## STATE OF CALIFORNIA CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD LOS ANGELES REGION

ORDER NO. R4-2002-0191

REVISED WASTE DISCHARGE REQUIREMENTS
FOR
EVALUATION MONITORING PROGRAM,
ASSESSMENT MONITORING PROGRAM,
AND POSTCLOSURE MAINTENANCE

## VENTURA REGIONAL SANITATION DISTRICT AND CITY OF OXNARD

(COASTAL AND SANTA CLARA LANDFILLS) (FILE NOs. 80-004 and 68-035)

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board), finds:

#### **BACKGROUND**

- 1. The Ventura Regional Sanitation District (VRSD) owns and operated the Coastal Landfill (Coastal) located at Victoria and Gonzales Roads, Oxnard, California (see Figure 1, attached) for the disposal of nonhazardous and inert solid wastes. VRSD has managed Coastal under waste discharge requirements (WDRs) in Order No. 80-064, adopted by this Regional Board on November 24, 1980, as revised by Order No. 88-027 (February 22, 1988) and Order 00-079 (June 29, 2000). Coastal is also regulated under Regional Board Order No. 93-062 (September 27, 1993) that incorporated federal (Subtitle D) regulations for active municipal waste landfill throughout the region. Regional Board Order Nos. 80-064 and 88-027 have previously been rescinded, while Coastal continues to be regulated under Regional Board Order Nos. 93-062 and 00-079.
- 2. The City of Oxnard (City) owns the Santa Clara Landfill (Santa Clara) located at 2501 North Ventura Road, Oxnard, California (see Figure 1, attached). VRSD operated Santa Clara for the City for the disposal of nonhazardous and inert solid wastes. The City has managed Santa Clara under Order No. 79-025, adopted by this Regional Board on January 22, 1979, as revised by Order Nos. 82-053 (August 9, 1982), 83-005 (January 24, 1983), and Order 00-080 (June 29, 2000). Santa Clara was included in Regional Board Order No. 93-062, although Santa Clara ceased accepting waste before October 9, 1991 (the effective date of federal Subtitle D regulations). Regional Board Order Nos. 79-025, 82-053, and 83-005 have previously been rescinded, while Santa Clara continues to be regulated under Regional Board Order Nos. 93-062 and 00-080.

- 3. Santa Clara was developed into a municipal golf course, the River Ridge Golf Club, after its closure. The City is the owner of the River Ridge Golf Club.
- 4. Coastal and Santa Clara are adjacent to one another, share a common border, and are both closed sites that were operated by VRSD. Moreover, as part of an expansion of Coastal in 1989, a valley between Santa Clara and Coastal was filled with refuse, transforming both landfills into one physical waste management unit. VRSD provides groundwater monitoring services to the City for Santa Clara and on May 21, 2002, VRSD and the City entered into a postclosure maintenance agreement for Coastal to facilitate the City's development and management of the proposed expansion of River Ridge Golf Club. Because of these and other similarities the combined Coastal and Santa Clara landfills (hereafter referred to as Landfill) are monitored as one waste management unit through Regional Board Order Nos. 00-079 and 00-080. The Regional Board may modify monitoring and reporting conditions contained in these WDRs if there is a change in the relationship between the City and VRSD regarding the monitoring conducted at the Santa Clara.
- 5. The California Water Code (CWC) § 13263, provides that all WDRs shall be reviewed periodically and, upon such review, may be revised by the Regional Board to comply with changing state or federal laws, regulations, policies, or guidelines. VRSD's and the City's WDRs are being revised to include updated findings for an evaluation monitoring program (EMP), assessment monitoring program (AMP), and postclosure maintenance monitoring.
- 6. This Order includes the attached definition of terms and acronyms (Attachment 1).
- 7. California Code of Regulations (CCR), title 27 (27 CCR) became effective on July 18, 1997. 27 CCR clarified the roles and responsibilities of the California Integrated Waste Management Board (CIWMB) and the State Water Resources Control Board (SWRCB) in regulating municipal solid waste disposal sites. The 27 CCR regulations combine prior disposal site/landfill regulations of the CIWMB and SWRCB that were maintained in title 14 of the CCR and title 23, chapter 15 of the CCR.
- 8. The lease area for Coastal is approximately 83 acres and approximately 165 acres for Santa Clara. The Landfill is bounded on the north by the Santa Clara River, on the west by Victoria Avenue, on the south by Vineyard Avenue and residences, and on the east by North Ventura Road and residences.
- 9. The Landfill is located within the Oxnard Hydrologic Subarea of the Oxnard Plain Hydrologic Area in the Santa Clara-Calleguas Hydrologic Unit. The existing beneficial uses of waters identified in the Water Quality Control Plan for the Los Angeles Region (Basin Plan) for the Oxnard Hydrologic Subarea are industrial service and process supply, agricultural supply, groundwater recharge, freshwater replenishment, water contact and noncontact recreation, warm and cold freshwater habitat, wetland habitat, wildlife habitat, rare,

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threatened and endangered species habitat, and migration of aquatic organisms habitat. Municipal and domestic supply are identified as potential beneficial uses.

- 10. The Landfill is underlain by water-bearing sediments, including undifferentiated alluvium, alluvial flood plain deposits, the San Pedro Formation, and a portion of the Santa Barbara Formation. These water-bearing deposits, 1,000 to 1,300 feet thick, contain aquifers consisting of lenses and layers of sand and gravel, interbedded with fine-grained and relatively impermeable silty or clayey aquitards of variable thickness. Underlying these rocks are non-water bearing deposits, consisting of unconsolidated or cemented sedimentary rocks. The uppermost "semi-perched" aquifer is known to have historically poor water quality due to agricultural practices in the Oxnard Plain area. The Basin Plan identifies beneficial uses for unconfined and perched aquifers in the Oxnard Plain as municipal, domestic and agricultural supply, and industrial service supply as a potential beneficial use.
- 11. There are no known active faults within the Landfill area. Active faults are defined as Holocene epoch faults that have exhibited movement in the last 11,000 years. The Oak Ridge Fault, located approximately two miles north of the Landfill, and the McGrath Fault, located approximately one mile north of the Landfill, are believed to have been active during the late Quarternary period (about three million years ago). There is no evidence of more recent activity.
- 12. The site is located within a liquefaction hazard zone as indicated on the preliminary Oxnard 7.5 minute quadrangle map (released June 21, 2002) produced by the California Division of Mines and Geology Seismic Hazards Mapping Program (incorporated herein by reference). Landslide hazards have not been identified in the area of the Landfill.
- 13. As shown on a recent aerial photograph (see Figure 2, attached) of the Landfill area, surrounding land uses include residential and agricultural uses and open space along the Santa Clara River.
- 14. Climatic conditions at the Landfill are semi-arid. Rainfall typically occurs between November and April with little rainfall during the summer months. Average annual precipitation in the area is approximately 14.82 inches (Information from the Western Regional Climate Center's Oxnard weather station (#046569) based on weather recordings between July 1948 to December 2001). Average annual evaporation in the area is considerably higher than precipitation as evidenced by data from the Touchtone #28 weather station in Santa Paula, California operated by the University of California Statewide Integrated Pest Management Project where annual pan evaporation is approximately 48.4 inches.
- 15. The Landfill is not within the 100-year flood plain of the Santa Clara River according to the Federal Emergency Management Agency (FEMA Digital Q3 Flood Data for the Santa Clara

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River Watershed), and the area is protected by a levee constructed by and maintained by the Ventura County Flood Control Department.

