents also typically found in ambient groundwater). The attached Self-Monitoring Program (SMP) requires these and additional analysis for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and additional metals in all five monitoring wells to better characterize the hydrochemical conditions in and around the perimeter of the Landfill, as well as to provide better detection of potential releases from the Landfill.

Landfill Gas

22. There is no landfill gas collection or monitoring system for the Landfill. Given the age of the Landfill, gas production is expected to be minimal.

BASIN PLAN

23. The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the Regional Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. The Basin Plan was duly adopted by the Regional Water Board and approved by the State Water Board, United States Environmental Protection Agency, and the Office of Administrative Law, where required.

BENEFICIAL USES OF SURFACE WATER AND GROUNDWATER

Groundwater

24. State Water Board Resolution No. 88-63 (“Sources of Drinking Water Policy”) and Regional Water Board Resolution No. 89-39 define potential sources of drinking water to include all groundwater, with limited exceptions for areas containing high total dissolved solids or electrical conductivity, high background contaminant levels, low well yields, or specific energy-related uses. Based on the hydrogeologic characterization and water quality data for the site, groundwater underlying, and in the vicinity of, the Landfill is a potential source of drinking water. Therefore, the domestic and municipal water supply beneficial use applies to groundwater beneath the Landfill. However, as groundwater at the site occurs within thin, low-yield alluvial sediments and low-permeability, fractured bedrock, the landfill site is considered an unlikely location for future water supply wells.
25. The Landfill overlies the Petaluma Valley Groundwater Basin. The existing or potential beneficial uses of groundwater are:
- a. Domestic and municipal water supply;
 - b. Industrial process water supply;
 - c. Industrial service supply; and
 - d. Agriculture water supply.

Surface Water

26. The existing beneficial uses of the Petaluma River are:
- a. Cold freshwater habitat;
 - b. Estuarine habitat;
 - c. Fish migration;
 - d. Preservation of rare and endangered species;
 - e. Fish spawning;
 - f. Warm freshwater habitat;
 - g. Wildlife habitat;
 - h. Water contact recreation;
 - i. Non-contact water recreation; and

j. Navigation.

27. The existing or potential beneficial uses of the brackish wetlands in the vicinity of the Landfill are:

- a. Water contact recreation;
- b. Non-contact water recreation;
- c. Commercial and sport fishing;
- d. Wildlife habitat;
- e. Preservation of rare and endangered species;
- f. Estuarine habitat;
- g. Fish migration; and
- h. Fish spawning.

FINANCIAL ASSURANCE

28. CCR Title 27, Division 2, Subdivision 1, Chapter 6 requires that adequate Financial Assurances (FAs) exist for post-closure maintenance and potential water-related and non-water-related corrective action. Historical WDRs for the Landfill did not require that the Discharger provide documentation that adequate FAs exist. Therefore, Provision C.7 of this Order requires the Discharger to submit documentation of adequate FAs for the Landfill in 2024 and every five years thereafter until landfilled wastes no longer pose a threat to water quality.

ANTIDegradation POLICY

29. The State Water Board established California's antidegradation policy through State Water Board Resolution 68-16, which requires that existing high-water quality be maintained unless degradation is justified based on specific findings. Adoption of this order will not result in lower water quality and complies with the antidegradation policy. It requires existing water quality in the vicinity of the Landfill to be maintained; directs the continued operation of the groundwater containment system and maintenance of the Landfill cap; and requires verification that degradation has not occurred through regular monitoring and inspections.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

30. Adoption of this Order is an action for the protection of the environment and is exempt from the California Environmental Quality Act (CEQA) under California Code of Regulations, title 14, sections 15304, 15306, and 15308. The Order requires the Discharger to collect data and submit reports under an improved SMP and to submit

a Waste Area Delineation Report. If the Discharger identifies waste outside of the cap, the Discharger must remove the waste and, if necessary, extend the cap. These potential actions may result in minor alterations to land. There are no unusual circumstances that would result in a significant effect on the environment and preclude the application of categorical exemptions under California Code of Regulations, title 14, section 15300.2.

NOTIFICATION AND PUBLIC MEETING

31. The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to update the Landfill's WDRs and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
32. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to this Order.

IT IS HEREBY ORDERED, pursuant to the authority in California Water Code (CWC) sections 13263 and 13267, CCR, Title 27, Division 2, Subdivision 1, and State Water Board Resolution No. 93-62 (as amended in 2005) that the Discharger shall meet the applicable provisions contained in Title 27 and 40 Code of Federal Regulations, part 258 in accordance with State Water Board Resolution No. 93-62 (as amended), and shall comply with the following:

A. PROHIBITIONS

1. The creation of any new waste management unit is prohibited.
2. No additional waste shall be deposited or stored at the site, except for waste temporarily contained in trash receptacles. Such waste may be stored temporarily, but not disposed of at the Landfill.
3. No waste shall remain outside of the final closure cap of the Landfill.
4. Relocation of Landfill wastes is prohibited without prior Regional Water Board concurrence.
5. Waste materials shall not be exposed or relocated to any position where they can migrate from the Landfill to adjacent geologic materials, waters of the State, or waters of the United States during the post-closure maintenance period.
6. Untreated or inadequately treated groundwater or leachate create a condition of pollution or nuisance nor degrade the quality of waters of the State or waters of the United States.
7. Leachate, stormwater, or groundwater containing leachate or in contact with waste, shall not be discharged to waters of the State or of the United States unless specifically authorized under an NPDES permit.

