

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 98-123

UPDATED WASTE DISCHARGE REQUIREMENTS FOR:

ZANKER MATERIAL PROCESSING FACILITY LANDFILL
FORMER OWENS-CORNING SOLID WASTE DISPOSAL SITE
CITY OF SAN JOSE, SANTA CLARA COUNTY

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

SITE DESCRIPTION:

1. Zanker Road Resource Management, Ltd. (hereinafter called the discharger) owns and operates the Zanker Material Processing Facility Landfill (ZMPF), in Santa Clara County. The Limited Partnership consists of Zanker Road Resource Recovery Inc. and H.L. Sweatt Inc. This landfill was formerly known as the Owens-Corning Solid Waste Disposal Site.
2. The ZMPF is located at 675 Los Esteros Road in San Jose, Santa Clara County, California. ZMPF is located one mile east of the community of Alviso as shown in Figure 1.
3. The ZMPF is currently permitted for the disposal of off-specification materials and waste products from the Owens-Corning Fiberglass Plant in the City of San Jose. The ZMPF is a Class III waste disposal site. The wastes typically consist of insulation, roof shingles, and non-recyclable waste. This order provides requirements to convert the present landfill site to a material processing recovery facility with landfilling of non-recoverable materials. The facility is to be upgraded to include a leachate collection and removal system.

PURPOSE OF ORDER UPDATE:

4. The discharger submitted a Joint Technical Document (JTD) on February 26, 1998, for the purpose of updating the site's Waste Discharge Requirements (WDR). The primary objectives of this order are to: 1) Approve landfill design modifications to existing side slopes; 2) Approve berm construction around the 12 acre Resource Recovery Area; 3) Approve landfill resource recovery operations and landfilling of wastes; 4) Revise the groundwater, surface water, leachate collection, and leachate monitoring programs to monitor for the potential impact to water quality; 5) Establish requirements to construct a leachate collection and removal system; and 6) Update the waste discharge requirements and 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). The JTD, including all referenced materials is hereby incorporated as part of this Order.

SITE AND REGULATORY HISTORY:

5. The site has been in operation since 1956. The total property owned by the discharger is 80.94 acres. Of this total acreage, 9.2 acres are dedicated easement, 25.64 acres are dedicated open space, much of which is under the jurisdiction of the U.S. Army Corps of Engineers, and 46.1 acres comprise the waste management unit (WMU). Within the WMU, 30.8 acres have been previously filled with wastes, while 15.3 acres remain unfilled. The current waste stream consists only of culled fiberglass products, including composite asphalt-coated paper, foil, and refractory wastes. Recyclable paper, foil, polyethylene, pallets, asphalt, and concrete are sent to recycling facilities and are not presently landfilled. In addition, no putrescible, hazardous, or liquid wastes are disposed of at the ZMPF.
6. The Board on September 20, 1977, adopted Order No. 77-127 prescribing initial waste discharge requirements and compliance schedules for the former Owens-Corning Fiberglas Corporation Class II-2 Solid Waste Disposal Site.
7. On August 15, 1978, the Board adopted Order No. 78-67. This order revised the compliance time schedule for the facility, but not the monitoring and reporting requirements.
8. The ZMPF is also included under the NPDES General Storm Water Permit No. CAG612001.
9. On March 15, 1995, the Board adopted the current Order No. 95-058. This order revised the groundwater, surface water, and leachate monitoring programs and incorporated the requirements of the General Industrial Storm Water Runoff Program. Additionally, the discharger was required to monitor for leachate buildup in the waste unit and install additional monitoring wells.

GEOLOGIC SETTING:

10. The site is located in the northern part of the Santa Clara Valley adjacent to the southern end of San Francisco Bay (Figure 2). The San Francisco Bay is located in a structural depression that slowly subsided along several parallel northwest trending faults. The structural depression gradually filled with alluvial stream and estuarine deposits to form a thick sequence of Bay Mud and interbedded alluvium.
11. Holocene Bay Mud underlies the facility and is exposed in the northwestern part of the landfill. The Bay Mud consists of unconsolidated clays and silty clays interbedded with thin lenses and stringers of silt and sand. Fine-grained Holocene alluvium is exposed southeast of the waste management unit in the southern and southeastern part of the of the disposal facility.

HYDROGEOLOGIC SETTING:

12. The site lies within the northern part of the Santa Clara Valley groundwater basin, which contains over 1,000 feet of unconsolidated to semi-consolidated clay, silts, sands, and gravel. Regional groundwater studies indicate the primary freshwater aquifers of the northern Santa

Clara Valley are restricted to buried channel deposits with the Pleistocene alluvium. The buried channel deposits are regionally grouped into "upper" and "lower" aquifers. Near the bay, these aquifers are separated from each other by the Pleistocene Bay Mud, which forms an extensive clay aquitard. Regional groundwater flow within the aquifer system is toward San Francisco Bay and is recharged by runoff from the Santa Cruz Mountains and the Diablo Range

13. Hydrogeological investigations conducted in 1980 and in 1985 indicated that two aquifer zones, the upper and lower water bearing zones, are located beneath the WMU. Elevation wise, the top of the upper aquifer zone is 45 feet below Mean Sea Level (MSL), and is overlain by Bay Mud. The upper aquifer is underlain by a laterally extensive clay aquitard that extends 200 feet below MSL. The lower aquifer zone occurs below this aquitard and forms an extensive drinking water aquifer in the Santa Clara Valley. Artesian flow conditions from an onsite groundwater well has been reported at this facility.
14. In addition to the upper and lower regional aquifers, there are shallow water bearing zones within the Holocene Bay Mud. These zones are separated from the upper aquifer by the regionally extensive Bay Mud aquitard. The quality of groundwater in the shallow aquifer is generally poor because of extensive saltwater intrusion. Groundwater in the shallow aquifer is recharged from local runoff and percolation, including percolation from the San Jose/Santa Clara Water Pollution Control Plant outfall channel.
15. The upper most water-bearing unit beneath the landfill is a 2 to 5 foot thick sand zone approximately 12 to 15 feet below MSL. The sand zone is laterally continuous beneath most of the facility and forms isolated lenses beneath the southwestern part of the waste management unit as shown on Figure 3.
16. The groundwater in both the upper and lower aquifers is confined. The shallow water bearing beds have been examined in detail because potential impacts to groundwater from the landfill would initially be detected there.
17. The main surface water bodies adjacent to the ZMPF are marshlands of the San Francisco National Wildlife Refuge and the San Jose/Santa Clara WPCP outfall channel. The wildlife refuge borders the northwestern part of the 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 WMU and drains into the south branch of Coyote Creek. Other surface waterways near the ZMPF are the Guadalupe River and Coyote Creek, which empty into the bay northwest and northeast of the ZMPF. No surface water bodies exist at the ZMPF. 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 WMU from potential flooding.

WASTE DISPOSAL & THEIR CLASSIFICATION:

18. The northwestern 30.8 acres of the WMU have been used for most of the historical waste disposal. Recyclable material such as demolition waste, cardboard, paper, polyethylene, and foil are diverted from the landfill for processing. The only material currently landfilled at the

ZMPF is waste derived from the Owens-Corning Fiberglas Corporation production line. This waste includes culled fiberglass and other products that do not meet product specifications and could not be recycled back into the Owens-Corning Fiberglas Corporation production line. No designated, infectious, or hazardous wastes are presently disposed of at the waste management unit.