- 16. A Solid Waste Assessment Test (SWAT) analysis for Coastal was completed in 1988 and was approved by the Regional Board's Executive Officer (Executive Officer) on July 11, 1988. Results from the SWAT investigation indicated the presence of organic compounds and changes in inorganic chemistry of groundwater within the semi-perched aquifer at the downgradient monitoring wells associated with Coastal. Results from the SWAT investigation indicated no groundwater quality impacts to the Oxnard Aquifer. Groundwater monitoring at the site has been conducted since 1986, using the groundwater monitoring system established by VRSD in 1986 to comply with 23 CCR requirements. The current groundwater monitoring system includes upgradient, sidegradient, and downgradient wells for both the uppermost semi-perched aquifer and downgradient wells for the Oxnard aquifer.
- 17. A SWAT analysis for Santa Clara was completed in 1988 and was approved by the Executive Officer on July 11, 1988. Results from the SWAT investigation indicated the presence of organic compounds and changes in inorganic chemistry of groundwater within the semi-perched aquifer at the downgradient monitoring wells associated with Santa Clara. Results from the SWAT investigation indicated no groundwater quality impacts to the Oxnard Aquifer. Groundwater monitoring at the site has been conducted since 1985, using the groundwater monitoring system established by the City/VRSD in 1984 to comply with Regional Board Order No. 83-005. The current groundwater monitoring system includes upgradient, sidegradient, and downgradient wells for the uppermost semi-perched aquifer and an upgradient well for the Oxnard aquifer.
- 18. In 1983, the City/VRSD closed Santa Clara and prepared it for construction of the River Ridge Golf Club. A soil cover approximately 3 feet thick was placed on the surface of the site, except for the tee boxes and putting greens. The tee boxes and putting greens were underlain with either a synthetic liner or a 1-foot thick layer of compacted soil mixed with clay or bentonite and covered with 3 to 5 feet of soil. Requirements for closure were issued by this Regional Board under Order 83-005, which governed the site closure and subsequent postclosure monitoring requirements. Closure certification for Santa Clara was conditionally approved by the CIWMB on March 19, 1985. Accordingly, the site is undergoing postclosure maintenance as described in the Santa Clara Sanitary Landfill Closure Plan and Report (June 1982), the Santa Clara Landfill Closure Report (January 10, 1983) and Regional Board Order No. 00-079.
- 19. Application of regulatory requirements to Santa Clara is complex because the majority of Santa Clara ceased accepting waste before November 27, 1984, the effective date of 23 CCR chapter 15 requirements, while the valley between Santa Clara and Coastal was filled after November 27, 1984 but closed as part of Coastal's closure construction. The

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following are relevant sections of 27 CCR that defines applicable regulatory requirements.

- a. Pursuant to CWC § 13263, the Regional Board issues WDRs for waste discharges. In accordance with CWC § 13263(d) the Regional Board may prescribe requirements although no report of waste discharge (ROWD) has been filed.
- b. Pursuant to 27 CCR § 20005(c), landfills that are closed, abandoned, or inactive on the effective date of the regulations (November 27, 1984) are not specifically required to be closed in accordance with Division 2, Subdivision 1, Chapter 3, Subchapter 5 (Closure and Post-Closure Maintenance) requirements of 27 CCR. However, Pursuant to 27 CCR § 20950(a)(1), the Regional Board may require modification of an existing landfill cover even if the landfill "was completely closed in accordance with an approved closure plan by November 27, 1984", if monitoring data indicate impairment of beneficial uses of ground water.
- c. Pursuant to 27 CCR § 20080(g), persons responsible for discharges at landfills that were closed, abandoned, or inactive on or before November 27, 1984 may be required to develop and implement a monitoring program. If water quality impairment is found, such persons may be required to develop and implement a corrective action program based on the provisions of 27 CCR § 20380 et seq.
- d. Pursuant to 27 CCR § 20005(c), the standards promulgated by the CIWMB in chapters 1, 2, 3, and applicable portions of chapter 4 shall apply to all disposal sites meaning active, inactive closed or abandoned, as defined in Public Resources Code (PRC) § 40122 including facilities or equipment used at the disposal sites. Although § 20005(c) is in a portion of 27 CCR standards promulgated by the CIWMB, pursuant to 27 CCR § 20012(a), where necessary to protect water quality, the Regional Board can implement, in coordination with the local enforcement agency (EA) or, as appropriate the CIWMB, appropriate standards promulgated by the CIWMB, provided that the action does not duplicate or conflict with any action taken by the EA.
- 20. Closure certification for Coastal and the intermediate refuse wedge fill between Santa Clara was approved by the CIWMB on November 9, 1995. A three layer final cover system was constructed at the site consisting of a 2-foot foundation layer of sand, a one-foot low permeability layer of fine-grained material with a hydraulic conductivity of 1x10<sup>-6</sup> cm/sec or less, and a one-foot to six-foot thick vegetative layer of soil. The site is undergoing postclosure maintenance as described in the Postclosure Maintenance Plan prepared for the site, dated October 1991, prepared by VRSD and Regional Board Order No. 00-080.
- 21. Landfill gas monitoring probes are located along the boundary of the Landfill. These probes are currently monitored on a monthly basis. The City/VRSD has an agreement with Covanta

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Inc. to commercially recover gas from the Landfill.

- 22. Coastal is subject to SWRCB Order No. 97-03-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000001, "Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities". Coastal is enrolled under general NPDES permit WDID No. 456S002543 to regulate stormwater discharges.
- 23. Because of very shallow groundwater in the area of the Landfill, vadose zone monitoring at the Landfill is not required because it will not effectively provide an earlier indication of a release than will groundwater monitoring.