8. Buildup or mounding of leachate levels within the Landfill that adversely impacts waters of the State is prohibited and shall be prevented by leachate extraction, as necessary. The depth of leachate shall be kept at levels sufficient to prevent migration of leachate from the Landfill.
9. Excavation within, or reconfiguration of, any existing waste management unit is prohibited without prior concurrence of Regional Water Board staff. Minor excavation or reconfiguration activities such as for installation of signs or landscaping, or for routine maintenance and repair do not require prior staff concurrence.
10. The Discharger shall not damage the landfill cap during vegetative growth control.
11. The Discharger shall not cause the following conditions to exist in waters of the State or waters of the United States at any place outside the Landfill boundary:
 - a. Surface Waters:
 - i. Floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses;
 - ii. Alteration of suspended sediment in such a manner as to cause nuisance or adversely affect beneficial uses or detrimental increase in the concentrations of toxic pollutants in sediments or aquatic life;
 - iii. Suspended material in concentrations that cause nuisance or adversely affect beneficial uses;
 - iv. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;
 - v. Alteration of temperature beyond present natural background levels unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses;
 - vi. Coloration that causes nuisance or adversely affects beneficial uses;
 - vii. Visible, floating, suspended, or deposited oil or other products of petroleum origin;
 - viii. Changes in turbidity that causes nuisance or adversely affect beneficial uses, or increases from normal background light penetration or turbidity greater than 10 percent in areas where natural turbidity is greater than 50 nephelometric turbidity units, or above 55 nephelometric turbidity units in areas where natural turbidity is less than or equal to 50 nephelometric turbidity units; or

- ix. Toxic or other deleterious substances in concentrations or quantities that cause deleterious effects on aquatic biota, wildlife, or waterfowl, or render any of these unfit for human consumption either at levels created in the receiving waters or because of biological concentration.
- b. Groundwater:
 - i. Degradation of groundwater quality; or
 - ii. Significant migration of pollutants through subsurface transport.

B. SPECIFICATIONS

1. All reports submitted pursuant to this Order shall be prepared under the supervision of and signed by appropriately licensed professionals, such as a California Registered Civil Engineer, Professional Geologist, and/or Certified Engineering Geologist.
2. The Discharger shall implement a Detection Monitoring Program (DMP) pursuant to CCR Title 27, section 20420. The DMP shall be designed to identify any water quality impacts from the Landfill and demonstrate compliance with the Water Quality Protection Standard (WQPS), which is required pursuant to CCR Title 27, section 20390. The SMP attached to this Order is intended to constitute the DMP for the Landfill.
3. The WQPS for the Landfill shall include constituents of concern, concentration limits, point of compliance, and all monitoring points. The WQPS shall establish and comply with all of the following:
 - a. Constituents of Concern: CCR Title 27, section 20395 defines Constituents of Concern (COCs) as “all waste constituents, reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the Unit.” COCs include the monitoring parameters identified in the SMP attached to this Order, or any future amendment thereof.
 - b. Monitoring Parameters: Monitoring Parameters (MPs), a subset of the COCs, are typically the most mobile and commonly detected COCs in groundwater at the site and are measured on a more frequent basis than the entire list of COCs. The MPs shall include, at a minimum, all constituents identified as such in the SMP attached to this Order, or any future amendments. The Discharger may propose modification to the MPs as additional data become available concerning site-specific source characteristics and natural background water quality. However, modifications shall only be made upon written concurrence from the Executive Officer.
 - c. Concentration Limits: Concentration limits for all COCs detected at the specified points of compliance are typically established using the background data set pursuant to CCR Title 27, section 20400. Provision C.4 of this Order

requires the submission of a report establishing the background water quality. For non-naturally occurring chemicals, such as VOCs, the concentration limits may not exceed MCLs.

- d. Point of Compliance: CCR Title 27, section 20405 defines the Point of Compliance (POC) as the “vertical surface located at the hydraulically downgradient limit of the Unit that extends through the uppermost aquifer underlying the Unit.” The POC shall be the hydraulically downgradient perimeter of the waste fill area.
 - e. Monitoring Points: CCR Title 27, section 20164 defines a Monitoring Point as a “well, device, or location specified in the waste discharge requirements at which monitoring is conducted and at which the water quality protection standard applies.” Monitoring points for the Landfill are specified in the SMP attached to the Order, or any future amendment thereof.
4. All samples collected at the Landfill shall be analyzed by state-certified laboratories, or laboratories accepted by the Regional Water Board, using approved U.S. EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control records for Regional Water Board review. This specification does not apply to analyses that can only be reasonably performed onsite (e.g., pH).
 5. The site shall be protected from any washout or erosion of waste from inundation which could occur because of a 100-year, 24-hour storm event, or as the result of flooding with a return frequency of 100 years.
 6. Surface drainage from tributary areas and internal site drainage from surface and subsurface sources shall not contact or percolate through during the life of the Landfill. Surface drainage from tributary areas, and internal site drainage from surface sources shall be collected using surface drainage ditches, and/or other conveyance and collection methods.
 7. Containment, collection, drainage, and monitoring systems constructed for groundwater, surface water, and leachate shall be maintained and operated as long as waste or leachate is present and poses a threat to water quality.
 8. The Discharger shall provide and maintain a minimum of two surveyed permanent monuments near the landfill from which the location and elevation of wastes, containment structures, and monitoring facilities can be determined throughout the post-closure maintenance period. These monuments shall be installed by a licensed land surveyor or registered civil engineer.
 9. The Discharger shall ensure that the structures which control leachate, surface drainage, and erosion are constructed and maintained to withstand conditions generated during the maximum probable earthquake.

10. The final cap system shall be maintained to promote lateral runoff and prevent ponding and infiltration of water.
11. The Discharger shall analyze the samples from any groundwater or leachate wells as outlined in the attached SMP.
12. The Discharger shall install any reasonable additional groundwater and leachate monitoring devices required to fulfill the terms of any future Discharge Monitoring Program issued by the Executive Officer.
13. The Discharger shall maintain all devices or designed features installed in accordance with this Order, such that they continue to operate as intended without interruption.
14. The Regional Water Board shall be notified immediately of any failure occurring at the Landfill. Any failure that threatens the integrity of containment features of the Landfill shall be promptly corrected after approval of the method and schedule by the Executive Officer.
15. The Discharger shall maintain the Landfill to prevent a measurably significant increase in water quality parameters at points of compliance.
16. The compliance period for groundwater monitoring shall extend until the waste no longer poses a threat to water quality.
17. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy.
18. The Discharger shall comply with all applicable provisions of Title 27 that are not specifically referred to in this Order.

