

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

STAFF SUMMARY REPORT (Vic Pal)
MEETING DATE: March 9, 2016

- ITEM:** 5C
- SUBJECT:** **Zanker Road Resource Management, Ltd., Zanker Material Processing Facility, San Jose, Santa Clara County** – Update of Waste Discharge Requirements and Rescission of Order No. 98-123
- CHRONOLOGY:** 1998 – Waste Discharge Requirements (WDRs) adopted
- DISCUSSION:** The Tentative Order (Appendix A) would update the WDRs and the self-monitoring program for the Zanker Material Processing Facility (ZMPF). ZMPF is owned by Zanker Road Resource Management, Ltd. (Discharger) and is operated as a Class III landfill that accepts only construction and demolition debris. The landfill encompasses an area in San Jose of approximately 52.5 acres located at the southern end of the San Francisco Bay and is south of the San Francisco Bay National Wildlife Refuge and west of the Nine Par Site and the Zanker Road Landfill. ZMPF has not been used for disposal of municipal solid waste.
- The Tentative Order would update the monitoring program for groundwater and leachate and would require the Discharger to submit long-term flood protection reports every five years specifying protections against a 100-year flood event and sea level rise.
- No comments other than editorial recommendations were received on the Tentative Order during the public comment period. We have made minor formatting and editorial changes to the Tentative Order and anticipate it will remain uncontested.
- RECOMMEN-
DATION:** Adoption of the Tentative Order
- FILE NO.:** CIWQS Place ID 274752
- APPENDIX A:** Tentative Order

APPENDIX A

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

ORDER No. R2-2016-XXXX

**UPDATED WASTE DISCHARGE REQUIREMENTS and RECISSION OF ORDER
No. 98-123 for:**

**ZANKER ROAD RESOURCE MANAGEMENT, LTD.
ZANKER MATERIAL PROCESSING FACILITY
SAN JOSE, SANTA CLARA COUNTY**

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

1. Zanker Road Resource Management, Ltd. (hereinafter called the Discharger or ZRRML), owns and operates the Zanker Material Processing Facility (ZMPF or site) in northern San Jose. ZRRML is a limited partnership consisting of Zanker Road Resource Recovery Inc. and H.L. Sweatt Inc. Owens Corning Fiberglass Corporation operated the site from 1956 until 1998 when ZRRML acquired the site. Currently, ZMPF provides waste recycling and disposal services to San Jose, unincorporated Santa Clara County, and various communities throughout the Bay Area.
2. The disposal area at ZMPF is classified as a Class III landfill in accordance with section 20260 of Title 27 of the CCR.

SITE DESCRIPTION AND LOCATION

3. ZMPF is located near the southern end of the San Francisco Bay at 675 Los Esteros Road in San Jose. ZMPF is located west of the 880 Freeway, north of Highway 237, and about one mile east of the community of Alviso. ZMPF is located west of the Nine Par Site and the Zanker Road Landfill (see Figure 1).
4. As shown in Figure 2 (Final Land Use Plan), ZMPF is situated on two contiguous parcels, totaling approximately 58.75 acres, which are owned by ZRRML. The larger parcel is zoned and permitted specifically for waste handling, processing and disposal activities, and occupies approximately 52.5 acres. The adjacent parcel is approximately 6.25 acres and is used as private open space. Within the 52.5-acre parcel there are areas specifically dedicated for easements, private open space, waste handling and processing, and waste disposal. The landfill occupies approximately 25.2 acres.
5. The current facilities on the 52.5-acre parcel include the following:
 - a) 25.2-acre Class III landfill,
 - b) Extensive recycling and resource recovery processes and operations,
 - c) Stormwater control systems and sedimentation basins,
 - d) Entrance road and facilities,
 - e) An administration office,
 - f) Employee/maintenance facilities,
 - g) Parking and other ancillary use areas, and
 - h) A perimeter flood protection levee.

6. To date, it is estimated that approximately 1.4 million cubic yards of total fill (waste and cover soil) have been placed within the landfill.
7. The landfill operation has an anticipated closure date of 2025, with a total capacity of approximately 2 million cubic yards and a remaining capacity of approximately 640,000 cubic yards, which will accommodate the vertical expansion. For purposes of this site life estimate, it is assumed that site operations will remain consistent throughout the remaining life of the landfill operation. It is recognized that resource recovery operations are an approved, post-closure land use, and will continue at ZMPF after the landfill reaches capacity and is closed.

PURPOSE OF ORDER

8. This Order:
 - Updates ZMPF's groundwater, surface water, and leachate monitoring programs, henceforth referred to as the Self-Monitoring Program (SMP);
 - Memorializes Regional Water Board approval of a landfill height increase and resulting volumetric expansion of the landfill. The maximum height of the landfill at ZMPF will be increased to 80 feet above mean sea level (MSL) from its current maximum elevation of approximately 50 feet above MSL; and
 - Rescinds previous Regional Water Board Order No. 98-123.
9. This Order does not authorize any lateral expansion into areas not currently used or identified for waste disposal.

REGULATORY HISTORY

10. The Regional Water Board has regulated the site since 1972. In 1977, the Regional Water Board adopted Order No. 77-127, which prescribed initial waste discharge requirements and compliance schedules to the Owens Corning Fiberglass Corporation (former owner). This Order was amended by Order No. 78-167, which amended the compliance schedule for the site but not the monitoring and reporting requirements. In 1995, the Regional Water Board adopted Order No. 95-058, which revised the groundwater and surface water monitoring programs and incorporated the requirements of the statewide General Industrial Stormwater Runoff Program.
11. In 1998, the Regional Water Board adopted Order No. 98-123 for the site. In addition to recognizing the transfer of site ownership to ZRRML, Order No. 98-123:
 - a) approved landfill design modifications;
 - b) required perimeter flood protection berm construction;
 - c) approved landfill resource recovery operations and the onsite landfilling of wastes;
 - d) revised the groundwater, surface water, leachate collection, and leachate monitoring programs to monitor for the potential impact to water quality;
 - e) established requirements to construct appropriate leachate collection and removal systems; and

- f) updated the waste discharge requirements to bring the site into compliance with Title 27 of the California Code of Regulations (CCR) and Part 268 (Subtitle D), Title 40 of the Code of Federal Regulations (CFR).
12. On October 16, 2013, the City of San Jose issued the Planned Development Permit for Phase 1 at ZMPF, which allows: (1) an increase in the maximum daily tonnage processed to 1,800 tons per day, (2) a landfill height increase to 80 feet MSL and associated increased disposal capacity, (3) landfill closure in accordance with an approved final closure and post-closure maintenance plan, (4) an additional inbound scale, and (5) the construction of a new, two-story, 6,400 square foot office building at the site.
13. After obtaining the necessary local approvals and permits, ZRRML prepared and submitted an Application for New Solid Waste Facility Permit/Waste Discharge Requirements to the Local Enforcement Agency (LEA), CalRecycle, and the Regional Water Board. The application package included the required Joint Technical Document (dated June 2014, subsequently revised in July 2014) and Preliminary Closure Post-Closure Maintenance Plan (PCPCMP, dated May 2014). The PCPCMC addressed the vertical expansion and the alternative final cover design, and was approved by Regional Water Board staff on February 23, 2015.
14. The January 6, 2015, Solid Waste Facility Permit (SWFP) issued by the City of San Jose Department of Planning, Building and Code Enforcement, acting as the LEA, lists a remaining landfill design capacity of 640,000 cubic yards. The 2014 Joint Technical Document details a final grading plan with a total design capacity of approximately 2 million cubic yards that includes waste along with daily, intermediate, and final cover.
15. Consistent with the SWFP, this Order authorizes a vertical expansion to increase the total capacity of the landfill by 640,000 cubic yards to a total design capacity of approximately 2 million cubic yards (inclusive of waste and daily, intermediate and final cover).