#### CORRECTIVE ACTION PROGRAM

- 24. Statistically significant increased concentrations of several inorganic parameters, including total dissolved solids (TDS), chloride, and sulfate, and volatile organic compounds (VOCs), consisting predominantly of vinyl chloride and benzene, were detected at the Landfill during the Spring 2001 monitoring event, triggering a change from a detection monitoring program (DMP) to an EMP for the Landfill.
- 25. This Order complies with SWRCB Resolution No. 93-62 by requiring the City/VRSD to implement an EMP, pursuant to 27 CCR § 20425, and to implement all additional federal responses including those required under title 40 of the Code of Federal Regulations (40 CFR) § 258.54(c) and § 258.55(g) because the Landfill has undergone a release. VRSD is directly responsible to implement responses to a release required by 40 CFR regulations for Coastal because the landfill was not closed prior to October 9, 1991 (the effective date of federal Subtitle-D regulations). Because groundwater downgradient of the Landfill is impacted by a release from both Coastal and Santa Clara, and because it is not possible to differentiate the contribution of each landfill to the release, the City shall also implement responses to the release required by federal regulations including 40 CFR § 258.54(c) and § 258.55(g) for Santa Clara. This finding is consistent Regional Board Order Nos. 93-062 that requires groundwater monitoring per federal regulations for Santa Clara.
- 26. VRSD submitted the report "Amended Report of Waste Discharge for Evaluation Monitoring Program", dated September 13, 2001, to establish an EMP for the Landfill. Regional Board staff approved the proposed EMP on October 29, 2001.
- 27. Following confirmation of a release, VRSD completed a scan of the constituents listed in appendix II of 40 CFR, part 258 (Appendix II) in accordance with 40 CFR § 258.55 requirements. The testing results for the Appendix II constituents scan indicated that there were no constituents of concern (COCs) present that had not previously been identified at the Landfill.

- 28. VRSD determined that the migration direction of the release of contaminants is towards the west and northwest, subparallel to the Santa Clara River along the northern portion of the Landfill. Thus, VRSD constructed five new groundwater monitoring points as part of the EMP program west of the Landfill boundary directly in the path of contaminant migration (see Figure 3, attached) to define contamination emanating from the Landfill. At each monitoring point, both a shallow and deep groundwater monitoring well were constructed. These monitoring wells satisfy the requirements of 40 CFR § 258.55(g)(1)(ii).
- 29. Results from monitoring wells upgradient of the nearby Bailard Landfill (Bailard) indicate elevated concentrations of inorganic parameters, including TDS, chloride, and sulfate which are consistent with water quality results determined from monitoring wells downgradient of the Landfill. These results have lead VRSD to conclude that the source of groundwater contamination from inorganics at Bailard are, at least in part, derived from the Landfill. At this time there is not statistically significant evidence of contamination from inorganics to groundwater from Bailard, however the contamination plume does extent past, and is detected in monitoring wells downgradient of the Bailard Landfill. Although the extent of contamination cannot be delineated using the existing groundwater monitoring network, it does extend downgradient of Bailard.
- 30. 40 CFR § 258.55(g)(1)(iii) requires the City/VRSD to notify all persons who own the land or reside on the land that directly overlies any part of the contaminant plume if contaminants have migrated off-site. Also, the City/VRSD is required to discuss the corrective measures assessment, prior to the selection of remedy, in a public meeting as required by 40 CFR § 258.56(d).
- 31. Because of recent guidance from the SWRCB to manage post-release monitoring requirements based on a federal regulatory model rather than state regulatory model, the work involved in preparing for a CAP at the Landfill will take longer than the 90 days allowed under 27 CCR § 20425(b-d). Therefore, as part of this Order, the Regional Board is extending the deadline for implementing a CAP, as an engineered alternative, to 180 days from this Order's effective date including all post-release monitoring and reporting requirements.
- 32. This Order places the entire Landfill into an EMP to plan and propose corrective measures meeting applicable state and federal requirements. From there, the Landfill will implement a CAP. This approach eliminates needless complexity associated with applying concurrent programs (i.e., running unaffected portions under a DMP and the portions affected by the release under either an EMP or a CAP, or both). The Regional Board chooses to implement this approach by documenting and responding to the compliance status of each monitoring parameter (Mpar) individually at each compliance well separately (i.e., the City/VRSD will track the compliance status of each such "well/MPar pair" separately).

- 33. Under this Order, at any given time, each well/MPar pair will be in one of two compliance status conditions. Prior to the MPar's exhibiting a measurably significant exceedance at a given well, that well/MPar pair will be in "detection mode" and monitoring will involve statistical or non-statistical data analysis designed to detect an unnatural increase at that well for that MPar. Once a well/MPar pair exhibits a measurably significant increase, it will change to "tracking mode" and monitoring will involve concentration-versus-time plotting to document changes in the release. Once in tracking mode, a well/MPar pair can return to detection mode only upon inception of the proof period to demonstrate the successful completion of corrective action.
- 34. This Order minimizes the occurrence of false-positive indications in two ways:
  - a) it includes a non-statistical data analysis method, meeting 27 CCR § 20415(e)(8-9), that collectively analyzes all the MPars, at a given well, whose background data exceeds its respective method detection limit (MDL) no more than 10% of the time; and
  - b) all statistical and non-statistical data analysis methods used on well/MPars in detection mode data analyses under this Order include a discrete retest as described under 27 CCR § 20415(e)(8)(E).
- 35. To assure compliance with the requirements and considerations under 40 CFR § 258.55 through § 258.57 and 27 CCR § 20425 in the simplest way possible, this Order:
  - a. requires statistical or non-statistical data analysis, at any given compliance well, only for those MPars that are in detection mode at that well;
  - b. requires concentration-versus-time plotting, at any given compliance well, for all MPars that are in tracking mode at that well;
  - c. uses a periodic (five-year) presence/absence screening of all COCs, rather than statistical/non-statistical data analysis, at all appropriate wells to keep the MPar list updated to include all COCs that are detectable in groundwater; and
  - d. implements an automatic update procedure to assure that the MPar and COC lists remain current.
- 36. Given that detection mode testing can be compromised by the arrival of a COC at any background well either as a result of the release (e.g., through advective flow, in the unsaturated zone, of gas-phase VOCs in landfill gas) or through the arrival of such a constituent from an upgradient source, this Order implements a simple means for

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identifying such anomalies which requires the City/VRSD to investigate their cause, and initiates appropriate adjustments to the monitoring program.