C. PROVISIONS

1. **Duty to Comply:** The Discharger shall comply immediately, or as prescribed by the time schedule below, with all Prohibitions, Specifications, and Provisions of this Order. All required submittals must be acceptable to the Executive Officer. The Discharger must also comply with all conditions of these WDRs, including the attached SMP. Violations may result in enforcement actions, including Regional Water Board orders or court orders requiring corrective action or imposing civil liability, or in modification or revocation of these WDRs by the Regional Water Board.
2. **Authority:** All technical and monitoring reports required by this Order and the attached SMP are required pursuant to CWC section 13267. The Regional Water Board needs these reports to ensure the landfill containment system continues to be protective of water quality. The burden, including costs, of these reports bears a reasonable relationship to the need for the reports and the benefits to be

obtained from the reports. The evidence supporting requiring the reports is contained in the files for the Landfill. Failure to submit reports in accordance with schedules established by this Order or failure to submit a report of sufficient technical quality acceptable to the Executive Officer may subject the Discharger to enforcement action pursuant to CWC section 13268.

3. **Self-Monitoring Program (SMP):** The Discharger shall implement and comply with the SMP attached to this Order and any revisions issued by the Executive Officer. The attached SMP is designed to identify significant water quality impacts from the Landfill and demonstrate compliance with the WQPS. The Discharger shall submit semi-annual monitoring reports, acceptable to the Executive Officer, no later than January 31 and July 31 of each year, in accordance with the SMP.

COMPLIANCE DATE: Immediately upon adoption of this Order

REPORT DUE DATES: January 31 and July 31 of each year

4. **Water Quality Protection Standard:** The Discharger shall submit a report establishing background water quality and concentration limits at the Landfill for the constituents listed in the SMP attached to this Order, as described in Specification B.3.

REPORT DUE DATE: March 14, 2025

5. **Waste Area Delineation Report:** The Discharger shall submit a Waste Area Delineation Report that documents the lateral limits of the waste fill area and identifies the location and extent of any waste outside the final closure cap. If any waste outside the final closure cap is identified, the Discharger shall properly manage the waste (e.g., remove and properly dispose of wastes, install/extend final closure cap) and shall submit a completion report documenting the method(s) used.

**REPORT DUE DATES: Waste Area Delineation Report – March 14, 2025
Completion Report (if required) – June 13, 2025**

6. **Long-Term Flood Protection Plans:** As explained in Finding 12, the initial Long-Term Flood Protection Plan for the Landfill was submitted on July 6, 2023, and was accepted by the Executive Officer. The Discharger shall continue to submit, every five years, a long-term flood protection plan acceptable to the Executive Officer. The plan shall identify strategies for the long-term protection of the site from flooding and inundation due to sea level rise, groundwater rise, and extreme climate/weather events. The plan shall:
 - a. Be prepared by a licensed engineer or geologist and should consider and reference the most current State of California Sea-Level Rise Guidance developed by the Ocean Protection Council (OPC) and other science-based climate resources, including but not limited to the following: (1) the San

Francisco Bay Shoreline Adaptation Atlas prepared by the San Francisco Estuary Institute (SFEI), (2) the Pathways Climate Institute and SFEI report titled Shallow Groundwater Response to Sea-Level Rise: Alameda, Marin, San Francisco, and San Mateo Counties (2022), and (3) the Coastal Storm Modeling System (CoSMoS) developed by the United States Geological Survey (USGS).

- b. Be based on providing protection from the estimated 100-year storm event, on top of the 2100 “intermediate” or “intermediate-high” risk aversion sea level rise scenarios as described in the most recent OPC Sea-Level Rise Guidance. The 100-year storm event shall take into account astronomical tides and storm surge as well as wave run-up, seasonal effects (e.g., El Niño conditions), and discharge from local tributaries (e.g., as modeled by the USGS CoSMoS tool).
- c. Describe how vulnerable features and infrastructure (such as landfill caps, monitoring wells, landfill gas wells, flares, levees, etc.), building uses, and public access will be protected from flooding prior to the projected timing of sea level rise, groundwater rise, and extreme storm event impacts (e.g., prior to projected flooding).
- d. Propose a phased adaptation strategy that briefly describes the potential future projects that may be necessary to provide for protection from the 2100 “intermediate” or “intermediate-high” sea level rise scenarios as described in the most recent OPC Sea-Level Rise Guidance, as well as potential accompanying changes in groundwater rise and extreme storm events. The strategy shall allow for a range of future actions at different climate change thresholds to address uncertainty and allow for flexibility over the long term.
- e. Provide technical justification for the selection of both the 2050 and 2100 sea level rise scenarios.
- f. Identify baseline conditions for the site and show at a minimum the following on a map(s): sitewide elevations, vulnerable infrastructure (i.e., waste containment features, wetlands, roads, buildings, remediation systems, piping, wells), existing groundwater levels, the degree of sea level rise, groundwater rise, and/or extreme storm event exposure already noted at the site (if any), sea level elevations at which flooding will impact the site, areas potentially vulnerable to groundwater rise. Data obtained from onsite survey monuments shall be evaluated with respect to land subsidence or settlement and sea level rise risk scenarios.
- g. Be updated and submitted every five years with the most recently available and credible information and climate change adaptation guidance at the time of the update, including observed changes in sea levels, groundwater levels, and flooding measured at or as near as possible to the site (e.g., from local tide gauges and monitoring wells), and any observed or potential changes in

the adaptive capacity and risk tolerance of vulnerable infrastructure, including an implementation schedule with key milestones that have been or will be met in the future.

When preparing and implementing adaptive management plans, the Discharger shall take into consideration how rising shallow groundwater and any associated flooding may affect long-term cap stability, increase in leachate amounts, leachate and landfill gas migration, contaminant mobility, and post-closure monitoring and maintenance goals at the site (where applicable). Groundwater monitoring data from the site should be used for the most accurate water level onsite; however, if groundwater wells are not present at the site, databases such as GeoTracker can be used to access water table elevations nearby, using USGS, California Department of Water Resources, or other nearby cleanup site well observations.