19. The former owner, Owens-Corning, listed the following wastes as being disposed of at the WMU to comply with Section 103 (C) of the Comprehensive Environmental Repose, Compensation, and Liability Act (CERCLA, known as Superfund);
- 369 cubic yards of furnace refractory brick and slag suspected of containing chromium;
 - 1,020 tons of baghouse dust containing concentrations of chromium less than 200 ppm;
 - 5, 100 baghouse bags impregnated with chromium containing dust;
 - 16, 500 gallons of methylene chloride solvent and waste adhesives;
 - 14,000 gallons of waste diacetone alcohol and epoxy resin;
 - 960 gallons of waste paint and solvent and;
 - Wash-water residue containing low levels of phenols.

In 1988, the Facility was reassessed according to guidelines established to implement the Superfund Amendment and Reauthorization Act (SARA). The United States Environmental Protection Agency Region IX Field Investigation Team, which conducted the evaluation, recommended no further remedial action for the site.

20. The current remaining site capacity is estimated at 540,100 cubic yards. The approximate expected life of the Unit is 20 years and the waste management facility would be closed around 2019, depending on waste volumes landfilled (JTD, 1998).

MONITORING PROGRAM:

21. The existing self-monitoring well network consists of seven groundwater monitoring wells, one piezometer, and four leachate monitoring wells as shown on Figure 1 in the attached Discharge Monitoring Program. Six detection monitoring wells, G-3, G-4, G-5, G-7, G-8 and G-9 monitor the near surface water bearing zone within the Bay Mud along the hydraulically downgradient limit of the waste management unit. Upgradient well G-6R, along the southeastern edge of the site away from waste disposal activities, monitors upgradient water quality within the upper most aquifer. Leachate wells, GR- 1, GR-2, GR-3 and GR-4 monitor leachate in the waste management unit and provide data on variations in leachate chemistry and leachate piezometric elevations. These wells shall provide data on the effectiveness of the perimeter and interior leachate collection and removal system during operation
22. The initial groundwater monitoring network at the facility was installed in 1977 in compliance with the self-monitoring requirements in effect at that time. In 1991, downgradient point of compliance well G-7 was added to the detection monitoring network as a part of the SWAT program, and damaged upgradient monitoring well G-6 was decommissioned and replace with monitoring well G-6R. Wells G-8 and G-9 were added to the monitoring network following the adoption of Order No. 95-058.

23. The site has no leachate collection and removal system. Leachate wells GR-1 and GR-2 were installed in 1985 at the request of the Board to characterize the occurrence and chemical composition of leachate at the site. Leachate wells GR-3 and GR-4 were installed in 1995 at the request of the Board to further characterize the occurrence and composition of the leachate. This order establishes requirements for the discharger to install a perimeter and interior leachate collection and removal system.
24. Federal Regulations [40 Code of Federal Regulations (CFR) Parts 122, 123, and 124] require specific categories of industrial activities, including landfills, to obtain a NPDES permit for storm water discharges. The State Water Resources Control Board has issued a General Permit for Storm Water Discharges Associated with Industrial Activities (NPDES Permit No. CAG612001). This facility is subject to these requirements. Pursuant to the Storm water Discharge Program, this facility is required to submit a Notice of Intent for coverage under the General Permit; to prepare and implement a monitoring program; and to submit an annual report.

CALIFORNIA ENVIRONMENTAL QUALITY ACT:

25. The City of San Jose has certified a Final Environmental Impact Report (FEIR) in accordance with the California Environmental Quality Act (CEQA, Public Resources Code Section 21000 et. seq.) (JTD, 1998). The proposed landfill activity, as approved by the County, could potentially cause significant effects on water quality and may degrade the water quality unless appropriate mitigation measures are taken. Potential threats to the water quality could potentially occur as a result of:
1. Deformation caused by a seismically induced ground failure;
 2. Ground liquefaction during a seismic induced event;
 3. Settlement of Bay Mud under the site could potentially compromise the leachate collection and Removal system;
 4. Potential production of leachate caused by ponding of water on the landfill;
 5. Contamination of groundwater by leachate;
 6. Existing onsite groundwater well could provide a conduit for leachate;
 7. Surface water could potentially be impacted by site operations;
 8. Potential inundation or levee failure as a result of a 100-year flood;
 9. Levee construction could result in inadvertent filling of wetlands and;
 10. Project operations could potentially impact adjacent wetlands through contamination of groundwater or surface water by the release of contaminated storm water runoff, sediment and erosion of landfill or levee slopes, or from landfill leachate.
26. The Board has considered the Zanker Road Material Processing Facility FEIR and the mitigation measures described therein relating to the protection of groundwater and surface water quality. In the ZMPF FEIR, the following mitigation measures have been completed or are required, by this Order, for the protection of groundwater and surface water quality:
1. The discharger has completed an acceptable slope stability report as part of the Joint Technical Document (JTD, 1998). This study adequately addresses deformation

- caused by a seismically induced ground failure and ground liquefaction during a seismically induced event;
2. All site improvements, structures, leachate collection and removal systems will be constructed to withstand the maximum probable earthquake as required under Specification B.3 of this Order;
 3. The leachate extraction and removal system would be designed to account for the expected amount of settlement as required under Provision C.24-25 and Specification B.3 of this Order;
 4. A minimum grade of three percent will be maintained on all landfill slopes as required under Specification B.4 of this Order;
 5. Contamination of groundwater by leachate will be mitigated under Provision C.25 of this Order;
 6. The existing onsite groundwater well will be decommissioned and abandoned to mitigate the potential for leachate migration to groundwater as required by the city of San Jose Planned Development Permit;
 7. Impacts to surface water from site operations will be mitigated under Prohibition A.5a and Provision C.34 of this Order;
 8. Potential levee failure as a result of a 100 year flood will be mitigated under Specification B.2 and Provision C.24 of this Order;
 9. Though no construction will occur in wetland areas, ZMPF is required as part of the Planned Development Permit from the City of San Jose to develop a wetlands protection plan to prevent levee construction and site improvements from impacting adjacent wetlands and;
 10. Impacts to adjacent wetlands from storm water discharge will be mitigated under Prohibition A.5a and Provision C.34 of this Order.
27. Pursuant to Section 13273 of California Water Code, a Solid Waste Assessment Test (SWAT) was prepared for the site in July of 1992. The result of the SWAT report indicated that no compounds are present in surface water, leachate, or groundwater at concentrations exceeding hazardous waste criteria and there appears to be no impacts to surface water. Groundwater impacts are limited to the landfill itself and its immediate periphery.
28. **Public Hearing:** The Board, at a public meeting, heard and considered all comments pertaining to this discharge.

IT IS HEREBY ORDERED that the Zanker Road Resource Management, LTD., its agents, successors and assigns shall meet the applicable provisions contained in Title 27, and Division 7 of the California Water Code, and shall comply with the following:

A. PROHIBITIONS

1. The ZMPF is prohibited from accepting and or landfilling any putrescible municipal solid household waste as defined in Title 27 Section 20164. This prohibition includes garbage, food and restaurant waste, agricultural waste, green waste, dead animals or any other organic waste capable of putrefaction. Only non-hazardous, non-putrescible, non-leachable inert solid waste including construction debris may be accepted and or disposed of at this site as defined in

Title 27 Section 20164. The permittee is also prohibited from accepting any liquid sludge, designated wastes, friable asbestos, or hazardous wastes.