- 37. Because there is no leachate sampling history for the Landfill there is no means for decreasing the scope of COCs pursuant to Appendix II. However, after considering the factors under 40 CFR § 258.54(a)(2), the Regional Board will adopt the following surrogates for the Appendix II metals so that the metals will not be used in normal monitoring unless/until detected in groundwater:
  - a. pH
  - b. TDS
  - c. chloride
  - d. sulfate
  - e. nitrate (as nitrogen)

#### **ADMINISTRATIVE**

- 38. The Regional Board adopted a revised Basin Plan on June 13, 1994. The Basin Plan contains beneficial uses and water quality objectives for groundwater in the Santa Clara River watershed. The requirements in this Order, as they are met, are in conformance with the goals of the Basin Plan.
- 39. Revision of these WDRs constitutes an existing project as defined in § 15301, chapter 3, title 14 of the CCR and is therefore exempt from the provisions of the California Environmental Quality Act (PRC § 21000 et seq.).
- 40. In accordance with the Governor's Executive Order No. D-22-01, dated February 8, 2001, requiring any proposed activity to be reviewed to determine whether such activity will cause additional energy usage, Regional Board staff have determined that implementation of these WDRs will not result in a significant change in energy usage.

The Regional Board has notified interested agencies and all known interested parties of its intent to issue requirements for a EMP, CAP, AMP, and postclosure maintenance for the Landfill.

The Regional Board in a public meeting heard and considered all comments pertaining to the EMP, CAP, AMP, and postclosure maintenance of the Landfill.

**IT IS HEREBY ORDERED** that VRSD and the City shall comply with the following requirements pertaining to Coastal and Santa Clara:

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#### A. PROHIBITIONS

- 1. Discharges of waste to land as a result of inadequate postclosure maintenance practices, and that have not been specifically described to the Regional Board and for which valid WDRs are not in force, are prohibited.
- 2. The discharge of waste shall not:
  - a. Cause the occurrence of coliform or pathogenic organisms in waters pumped from a groundwater basin;
  - b. Cause the occurrence of objectionable tastes or odors in waters pumped from a groundwater basin;
  - c. Cause waters pumped from a groundwater basin to foam;
  - d. Cause the presence of toxic materials in waters pumped from a groundwater basin;
  - e. Cause the pH of waters pumped from a groundwater basin to fall below 6.0, or rise above 9.0;
  - f. Cause the Regional Board's objectives for the groundwaters or surface waters as established in the Basin Plan to be exceeded; and
  - g. Cause pollution, contamination, or nuisance, as defined in CWC § 13050, or adversely affect beneficial uses of groundwaters or surface waters as established in the Basin Plan.
- 3. Odors, vectors, and other nuisances of waste origin beyond the limits of the Landfill are prohibited.
- 4. The discharge of waste to surface drainage courses or to usable groundwater is prohibited.
- 5. Basin Plan prohibitions shall not be violated.
- 6. All federal, state, and county sanitary health codes, rules, regulations, and ordinances pertinent to the disposal of wastes on land shall be complied with in the postclosure maintenance of the Landfill.

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#### B. PROVISIONS FOR GROUNDWATER MONITORING

- 1. The City/VRSD shall implement the attached Monitoring and Reporting Program (M&RP) CI-5664 which is incorporated herein by reference and revisions thereto in order to detect, at the earliest opportunity, any unauthorized discharge of waste constituents from the Landfill or any unreasonable impairment of beneficial uses associated with (caused by) discharges of waste to the Landfill.
- 2. At any time, the City/VRSD may file a written request, including appropriate supporting documents, with the Executive Officer, proposing modifications to M&RP CI-5664. The City/VRSD shall implement any changes in the revised M&RP CI-5664 approved by the Executive Officer upon receipt of a signed copy of the revised M&RP.
- 3. Unless otherwise approved by the Executive Officer, all analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. All analyses shall be conducted in accordance with the latest edition of "*Test Methods for Evaluating Physical/Chemical Methods*" (SW-846) promulgated by the United States Environmental Protection Agency.
- 4. The City/VRSD shall furnish, under penalty of perjury, technical or monitoring program reports in accordance with CWC § 13267. Failure or refusal to furnish these reports or falsifying any information provided therein renders the City/VRSD guilty of a misdemeanor and subject to the penalties stated in CWC § 13268. Monitoring reports shall be submitted in accordance with the specifications contained in the attached M&RP CI-5664, as directed by the Executive Officer. M&RP CI-5664 is subject to periodic revisions as warranted and approved by the Executive Officer.
- 5. The effectiveness of all monitoring wells, monitoring devices, and gas collection systems at the Landfill shall be maintained during the postclosure maintenance period in accordance with acceptable industry standards. If a well is found to be inoperative, the Regional Board and other interested agencies shall be so informed in writing within seven days of such discovery and this notification shall contain a time schedule for returning the well to operating order. Changes to the existing monitoring program shall be submitted for Executive Officer approval at least 30 days prior to implementing the change(s).
- 6. The City/VRSD shall provide for proper handling and disposal of water purged from monitoring wells at the Landfill during sampling. Water purged from a monitoring well shall not be returned to that well (or any other Landfill well).

- 7. For any monitoring wells installed at the Landfill in the future, the City/VRSD shall submit technical reports for approval by the Executive Officer prior to installation. These technical reports shall be submitted at least 60 days prior to the anticipated date of installation of the wells. These reports shall be accompanied by:
  - a. Maps and cross sections showing the locations of the monitoring points; and
  - b. Drawings and data showing construction details of the monitoring points. These data shall include:
    - i. casing and test hole diameter;
    - ii. casing materials;
    - iii. depth of each hole;
    - iv. the means by which the size and position of perforations shall be determined, or verified, if in the field;
    - v. method of joining sections of casing;
    - vi. nature of filter materials;
    - vii. depth and composition of soils; and
    - viii. method and length of time of well development.
- 8. On April 10, 2002, the Executive Officer approved an update of the groundwater monitoring system for a DMP at the Landfill consistent with Specification No. B.3 of Regional Board Order No. 00-079 and 00-080 allowing VRSD and the City to request a reduction in the number of monitoring wells at the Landfill if water quality monitoring results indicated excessive redundancy in the monitoring well network. As a result, the compliance monitoring wells at the Landfill shall consist of those wells listed in Item No. 3 of M&RP CI-5664. The remaining wells existing at the Landfill also described in Item No. 3 of M&RP CI-5664 shall be placed on standby status. All monitoring wells shall be monitored pursuant to this Order and as directed by the Executive Officer through a future revision of M&RP CI-5664.
- 9. On August 2, 2002, the Executive Officer approved the decommissioning of groundwater monitoring wells 29L2 and 29F4 at the Landfill consistent with Specification No. B.3 of Regional Board Order No. 00-079 and 00-080 (see Figure 4, attached).
- 10. The MPars and COCs for compliance monitoring wells and standby monitoring wells at the Landfill shall be those described in Item No. 4 and Tables 1-3 of M&RP CI-5664.