COMPLIANCE DATE: July 6, 2028, and every five years thereafter

7. **Financial Assurance:** In accordance with CCR Title 27, section 22212(a), the Discharger is required to provide adequate funding to pay for the costs of post-closure maintenance as specified in the Final Post Closure Maintenance Plan dated July 1993. The Discharger shall submit to the Regional Water Board evidence of an irrevocable post-closure fund acceptable to the Executive Officer, to ensure monitoring, maintenance, and any necessary remediation actions for all wastes onsite with the potential to impact waters of the state that are regulated by these WDRs. Financial assurance (FA) mechanisms and future updates of the FA mechanism shall consider groundwater rise as it relates to the stability of the saturated waste mass and integrity of the landfill cap. Every five years, for the duration of the post-closure monitoring period, the Discharger shall submit a report that includes an outline of the financial assurance mechanism and verification that the fund has been created. The fund value shall be supported by calculations, to be included with this submittal, providing cost estimates for all post-closure monitoring, maintenance, repair, and replacement of waste management unit or waste containment, cover, and monitoring systems, including activities associated with monitoring and maintenance. The cost estimates and funding shall be updated to reflect change to monitoring systems as they occur. The post-closure maintenance period shall extend as long as the wastes within the Landfill pose a threat to water quality. Additionally, cost estimates must be provided for corrective action for known or reasonably foreseeable releases. The fund value shall be based on the sum of these estimates.

COMPLIANCE DATE: December 31, 2024, and every five years thereafter with an annual update for inflation

8. **Well Installation or Destruction Report:** The Discharger shall submit a technical report, acceptable to the Executive Officer, that provides well

construction details, geologic boring logs, and well development logs for any new wells installed or destroyed.

COMPLIANCE DATE: 60 days following well installation or destruction

9. **Earthquake Inspection:** The Discharger shall immediately notify the Regional Water Board in the event of any earthquake generating ground shaking of moment magnitude 6 or greater at or within 30 miles of the Landfill or if an earthquake capable of generating ground motions exceeding a site peak ground acceleration of 0.15g occurs within 60 miles of the Landfill. The Discharger shall also submit a detailed Post-Earthquake Inspection Report acceptable to the Executive Officer. The report shall describe the containment features, groundwater monitoring, and control facilities potentially impacted by seismic deformations of the Landfill. Damage to any waste containment facility that may impact waters of the State must be reported immediately to the Executive Officer.

NOTIFICATION DUE: Immediately after qualifying earthquake

WRITTEN REPORT DUE: Within 6 weeks of earthquake

10. **Change in Landfill Conditions:** The Discharger shall immediately notify the Regional Water Board of flooding, ponding, settlement, equipment failure, slope failure, exposure of waste, liner leakage, or other change in site conditions that could impair the integrity of the Landfill's cap, waste or leachate containment facilities, and/or drainage control structures and shall immediately make repairs. Within 30 days, the Discharger shall prepare and submit a technical report, acceptable to the Executive Officer, documenting the corrective measures taken.

NOTIFICATION DUE: Immediately upon occurrence

WRITTEN REPORT DUE: 30 days after initial notification

11. **Availability:** A copy of these WDRs shall be maintained by the Discharger and shall be made available by the Discharger to all employees or contractors performing work (maintenance, monitoring, repair, construction, etc.) at the Landfill.
12. **Change In Ownership:** Provided there is no material change in the operation of the Landfill, this Order may be transferred to a new owner. The Discharger or new owner must request the transfer in writing and receive written approval from the Executive Officer. Such a request must be submitted to the Executive Officer at least 30 days prior to the transfer of ownership. The request must include a written agreement between the Discharger and the new owner containing a specific date for the transfer of this Order's responsibility and coverage between the Discharger and the proposed new owner. This agreement shall include an acknowledgment that the Discharger is liable for violations up to the transfer date and that the new owner is liable from the transfer date onward. The request must contain the requesting entity's full legal name and the address and telephone number of the persons responsible for contact with the Water Board. The

discharge of waste without waste discharge requirements is a violation of the California Water Code.

13. **Revision:** This Order is subject to review and revision by the Regional Water Board.
14. **Information Correction:** When a discharger becomes aware that it failed to submit any relevant facts in a Report of Waste Discharge (ROWD) or submitted incorrect information in a ROWD or in any report to the Regional Water Board, it shall promptly submit such facts or information.
15. **Vested Rights:** This Order does not convey any rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, do not protect the Discharger from liability under federal, state, or local laws, nor do they create a vested right for the Discharger to continue the waste discharge.
16. **Severability:** Provisions of this Order are severable. If any provision of these WDRs is determined to be invalid by the State Water Board or a court, the remainder of these requirements shall not be affected.
17. **Operation and Maintenance:** The Discharger shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with conditions of this Order. Proper operation and maintenance include effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures.
18. **Reporting of Hazardous Substance Release:** If any hazardous substance is discharged in or on any waters of the state, or discharged or deposited where it is, or probably will be, discharged into or on any waters of the state, the Discharger shall report such discharge to the Regional Water Board by calling (510) 622-2369. A written report shall be mailed or submitted electronically to the Regional Water Board within five business days. The report shall describe: the nature of the hazardous substance, estimated quantity involved, duration of incident, cause of release, estimated size of affected area, nature of effect, corrective actions taken or planned, schedule of corrective actions planned, and persons/agencies notified.
19. **Entry and Inspection:** The Discharger shall allow the Regional Water Board, or an authorized representative upon the presentation of credentials and other documents as may be required by law, to:
 - a. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records must be kept under the requirements of this Order;

- b. Have access to and copy, at reasonable times, any records that must be kept under the requirements of this Order;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
- d. Sample or monitor at reasonable times, for the purposes of assuring compliance with this Order or as otherwise authorized by the California Water Code, any substances or parameters at any location.