SURFACE HYDROLOGY

16. The main surface water bodies adjacent to ZMPF are marshlands of the San Francisco National Wildlife Refuge and the San Jose/Santa Clara Water Pollution Control Plant (WPCP) outfall channel. The wildlife refuge borders the northwestern part of ZMPF and consists of a dendritic pattern of meandering sloughs and creeks. The WPCP outfall channel flow runs northwest along the northeast boundary of the site and drains into the south branch of Coyote Creek.
17. Other surface waterways near ZMPF are Guadalupe River and Coyote Creek, which empty into the bay northwest and northeast of ZMPF, respectively. No surface water bodies exist within the ZMPF boundaries. Various temporary drainage facilities are placed near active fill areas to direct surface water from runoff away from the refuse. A perimeter levee protects the landfill from potential flooding.
18. As required by Regional Water Board Order No. 98-123, an earthen flood protection levee was previously constructed around the perimeter of the site. This existing levee provides protection from the currently anticipated 100-year flood event for the site.

HYDROGEOLOGY

19. The landfill site lies within the northern part of the Santa Clara Valley groundwater basin, an extensive zone of unconsolidated to semi-consolidated clay, silts, sands, and gravel. The primary freshwater aquifers in this basin occupy buried channel deposits within the Pleistocene alluvium, which consists of permeable, sand, silt and cobbles. The buried channel deposits are grouped into "upper" aquifers, which are closer to the land's surface, and "lower" aquifers, which are deeper. Near the Bay, these aquifers are separated from each other by the Pleistocene Bay Mud, an extensive clay layer that forms an aquitard. Regional groundwater flow within the aquifer system is towards the Bay and is recharged by runoff from the Santa Cruz Mountains and the Diablo Range. Groundwater beneath ZMPF is monitored in the uppermost water-bearing zone, which lies within the Holocene Bay Mud.
20. Above the upper regional aquifer, there are shallow water-bearing zones within the Holocene Bay Mud, a two- to five-foot thick layer of sand located approximately 12 to 15 feet below MSL. The Holocene Bay Mud is separated from the aquifers below it by the low-permeability Pleistocene Bay Mud aquitard. Groundwater in this shallow zone is recharged from local runoff and percolation, including percolation from the San Jose/Santa Clara WPCP outfall channel, and is generally of poor quality because of extensive saltwater intrusion, and high concentrations of total dissolved solids (TDS).
21. The uppermost Holocene Bay Mud sand zone underlies most of the ZMPF facility and forms isolated lenses beneath the southwestern part of the waste management unit. Hydrogeological investigations conducted in 1980 and 1985 indicate that the upper and lower water aquifers are also located beneath the site. Separated from the sand zone by Pleistocene Bay Mud, the upper aquifer zone begins 45 feet below MSL. Below the upper aquifer is a clay aquitard that extends 200 feet below MSL and overlies the lower aquifer. The lower aquifer serves as a source of drinking water for the Santa Clara Valley.
22. Potential impacts to groundwater from the landfill would initially be detected in the shallow water-bearing zone. As a result, the hydrogeology of this zone has been studied in the most detail, and ZMPF's monitoring wells sample water quality from this zone. Meanwhile, the groundwater in both the upper and lower aquifers is confined.

WASTES AND THEIR CLASSIFICATION

23. Initial landfilling operations began at the site in 1956 when Owens Corning Fiberglass Corporation began disposing fiberglass and other products that did not meet its plant's specifications and could not be recycled back into its plant's production line. At that time the waste stream consisted primarily of fiberglass products, composite asphalt-coated paper and foil, refractory wastes, wood debris, and other wastes generated at its plant.
24. Since ZRRML began operating the site in 1998, ZMPF's waste stream has consisted of nonhazardous construction and demolition debris, concrete, soil, asphalt, metal, plastic, glass, fiberglass, wood, wallboard, paper, cardboard, and miscellaneous materials like carpet, insulation, porcelain, and tires. The site does not accept putrescible, burning, smoldering, hazardous, infectious, or liquid wastes, or materials like friable asbestos, sludge, yard waste or household compost. For this reason, the landfill neither produces, nor is expected to produce, significant amounts of methane or other landfill gases.

FILL PLANS FOR MATERIALS RECOVERY FACILITY AND LANDFILL

25. Materials Recovery Area: In accordance with the approved land use plans for the site, the entire resource recovery area, which is outside the landfill footprint, will be raised by the placement of approximately 200,000 cubic yards of soil and engineered fill materials (primarily soil and rock) generated from onsite recycling activities to raise the elevation of this entire area and allow the future proposed 200,000 square foot materials recovery facility (MRF) to be constructed well above current flood elevations. When constructed, the engineered fill will tie into the perimeter levees (currently at a minimum 11.5 feet above MSL) and rise gradually with a 1.5 percent slope to a maximum elevation of 18 feet above MSL in the center of the site against the southern side of the landfill. Additional engineered fill will most likely be required to accommodate consolidation and settlement of the underlying soils. The schedule for placement of the soil and engineered fill will vary depending on (1) the availability of import soil, (2) the amount and quality of suitable material generated by onsite recycling activities, and (3) avoidance of adverse impacts to site operations.
26. Placement of engineered fill in the MRF area will not affect the life of the adjacent landfill. The placement of soil and engineered fill in the resource recovery area will generally occur from the east to the west. Once the engineered fill is in place, the existing stormwater collection sumps in the resource recovery area will no longer be needed.
27. Landfill: With the height of the landfill increasing to 80 feet MSL, additional refuse filling will generally occur from west to east and from north to south in order to best screen site waste disposal activities from sensitive land uses in these directions. Final landfill slopes will be constructed no steeper than 3:1. The final grades will be no flatter than 3 percent. The entire landfill will be covered with a final cover designed to minimize infiltration of precipitation. Landfill top-deck and side-slope areas will receive a final cover designed to meet the requirements of the regulation applicable at the time of construction. The final cover will be placed and vegetated in accordance with the final closure plan.

LANDFILL DESIGN, CONSTRUCTION, AND OPERATION

28. Because of the site's age and the state of practice at its inception, the initial landfill construction occurred without a formal design and with no constructed base liner. In accordance with landfilling practices utilized at that time, it is assumed that refuse was placed directly on tidal flats. The natural low-permeability Pleistocene Bay Mud aquitard beneath the site serves as a natural geologic liner (barrier) that protects the underlying upper and lower aquifers. Impacts to the shallow water-bearing zones immediately below the landfill are monitored closely.

Leachate Extraction System

29. As required by Order No. 98-123, a perimeter leachate collection and recovery system (LCRS) was placed at the base of the existing landfill along the northern and western boundaries when the perimeter buttress levee was improved (See Figure 3). The perimeter LCRS was not placed along the eastern or southern boundary of the landfill area because the natural direction of groundwater flow under the site is toward the north and northwest, away from the eastern and southern sides of the landfill.

30. Leachate collected in the perimeter LCRS is directed into a perforated pipe that will drain into one of four collection points, each with a monitoring and removal riser. The perforated pipe lies in a trench cut along the toe of the fill slope. The trench was backfilled with drain rock wrapped in a geotextile fabric. The LCRS pipe gently slopes toward collection sumps with risers where the leachate will accumulate. Regular inspection of these risers allows leachate levels to be monitored and recorded. If leachate is detected, it is removed from the sump and discharged to the WPCP.
31. An interior LCRS was constructed in fall of 1998. It consists of a 1,000-foot long drainage trench constructed through the middle of the existing refuse fill, with two collection sumps and pumping system, and one 10,000-gallon holding tank. The trench is approximately 2-foot wide with a bottom elevation of approximately 5 feet below MSL. The bottom five feet of the trench is filled with 1- to 2-inch diameter gravel, while the remainder of the trench was backfilled to the landfill surface with material excavated from the trench. A 3-inch diameter, high density polyethylene (HDPE) pipe perforated with a minimum of four ¼-inch holes per foot was imbedded in the gravel with a top-of-pipe elevation of approximately 4 feet below MSL. A short non-perforated section of pipe was used to connect the collection trench and sump. The section of the trench containing the non-perforated pipe was backfilled with low-permeability soil. The interior base of the sump is an approximate elevation of 5 feet below MSL.
32. The pumping system for this interior LCRS consists of submersible pumps that collect accumulated leachate and discharge it to the nearby WPCP. Several leachate piezometers were installed in the trench during construction to allow direct monitoring of liquid accumulation within the collection trench. Leachate levels are monitored quarterly.