- 11. Regular monitoring at the Landfill has not detected the release of the COCs identified in Provision No. B.10 of Regional Board Order Nos. 00-079 and 00-080. Regional Board Order Nos. 00-079 and 00-080 require that these COCs be monitored on an annual basis rather than a five-year monitoring schedule consistent with 40 CFR § 258.55 monitoring requirements. The Regional Board finds that an annual monitoring schedule for these COCs is not more protective of groundwater quality, thus, after the effective date of this Order the City/VRSD shall monitor these COCs on a five-year schedule as discussed in Provision Nos. B.16 below.
- 12. All wells that are on standby status shall be monitored every five years for the presence of the VOCs listed in appendix I of 40 CFR part 258 (Appendix I). Current MPars and COCs for standby wells at the Landfill are identified in Item No. 4 and Table 3 of M&RP CI-5664. If any VOC is identified in a standby well, all Appendix I VOCs shall become MPars for that well and shall be placed into tracking mode as described in Provision No. B.19(f)(ii) below. Subsequently, the City/VRSD shall notify Regional Board staff of any modification to the MPar list immediately, via phone or e-mail, shall note it in the operating record and notify the Regional Board in writing within 14 days of a verification, and shall note prominently the constituent(s) added to the MPar list in the next scheduled monitoring report. The Appendix I VOCs shall be tracked semiannually for that well for a minimum of five years after the latest VOC detection date before the well can be returned to standby status.
- 13. The City/VRSD shall implement semi-annual monitoring of wells EMP-2, EMP-3, EMP-5, EMP-6, and EMP-7 (see Figure 3, attached) as proposed by VRSD in the report "Amended Report of Waste Discharge for Evaluation Monitoring Program" (see Finding No. 26 of this Order). The City/VRSD shall monitor the EMP series wells for MPars and COCs as indicted in Item No. 4 and Tables 1 and 2 of M&RP CI-5664.
- 14. Compliance monitoring wells have measurably exceeded the Water Quality Protection Standard (WQPS) established under 27 CCR § 20390, § 20395, and § 20400 for several MPars in samples collected from monitoring wells at the Landfill. Therefore, pursuant to 40 CFR § 258.54(c)(2) and 27 CCR § 20385(a)(2), the City/VRSD shall initiate an AMP, meeting 40 CFR § 258.55, in accordance with the EMP discussed in Finding No. 26 above.
- 15. Groundwater at Landfill monitoring wells has measurably exceeded the WQPS for several Appendix II constituents of 40 CFR part 258. Therefore, pursuant to 40 CFR § 258.55(g)(1)(iv), the City/VRSD shall initiate an assessment of corrective measures (ACM) and selection of remedy (SOR) meeting 40 CFR §

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258.56 and § 258.57, respectively, in developing the proposed CAP. The assessment of corrective measures shall address the following:

- a. The performance, reliability, ease of implementation, and potential impacts of appropriate potential remedies, including safety impacts, crossmedia impacts, and control of exposure to any residual pollution;
- b. The time required to begin and complete the remedy;
- c. The costs of remedy implementation;
- d. State or local permit requirements or other environmental or public health requirements that may substantially affect implementation of the remedy.
- 16. Five-Year COC Scan Every five years, pursuant to Provision 11(A) of Regional Board Order No. 93-062, the City/VRSD is required to analyze a sample from each groundwater monitoring point for all COCs included in Item No. 4 and Table 2 of M&RP CI-5664, including Appendix II constituents. This constitutes the means by which the City/VRSD shall continue to meet the requirements of 40 CFR § 258.55(b-d).
  - a. During each such COC scanning event, the City/VRSD shall obtain and analyze a minimum of one sample from each monitoring well (sufficient to obtain a datum for each COC that is subject to the scan). Upon detecting a COC that is not yet on the MPar list, the City/VRSD shall, within 30 days, take a single resample from the indicating affected well(s) and reanalyze it only for the newly-detected constituent(s).
  - b. Any COC detected in samples collected from a groundwater monitoring well, and verified by a retest, automatically becomes part of the MPar list for the Landfill. The City/VRSD shall notify Regional Board staff of any such change immediately, via phone or e-mail, shall note it in the operating record and notify the Regional Board in writing within 14 days of the verification, and shall note prominently the constituent(s) added to the MPar list in the next scheduled monitoring report, along with a listing of which well(s) were involved in this detection and verification. This constitutes the means by which the City/VRSD shall meet the requirements of 40 CFR § 258.55(d)(2).
- 17. As of the effective date of this Order, the COC list consists of those constituents listed in Item No. 4 and Table 2 of M&RP CI-5664 and includes all Appendix II constituents not identified as MPars. At any subsequent time, with the approval

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of the Executive Officer, the COC list can be modified as necessary. Subsequently, the City/VRSD shall notify Regional Board staff of any modification to the COC list immediately, via phone or e-mail, shall note it in the operating record and notify the Regional Board in writing within 14 days of a verification, and shall note prominently the constituent(s) added to the COC list in the next scheduled monitoring report.

18. Five-Year COC Scans only at Affected Point of Compliance (POC) Wells - Pursuant to 40 CFR § 258.55(b), the Regional Board hereby limits the scope of five-yearly COC list scans, under Provision No. B.16 of this Order, to "affected wells" [those ground water monitoring points that are within the plume, as indicated by their having at least one MPar that is in "tracking mode" (see Provision No. B.19.f.ii) that are along the Landfill's POC. Nevertheless, the Regional Board Executive Officer can, at any time, increase the scope (of the affected wells that shall be subject to COC scanning) to include selected ground water monitoring points, whether or not they are located along the point of compliance, that provide a strong indication of a release.