20. Endangerment of Human Health or the Environment: The Discharger shall report any event of noncompliance that may endanger human health or the environment. Any such information shall be provided orally to the Regional Water Board within 24 hours from the time the Discharger becomes aware of the circumstances by calling (510) 622-2369. A written submission to the Regional Water Board shall also be provided within five days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Executive Officer, or his or her delegate, may waive the written report requirement on a case-by-case basis if the oral report has been received within 24 hours.

- 21. Document Distribution:** Copies of all correspondence, technical reports, and other documents pertaining to compliance with this Order shall be provided to the following agencies:
- a. Regional Water Board and
 - b. Sonoma County Health Department, Environmental Health Services Division (Local Enforcement Agency or LEA).

The Executive Officer may modify this distribution list as needed.

22. Reporting Requirements: All reports submitted pursuant to this Order must be in accordance with the State Water Board-adopted regulations requiring electronic report and data submittal to the State's GeoTracker database (CCR §§ 3890-3895). Email notification should be provided to Regional Water Board staff whenever a file is uploaded to GeoTracker. In addition, the Discharger shall submit hard copies of reports to Regional Water Board staff upon request.

- a. The Discharger is responsible for submitting the following via GeoTracker:
 - i. All chemical analytical results for water samples;

- ii. The latitude and longitude of any sampling point for which data is reported, accurate to within one meter and referenced to a minimum of two reference points from the California Spatial Reference System, if available, unless specified in the SMP;
 - iii. The surveyed elevation relative to a geodetic datum of any permanent sampling point for which data is reported;
 - iv. The elevation of groundwater in any permanent monitoring well relative to the surveyed elevations for which data is reported;
 - v. A site map or maps showing the location of all sampling points for which data is reported;
 - vi. The depth of the sampling point or depth and length of screened interval for any permanent monitoring well for which data is reported;
 - vii. PDF copies of boring logs; and
 - viii. PDF copies of all reports, Work Plans, and other documents (the document, in its entirety [signature pages, text, figures, tables, etc.] must be saved to a single PDF file) including the signed transmittal letter and professional certification by a California professional civil engineer, certified engineering geologist, or a professional geologist.
- b. Upon request, monitoring results shall also be provided electronically in Microsoft Excel to allow for ease of review of site data and to facilitate data computations and/or plotting that Regional Water Board staff may undertake during the review process. Such electronic tables shall include the following information unless directed otherwise by Water Board staff:
- i. Well designations;
 - ii. Well location coordinates (latitude and longitude);
 - iii. Well construction (including top of well casing elevation, total well depth, screen interval depth below ground surface, screen interval elevation, and a characterization of geology of subsurface the well is located in);
 - iv. Groundwater depths and elevations (water levels);
 - v. Current analytical results by constituent of concern (including detection limits for each constituent);
 - vi. Historical analytical results (including the past five years unless otherwise requested); and
 - vii. Measurement dates.

23. This Order supersedes and terminates Order No. 88-097, as amended by Order No. R2-2022-0031.
24. Under Water Code section 13320, a party aggrieved by the Regional Water Board's action or inaction on this Order may petition the State Water Board for review within 30 days of such action or inaction.

I, Eileen M. White, Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on September 11, 2024.

Eileen M. White

Eileen M. White, P.E.
Executive Officer

Attachments: Figure 1. Site Location Map
 Figure 2. Site Plan
 Self-Monitoring Program (Part A and Part B)