2. Wastes shall not be in contact with ponded water.
3. Leachate from wastes and ponded water containing leachate or in contact with refuse shall not be discharged to waters of the State or of the United States.
4. Hazardous and designated wastes as defined in §2521 of Chapter 15 and §20210 of Title 27 respectively, shall not be deposited or stored at this site.
5. The discharger, or any future owner or operator of this site, shall not cause the following conditions to exist in waters of the State at any place outside the WMU.

a. Surface Waters

1. Floating, suspended, or deposited macroscopic particulate matter or foam.
2. Bottom deposits or aquatic growth.
3. Adversely altered 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

The groundwater shall not be degraded as a result of the waste maintained at the facility.

B. SPECIFICATIONS

1. All reports pursuant to this Order shall be prepared under the supervision of a registered civil engineer or certified engineering geologist.
2. The site shall be protected from any washout or erosion of wastes from inundation, which 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.

3. The discharger shall assure that the foundation of the site, the refuse fill, and the structures which control leachate, surface drainage, erosion and gas for this site are constructed and maintained to withstand conditions generated during the maximum probable earthquake.
4. As portions of the landfill are filled or closed, the exterior surfaces (cap or interim cover) shall be graded to a minimum slope of 3 percent in order to promote lateral runoff (normal movement) of precipitation.
5. After closure, a detailed survey of the landfill's cap must be made, to assure that construction is in compliance with the requirements of Title 27, California Code of Regulations (CCR).
6. The discharger shall maintain and monitor the waste unit so as not to cause a statistically significant difference to exist between water quality parameters at the compliance point and Water Quality Protection Standards as defined in §20380 of Title 27, CCR. The point of compliance as per §20405, Title 27, CCR, is a vertical surface located at the hydraulically down gradient limit of the Unit that extends through the uppermost aquifer underlying the Unit.
7. In the event of a release of a constituent of concern beyond the Point of Compliance, the discharger will begin a Compliance Period pursuant to §20410, Title 27, CCR. During the Compliance Period, the discharger shall perform an Evaluation Monitoring Program and a Corrective Action Program.
8. The discharger shall install any reasonable additional groundwater and/or leachate monitoring devices required to fulfill the terms of any Discharge Monitoring Program (DMP) issued by the Executive Officer.
9. Methane and other landfill gases shall be adequately vented, removed from the landfill units, or otherwise controlled to minimize the danger of explosion, adverse health effects, nuisance conditions, or the impairment of beneficial uses of water.
10. This Board considers Zanker Road Resource Management Ltd. to have continuing responsibility for correcting any problems which arise in the future as a result of this waste discharge or related operations during the active life and post-closure maintenance period.
11. 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 as provided for by the performance standards adopted by the California Integrated Waste Management Board.
12. The discharger shall provide and maintain a minimum of two permanent surveyed monuments near the landfill from which the location and elevation of wastes, containment structures, and monitoring facilities can be determined throughout the post-closure and maintenance periods. These survey monuments shall be installed by a land surveyor or civil engineer registered by the State of California.
13. The Regional Board shall be notified immediately of any failure occurring in the waste management unit. Any failure, which threatens the integrity of containment features or the

landfill, shall be promptly corrected after approval of the method and schedule by the Executive Officer.

14. The discharger shall comply with all applicable provisions of Title 27 that are not specifically referred to in this Order.
15. The discharger shall maintain the facility so as to prevent a statistically significant increase in water quality parameters at the point of compliance as provided in §20405 of Title 27, CCR.
16. The discharger is required to lower the leachate elevation to 0 feet MSL in the landfill (JTD, 1998).

C. PROVISIONS

1. The discharger shall comply with all Prohibitions, Specifications, and Provisions of this Order, immediately upon adoption of this Order or as provided below.
2. The discharger must comply with all conditions of these Waste Discharge Requirements. Violations may result in enforcement actions, including Regional Board orders or court orders requiring corrective action or imposing civil monetary liability, or in modification or revocation of these Waste Discharge Requirements by the Regional Board. [CWC Section 13261, 13263, 13265, 13268, 13300, 13301, 13304, 13340, 13350]
3. The discharger shall comply with all applicable items of the attached Discharge Monitoring Program, or any amendments thereafter, as approved by the Executive Officer.
4. The discharger is required to place an intermediate cover on those portions of the landfill which are not actively used for filling. The placement of intermediate cover must be in compliance with §20705 of Title 27.
5. This order requires the discharger to initiate the semi-annual self monitoring program as defined in the attached Discharge Monitoring Program, Parts A & B.
6. The discharger shall maintain a copy of this Order at its offices in San Jose, California, with its environmental compliance staff responsible for the ZMPF.
7. This Board considers the property owner and site operator to have continuing responsibility for correcting any problems, which arise in the future, as a result of the waste discharged or related operations.
8. In the event that the discharger-owned property adjacent to the landfill is developed into residential dwellings, the discharger will notify perspective home purchasers of the presence of the landfill.
9. The discharger shall permit the Regional Board or its authorized representative, upon presentation of credentials:

- Immediate entry upon the premises on which wastes are located or in which any required records are kept.
 - Access to copy any records required to be kept under the terms and conditions of this order.
 - Inspection of any treatment equipment, monitoring equipment, or monitoring methods required by this order or by any other California State Agency.
 - Sampling of any discharge, groundwater or leachate governed by this order.
10. These requirements do not authorize commission of any act causing injury to the property of another or of the public; do not convey any property rights; do not remove liability under federal, state or local laws; and do not authorize the discharge of wastes.
 11. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the discharger. The discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office. 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 existing and new discharger containing a specific date for the transfer of this order's responsibility and coverage between the current discharger and the new discharger. This agreement shall include an acknowledgment that the existing discharger is liable for violations up to the transfer date and that the new discharger is liable from the transfer date on (CWC Sections 13267 and 13263). The request must contain the requesting entity's full legal name, the address and telephone number of the persons responsible for contact with the Board and statement. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code.
 12. This Order is subject to Board review and updating, as necessary, to comply with changing State and Federal laws, regulations, policies, or guidelines; changes in the Board's Basin Plan; or changes in the discharge characteristics (CWC Section 13263).
 13. Where the discharger becomes aware that it failed to submit any relevant facts in a Joint Technical Document or submitted incorrect information in a Joint Technical Document or in any report to the Regional Board, it shall promptly submit such facts or information (CWC Sections 13260 and 13267).
 14. 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 [CWC Section 13263(g)].

15. Provisions of these waste discharge requirements are severable. If any provision of these requirements are found invalid, the remainder of these requirements shall not be affected.
16. 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 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 [CWC Section 13263(f)].
17. 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 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 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. This reporting is in addition to reporting to the Office of Emergency Services required pursuant to the Health and Safety Code.
18. The discharger shall report any noncompliance, which may endanger human health, the environment or living organism. Any information shall be provided orally to the Executive officer, within 24 hours from the time the discharger becomes aware of the circumstances. A written submission 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 report shall include 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 [CWC Sections 13263 and 13267].
19. 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. All flow measurement devices shall be calibrated at least once per year, or more frequently, to ensure continued accuracy of the devices. Annually, the discharger shall submit to the Executive Officer a written statement signed by a registered professional civil engineer, certifying that all flow measurement devices have been calibrated and will reliably achieve the accuracy required.