Perimeter Flood Protection Levee

33. Engineered buttress levees were constructed in 1998 as required by Order No. 98-123 along the southern, northern, and western perimeters of ZMPF. The eastern side of the refuse fill is bordered by an engineered levee that is owned by the adjacent WPCP. These existing flood control levees also serve as perimeter access roads for the site.
34. The top of the levees are maintained at an elevation no less than 11.5 feet above MSL in accordance with the requirements of the Santa Clara Valley Water District and the City of San Jose. Where applicable, the perimeter levees were constructed with 3:1 outboard slopes that are covered with vegetation to prevent erosion. To provide all-weather vehicular access around the perimeter of the site, the top surface of the levees is suitably surfaced (gravel, rock, asphalt, etc.). This road surfacing increases the actual height of the levee structure.

Stormwater Management System

35. ZMPF is subject to the statewide General Permit for Storm Water Discharges Associated with Industrial Activities (NPDES No. CAS000001) and, in accordance with the requirements of that permit, has developed and submitted a Storm Water Pollution Prevention Plan (SWPPP). Non-contact stormwater runoff and contact stormwater runoff generated during waste handling, processing, and disposal operations are managed as described in the SWPPP.
36. Contact stormwater runoff from active waste handling operations is controlled by site grading, temporary berms, and V-ditches to collect and transport the contact stormwater runoff to the

sumps where sediment settles out. After settling, runoff in the sumps is reused for dust management and other purposes onsite.

37. Stormwater quality is controlled and monitored under the site's SWPPP to ensure compliance with the General Permit.

MONITORING, COLLECTION, AND CONTROL PROGRAMS

Groundwater and Leachate:

38. The self-monitoring program (SMP) attached to this order constitutes a detection monitoring program (DMP) that complies with CCR title 27, section 20420. The SMP provides for monitoring of the groundwater in the shallow, sandy water-bearing Holocene Bay Mud zone that underlies ZMPF.
39. The self-monitoring well network was designed by a California professional geologist and consists of eight groundwater monitoring wells, three piezometers, and four leachate monitoring wells (See Figure 3). Based on the direction of groundwater flow beneath ZMPF, the Point of Compliance (POC) extends along the north and west perimeter of the landfill and initially through the uppermost aquifer. Wells G-3, G-4, G-5, and G-7 monitor groundwater along the northern POC, and wells G-8, G-9, and G-10 monitor groundwater along the western POC. Well G-6R is located southeast of the site and monitors upgradient water quality within the shallow water-bearing zone. Well G-2 is located west of the site and is used as a piezometer along with PZ-2 and PZ-5. Landfill monitoring wells GR-1, GR-2, GR-3, and GR-4 are used to measure leachate levels within the landfill refuse mass.
40. Groundwater quality in the shallow water-bearing zone is variable but generally poor and characterized by elevated TDS, as noted in Finding 20. The variability reflects freshwater recharge along the upgradient side of the landfill and saltwater intrusion along the Bay-front side. Consequently, differences between upgradient water quality and water quality at the downgradient POC are at least partially natural and do not necessarily indicate releases from the landfill. Concentrations of monitoring parameters in groundwater are generally within acceptable ranges for metals and MTBE. Since 2002, volatile organic compounds (VOCs) have been extracted from Well G-4, and concentrations have steadily declined. The highest VOC concentrations reported in January 2015 from Well G-4 was 180 ppb (cis-1,2 dichloroethene).
41. No unsaturated soil exists beneath ZMPF because of its location and hydrogeologic setting. There is no known unsaturated soil between the site's waste and groundwater and, accordingly, unsaturated zone monitoring in accordance with CCR title 27, section 20435, is not required.
42. If "measurably significant evidence of a release" is detected through self-monitoring, ZRRML must institute an Evaluation Monitoring Program and potentially a Corrective Action Program to implement appropriate site-specific methods to characterize, report, mitigate, monitor, and, in some cases, remediate the release (Cal. Code Regs., tit. 27, §§20385(a)(2), 20425, 20430).

Stormwater and Surface Water

43. Title 40 of the CFR, parts 122, 123, and 124, require specific categories of industrial activities, including landfills, to obtain a National Pollutant Discharge Elimination System (NPDES) permit for stormwater discharges. The State Water Board has issued a General Permit for Storm Water Discharges Associated with Industrial Activities (General Permit). ZMPF is subject to the requirements of the General Permit and as such is required to submit a Notice of Intent (NOI) for coverage under the General Permit, prepare and implement a monitoring program, and submit an annual report. ZMPF has submitted an NOI and SWPPP and is covered under the General Permit.

Landfill Gas

44. As noted in Finding 24, the materials landfilled at ZMPF are low in organic matter, resistant to decomposition, and do not generate high levels of landfill gases (LFGs). Accordingly, neither a LFG collection and control system, nor an extensive monitoring well network, is warranted.
45. Two LFG migration monitoring wells are located along the southern boundary of ZMPF, as required by CCR sections 20920 through 20939. These two LFG migration monitoring wells are monitored quarterly. Additionally, all enclosed buildings located onsite are monitored quarterly for LFG accumulation. To date, LFG has not been detected in the monitoring wells or any enclosed buildings.

BASIN PLAN AND RESOLUTIONS

46. 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, U.S. EPA, and the Office of Administrative Law where required.
47. The Basin Plan provides that all groundwater is considered suitable, or potentially suitable, for municipal or domestic water supply (MUN) and that, in making any exceptions, the Regional Water Board will consider the criteria referenced in Water Board Resolution No. 88-63, "Sources of Drinking Water," where:
- (a) The total dissolved solids (TDS) exceed 3,000 mg/l (5,000 μ S/cm, electrical conductivity), and it is not reasonably expected by the Regional Water Board that the groundwater could supply a public water system, or
 - (b) There is contamination, either by natural processes or human activity (unrelated to the specific pollution incident), that cannot reasonably be treated for domestic use using best management practices or best economically achievable treatment practices, or
 - (c) The water source does not provide sufficient water to supply a single well capable of producing an average, sustained yield of 200 gallons per day.

Since TDS in both the Bay Mud and alluvium groundwater underlying ZMPF exceeds 30,000 mg/l, domestic water supply is not considered a probable future beneficial use.

48. The current and potential beneficial use of the groundwater in the alluvial deposits surrounding ZMPF is for industrial process supply. Surface water beneficial uses of South San Francisco Bay near the site include wildlife habitat, navigation, water contact recreation, non-water contact recreation, commercial and sport fishing, preservation of rare and endangered species, estuarine habitat, fish migration, fish habitat, industrial service supply, and shellfish harvesting.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

49. The City of San Jose, as lead agency, has certified multiple EIRs and EIR amendments for ZMPF in accordance with the California Environmental Quality Act (Public Resources Code section 21000 *et seq.* (CEQA)). The initial EIR (which addressed site operations by ZRRML) was deemed complete and certified in 1996, and the latest EIR (which addressed MRF operations proposed by ZRRML) was deemed complete and certified in January 2008. In 2009, a Mitigated Negative Declaration and EIR amendments were subsequently certified by the City of San Jose. In 2013 another EIR amendment addressed phased development of the site and landfill height/capacity increase. Regional Water Board staff participated in these CEQA processes as a responsible agency pursuant to CCR title 14, section 15096. The findings, prohibitions, specifications, and provisions of this Order are consistent with these completed CEQA processes, and the Regional Water Board finds that compliance with this Order will mitigate the environmental effects of landfill expansion on ground and surface waters to less than significant levels.

NOTIFICATION AND PUBLIC MEETING

50. The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to update WDRs and has provided them with an opportunity to submit their written views and recommendations.
51. The Regional Water Board in a public meeting heard and considered all comments pertaining to the proposed WDRs for the site.