Figure 1. Site Location Map

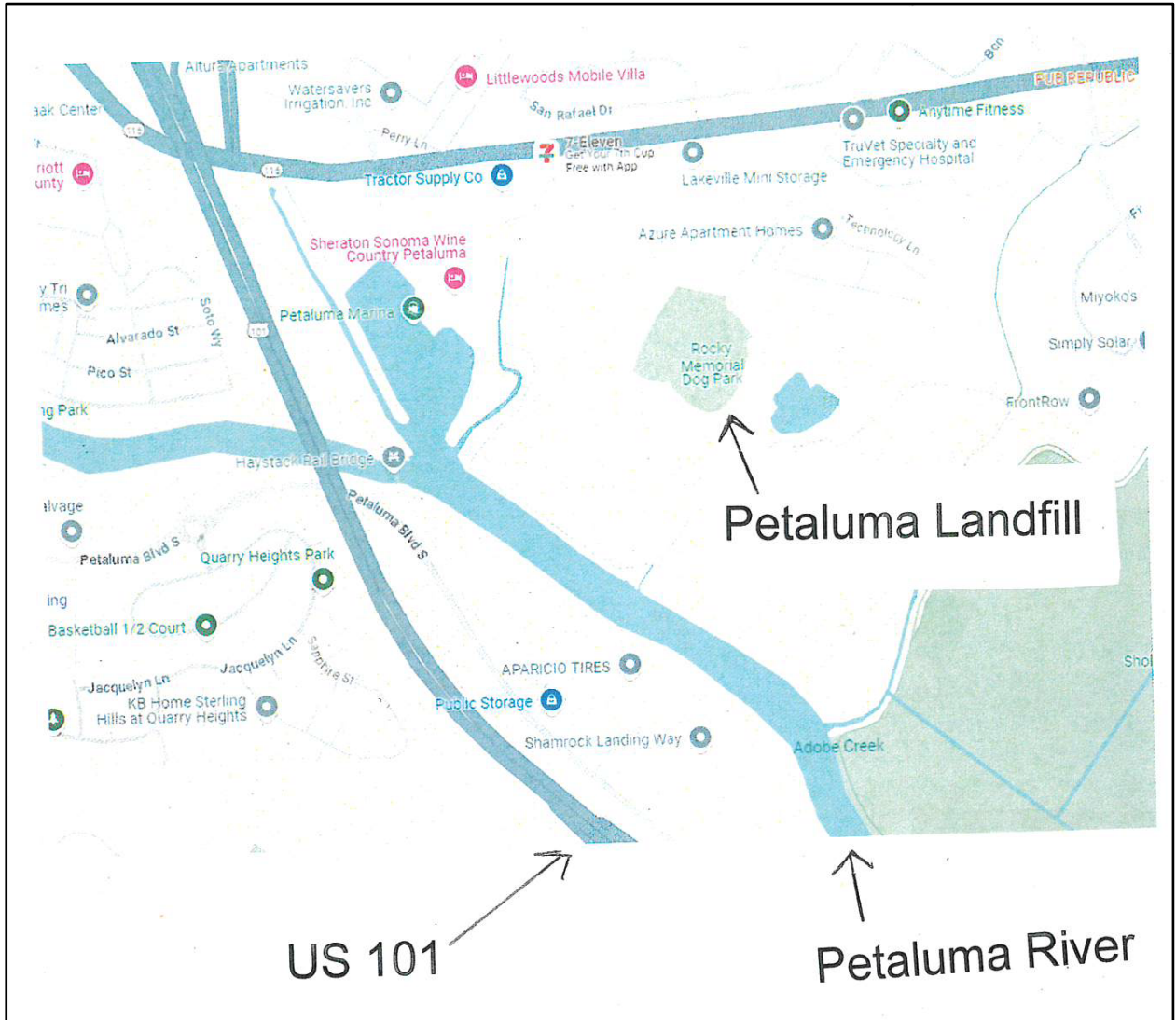
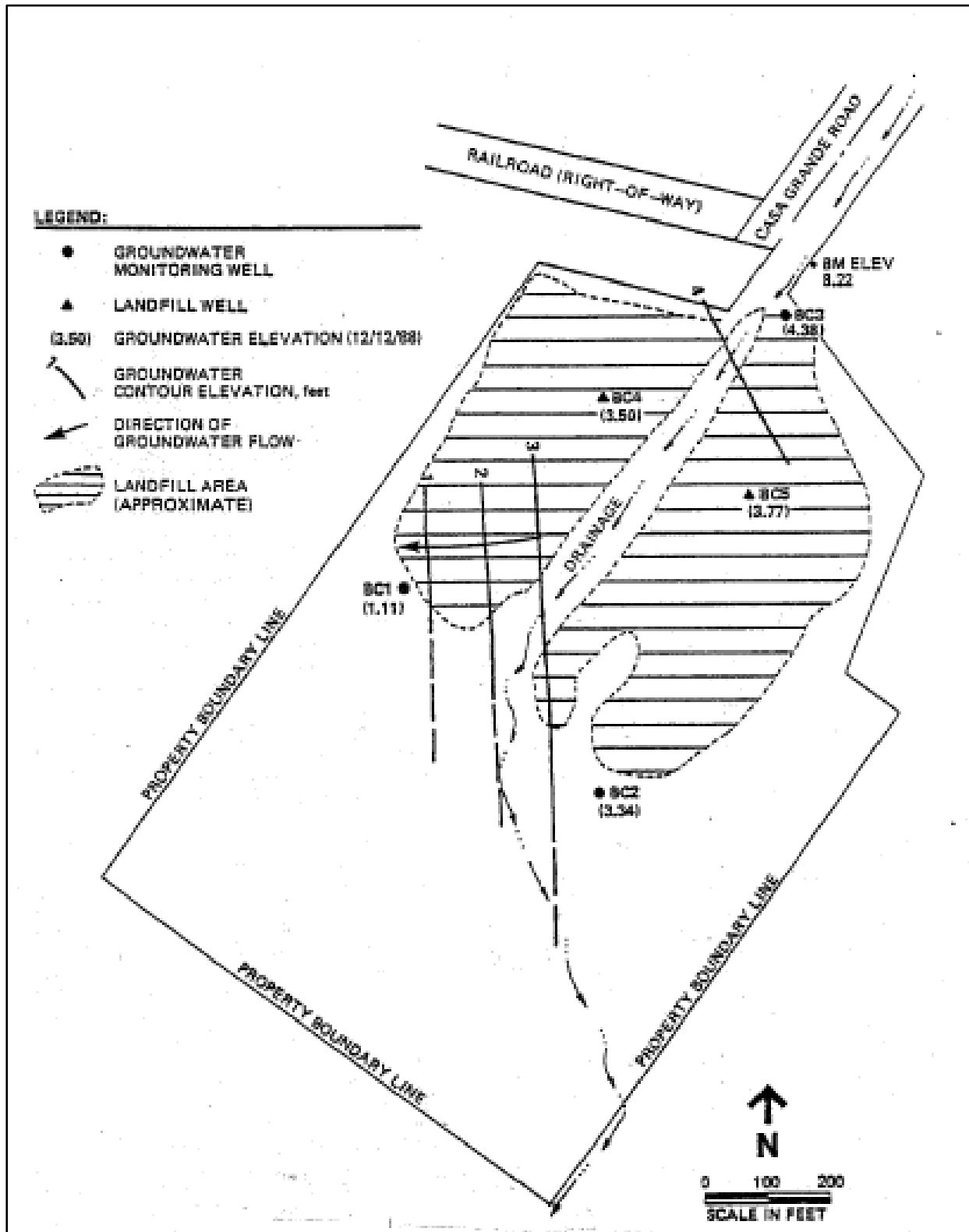


Figure 2. Site Plan



**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

SELF-MONITORING PROGRAM FOR

CITY OF PETALUMA

**PETALUMA LANDFILL
CLASS III SOLID WASTE DISPOSAL FACILITY
PETALUMA, SONOMA COUNTY**

ORDER No. R2-2024-0015

CONSISTS OF PART A AND PART B

PART A

This Self-Monitoring Program (SMP) specifies monitoring and reporting requirements, including:

- General monitoring requirements for landfills and waste management units (Part A);
- Self-monitoring report content and format (Part A);
- Self-monitoring report submittal frequency and schedule (Part B);
- Monitoring locations and frequency (Part B); and
- Monitoring parameters and analytes (Part B).