REPORT DUE DATE: **January 30, Yearly**

20. Unless otherwise permitted by the Regional Board Executive Officer, all analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. The Executive Officer may allow use of an uncertified laboratory under exceptional circumstances, such as when the closest laboratory to the monitoring location is outside the State boundaries and therefore not subject to certification. All analyses shall be required to be conducted in accordance with the latest edition of "Guidelines Establishing Test Procedures for Analysis of Pollutants" (40 CFR, Part 1360) promulgated by the U.S. Environmental Protection Agency (CCR Title 23, Section 2230). This Board considers the property owner and site operator to have continuing responsibility for correcting any problems, which may arise in the future as result of waste discharge or related operations.
21. Use of decomposable, leachable or high moisture content Alternative Daily Cover is prohibited.
22. Copies of all correspondence, reports, and documents pertaining to compliance with the Prohibitions, Specifications and Provisions of this Order, shall also be provided to the Environmental Health Services Division of the City of San Jose Local Enforcement Agency.
23. The discharger shall analyze groundwater, leachate and surface water samples for the parameters as presented in Table 2 of the Discharge Monitoring Program for this facility.
24. The discharger shall submit a **Final Construction Certification Report**, acceptable to the Executive Officer, pursuant to the specifications of this Order. This report shall provide as-built drawings and a report covering the various constructed components of the landfill, including the details of re-construction of landfill side slopes, flood control berms and construction of the perimeter leachate removal and collection system. This report shall include a section on construction Quality Assurance & Quality Control (QA/QC). The Final Construction Certification Report must be determined to be consistent with this order by the Executive Officer prior to acceptance of waste.

REPORT DUE DATE: **January 15, 1999**

25. The discharger shall submit an **Interior Leachate Control System-Final Construction Certification Report**, acceptable to the Executive Officer, covering the interior leachate collection and removal system. This report shall provide as-built drawings, a detailed description of construction activities and QA/QC for the project.

REPORT DUE DATE: **July 1, 1999**

26. The discharger will dispose of any hazardous waste or material encountered during landfill construction at an appropriate waste site permitted to accept such wastes. Upon discovery of such waste, the discharger shall notify Board staff, by phone, of its presence and shall identify said waste.
27. The discharger shall submit a detailed technical report, acceptable to the Executive Officer, evaluating the effectiveness of the **Leachate Extraction and Removal System**, pursuant to

Specification B.16, of this order. This report shall include appropriate leachate contour maps, a discussion of the effectiveness of the system and any corrective action needed.

REPORT DUE DATE: **August 1, 2000**

28. The discharger shall submit a technical report, acceptable to the Executive Officer, documenting installation of Point of Compliance Well G-10. Well G-10 shall be installed near the South West corner of the Landfill.

REPORT DUE DATE: **February 12, 1999**

29. The discharger shall document re-installation of groundwater monitoring wells abandoned during construction of perimeter levies and landfill side slopes. The discharger is required to submit a technical report acceptable to the Executive Officer that documents that groundwater monitoring wells G-8 and G-9 as listed in Table No. I in Part B of the attached Self Monitoring Program are replaced if destroyed or damaged during construction.

REPORT DUE DATE: **15 Days after Installation**

30. The discharger shall submit a detailed **Post Earthquake Inspection and Corrective Action Plan**, acceptable to the Executive Officer, to be implemented in the event of any earthquake generating ground shaking of Magnitude 7 or greater at or within 30 miles of the landfill. The report shall describe the containment features, and ground water monitoring and leachate control facilities potentially impacted by the static and seismic deformations of the landfill. The plan shall provide for reporting results of the post earthquake inspection to the Board within 72 hours of the occurrence of the earthquake. Immediately after an earthquake event causing damage to the landfill structures, the corrective action plan shall be implemented and this Board shall be notified of any damage.

NOTIFICATION: **IMMEDIATELY**
REPORT DUE DATE: **April 30, 1999**

31. The discharger shall submit a **Leachate Spill Contingency Plan** to be instituted in the event of a leak or spill from the leachate facilities. The discharger shall give immediate notification to the San Francisco Bay - Regional Water Quality Control Board, the Local Enforcement Agency (LEA), and the California Department of Toxic Substance Control. The discharger shall initiate its corrective action plan to stop and contain the migration of pollutants from the site.

NOTIFICATION: **IMMEDIATELY**
REPORT DUE DATE: **January 15, 1999**

32. The discharger shall submit to the Regional Board **Discharge Monitoring Reports** prepared under the supervision of a registered civil engineer or certified engineering geologist, performed according to any Discharge Monitoring Program issued by the Executive Officer. The proposed sampling and analysis program submitted by the discharger in May of 1998,

must be revised to include the monitoring requirements of this Order for approval by the Executive Officer.

REVISED DMP
PROPOSAL:

January 15, 1999

33. The discharger shall immediately notify the Board of any flooding, equipment failure, slope failure, or other change in site conditions which could impair the integrity of waste or leachate containment facilities or precipitation and drainage control structures.

NOTIFICATION: **IMMEDIATELY**

REPORT DUE DATE: **WITHIN 7 DAYS AFTER THE INCIDENT**

34. The discharger shall prepare, implement and submit a **Storm Water Pollution Prevention Plan** in accordance with requirements specified in State Water Resources Control Board General Permit for Storm Water Discharges Associated with Industrial Activities (NPDES Permit No. CAG612001).

35. The discharger shall prepare and submit an updated **Site Topographic Map**, acceptable to the Executive Officer, based on aerial photography of the site. The age of the aerial photography shall not be older than November 1, of the previous year. The map shall be annotated to show all groundwater, surface water and leachate monitoring stations. This map shall be included in the Annual Self-Monitoring Report required in the Attached Discharge Monitoring Program.

MAP DUE DATE: **January 30, Yearly**

36. Updated landfill capacity estimates and life estimates, calculated from the site topographic map or other method approved by the Executive Officer, shall also be included in the Annual Self Monitoring Report.

DUE DATE: **January 30, Yearly**

37. The discharger shall submit to this Board and to the California Integrated Waste Management Board, evidence of an **Irrevocable Closure Fund** or provide other means to ensure closure and post-closure maintenance of the waste management unit, pursuant to Section 20950 (f) of Title 27, CCR. The closure fund must provide sufficient funds to properly close the landfill and for the post-closure monitoring, leachate management and maintenance of the site. For the purposes of planning the amount of the fund, the discharger shall assume a post-closure period of at least 30 years. However, the post-closure maintenance period shall extend as long as the wastes pose a threat to water quality.

REPORT DUE DATE: **January 15, 1999**

38. The discharger shall submit a letter report to the Board detailing the repair and maintenance activities that need to be completed prior to the commencement of the following rainy season. This letter report shall also include a schedule for repair and maintenance activities, and cost analysis detailing the anticipated expense for all repairs, maintenance, and monitoring during the next 12 months. Repair and maintenance estimates shall be based on rainy season inspections conducted throughout the winter as required in the attached Discharge Monitoring Plan Part A.

REPORT DUE DATE: **August 1, Yearly**

39. This Order is subject to Board review and updating, as necessary, to comply with changing State or Federal laws, regulations, policies, or guidelines; changes in the Board's Basin Plan; or changes in the discharge characteristics.
40. This Order rescinds Order No. 95-058

I, Loretta K. Barsamian 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 December 16, 1998.


for

Loretta K. Barsamian
Executive Officer

Attachments:

- A. Figures:
1. Site Location Map
 2. Regional Geologic Map
 3. Landfill Cross Sectional Map
- B. Discharge Monitoring Program

References

Zanker Road Resources Management Inc. 1998. "Joint Technical Document, Zanker Material Processing Facility, San Jose, California." February 1998.