IT IS HEREBY ORDERED, pursuant to the authority in Water Code section 13263, the Discharger, its agents, successors, and assigns shall comply with the following:

A. PROHIBITIONS

1. ZMPF is prohibited from accepting and or landfilling any “decomposable” “putrescible” or “household” as defined in CCR title 27, section 20164. This prohibition includes household or municipal garbage, food and restaurant waste, agricultural waste, green waste, dead animals, or any other organic waste capable of putrefaction. ZMPF is also prohibited from accepting any liquid sludge, designated wastes, friable asbestos, or hazardous wastes. Only non-hazardous, non-putrescible, non-leachable inert solid waste may be accepted and or disposed of at this site. Acceptable wastes include “construction and demolition wastes,” as defined in section 20164.
2. Wastes shall not be in contact with ponded water. Wastes shall not be disposed of in any position where they can be carried from the disposal site and discharged into waters of the State or of the United States.
3. Hazardous wastes, as defined in CCR title 22, section 66261.3, and designated wastes as defined in Water Code section 13173, shall not be deposited or stored at this site.

4. Filling of additional wetlands or waters of the State without the Regional Water Board's certification of water quality impacts pursuant to section 401 of the Clean Water Act is prohibited.
5. Surface or groundwater sources shall not contact or percolate through wastes during the operating life of the landfill.
6. Leachate, stormwater or groundwater containing leachate, or stormwater that comes in contact with waste, shall not be discharged to waters of the State or of the United States except as authorized under the statewide General Permit for Storm Water Discharges Associated with Industrial Activities (NPDES No. CAS000001).
7. The treatment, storage, or discharge of groundwater or leachate shall not create a condition of pollution or nuisance as defined in Water Code section 13050, subdivisions (l) and (m), nor degrade the quality of waters of the State or of the United States.
8. The Discharger, or any future owner or operator of this site, shall not cause the following conditions to exist in waters of the State or of the United States at any place outside the site:
 - a. Surface Waters
 1. Floating, suspended, or deposited macroscopic particulate matter or foam;
 2. Bottom deposits or aquatic growth;
 3. Adverse changes in temperature, turbidity, or apparent color beyond natural background levels;
 4. Visible, floating, suspended or deposited oil or other products of petroleum origin;
 5. Toxic or other deleterious substances to be present in concentrations or quantities which may cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.
 - b. Groundwater

Degradation of existing groundwater quality.
9. Migration of pollutants through subsurface transport to waters of the State is prohibited.

B. SPECIFICATIONS

1. The Discharger shall conduct monitoring activities according to the Self-Monitoring Program (SMP) attached to this Order, and as may be amended by the Executive Officer, to verify the effectiveness of landfill environmental control systems including groundwater, surface water, leachate, and landfill gas migration monitoring.
2. The Discharger may file a written request (including supporting documentation) with the Executive Officer, proposing modifications to the attached SMP. If the proposed modifications are acceptable, the Executive Officer may issue a letter of approval that incorporates the proposed revisions into the SMP.

3. The Discharger shall install any reasonable additional monitoring devices for groundwater, surface water, leachate, and landfill gas required to fulfill the terms of any future SMP issued by the Executive Officer.
4. The Discharger shall maintain, inspect, repair, and replace all environmental control devices installed in accordance with this Order such that they continue to operate as intended without interruption.
5. Precipitation and drainage control facilities shall be designed with a minimum capacity to accommodate a 100-year, 24-hour storm event.
6. All reports pursuant to this order shall be prepared under the supervision of a registered civil engineer, California licensed professional geologist or certified engineering geologist.
7. Water used during disposal operations shall be limited to a minimal amount necessary for construction, dust control, and fire suppression.
8. The site shall be protected from any washout or erosion of wastes or covering material and from inundation that could occur as a result of a 100-year 24-hour precipitation event or as the result of flooding with a return frequency of 100 years.
9. Surface drainage from tributary areas, and internal site drainage from surface or subsurface sources, shall not contact or percolate through wastes during disposal operation or during the life of the landfill.
10. Measures shall be taken to assure that the leachate collection sumps and extraction systems will remain operational with minimal interruption.
11. Each monitoring well shall target only one hydro-stratigraphic unit such as the Bay Mud and the Pleistocene alluvium.
12. The Discharger shall assure that the foundation of the landfill, the solid waste fill, and the structures which control leachate, surface drainage, and erosion are constructed and maintained to withstand conditions generated during the maximum probable earthquake (MPE), as defined in CCR title 27, section 20164.
13. Interim cover shall be maintained over all waste, at all times, except for the active face area of the disposal operations and areas where additional solid waste will be deposited within 180 days or as provided for by the performance standards adopted by CalRecycle.
14. Final and interim covers for the landfill shall be graded and maintained to promote lateral runoff of precipitation and prevent ponding or infiltration of water on or within ZMPF. As portions of the landfill are closed, the exterior surfaces shall be graded to a minimum slope of three percent in order to promote lateral runoff of precipitation. In addition, all completed disposal areas shall be covered with a cover meeting the requirements of CCR title 27, section 20670 *et seq.*
15. The Discharger shall maintain and monitor ZMPF so as not to cause a statistically significant difference to exist between water quality parameters at the compliance points and the Water Quality Protection Standards (WQPS)(Cal. Code Regs., tit. 27, § 20390). The POC is the vertical surface located at the hydraulically downgradient limit of the site that extends through

the uppermost aquifer underlying the unit at the point of earliest detection (Cal. Code Regs., tit. 27, § 20405(a)).

16. Whenever self-monitoring reveals verified “measurably significant” evidence or significant physical evidence of a release, the Discharger shall implement an evaluation monitoring program (EMP) pursuant to and at the direction of the Regional Water Board (Cal. Code Regs., tit. 27, §§20385(a)(2), 20425, 20430).
17. The Discharger shall provide a minimum of two surveyed permanent monuments near ZMPF from which the location and elevation of wastes, containment structures, and monitoring facilities can be determined throughout the operation and post-closure maintenance period. These monuments shall be installed by a licensed land surveyor or registered civil engineer.
18. The Regional Water Board shall be notified immediately of any failure occurring in the landfill. Any failure that threatens the integrity of containment features or the landfill shall be promptly corrected after approval of the method and schedule by the Executive Officer.
19. The Discharger shall notify the Regional Water Board at least 180 days prior to beginning any final closure activities. This notice shall include a statement that all activities will conform to the most recently approved closure plan and that the plan provides for site closure in compliance with all applicable regulations.
20. The Discharger shall submit, within 90 days after the closure of any portion of the landfill, a closure report certifying under penalty of perjury that the area has been closed according to the requirements of this Order, approved Final Closure Plan, and applicable regulations.
21. The Discharger shall implement a DMP to identify any water quality impacts from ZMPF and demonstrate compliance with the water quality protection standards. The SMP attached to this Order is intended to constitute the DMP for ZMPF.
22. The reuse of leachate for dust control on access roads and intermediate cover is permitted, provided leachate is treated and/or confirmed to be “clean” (i.e., non-detectable organics per EPA Method 8260 and lower than background inorganics).
23. The WQPS for ZMPF shall include the following:
 - a. Constituents of Concern: Constituents of Concern (COCs) include “all waste constituents, reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the Unit.” (Cal. Code Regs., tit. 27, § 20395(a)). COCs for ZMPF include 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 other COCs. The MPs for the site shall include, at a minimum, all constituents identified as such in the SMP attached to this Order or any future amendments thereof. 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 (CLs) for all COCs detected at the specified points of compliance shall be established using the background value set pursuant to CCR title 27, Section 20400, subdivision (a)(1). A prediction limit (PL) or control limit (CL) shall be calculated from the background data set using statistical methods as appropriate. CLs are equal to background values for individual constituents in individual wells and are re-determined periodically in accordance with the approved statistical procedure. Specific CLs are, therefore, presented in monitoring reports submitted to the Regional Water Board, with the most recent report providing the most up-to-date concentration limits.
 - d. Point of Compliance (POC): The POC is the "vertical surface located at the hydraulically downgradient limit of the Unit that extends through the uppermost aquifer underlying the Unit." (Cal. Code Regs., tit. 27, § 20405(a)).
 - e. Background Monitoring Points: A Background Monitoring Point is "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." (Cal. Code Regs., tit. 27, § 20415.) Monitoring points for ZMPF, which are located along the POC and at additional locations, are specified in the SMP attached to this Order or any future amendments thereof.
24. When there are multiple landowners or lease holders involved, the Discharger shall provide reasonable access to any property they own or lease at the site to allow for installation, sampling, monitoring, etc., of all devices and equipment necessary for compliance with the requirements of this Order.