#### 19. Statistical Data Analysis Methodology

- a. Intra-Well Comparisons are Standard Except as otherwise provided in Provision Nos. B.19(a)(i)(B-C) and B.19(e)(ii), intra-well comparison methods shall be used at all compliance wells for all MPars that are subject to data analysis under this Order and shall be used to test individual "background" (e.g., upgradient) wells regarding unexpected increases in man-made constituents (e.g., VOCs), as follows:
  - i. Pre-Detection Background Data Set - Initially, except as otherwise provided in Provision Nos. B.19(a)(i)(C-D) or B.24, for each given MPar at a given downgradient monitoring well (well/MPar pair), the proposed background data set shall consist of all validated data from that compliance well and parameter, from the period 1997 through 2002. Every two years, following the adoption of this Order, as part of the annual monitoring summary report (see 27 CCR § 20415(e)(14) and M&RP CI-5664 Item D), the City/VRSD shall add the newer data to the background data set for each well/MPar pair after validating (via a method approved by the Executive Officer) that the new data does not contain data indicating an increase over the existing background data. At that time, the City/VRSD shall also retire the well/MPar's oldest two years of background data, thereby producing a data set covering the then-previous five years. The City/VRSD shall validate the

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proposed intra-well background data set as follows for each MPar at each well (initially) or, subsequently, at a new well or for a new MPar at an existing well. The City/VRSD shall report the validated or updated background data set, for each affected well/MPar pair, in the next scheduled monitoring report. Initial background data validation shall be as follows:

- A. Accelerated Background Data Procurement - if there are less than ten post-1996 data points available, for a given MPar at any background or compliance well, the implement the City/VRSD shall accelerated procurement effort described in Provision No. B.24 of this Order to achieve a minimum background sample size. A minimum background sample size of 10 data points per well shall be acquired prior to initiating the intra-well background data set validation procedure described below unless the City and/or VRSD makes a technical submittal that is approved by the Executive Officer for a smaller minimum background sample size;
- В. Validate Upgradient Data for Man-Made MPars - for any MPar that is a non-metallic Appendix II constituent (i.e., that is man-made), the initial intra-well data validation, under Provision No. B.19(a)(i)(D) of this Order, shall utilize only data from those upgradient (or sidegradient) background wells whose post-1996 data, for that constituent, exceeds the constituent's MDL in less than 10% of the well's data. Such man-made constituents should not be detectable at background wells except in error (around 1% of the time) or because the constituent comes either from the Landfill or from another source. Therefore, for any background well rejected pursuant to this provision, for a given MPar, if the City/VRSD has not already explained the constituent's presence at that well to the satisfaction of the Executive Officer, the City/VRSD shall conduct an investigation under Provision No. B.25 of this Order. If there are one or more unrejected background wells, the City/VRSD shall use their data to validate each well/MPar pair's proposed intra-well background data set, under Provision No. B.19(a)(i)(D) of this Order;
- C. Validate Upgradient Data for Naturally-Occurring MPars -

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For all constituents not considered in Provision No. B.19(a)(i)(B) above, the City/VRSD shall validate the upgradient data by comparing box and whisker plots for all upgradient monitoring wells. If the median for any upgradient monitoring well is outside the 25<sup>th</sup> or 75<sup>th</sup> percentile of any other upgradient monitoring well, the upgradient monitoring well network will be deemed as unreliable for evaluating a release based on an inter-well statistical analysis; and

- D. Intra-Well Background Validation for New Well/MPar Pairs for all compliance wells initially and, subsequently, for new wells or a new MPar at an existing well, to determine whether the existing data for that MPar at that well can be used as its intra-well comparison background data set:
  - 1. Commonly Quantified Constituents - for any MPar that, absent the existence of the Landfill, would usually be detected in groundwater at concentrations exceeding the constituent's practical quantitation limit (PQL), the City/VRSD shall validate the proposed intra-well background data at each compliance well by comparing it to a pooled boxand-whiskers plot, for that MPar, from all "background" (upgradient or sidegradient background) wells completed in the same groundwater body. If any such constituent's median concentration (for a downgradient well) exceeds the pooled background plot's 75<sup>th</sup> percentile (upper boundary of the box, in a box-and-whisker plot), then that compliance well's existing data cannot be used as the intra-well comparison background data set for that well/MPar pair. Such a well/MPar pair shall be tested, beginning no later than the next scheduled reporting period, using an inter-well comparison data analysis method (against the applicable background well(s)) that the Executive Officer agrees meets the requirements of 27 CCR § 20415(e)(9). Otherwise (i.e., for a well/MPar pair whose existing data's median is less than the pooled background plot's 75<sup>th</sup> percentile), that existing data

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shall be used as the initial background data set for intra-well comparisons for that well/MPar pair; or

- 2. Rarely Quantified Constituents - for an MPar that, absent the existence of the Landfill, would seldom be detected in groundwater (e.g., non-metallic Appendix II constituents), the City/VRSD shall identify the highest value from the pooled data set from all background wells that have passed validation under Provision No. B.19(a)(i)(B) of this Order or, in a case where all applicable upgradient well data is non-detect, the MDL. The City/VRSD shall use this value as a basis of comparison to validate the data points in the proposed intra-well background data set. The initial intra-well background data set for that downgradient well shall consist of all data points in the proposed intra-well background data set that are less than this value.
- ii. Post-Detection Background Data Set For any constituent that is in "tracking mode" (see Provision No. B.19(e)(ii) of this Order), at a given well, its background data set shall be the background data set that was in effect when the well/MPar pair exhibited a measurably significant increase.
- b. Performance Standards All data analysis methods (statistical or nonstatistical) shall meet the requirements of 27 CCR § 20415(e)(9).
- c. The following are Water Quality Objectives established in the Basin Plan for unconfined and perched aquifers in the Oxnard Plain:

<u>Constituents</u>	<u>Units</u>	Maximum Value
TDS	mg/l	2,600
Sulfate	mg/l	1,500
Chloride	mg/l	350
Boron	mg/l	1.8

WQPSs may be modified from Basin Plan water quality objectives by the Regional Board based on more recent or complete groundwater monitoring data such as from the monitoring network required by this Order, changes in background water quality, or for any other reason deemed valid.

- d. Retest is Part of the Method In the event that an approved data analysis method provides a preliminary indication that a given MPar has exhibited a measurably significant increase at a given well, the City/VRSD shall conduct a verification procedure in the form of a discrete retest, in accordance with 27 CCR § 20415(e)(8)(E). The retest is part of the data analysis method, therefore, a measurably significant increase exists only if either or both of the retest samples validates the preliminary indication.
- e. Limited Retest Scope For any given groundwater monitoring point, the City/VRSD shall perform the verification procedure only for those MPars that have shown a preliminary indication at that well during that reporting period.
- f. Water Quality Monitoring Approach The monitoring approach used for each well/MPar pair shall be controlled by whether that MPar has exhibited a measurably significant increase at that well. Therefore, the City/VRSD shall monitor each well/MPar pair in one of two modes, as follows:
  - i. Detection Mode For an MPar that has not produced a measurably significant increase at that well, the purpose of monitoring, for that well/MPar pair, is to watch for the MPar's arrival at that well at a concentration strong enough to trigger a measurably significant indication using an appropriate statistical or nonstatistical data analysis method; or
  - ii. Tracking Mode For an MPar that has produced a measurably significant increase at a given well, the purpose of the monitoring, for that well/MPar pair, is to verify the suitability and effectiveness of the existing or proposed corrective measures by tracking changes in the MPar's concentration at that location via an evolving concentration-versus-time plot.
- g. Detection Mode Data Analyses The following applies to all detection mode data analyses (i.e., this provision does not apply to the scans under Provision No. B.16 or to well/MPar pairs that are in tracking mode):
  - i. MPars Readily Detectable in Background At any given groundwater monitoring point, the City/VRSD shall apply an approved statistical analysis method for each detection mode MPar that exceeds its respective MDL in 10% or more of the applicable background data set. For each well/MPar pair (separately), an