Einarson, Fowler & Watson "Proposed Detection Monitoring Program, Zanker Material Processing Facility, San Jose, California" May 15, 1998.

Zanker Road Resources Management Inc. 1998. "Joint Technical Document, Appendix A, Final Environmental Impact Report, Zanker Material Processing Facility, San Jose, California." February 1998.

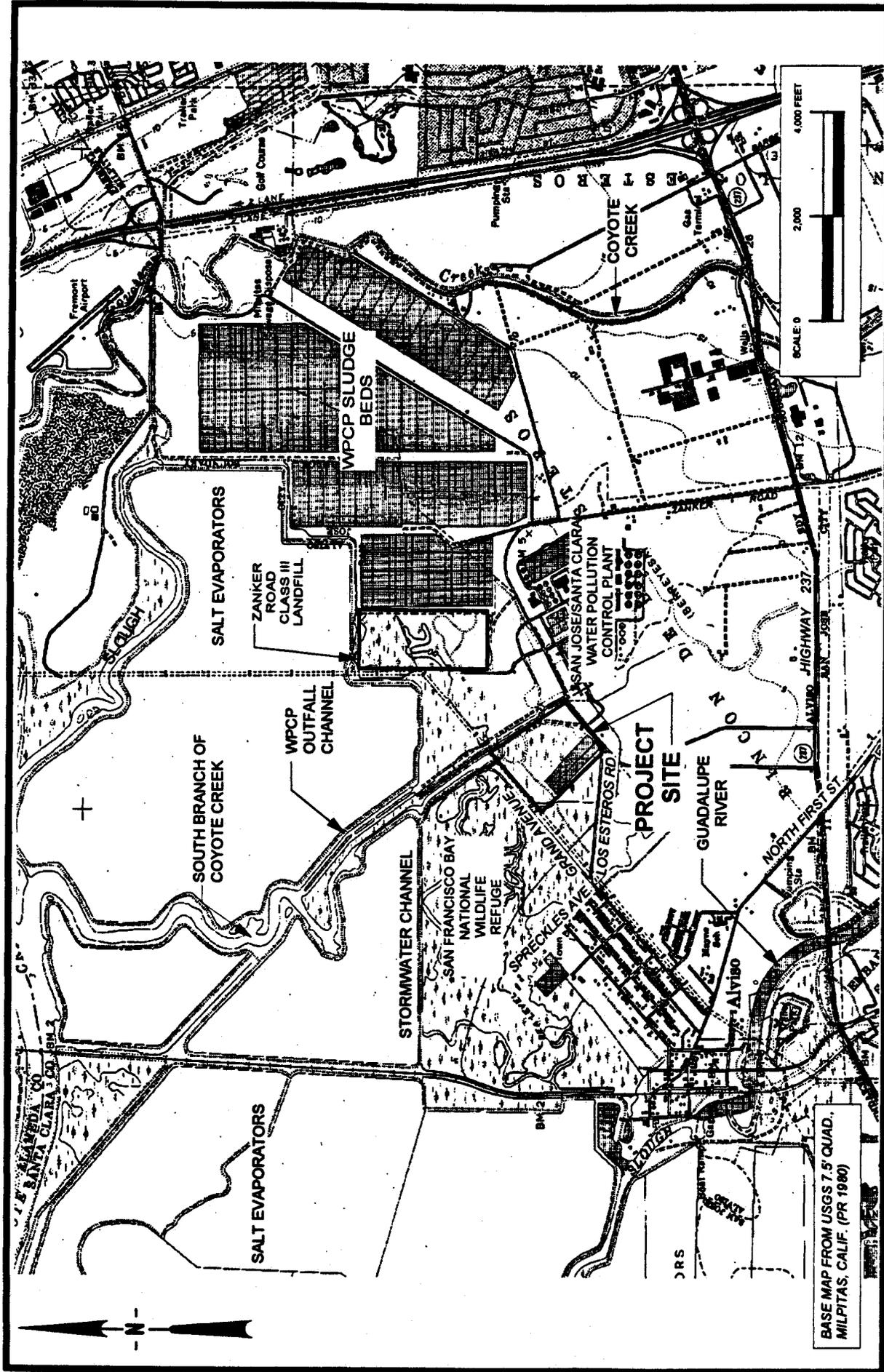


FIGURE
1

ZANKER MATERIAL PROCESSING FACILITY
SAN JOSE, CALIFORNIA

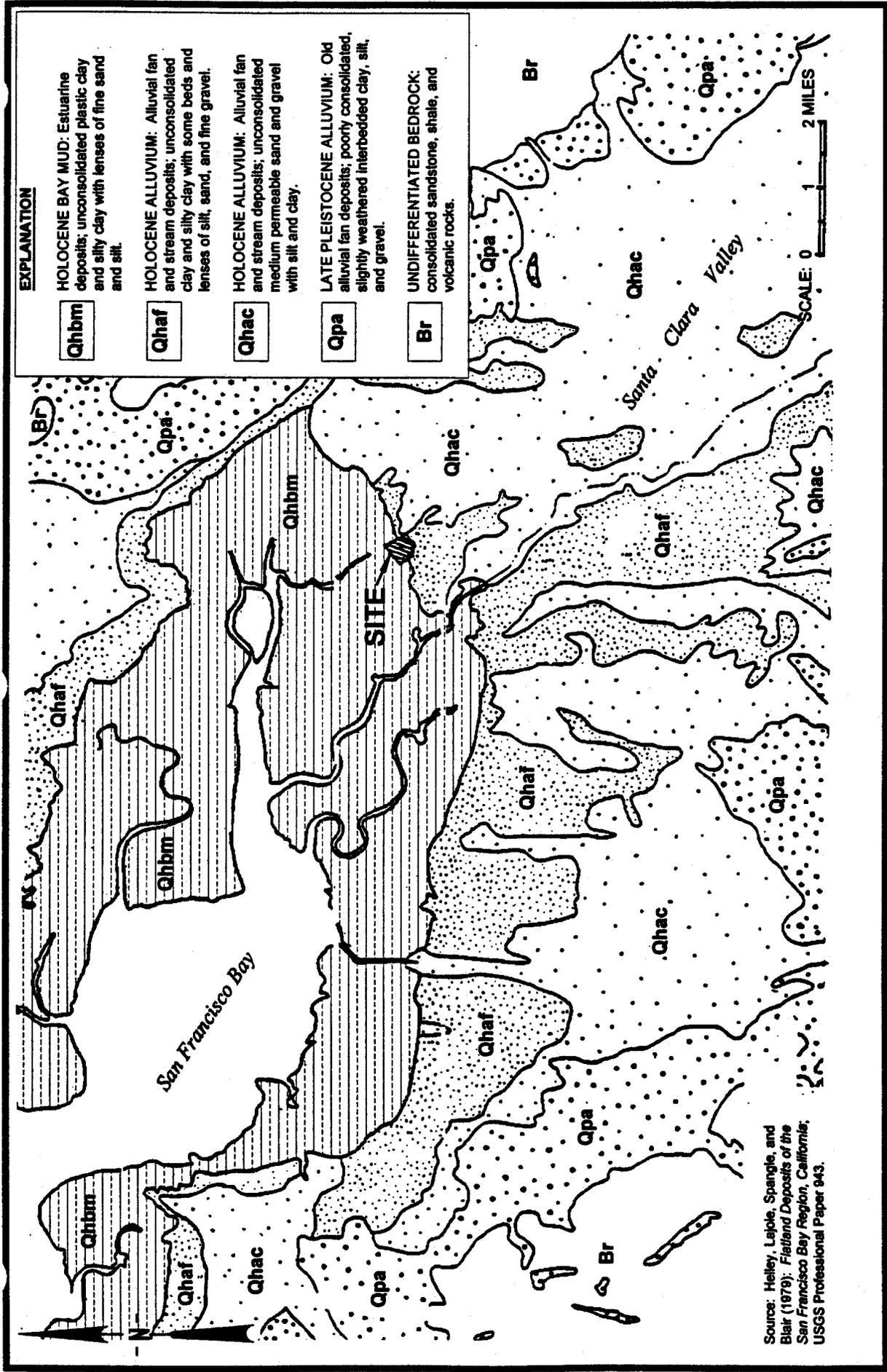
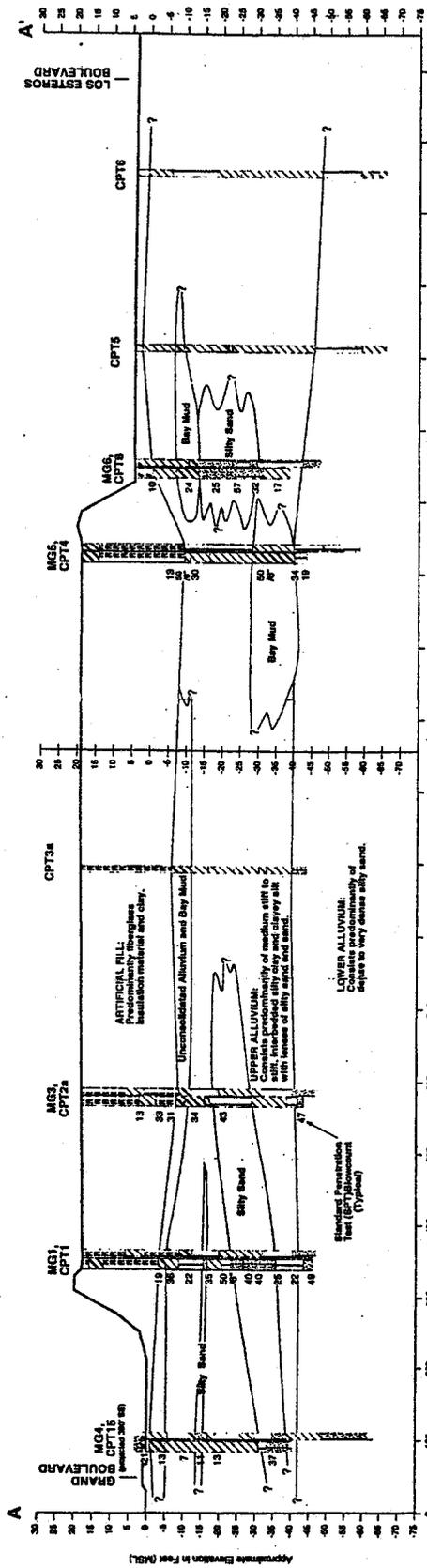