C. PROVISIONS

1. Compliance: 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. As provided by California law, violating this Order may result in modifications to or revocation of these WDRs and/or in enforcement action requiring corrective action or imposing civil monetary liability.
2. Authority: All technical and monitoring reports required pursuant to this Order are being requested pursuant to Water Code section 13267. 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 Water Code section 13268.
3. Self-Monitoring Program: The Discharger shall comply with the SMP attached to this Order and as may be amended by the Executive Officer. The SMP is intended to constitute a DMP pursuant to Water Code section 20420 and is designed to identify significant water quality impacts from the landfill and demonstrate compliance with the WQPS established pursuant to Water Code section 20390. The SMP may be amended as necessary at the discretion of the Executive Officer.

COMPLIANCE DATE: Immediate

4. Dust Control Plan: The Discharger shall submit a technical report, acceptable to the Executive Officer, which describes how dust will be managed at ZMPF.

COMPLIANCE DATE: September 30, 2016

5. Stormwater Pollution Prevention Plan: The Discharger shall submit, implement, and maintain an updated Stormwater Pollution Prevention Plan (SWPPP) as required by the State Water Board's General Industrial Stormwater Permit and be acceptable to the Executive Officer. The SWPPP will provide the best management practices that shall be implemented at ZMPF to control storm water runoff and reduce erosion.

COMPLIANCE DATE: As required by the State Water Board's General Permit

6. Report of Waste Discharge (ROWD): The Discharger shall submit a technical report, acceptable to the Executive Officer, describing any proposed material change in the character, location, or volume of a discharge, or in the event of a proposed change in use or development of the landfill [Water Code section 13260(c)]. The technical report shall describe in detail the construction design of any new disposal units and the fill sequencing for the vertical expansion. The technical report shall describe the project, identify key changes to the design that may impact any portion of the landfill, and specify components of the design necessary to maintain integrity of the landfill cover and prevent water quality impacts. No material changes to any portion of the landfill shall be made without approval by the Executive Officer.

COMPLIANCE DATE: 120 days prior to any proposed material change

7. Long-Term Flood Protection Report: This Discharger shall submit a report, acceptable to the Executive Officer, for long-term flood protection at ZMPF. The plan shall include a consideration of feasible options for achieving protection from the 100-year flood in the face of rising sea levels and increased flood frequency and intensity. The plan shall consider the methods developed by the San Francisco Bay Conservation and Development Commission to predict and protect against future flooding. The plan shall be updated every five years throughout the operational life and post-closure maintenance period of the landfill with the most recently available and credible information at the time of the update.

COMPLIANCE DATE: March 30, 2017, and every 5 years thereafter

8. Final Closure and Post-Closure Maintenance Plans: Prior to landfill closure, the Discharger shall prepare and submit for approval a final Closure and Post-Closure Maintenance plan, acceptable to the Executive Officer, for the landfill footprint as required under CCR title 27, section 21090 *et seq.*

COMPLIANCE DATE: At least two years prior to closure

9. Financial Assurance for Closure and Post Closure Monitoring and Maintenance: The Discharger shall submit to this Regional Water Board evidence of financial assurance, acceptable to the Executive Officer, to ensure closure and post-closure monitoring and maintenance of the landfill (Cal. Code Regs., tit. 27, § 22205, 22210). Every five years, including the duration of the post-closure monitoring period, the Discharger shall submit a report that includes an outline of the financial assurance mechanism(s) being used and provides evidence of all financial assurance mechanisms. (Cal. Code Regs., tit. 27, § 22233). Financial assurance mechanism(s) shall be updated to reflect change to post-closure monitoring and maintenance costs (Cal. Code Regs., tit. 27, § 22228(b)). The post-closure maintenance period shall extend as long as landfill wastes pose a threat to water quality; however, for purposes of calculating cost estimates, a period of no less than 30 years may be used.

COMPLIANCE DATE: January 6, 2020, and then every five years thereafter

10. Financial Assurance for Corrective Action: The Discharger shall submit to this Regional Water Board evidence of financial assurance acceptable to the Executive Officer, to adequately fund corrective action at the landfill (Cal. Code Regs., tit. 27, §22100 *et seq.*). Every five years, including the duration of the post-closure monitoring period, the Discharger shall submit a report that includes an outline of the financial assurance mechanism(s) being used and provides evidence of all financial assurance mechanisms (Cal. Code Regs., tit. 27, §§ 22220, 22221). Financial assurance mechanism(s) shall be updated to reflect change to corrective action conditions and assumptions in accordance with title 27. The period for corrective action shall extend as long as landfill wastes pose a threat to water quality; however for purposes of calculating cost estimates, a period of no less than 30 years may be used.

COMPLIANCE DATE: January 6, 2020, and then every five years thereafter

11. Post-Earthquake Inspection: The Discharger shall submit a Post-Earthquake Inspection Report acceptable to the Executive Officer, in the event of any earthquake generating Moment Magnitude of 6.0 or greater at or within 30 miles of ZMPF. The report shall describe the general site conditions, containment features, leachate collection and storage facilities, levees, and stormwater control features.

COMPLIANCE DATE: Verbally as soon as the data becomes available, and in writing within 72 hours of a triggering seismic event

12. 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 ZMPF.
13. Change in Ownership: The Discharger must notify the Executive Officer in writing at least 30 days in advance of any proposed transfer of this Order's responsibility and coverage to a new discharger. The notice must include a written agreement between the Discharger and the new discharger containing a specific date for the transfer of this Order's responsibility and coverage between the Discharger and the new discharger. This agreement shall include an acknowledgment of which discharger is liable for violations up to the transfer date and which discharger is liable after the transfer date (Water Code §§13263, 13267).
14. Revision: These WDRs are subject to review and revision by the Regional Water Board (Water Code § 13263).
15. Termination: Where the Discharger becomes aware that it failed to submit any relevant facts in a Report of Waste Discharge or submitted incorrect information in a Report of Waste Discharge or in any report to the Regional Water Board, it shall promptly submit such facts or information (Water Code § 13260, 13267).
16. Vested Rights: This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, 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 (Water Code § 13263(g)).

17. Severability: Provisions of these WDRs are severable. If any provisions of these requirements are found invalid, the remainder of these requirements shall not be affected.
18. Operation and Maintenance: The Discharger shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with conditions of this Order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Order. (Water Code §13263(f))
19. 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 in or on any waters of the State, the Discharger shall report such discharge to the Regional Water Board by calling (510) 622-2300 during regular office hours (Monday through Friday, 8:00 to 5:00). A written report shall be filed with the Regional Water Board within five working 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.
20. 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 conditions of this Order;
 - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions 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 CWC, any substances or parameters at any location.
21. Discharges To Navigable Waters: Any person discharging or proposing to discharge to navigable waters from a point source (except for discharge of dredged or fill material subject to section 404 of the Clean Water Act and discharge subject to a general NPDES permit) must file an NPDES permit application with the Regional Water Board (Cal. Code Regs., tit.2, § 223571).
22. Endangerment of Health or the Environment: The Discharger shall report any noncompliance that may endanger health or the environment. Any such information shall be provided orally to the Executive Officer, or an authorized representative, within 24 hours from the time the Discharger becomes aware of the circumstances. 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 an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

23. 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. City of San Jose Local Enforcement Agency.

The Executive Officer may modify this distribution list as needed.