A. AUTHORITY AND PURPOSE

For discharges of waste to land, water quality monitoring is required pursuant to the California Code of Regulations (CCR), Title 27, sections 20380 through 20435. The principal purposes of an SMP are: (1) to document compliance with waste discharge requirements (WDRs) and prohibitions established by the Regional Water Board, (2) to facilitate self-policing by the waste dischargers in the prevention and abatement of pollution arising from the waste discharge, (3) to develop or assist in the development of effluent standards of performance and toxicity standards, and (4) to assist dischargers in complying with the requirements of Title 27.

B. MONITORING REQUIREMENTS

Monitoring refers to the observation, inspection, measurement, and/or sampling of environmental media, waste management units (WMUs), containment and control facilities, and waste disposed in each WMU. The following defines the types of monitoring that may be required.

Monitoring of Environmental Media

The Regional Water Board may require monitoring of groundwater, surface water, vadose zone, stormwater, leachate, landfill gas and any other environmental media that may pose a threat to water quality or provide an indication of a water quality threat at the Landfill.

Sample collection, storage, and analyses shall be performed according to the most recent version of EPA-approved methods or in accordance with a sampling and analysis plan approved by Water Board staff. Analytical testing of environmental media required by this SMP shall be performed by a California State-approved laboratory for the required analyses. The director of the laboratory whose name appears on the certification shall be responsible for supervising all analytical work in his/her laboratory and shall have signing authority for all reports or may designate signing of all such work submitted to the Water Board.

All monitoring instruments and devices used to conduct monitoring in accordance with this SMP shall be maintained and calibrated as necessary to ensure their

continued accuracy. All flow measurement devices shall be calibrated at least once every two years.

The term “receiving waters” refers to any surface water that actually or potentially receives surface or groundwater that passes over, through, or under waste materials or impacted soils. In this case, the groundwater beneath and adjacent to the landfill and the surface runoff from the site are considered receiving waters.

Standard Observations

“Standard observations” refers to observations within the limits of each WMU, at their perimeter, and of the receiving waters beyond their limits. Standard observations include:

1. The Landfill:

- a. Evidence of ponded water at any point on the WMU;
- b. Evidence of odors, including their presence or absence, characterization, source, and distance of travel from source; and
- c. Evidence of erosion and/or daylighted waste.

2. Perimeter of the Landfill:

- a. Evidence of liquid leaving or entering the WMU, estimated size of affected area and flow rate (show affected area on map);
- b. Evidence of odors, including their presence or absence, characterization, source, and distance of travel from source; and
- c. Evidence of erosion and/or daylighted waste.

3. Receiving Waters:

- a. Floating and suspended materials of waste origin, including their presence or absence, source, and size of affected area;
- b. Discoloration and turbidity: description of color, source, and size of affected area;
- c. Evidence of odors, presence or absence, characterization, source, and distance of travel from source;
- d. Evidence of beneficial use, such as presence of water associated with wildlife;
- e. Estimated flow rate; and

- f. Weather conditions, such as estimated wind direction and velocity, total precipitation.

Facilities Inspections

The term “facilities inspection” refers to the inspection of all containment and control structures and devices associated with the landfill. Containment and control facilities may include the following:

1. Final cover and
2. Stormwater management system elements such as perimeter drainage and diversion channels, ditches and down chutes, and detention and sedimentation ponds or collection tanks.

Quality Assurance/Quality Control (QA/QC) Sample Monitoring

The Discharger shall collect duplicate, field blank, equipment blank (if appropriate) and trip blank samples for each semi-annual monitoring event at the following frequencies:

1. Duplicate sample - one sample per 20 regular samples;
2. Field blank - one per semi-annual monitoring event;
3. Equipment blank - one sample per 10 monitoring stations; and
4. Trip blank - one sample per cooler.

C. REPORTING REQUIREMENTS

Reporting responsibilities of waste dischargers are specified in California Water Code sections 13260 and 13267 subdivision (b). At a minimum, each Self-Monitoring Report (SMR) shall include the following information:

1. **Transmittal Letter:** A cover letter transmitting the essential points of the monitoring report shall be included with each monitoring report. The transmittal letter shall discuss any violations during the reporting period and actions taken or planned to correct the problem. The letter shall also certify the completion of all monitoring requirements. The letter shall be signed by the Discharger's principal executive officer or his/her duly authorized representative, and shall include a statement by the official, under penalty of perjury, that the report is true and correct to the best of the official's knowledge.
2. **Graphic Presentation:** The following maps, figures, and graphs (if applicable) shall be included in each SMR to visually present data collected pursuant to this SMP:

- a. Plan-view maps showing all monitoring and sampling locations, waste management units, containment and control structures, treatment facilities, surface water bodies, and site/property boundaries;
 - b. Groundwater level/piezometric surface contour maps for each groundwater-bearing zone of interest showing inferred groundwater gradients and flow directions under/around each WMU, based upon the past and present water level elevations and pertinent visual observations; and
 - c. Any other maps, figures, photographs, cross-sections, graphs, and charts necessary to visually demonstrate the appropriateness and effectiveness of sampling, monitoring, characterization, investigation, or remediation activities relative to the goals of this SMP.
3. **Tabular Presentation:** The following data (if applicable) shall be presented in tabular form and included in each SMR to show a chronological history and allow quick and easy reference:
- a. Well designation;
 - b. Well location coordinates (latitude and longitude);
 - c. Well construction (including top of well casing elevation, total well depth, screen interval depth below ground surface, and screen interval elevation);
 - d. Groundwater depths;
 - e. Groundwater elevations;
 - f. Current analytical results (including analytical method and detection limits for each constituent);
 - g. Historical analytical results (including at least the past five years unless otherwise requested); and
 - h. Measurement dates.
4. **Compliance Evaluation Summary and Discussion:**
- a. A summary and certification of completion of all environmental media monitoring, standard observations, and facilities inspections;
 - b. The signature of the laboratory director or his/her designee indicating that he/she has supervised all analytical work in his/her laboratory; and
 - c. A discussion of the field and laboratory results that includes the following information:

- i. Data interpretations;
 - ii. Conclusions;
 - iii. Recommendations;
 - iv. Newly implemented or planned investigations and remedial measures;
 - v. Data anomalies;
 - vi. Variations from protocols;
 - vii. Condition of wells; and
 - viii. Effectiveness of leachate monitoring and control facilities.
5. **Appendices:** The following information shall be provided as appendices in electronic format only unless requested otherwise by Regional Water Board staff and unless the information is already contained in a sampling and analysis plan approved by Regional Water Board staff:
- a. New boring and well logs;
 - b. Method and time of water level measurements;
 - c. Purging methods and results, including the type of pump used, pump placement in the well, and pumping rate; equipment and methods used to monitor field pH, temperature, and electrical conductivity; calibration of the field equipment used to measure pH, temperature, conductivity, and turbidity; and the method of disposing of purge water;
 - d. Sampling procedures, field equipment and travel blanks, number and description of duplicate samples, type of sample containers and preservatives used, the date and time of sampling, the name of the person taking the samples, and any other relevant observations; and
 - e. Documentation of laboratory results, analytical methods, detection limits (DLs) and reporting limits (RLs), and Quality Assurance/Quality Control (QA/QC) procedures for the required sampling.

D. CONTINGENCY REPORTING

1. The Discharger shall report to the Regional Water Board by telephone (510-622-2369) any measurably significant discharge from the Landfill immediately after it is discovered. The Discharger shall submit a written report to the Regional Water Board within five days of discovery of any such discharge. The written report shall contain the following information:

- a. A map showing the location(s) of discharge;
 - b. Approximate flow rate;
 - c. Nature of effects (e.g., all pertinent observations and analyses); and
 - d. Corrective measures underway and/or proposed.
2. The Discharger shall submit a written report to the Regional Water Board within seven days of determining that a statistically significant difference occurred between a SMP sample set and an approved Water Quality Protection Standard (WQPS). The written report shall indicate which WQPS(s) has been exceeded. If appropriate, the Discharger shall resample at the compliance point(s) where this difference has been found within 30 days.
 3. If re-sampling and analysis confirms the earlier finding of a statistically significant difference between SMP results and WQPS(s), the Discharger shall, upon determination by the Executive Officer, submit to the Regional Water Board an amended Report of Waste Discharge (ROWD) as specified in section 20420 of Title 27 for establishment of an Evaluation Monitoring Program (EMP) meeting the requirements of section 20425 of Title 27.

E. MAINTENANCE OF WRITTEN RECORDS

The Discharger shall maintain information required pursuant to this SMP for at least five years. The five-year period of retention shall be extended during any unresolved litigation regarding a discharge or when requested by the Regional Water Board.

PART B

A. MONITORING LOCATIONS AND FREQUENCY

Monitoring locations, frequencies, parameters, and analytes are specified in Table 1 of this SMP and as indicated below. Monitoring locations are shown in Figure 2 of the Order.

1. Groundwater And Leachate Monitoring

- a. Groundwater: Groundwater shall be monitored at the locations specified in Table 1 and shown on Figure 2. Monitoring frequencies, parameters, and analytes shall be in accordance with Table 1.
- b. Leachate: Leachate shall be monitored at the locations specified in Table 1 and shown on Figure 2. Monitoring frequencies, parameters, and analytes shall be in accordance with Table 1.

2. Standard Observations

Standard observations (described in Part A) shall be made within the Landfill, along the perimeter of the Landfill, and of the water courses and receiving waters beyond their limits. Standard observations shall be conducted during semi-annual monitoring activities in May and November.

3. Facilities Inspections

The Discharger shall inspect all facilities quarterly to ensure proper maintenance. The facilities to be monitored shall include, but not be limited to any surface ponding, stormwater channels, and the final cover system.

4. Quality Assurance/Quality Control Samples

The QA/QC samples shall be analyzed for VOCs (field blank, equipment blank and trip blank) or for the same tests as a regular sample (duplicate sample).

B. REPORTING SCHEDULE

The Discharger shall submit SMRs to the Regional Water Board in accordance with the schedule set forth in Provision C.3 of the Order.

Table 1. Self-Monitoring Program

Parameter or Constituent	Analytical Method ⁽¹⁾	Groundwater Monitoring Well BC1	Groundwater Monitoring Well BC2	Groundwater Monitoring Well BC3	Leachate Well BC4	Leachate Well BC5
Depth to Water	Field	SA	SA	SA	SA	SA
pH	Field	SA	SA	SA	SA	SA
Temperature	Field	SA	SA	SA	SA	SA
Turbidity	Field	SA	SA	SA	SA	SA
Electrical Conductance	Field	SA	SA	SA	SA	SA
Chloride	300	SA	SA	SA	SA	SA
Nitrate (as Nitrogen)	300	SA	SA	SA	SA	SA
Sulfate	300	SA	SA	SA	SA	SA
Total Dissolved Solids	160.1	SA	SA	SA	SA	SA
Volatile Organic Compounds	8260	SA	SA	SA	SA	SA
Total Metals ⁽²⁾	6000/7000	SA	SA	SA	SA	SA
Constituents of Concern (COCs) ⁽³⁾	See Below	5-year	5-year	5-Year	5-year	5-year

Notes:

(1) United States Environmental Protection Agency (EPA) methods

(2) Includes: arsenic (recoverable), cadmium, chromium (dissolved), copper, lead, mercury, nickel, silver, and zinc

(3) 5-year Constituents of Concern: chlorinated herbicides – EPA Method 8151, organochlorine pesticides and PCBs – EPA Method 8080, total CAM 17 metals – EPA Methods 6010/7470, semi-volatile organic compounds - EPA Method 8270, polychlorinated biphenyls – EPA Method 8082

SA Semi-annual monitoring in May and November

5-year Once every five years concurrent with semi-annual monitoring; first 5-year sampling event shall occur during the first semi-annual sampling event after adoption of this Order