FIGURE
2

ZANKER MATERIAL PROCESSING FACILITY
SAN JOSE, CALIFORNIA

REGIONAL GEOLOGY



From Milstone Geotechnical (9/97).

FIGURE
3
PROJECT
ZMP101

ZANKER MATERIAL PROCESSING FACILITY
SAN JOSE, CALIFORNIA

IDEALIZED SUBSURFACE CROSS SECTION A-A'

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

DISCHARGE MONITORING PROGRAM

FOR

ZANKER ROAD RESOURCE MANAGEMENT, LTD.
ZANKER MATERIALS PROCESSING FACILITY
SANTA CLARA, COUNTY

ORDER NO. 98-123

CONSISTS OF

PART A

AND

PART B

PART A

A. GENERAL

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 Board's Resolution No. 73-16. This Discharge Monitoring Program is issued in accordance with Provision C.35 of Regional Board Order No. 98-123

The principal purposes of a discharge-monitoring program are:

- (1) To document compliance with waste discharge requirements and prohibitions established by the Board;
- (2) To facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge;
- (3) To develop or assist in the development of standards of performance, and toxicity standards and;
- (4) To assist the discharger in complying with the requirements of Title 27.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to the most recent version of USEPA Standard Methods and in accordance with an approved sampling and analysis plan.

Water and waste analyses, shall be performed by a laboratory approved by the State of California, Department of Health Services. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and he/she or their authorized representative shall sign all reports of such work submitted to the Regional Board.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

C. DEFINITION OF TERMS

1. A grab sample is a discrete sample collected at any time.
2. Receiving waters refers to any surface water which actually or potentially receives surface or groundwater, which pass over, through, or under waste materials or contaminated soils. In this case, the groundwater beneath and adjacent to the landfill areas and the surface runoff from the site are considered receiving waters.

3. Standard observations refer to:

a. Receiving Waters

- 1) Floating and suspended materials of waste origin: presence or absence, source, and size of affected area.
- 2) Discoloration and turbidity: description of color, source, and size of affected area.
- 3) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
- 4) Evidence of beneficial use: presence of water associated wildlife.
- 5) Flow rate.
- 6) Weather conditions: wind direction and estimated velocity, total precipitation during the previous five days and on the day of observation.

b. Perimeter of the waste management unit

- 1) Evidence of liquid leaving or entering the waste management unit, estimated size of affected area and flow rate. (Show affected area on a map.)
- 2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
- 3) Evidence of erosion and/or daylighted refuse.

c. The waste management unit

- 1) Evidence of ponded water at any point on the waste management facility.
- 2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
- 3) Evidence of erosion and/or daylighted refuse.
- 4) Standard Analysis (SA) and comments are listed on Table 2 (attached).

D. SAMPLING, ANALYSIS, AND OBSERVATIONS

The discharger is required to perform sampling, analyses, and observations in the following media:

1. Groundwater per § 20415(b) of Title 27, CCR;
2. Surface water per § 20415(c) of Title 27, CCR and per the general requirements specified in § 20415(e) of Title 27, CCR and;
3. Vadose zone, per § 20415(d) of Title 27, CCR. This item is neither feasible nor applicable for this landfill.

E. RECORDS TO BE MAINTAINED

Written reports shall be maintained by the discharger or laboratory, and shall be retained for a minimum of five years. This period of retention shall be extended during the course of any

unresolved litigation regarding this discharge or when requested by the Board. Such records shall show the following for each sample:

1. Identity of sample and sample station number;
2. Date and time of sampling;
3. Date and time of analyses, and name of person performing analyses;
4. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used where applicable; or reference to standard USEPA methods;
5. Calculation of Results and;
6. Results of analyses, and detection limits for each analysis.

F. REPORTS TO BE FILED WITH THE BOARD

1. Written detection monitoring reports shall be filed by the 30th day of the month following the semi-annual reporting period. The first semi-annual report period is January 1st to June 30th. Sampling for the first semi-annual reporting period shall be conducted during the first quarter of the year. The second semi-annual report period shall be from July 1st to December 31st. Sampling for the second semi-annual reporting period shall be conducted during the third quarter of the year. In addition, an annual report shall be filed as indicated in F.3 below. The second semi-annual report and the annual report may be combined. The reports shall be comprised of the following:

- a. Letter of Transmittal

A letter transmitting the essential points in each report should accompany each report. Such a letter shall include a discussion of any requirement violations found during the last report period, and actions taken or planned for correcting the violations. If the discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence of such schedule will be satisfactory. If no violations have occurred in the last reporting period, this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting the monitoring reports shall be signed by a principal executive officer at the level of vice president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge, the report is true, complete, and correct.