24. Duty to Comply: The Discharger shall comply immediately, or as prescribed by the time schedule above, 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. Violations may result in enforcement actions, including Regional Water Board orders or court orders requiring corrective action or imposing civil monetary liability, or in modification or revocation of these WDRs by the Regional Water Board. (Water Code §§ 13261, 13263, 13265, 13268, 13300, 13301, 13304, 13340, 13350).
25. Requests for Technical Reports: All technical and monitoring reports required by this Order are requested pursuant to Water Code section 13267. 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 Water Code section 13268.
26. Electronic Reporting Format: In addition to print submittals, all reports submitted pursuant to this Order must be submitted as electronic files in PDF format. The Regional Water Board has implemented a document imaging system, which is ultimately intended to reduce the need for printed report storage space and streamline the public file review process. Documents in the imaging system may be viewed, and print copies made, by the public, during file reviews conducted at the Regional Water Board's office. PDF files can be created by converting the original electronic file format (e.g., Microsoft Word[®]) and/or by scanning printed text, figures and tables. Upon request by Regional Water Board staff, monitoring results, including water level measurements, sample analytical results, coordinates, elevations, etc., shall be provided electronically in Microsoft Excel[®] or similar spreadsheet format. This format facilitates data computations and/or plotting that Regional Water Board staff may undertake during their review. Data tables submitted in electronic spreadsheet format will not be included in the case file for public review. All electronic files, whether in PDF or spreadsheet format, shall be submitted via the Regional Water Board's Geotracker site. Email notification shall be provided to Regional Water Board staff whenever a file is uploaded to the Regional Water Board's Geotracker site.
27. This Order supersedes and rescinds Order No. 98-123.

I, Bruce H. Wolfe, 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 March 9, 2016.

Bruce H. Wolfe
Executive Officer

Attachments:

Figure 1 – Site Location

Figure 2 – Final Land Use Plan

Figure 3 – Monitoring Locations

Self-Monitoring Program (Part A and Part B)



**ZANKER ROAD RESOURCE MANAGEMENT, LTD.
 ZANKER MATERIAL PROCESSING FACILITY
 SAN JOSE, CALIFORNIA**

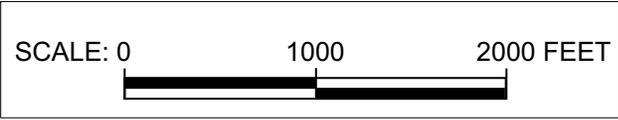
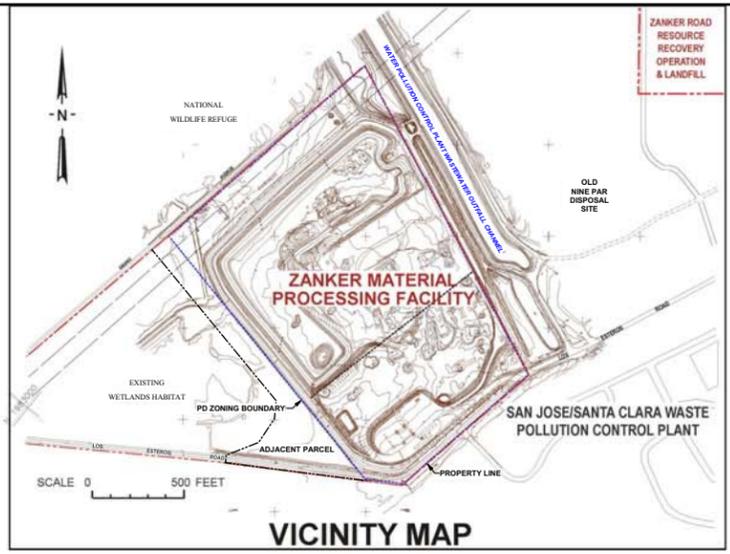
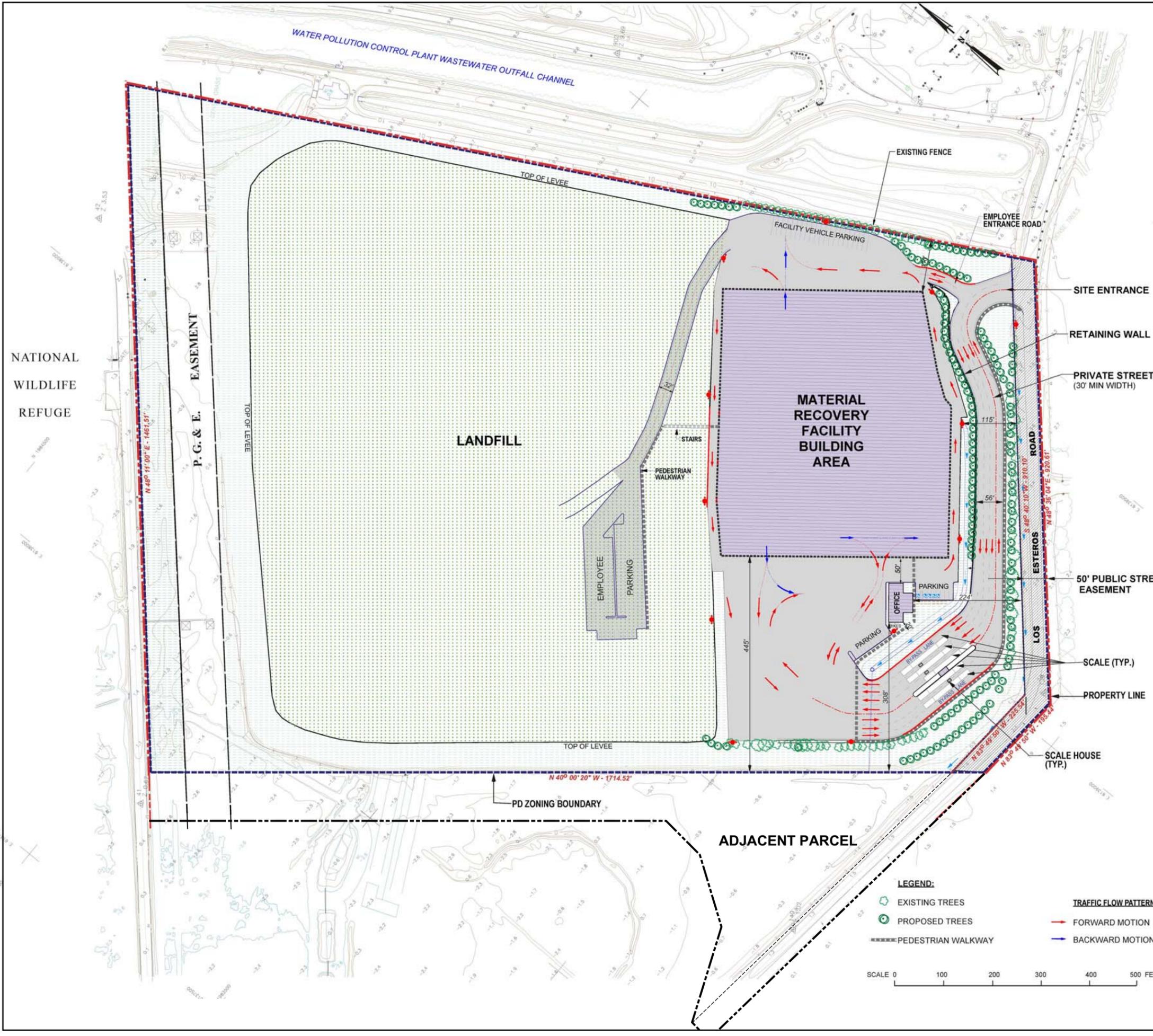


FIGURE 1. SITE LOCATION



PROPOSED USE	NET AREA (acres)	% TOTAL ZONING AREA
LANDFILL	25.2	48.0
BUILDING AREA* (MRF, office, scale houses)	5.8	11.1
PAVED PRIVATE ACCESS ROADS / MRF MANUEVERING AREA (overlaps landfill)	7.9	15.0
PUBLIC ACCESS ROAD EASEMENT	1.2	2.3
PRIVATE OPEN SPACE	10.5	20.0
PG&E PACIFIC GAS & ELECTRIC EASEMENT	2.9	5.5
TOTAL PARCEL / PD ZONING AREA	52.5	101.9
OVERLAPPING USES:**		
LANDFILL ROAD / EMPLOYEE PARKING	1.0	1.9

* Building Area represents the "envelope" where the MRF, Employee Facilities, and Maintenance Facility will be located. Any portion of the building area not used for the building footprint will be used for traffic circulation.