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approved statistical analysis is a method, other than analysis of variance (ANOVA), that is either validated and analyzed by the SANITAS<sup>®</sup> water quality data analysis software (distributed by Intelligent Decisions Technology, Inc., 203 South Main Street, Longmont, CO 80501, Tel: 303-774-9120) or that the Executive Officer agrees meets the performance standards of 27 CCR § 20415(e)(9). If using SANITAS<sup>®</sup>, the City/VRSD shall use the "CA Standards" and "CA Retest" settings (under the "Options" pull-down menu). Otherwise:

- A. For any such well/MPar pair that, as of the effective date of this Order, does not have an approved statistical analysis method, the City/VRSD shall propose and substantiate an appropriate statistical method within 90 days of the adoption of this Order;
- B. After the adoption of this Order, for any new MPar that qualifies for statistical analysis by meeting the above 10% rule at a given well, the City/VRSD shall propose and substantiate an appropriate statistical method for that well/MPar pair as part of the background data validation under Provision No. B.19(a)(i)(D) of this Order.
- ii. MPars not Readily Detectable in Background For any monitoring point at which one or more detection mode MPars exceed their respective MDL in less than 10% of the applicable background data set, the City/VRSD shall analyze the data for these MPars via the California Nonstatistical Data Analysis Method (CNSDAM) test described in Provision No. B.21 of this Order.
- 20. Because of complications with contamination from agriculture practices in the region, intra-well or inter-well statistical analyses for the semi-perched aquifer may not be effective in confirming releases from the Landfill. Under these conditions, there is an increased possibility that detection mode monitoring will fail to recognize a real release indication. It also increases the rate at which false-positive indications of a release may occur. Therefore, for all naturally occurring MPars that are required to be analyzed using an inter-well statistical analysis because they failed the intra-well background validation discussed in Provision No. B.19(a)(i)(C) of this Order, the City/VRSD shall implement semi-annually tracking through concentration-versus-time plotting of all downgradient and side-gradient semi-perched aquifer well/MPar pairs to assess any measurably significant increases at a well/MPar pair.

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#### 21. California Nonstatistical Data Analysis Method

- a. Non-Statistical Method for Detection Mode for MPars Seldom Found in Background For any given compliance (downgradient) well, regardless of the monitoring program (DMP, EMP, AMP, or CAP), the City/VRSD shall use this data analysis method, jointly, for all constituents on the "scope list" of Provision No. B.21(a)(i) of this Order (or, for each retest sample, the modified scope list of Provision No. B.21(b)(ii)).
  - i. Scope List Within 30 days of the effective date of this Order, the City/VRSD shall create a current "scope list" showing each detection mode MPar, at that well, that exceeds its MDL in less than 10% of its background data.
  - ii. From the scope list made under Provision No. B.21(a)(i) above, for an initial test (or, for a retest, the modified scope list under Provision No. B.21(b)(ii) below), the City/VRSD shall identify each MPar in the current sample from that well that exceeds either its respective MDL or PQL. The City/VRSD shall conclude that these exceeding MPars provide a preliminary indication (or, for a retest, provide a measurably significant indication) of a change in the nature or extent of the release, at that well, if either:
    - A. Two or more of the MPars on a monitoring well's scope list exceed their respective MDL; or
    - B. At least one of the MPars on a monitoring well's scope list equals or exceeds its respective PQL.

#### b. Discrete Retest:

- i. In the event that the City/VRSD concludes (pursuant to Provision No. B.21(a)(ii) above) that there is a preliminary indication, then the City/VRSD shall immediately notify Regional Board staff by phone or e-mail and, within 30 days of such indication, shall collect two new (retest) samples from the indicating compliance well.
- ii. For any given compliance well, the City/VRSD shall analyze the retest samples only for those constituents indicated in that well's original test, under Provision No. B.21(a)(ii) of this Order, and

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these indicated constituents shall comprise the well's "modified scope list." As soon as the retest data are available, the City/VRSD shall apply the same test (under Provision No. B.21(a)(ii) above but using this modified scope list) to separately analyze each of the two suites of retest data at that compliance well.

- iii. If either (or both) of the retest samples trip either (or both) of the triggers under Provision No. B.21(a)(ii) above, then the City/VRSD shall conclude that there is a measurably significant increase at that well for the constituent(s) indicated in the validating retest sample(s). Furthermore, thereafter, the City/VRSD shall monitor the indicated constituent(s) in tracking mode (instead of detection mode; see Provision No. B.19(e)(ii) of this Order) at that well, shall remove the constituent(s) from the scope list created (under Provision No. B.21(a)(i) of this Order) for that well, notify the Regional Board in writing within 14 days, and shall highlight this conclusion and these changes in the next scheduled monitoring report and in the Landfill's operating record.
- 22. At any given time, the MPar list shall include all constituents listed in wells listed in Item No. 4 and Table 1 of M&RP CI-5664, which consists of the MPars previously established for the Landfill, as well as Appendix I VOCs, nitrate (as nitrogen), BOD and all COCs detected and verified in the five-year scans under Provision No. B.16 of this Order. Any time a new constituent is added to the MPar list the City/VRSD shall provide the Regional Board with an updated list of this table.
- 23. At any given time, the COC list for the Landfill shall include all constituents listed in Table 2 of M&RP CI-5664. Any time a new COC list is developed pursuant to provisions in this Order the City/VRSD shall provide the Regional Board with an updated list of this table.