- b. Each monitoring report shall include a compliance evaluation summary. The summary shall contain:

- 1) A graphic description of the velocity and direction of groundwater flow under/around the waste management unit, based upon the past and present water level elevations and pertinent visual observations. A statistical evaluation of the water quality monitoring data for all groundwater compliance points (As shown under Part B, Table1).

- 2) Method and time of water level measurement. Type of pump used for purging. Pump placement in the well; method of purging, pumping rate, equipment and methods used to monitor field pH, temperature, and conductivity during purging, calibration of the field equipment, results of the pH, temperature conductivity and turbidity testing, well recovery time, and method of disposing of the purge water.
 - 3) A detailed description of the sampling procedure; number and description of equipment, field and travel blanks; number and description of duplicate samples; type of sample containers and preservatives used, the date and time of sampling, the name and Qualification of the person actually taking the samples, and any other observations.
- c. A map or aerial photograph shall accompany each report showing observation and monitoring station locations (see Provision C.34 of WDR 98-123)
- d. Laboratory statements of results of analyses specified in Part B must be included in each report. The director of the laboratory whose name appears on the laboratory certification shall supervise all analytical work in his or her laboratory and shall sign all reports of such work submitted to the Board.
- 1) The methods of analyses and detection limits must be appropriate for the expected concentrations. Specific methods of analyses must be identified. If methods other than approved USEPA or Standard Methods are used the exact methodology must be submitted for review and approval by the Executive Officer prior to use.
 - 2) In addition to the results of the analyses, laboratory quality assurance and quality control (QA/QC) information must be included in the monitoring report. The laboratory QA/QC information should include the method, equipment and analytical detection limits; the recovery rates; and explanation for any recovery rate that is outside of the normal range specified by the USEPA for that method; the results of equipment and method blanks; the results of spiked and surrogate samples; the frequency of quality control analysis; and the name of the person(s) performing the analyses.
 - 3) An evaluation of the effectiveness of the leachate monitoring or control facilities, which includes an evaluation of leachate buildup within the disposal units, a summary of leachate volumes removed from the units, and a discussion of the leachate disposal methods utilized.
 - 4) A summary and certification of completion of all standard observations for the waste management unit, the perimeter of the waste management unit, and the receiving waters.

- 5) The quantity and types of wastes disposed of during the past quarter, and the locations of the disposal operations.

2. CONTINGENCY REPORTING

- a. A report shall be made by telephone of any seepage from the disposal area immediately after it is discovered. A written report shall be filed with the Board within five days thereafter. This report shall contain the following information:
 - 1) a map showing the location(s) of discharge;
 - 2) approximate flow rate;
 - 3) nature of effects; i.e., all pertinent observations and analyses; and
 - 4) corrective measures underway or proposed.
- b. A report shall be made in writing to the Board within seven days of detecting a statistically significant increase occurred at a point of compliance (between a down gradient sample and a WQPS). Notification shall indicate what WQPS(S) has/have been exceeded. The discharger shall immediately re-sample at the compliance point where this difference has been found and reanalyze.
- c. If re-sampling and analysis confirms the earlier finding of a statistically significant increase between monitoring results and WQPS(s), the discharger must submit to the Board an amended Joint Technical Document. Specified in §20420(k)(5) of Title 27, CCR, for establishment of an Evaluation Monitoring Program (EMP) meeting the requirements of §20425 of Title 27, CCR.
- d. Within 180 days of determining statistically significant evidence of a release, submit to the regional board an engineering feasibility study for a Corrective Action Program (CAP) necessary to meet the requirements of §20430 of Title 27, CCR. At a minimum the feasibility study shall contain a detailed description of the corrective action measures that could be taken to achieve background concentrations for all constituents of concern.

3. REPORTING

By January 30 of each year, the discharger shall submit an annual report to the Board covering the previous calendar year. This report shall contain:

- a. Tabular and graphical summaries of the monitoring data obtained during the previous year; the report should be accompanied by a 3-1/2" computer data disk, MS-EXCEL format, tabulating the year's data.
- b. 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.

- c. A written summary of the groundwater analyses indicating any change in the quality of the groundwater
- d. 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, and a discussion of the leachate disposal methods utilized.

4. WELL LOGS

A boring log and a monitoring well construction log shall be submitted for each new sampling well established for this monitoring program, as well as a report of inspection or certification that each well has been constructed in accordance with the construction standards of the Department of Water Resources. These shall be submitted within 15 days after well installation

PART B

1. DESCRIPTION OF OBSERVATION STATIONS AND SCHEDULE OF OBSERVATIONS

A. ON-SITE OBSERVATIONS - Report Semi-annually

STATION	DESCRIPTION	OBSERVATIONS	FREQUENCY
V-1 through V-'n'	Located on the waste disposal area as delineated by a 500 foot grid network.	Standard observations for the waste management unit.	monthly
P-1 through P-'n' (perimeter)	Located at equidistant intervals not exceeding 1000 feet around the perimeter of the waste management unit.	Standard observations for the perimeter.	monthly

A map showing visual and perimeter compliance points (V and P stations) shall be submitted in the semi-annual monitoring reports (as specified in Specification B.1.B of WDR 98-123).

B. GROUNDWATER, LEACHATE, AND SURFACE WATER MONITORING

Report Semi-annually:

First Semi-Annual Report Due: July 30
 Second Semi-Annual Report Due: January 30
 Annual Report Due: January 30

Groundwater, surface water, leachate, and seepage monitoring points shall be monitored as outlined below on Table 1 and Table 2 and shown on Figure 1 (Attached). Additionally, OCDS shall monitor the entire list of Constituents of Concern (COC) as proposed in the Proposed Detection Monitoring Program (Einarson Fowler & Watson, May 15, 1998). This shall be conducted during the first Semi-Annual monitoring event only. A revised list of COC shall be submitted for board approval.

During the wet season (October through April), estimate or calculate the volume of storm water discharge from each outfall. Collect and analyze samples of storm water discharge from two storm events during each wet season which produce significant storm water discharge as defined in State Water Resources Control Board Order No.92-12 DWQ (General Permit for Storm Water Discharges). The samples must be analyzed for:

- pH, total suspended solids (TSS), specific conductance(SC), total organic carbon (TOC);
- Lead, Iron, Aluminum, Copper, Zinc, Total Oil and Grease, TPH-Diesel and TPH-Gasoline; and
- Chemical Oxygen Demand, Ammonia

TABLE 1

Monitoring Points for Each Monitoring Medium.

MONITORING MEDIUM	COMPLIANCE POINTS	UPGRADIENT P.O.C.W.
Surface Water	SW1, SW2, and SW3	Not Applicable
Groundwater	G-2 [†] , G-3, G-5, G-7, G-8 [‡] , G-9 [‡] , G-10*	G-6R, G-4
Leachate	GR-1, GR-2, GR-3, GR-4	Not Applicable
Seepage	S-1 through S-n	Not Applicable

*Well G-10 to be installed after Adoption of Order 98-123

[†]Water levels in G-2 shall continue to be measured.

[‡]Wells will be decommissioned and replaced during landfill grading.