** Landscaping is an overlapping use, overlapping Open Private Space and the Landfill. Total landscaped area: 15.0 acres = 28.6%

Topographic base map prepared by photogrammetric methods by Aero-Geodetic Corporation, San Jose, California
 Date of photography: August 22, 2012
 Property boundary dimensions were obtained from the Santa Clara County Assessor's Office, (APN 051-30-71). Map date: March 1, 1989
 Property boundary bearings from survey by Louis M. Bini Associates, Inc. Santa Clara, California. Job No. 77-56, date of survey: 4/4/78

FIGURE 2. FINAL LAND USE PLAN



EXPLANATION

- Groundwater monitoring well showing
- ⊙ Groundwater piezometer
- Leachate monitoring wall
- Leachate extraction trench piezometer
- ◆ Perimeter observation station
- ⊕ On-site observation station

NOTE: This map was prepared using photogrammetric methods by Tetra Tech Geomatic Technologies in Lafayette, California. In areas of dense vegetation, accuracy of contours may deviate from accepted accuracy standards. The grid is based on the California Coordinate System, Zone III, NAD 1983. Elevations are based on NGVD 1929. Control survey performed by RJA Associates, Pleasanton, CA.

Topography date: 3/14/15. Adjacent topography date: 1/6/1994.

FIGURE 3. MONITORING LOCATIONS

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

SELF-MONITORING PROGRAM

FOR

**ZANKER ROAD RESOURCE MANAGEMENT, LTD.
ZANKER MATERIAL PROCESSING FACILITY
SAN JOSE, SANTA CLARA COUNTY**

ORDER NO. R2-2016-XXXX

CONSISTS OF

PART A

AND

PART B

PART A

This self-monitoring program (SMP) specifies monitoring and reporting requirements, including:

- a. General monitoring requirements for landfills and waste management units (Part A)
- b. Discharge monitoring report content and format (Part A)
- c. Discharge monitoring report submittal frequency and schedule (Part B)
- d. Monitoring locations and frequency (Part B)
- e. 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, Division 2, Title 27, Subdivision 1, Chapter 3, Subchapter 3, sections 20380 through 20435. The principal purposes of a SMP are: (1) to document compliance with waste discharge requirements and prohibitions established by the Water Board, (2) to facilitate self-policing by the waste discharger 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 the discharger in complying with the requirements of title 27.

This SMP supersedes the previous site discharge monitoring programs outlined in Order No. 98-123 (issued December 16, 1998).

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, stormwater, 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 site.

Sample collection, storage, and analyses shall be performed according to the most recent version of U.S. EPA-approved methods or in accordance with a sampling and analysis plan approved by Regional Water Board staff. Analytical testing of environmental media required by this SMP shall be performed by a State-approved laboratory for the required analyses. The director of the laboratory whose name appears on the certification shall be responsible for supervision of 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 Regional 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.

Standard Observations:

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

1. WMUs:

- 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 WMUs:

- 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: presence of water associated with wildlife;
- e. Flow rate; and
- f. Weather conditions: wind direction and estimated velocity, total precipitation.

Facilities Inspections

Facilities inspections refer to the inspection of all containment and control structures and devices associated with WMUs. Containment and control facilities may include the following:

1. Final cover;
2. Stormwater management system elements such as perimeter drainage and diversions channels, ditches and down-chutes, and detention and sedimentation ponds or collection tanks;
3. Landfill gas system; and
4. Leachate extraction system elements such as leachate storage tanks, pumps, and control equipment.

C. REPORTING REQUIREMENTS

Reporting responsibilities of waste dischargers are specified in sections 13225(a), 13267(b), 13383, and 13387(b) of the California Water Code and this Regional Water Board's Resolution No.73-16.

Written detection monitoring reports shall be filed the 30th day of the month following the semiannual reporting period. The first semiannual reporting period is January 1st to June 30th. Sampling for the first semiannual reporting period shall be conducted during the first quarter of the year. The second semiannual reporting period shall be from July 1st to December 31st. Sampling for the second semiannual reporting period shall be conducted during the third quarter of the year. In addition, an annual report shall be filed as indicated in C.6 below. The second semiannual report and the annual report may be combined.

At a minimum, each Self-Monitoring Report (SMR) shall include the following information:

1. **Transmittal Letter:** A cover letter transmitting the essential points 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, sampling, and observation 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 around each waste management unit, based upon the past and present water level elevations and pertinent visual observations;
 - c. Concentration vs. time graphs for key sampling parameters for each sampling location; and
 - d. 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 DMR to show a chronological history and allow quick and easy reference:
 - a. Well designations;
 - 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);
- h. Measurement dates; and
- i. Groundwater extraction, including:
 - 1) Average daily extraction rate
 - 2) Total volume extracted for monitoring period
 - 3) Cumulative total volume extracted since system inception.

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 quantity and types of wastes disposed of during each reporting period, and the locations of the disposal operations, if applicable;
- c. The signature of the laboratory director or his/her designee indicating that he/she has supervised all analytical work in his/her laboratory;
- d. A discussion of the field and laboratory results that includes the following information:
 - 1) Data interpretations;
 - 2) Conclusions;
 - 3) Recommendations;
 - 4) Newly implemented or planned investigations and remedial measures;
 - 5) Data anomalies;
 - 6) Variations from protocols;
 - 7) Condition of wells; and
 - 8) 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 Water Board staff.

- a. New boring and well logs;
- b. Method and time of water level measurements;
- c. Purging methods and results including:
 - 1) The type of pump used, pump placement in the well, pumping rate,;
 - 2) The equipment and methods used to monitor field pH, temperature, and conductivity;
 - 3) The calibration of the field equipment, pH, temperature, conductivity, and turbidity measurements; and
 - 4) The method of disposing of the purge water.

- d. Sampling procedures, field and trip 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 actually 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.
6. **Annual Monitoring Summary Report:** The Discharger shall submit an Annual Monitoring Summary Report to the Regional Water Board covering the previous monitoring year. The annual report shall contain a comprehensive discussion of the compliance record and the corrective actions taken or planned which may be needed to bring the discharger into full compliance with the waste discharge requirements and the Water Quality Protection Standard. It shall also contain an evaluation of the effectiveness of the leachate monitoring/control facilities, which includes an evaluation of leachate buildup within the disposal units, a summary of leachate volumes removed from the units, a summary of leachate volumes removed from the units, and a discussion of the leachate disposal methods used. The Annual Monitoring Report can be combined with the year-end Semiannual Report such that two summary reports are not required by the January 31 due date.

D. CONTINGENCY REPORTING

1. The Discharger shall report by telephone to the Regional Water Board's Spill and Complaint Hotline (510-622-2369) any discharge from the disposal area immediately after it is discovered. The Discharger shall submit a written report to the Water Board within five days of discovery of any 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 or proposed.
2. The Discharger shall submit a written report to the Water Board within seven days of determining a measurably significant result relative to the site's Water Quality Protection Standard (WQPS) as defined in title 27. Notification shall indicate:
 - a. when measurably significant result(s) have been identified;
 - b. whether or not the discharger intends to make an Optional Demonstration pursuant to section 20420(k)(7); and
 - c. whether or not the discharger intends to resample the compliance point(s) where the measurably significant result(s) was identified.

If the Discharger chooses to resample, resampling must be performed at the next regularly scheduled sampling event. The result(s) will be reported within 7 days of determining whether the resample(s) confirm or refute the initial measurably significant result(s). One resample is sufficient to confirm or refute an initial measurably significant result.

3. If re-sampling and analysis confirms the earlier finding of a measurably significant result, the Discharger shall, upon determination by the Executive Officer, submit to the Regional Water Board an amended Report of Waste Discharge as specified in title 27, section 20420 for establishment of an Evaluation Monitoring program meeting the requirements of title 27, section 20425, unless the Discharger submits a successful Optional Demonstration within 90 days of identifying a measurably significant result pursuant to section 20420(k)(7).
4. A measurably significant result is defined below for statistically and non-statistically evaluated parameters. Statistically and non-statistically evaluated parameters include site-specific detection monitoring parameters indicated on Table B-1 attached hereto.
 - a. Statistically Evaluated Parameters: a measurably significant result is indicated when the reported parameter concentration is above an intra-well prediction limit.
 - b. Non-Statistically Evaluated Parameters: for the composite VOC_{water} monitoring parameter, a measurably significant result is indicated when the reported concentration of at least one parameter exceeds the Practical Quantitation Limit (PQL) or laboratory Reporting Limit (RL), whichever is lower. Common field and laboratory contaminants such as acetone, 2-butanone, methylene chloride, toluene, carbon disulfide, and chloroform are generally excluded from the non-statistical evaluation.