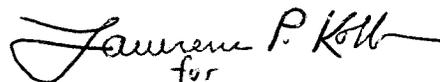
C. FACILITIES MONITORING

The discharger shall inspect all facilities to ensure proper and safe operation once per quarter and report quarterly. The facilities to be monitored shall include, but not be limited to:

- a. Leachate collection and removal systems;
- b. Surface water monitoring points;
- c. Shallow and deep groundwater monitoring wells;
- d. Perimeter diversion channels; and
- e. Leachate wells.

I, Loretta K. Barsamian Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedures set forth in this Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in this Board's Order No. 98-123
2. Is effective on the date shown below.
3. May be reviewed or modified at any time subsequent to the effective date, upon written notice from the Executive Officer.



Laurene P. Kell
for
Loretta K. Barsamian
Executive Officer

Date Ordered: December 16, 1998

Attachments:

Table 2 - Discharge Monitoring Plan

Figure 1 - Monitoring Points Location map

Table 2
ZMPF Discharge Monitoring Plan, List of Analytical Parameters

Parameters	Method ^{††} (USEPA)	Frequency	Medium
Leachate Level Measurements	Field	Bi-weekly ^{†††}	Leachate
Groundwater Level Measurements	Field	Quarterly	Groundwater
Temperature Measurements	Field	Semi-annual	Groundwater/ Leachate
Electrical Conductivity	120.1	Semi-annual	Groundwater/ Leachate
pH	150.1	Semi-annual	Groundwater/ Leachate
Total Organic Carbon	415.1	Semi-annual	Surface Water
Turbidity	180.1	Semi-annual	Groundwater
Ammonia as Nitrogen	350.1	Semi-annual	Surface Water* Leachate * Groundwater*
Chemical Oxygen Demand	410.2	Annual	Surface Water/ Wet Season
Total Dissolved Solids	160.1	Semi-annual	Surface Water/ Groundwater
Total Suspended Solids	160.2	Semi-annual	Surface Water
Volatile Organic Compounds (Appendix 1)	8260 w/ capillary column	Semi-annual Once in 5-years	Groundwater Leachate
Appendix II Volatile Organic Compounds	8260/w capillary column	Once in 5 yrs.	Groundwater Leachate
Appendix II Semi-volatile Organic Compounds	8270	Once in 5 yrs.	Groundwater Leachate
MtBE	8260	Semi-annual	Groundwater* Leachate*
Arsenic ^{**}	7061	Annual	Groundwater
Cadmium ^{**}	7131	Annual	Groundwater
Chromium ^{**}	6010	Semi-annual	Groundwater
Copper ^{**}	6010	Annual	Groundwater
Lead ^{**}	6010	Annual	Groundwater
Mercury ^{**}	7471	Annual	Groundwater
Nickel ^{**}	6010	Annual	Groundwater

Vanadium**	6010	Annual	Groundwater
Cobalt**	6010	Annual	Groundwater
Zinc**	6010	Annual	Groundwater

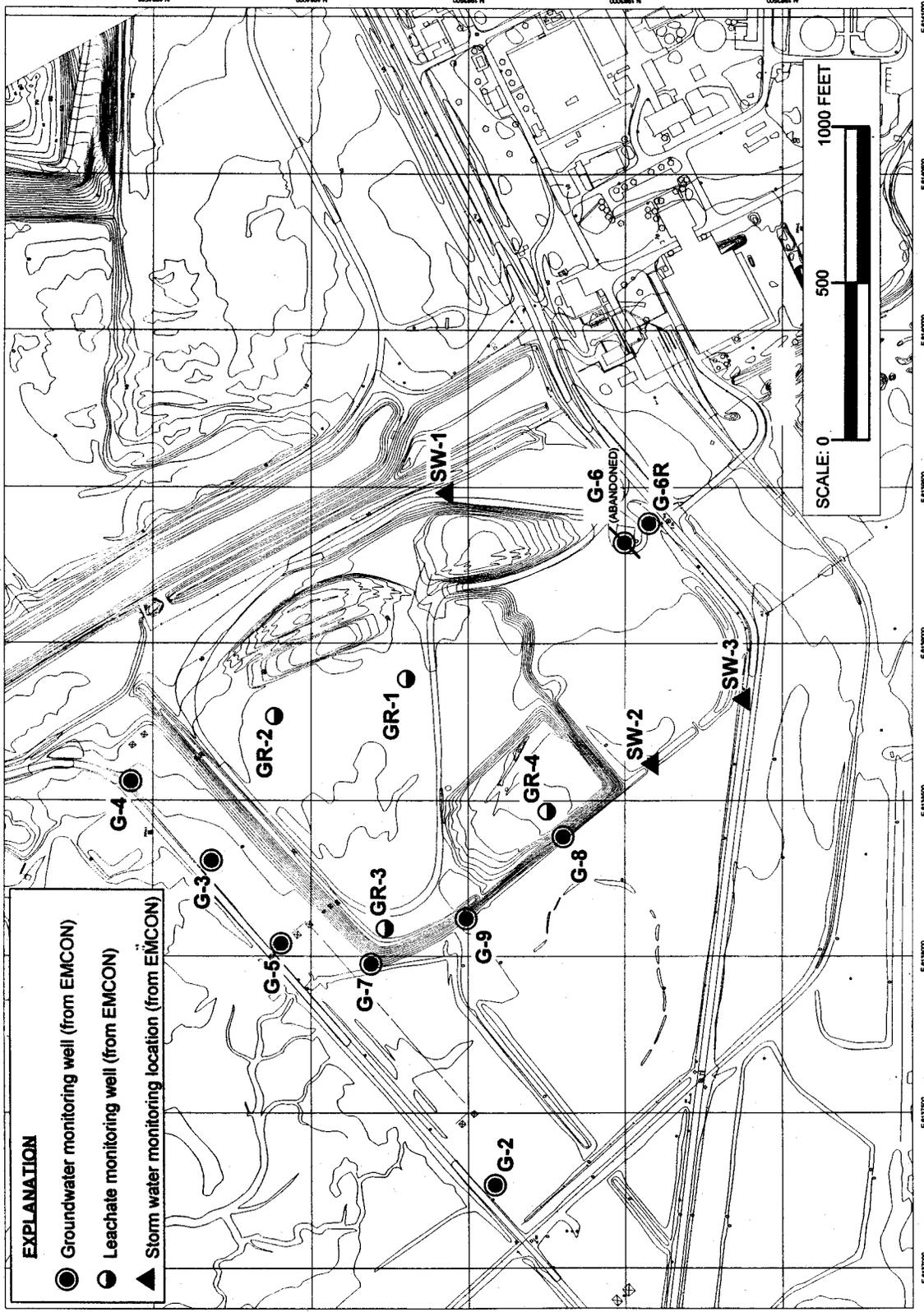
*Sample for three monitoring semi-annual events and may discontinue if not detected during the three events.

†Methods for Chemical Analysis of Water and Wastes, EPA600/4/79/029, revised March 1983

‡EPA SW-846

††Frequency may be reduced at a latter date, with approval of the Executive Officer, if levels are successfully controlled by leachate extraction.

** Leachate shall be tested every five years for metals.



EXPLANATION

- Groundwater monitoring well (from EMCON)
- Leachate monitoring well (from EMCON)
- ▲ Storm water monitoring location (from EMCON)

SCALE: 0 500 1000 FEET

Topographic base map prepared by East Ohio Machinery Corp.,
by photogrammetric methods. Date of photography 9/23/96.

FIGURE 1

ZANKER MATERIAL PROCESSING FACILITY
SAN JOSE, CALIFORNIA

MONITORING LOCATIONS