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 the course of any unresolved litigation regarding this 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 B-1 of this SMP and as indicated below. Monitoring locations are shown in Figure B-1.

1. Environmental Media

Groundwater

Groundwater shall be monitored at the locations specified in Table B-1 and shown in Figure B-1. Monitoring frequencies, parameters, and analytes shall be in accordance with Table B-1.

Leachate

Leachate shall be monitored at the locations specified in Table B-1 and shown in Figure B-1. Monitoring frequencies, parameters, and analytes shall be in accordance with Table B-1.

Stormwater

Stormwater shall be monitored as required in the site's Industrial Activities Stormwater General Permit requirements. Surface water flows from on and around the landfill shall be sampled at the point(s) where they leave the facility boundary. Samples shall be collected from discharge points as required by Discharger's Industrial Activities Stormwater General Permit and shall be analyzed for the parameters listed in the Industrial Activities Stormwater General Permit requirements.

2. Standard Observations

Standard observations 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 at the locations and frequencies specified in Figure B-1 and Table B-2.

3. Facilities Inspections

The Discharger shall inspect all containment and control structures and devices associated with the Landfill to ensure proper and safe operation. Facilities inspections shall be conducted at the locations and frequencies specified in Figure B-1 and Table B-3.

B. REPORTING SCHEDULE

The Discharger shall submit SMRs to Regional Water Board staff in accordance with the schedule indicated in Table B-4. Reports due at the same time may be combined into one report for convenience, as long as monitoring activities and results pertaining to each monitoring period are clearly distinguishable.

Attachments: Tables B-1, B-2, B-3, B-4
Figures B-1

Table B-1
Self-Monitoring Program Monitoring Parameters - SMP R2-2016-XXXX
 Zanker Material Processing Facility

		GROUNDWATER															LEACHATE											
		Wells								Piezometers							Wells				Piezometers							
		G-3	G-4	G-5	G-6R	G-7	G-8	G-9	G-10	G-2	PZ-1	PZ-2	PZ-3	PZ-4	PZ-5	PZ-6	PZ-7	GR-1	GR-2	GR-3	GR-4	P-1	P-2	P-3	P-4			
Routine Parameters	Method	Sampling Schedule															Sampling Schedule											
Field Measurements																												
Water Levels	Field	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
pH	Field	SA	--	SA	SA	SA	SA	SA	SA	--	--	--	--	--	--	--	--	--	--	SA	SA	SA	SA	--	--	--	--	--
EC	Field	SA	--	SA	SA	SA	SA	SA	SA	--	--	--	--	--	--	--	--	--	--	SA	SA	SA	SA	--	--	--	--	--
Temperature	Field	SA	--	SA	SA	SA	SA	SA	SA	--	--	--	--	--	--	--	--	--	--	SA	SA	SA	SA	--	--	--	--	--
Turbidity	Field	SA	--	SA	SA	SA	SA	SA	SA	--	--	--	--	--	--	--	--	--	--	SA	SA	SA	SA	--	--	--	--	--
General																												
Ammonia as Nitrogen	350.1	SA	--	SA	SA	SA	SA	SA	SA	--	--	--	--	--	--	--	--	--	--	SA	SA	SA	SA	--	--	--	--	--
Total Kjeldahl Nitrogen	351.4	SA	--	SA	SA	SA	SA	SA	SA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
VOCs																												
VOCs, Appendix I	8260B	SA	SA ⁽³⁾	SA	SA	SA	SA	SA	SA	--	--	SA ⁽³⁾	--	--	SA ⁽³⁾	--	--	--	--	SA	SA	SA	SA	--	--	--	--	--
Five-Year COC Parameters ⁽¹⁾																												
Inorganics																												
Ammonia as Nitrogen	350.1	5Y	5Y	5Y	5Y	5Y	5Y	5Y	5Y	--	--	--	--	--	--	--	--	--	--	5Y	5Y	5Y	5Y	--	--	--	--	--
Total Kjeldahl Nitrogen	351.4	5Y	5Y	5Y	5Y	5Y	5Y	5Y	5Y	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate plus Nitrite as N	353.3	5Y	5Y	5Y	5Y	5Y	5Y	5Y	5Y	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide, Total	335.4	5Y	5Y	5Y	5Y	5Y	5Y	5Y	5Y	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfide	SM4500S	5Y	5Y	5Y	5Y	5Y	5Y	5Y	5Y	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Organic Compounds																												
VOCs, Appendix II with MTBE	8260B	5Y	5Y	5Y	5Y	5Y	5Y	5Y	5Y	--	--	--	--	--	--	--	--	--	--	5Y	5Y	5Y	5Y	--	--	--	--	--
SVOCs, Appendix II	8270C	5Y	5Y	5Y	5Y	5Y	5Y	5Y	5Y	--	--	--	--	--	--	--	--	--	--	5Y	5Y	5Y	5Y	--	--	--	--	--
Chlorinated Herbicides	8151A	5Y	5Y	5Y	5Y	5Y	5Y	5Y	5Y	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Organo-Phosphorus Pesticides	8141B	5Y	5Y	5Y	5Y	5Y	5Y	5Y	5Y	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Organochlorine Pesticides	8081B	5Y	5Y	5Y	5Y	5Y	5Y	5Y	5Y	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls	8082	5Y	5Y	5Y	5Y	5Y	5Y	5Y	5Y	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals ⁽²⁾	6020/ 7470	5Y	5Y	5Y	5Y	5Y	5Y	5Y	5Y	--	--	--	--	--	--	--	--	--	--	5Y	5Y	5Y	5Y	--	--	--	--	--

(1) Five-Year Constituents-of-Concern (COC) parameters are analyzed in addition to the Routine Parameters. The last COC event was in the third quarter 2014.

(2) Metals (CAM 17) include: antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc.

(3) Well G-4 is a corrective action well. G-4, PZ-2, and PZ-5 are sampled semiannually for VOCs by the Facility.

Q = Quarterly; SA = Semiannually first and third quarters; 5Y = Once every five years.

Table B-2. Standard Observations

Station	Frequency
WMUs	Monthly
WMU Perimeter	Monthly
Receiving Waters	Monthly

Table B-3. Facilities Inspections

Containment and Control Facility	Frequency
Final Cover	Quarterly
Stormwater Management System Elements (such as perimeter drainage and diversions channels, ditches and down-chutes, and detention and sedimentation ponds or collection tanks)	Quarterly
Landfill Gas System	Quarterly
Leachate Extraction System Elements (such as leachate storage tanks, pumps, and control equipment)	Quarterly

Table B-4. Reporting Schedule

Sampling Frequency	Reporting Frequency	Reporting Periods End	Report Due Date
Quarterly	Semiannually	31 March 30 June	31 July
		30 September 31 December	31 January
Semiannually	Semiannually	30 June 31 December	31 July 31 January
---	Annually ⁽¹⁾	31 December	31 January
5-Year	Every 5 years ⁽²⁾	31 December	31 January

(1) The Annual Summary Report can be combined with the second semiannual monitoring report.

(2) The last 5-year Constituent-of-Concern (COC) groundwater event was conducted in the third quarter 2014; therefore, the next COC event is scheduled to take place the third quarter of 2019.

ZANKER ROAD RESOURCE MANAGEMENT, LTD.
 ZANKER MATERIAL PROCESSING FACILITY
 SAN JOSE, CALIFORNIA



EXPLANATION

- Groundwater monitoring well showing
- ⊙ Groundwater piezometer
- ⊙ Leachate monitoring wall
- Leachate extraction trench piezometer
- ◆ Perimeter observation station
- ⊕ On-site observation station

NOTE: This map was prepared using photogrammetric methods by Tetra Tech Geomatic Technologies in Lafayette, California. In areas of dense vegetation, accuracy of contours may deviate from accepted accuracy standards. The grid is based on the California Coordinate System, Zone III, NAD 1983. Elevations are based on NGVD 1929. Control survey performed by RJA Associates, Pleasanton, CA.

Topography date: 3/14/15. Adjacent topography date: 1/6/1994.

FIGURE B-1. MONITORING LOCATIONS