#### 24. Establishing Initial COC Data:

For any COC that does not have the minimum background sample size required at any given background and compliance well (e.g., for a new COC established under Provision No. B.16 of this Order), the City/VRSD shall establish the prevailing concentration of that constituent at each such data-deficient well by taking and analyzing one sample monthly at each data-deficient background and downgradient monitoring point until each such well has at least ten data points, or fewer if approved by the Executive Officer. For any background or compliance well installed after the effective date of this Order, the City/VRSD shall establish

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the prevailing concentration for each COC by using this accelerated sampling schedule for up to ten months. These data shall be used, as described in Provision No. B.19(a)(i)(A-C) of this Order, in the event that the COC becomes an MPar. For any constituent for which monthly sampling would be too frequent to obtain reasonably independent data, even using the post-sampling purge approach described in 27 CCR § 20415(e)(12)(B), the City/VRSD shall include, for approval by the Executive Officer, a proposed date for completion of data procurement and a well-specific and constituent-specific technical validation for any wait of more than one month between successive sampling dates.

- 25. Frequent Detections of a Man-Made Constituent in a Background Well - Any time a (upgradient or sidegradient) background well exhibits an excessive frequency or proportion of trace-level or numerical concentration data for any MPar (under Provision Nos. B.19 or B.26) or COC (under Provision Nos. B.24 or B.26) that is a non-metallic Appendix II constituent, the City/VRSD shall conduct an investigation under this paragraph. For such a constituent: an "excessive proportion" constitutes a condition, under Provision No. B.19(a)(i)(A) of this Order, where 10% or more of the data from that background well exceeds the MPar's MDL; and an "excessive frequency" constitutes a condition in which new data at that background well exceeds the constituent's MDL for two successive samples. Given either condition, the City/VRSD shall notify the Regional Board immediately by phone or e-mail and shall, within 180 days thereafter, submit a report, acceptable to the Executive Officer, that examines the possibility that this constituent originated from the Landfill (e.g., using a concentration gradient analysis) and that proposes appropriate changes to the monitoring program. If, after reviewing this report, the Executive Officer:
  - a. Concludes that the evidence indicates the man-made constituent originated from a source other than the Landfill, then the Executive Officer will make appropriate changes to the monitoring program, including switching to an appropriate statistical inter-well comparison procedure, for that constituent, for all detection-mode analyses at the Landfill, using a suite of background data that reflects the expected concentration for that constituent; or
  - b. Is unable to conclude that the evidence indicates the detected man-made constituent came from a source other than the Landfill, then the City/VRSD shall:
    - i. List this constituent as an MPar, if it is not already so listed, in the next scheduled monitoring report and shall note this change prominently in the report's synopsis;

- ii. Shall include this background well as part of the release, for that MPar and, thereafter, shall address this well/MPar pair in tracking mode (i.e., as part of the release), in spite of the well's being a background well, beginning with the next scheduled monitoring report; and
- iii. If there is not at least one other background well unaffected by this constituent, shall, within 90 days, install a new upgradient or sidegradient background well in a portion of the aquifer that will provide data representative of background conditions for the Landfill's compliance wells, and shall carry out an accelerated sampling schedule, for that constituent, under Provision No. B.24 of this Order, to provide representative background data for validating the use of intra-well comparison testing under Provision No. B.19 above.
- 26. Ongoing Background Well Testing Even though most data analysis will be via intra-well comparisons, the City/VRSD shall continue to monitor background wells, for each MPar and COC, each time that MPar or COC is monitored at downgradient wells. Each year in which there is new background well data for a constituent (i.e., semi-annually for MPars and every five years for non-MPar COCs), the City/VRSD shall include the new data in the annual monitoring summary report (see 27 CCR § 20415(e)(14) and M&RP CI-5664 Item D) as a time-versus-concentration plot for that background well and constituent. Any time such a plot (for a given well and constituent) shows two successive data points in excess of the MDL for any non-metallic Appendix II constituent that has not already been investigated at that well, under Provision No. B.25 of this Order, the City/VRSD shall notify the Regional Board immediately by phone or e-mail and shall initiate an investigation under Provision No. B.25 within 30 days of noting this condition.
- 27. Monitoring Data Information For each MPar addressed during a given reporting period, the City/VRSD shall include in the monitoring report a listing of the prevailing MDL and PQL for that MPar, together with an indication as to whether the MDL, PQL, or both have changed since the prior reporting period. The City/VRSD shall require the analytical laboratory to report censored data (trace level and non-detect determinations). In the event that an MPar's MDL and/or PQL change, the City/VRSD shall highlight that change in the report's summary and the report shall include an explanation for the change that is written and signed by the owner/director of the analytical laboratory.

- 28. WQPS Under this Order, pursuant to 27 CCR § 20415(e)(7), the Landfill is in violation of its WQPS any time a given detection mode well/MPar pair exhibits a measurably significant increase over the applicable background data set (and changes to tracking mode), as determined by an appropriate statistical or nonstatistical data analysis method. All well/MPar pairs in tracking mode remain in violation of the WQPS until completion of a successful proof period that ends the CAP (see 27 CCR § 20430(g) and 40 CFR § 258.58(e)). Pursuant to 27 CCR § 20390, the WQPS for groundwater at the Landfill consists of the following components:
  - a. COCs (see 27 CCR § 20395) At any given time, the COCs listed in Table 2 of M&RP CI-5664, including any updates made pursuant to Provision No. B.23 of this Order. Nevertheless, under this Order, statistical and nonstatistical data analysis is limited to those COCs that are on the current MPar list by virtue of their being present in detectable levels either in groundwater or in that portion of the groundwater that is affected by the release;
  - b. Concentration Limits At any given time, the concentration limit of a given well/MPar pair is its applicable background data set, as determined or updated pursuant to Provision Nos. B.19(a) or B.25 of this Order (see 27 CCR § 20400(b)(2)). Nevertheless, during the CAP, the concentration limits may also include, for a given MPar, a numerical CLGB adopted by the Regional Board pursuant to 27 CCR § 20400(b)(3)-(d) for application only to those monitoring points that are within the plume;
  - c. POC and Monitoring Wells The POC, compliance wells, and background wells shown in Figure 4 (see 27 CCR § 20405). (The POC consists of an imaginary line connecting the wells 29A2m, 29C2m, 29D1, 29E6, 29M2, 29M5, 29L1, and 29G4s around the perimeter of the landfills. The compliance monitoring wells consist of 29A2m, 29C2m, 28C6, 28C7s, 28C8s, 29D1, 29D3, 29E6, 29E9, 29G4s, 29L1, 29M2, and 29M5. Background monitoring wells consist of 28C7s, 28C8s);
  - d. Compliance Period The compliance period for the Landfill is six years (see 27 CCR § 20410). Each time the standard is not met (i.e. releases discovered), the Landfill shall begin a compliance period on the date the Regional Board directs the City/VRSD to begin an EMP. If the City's/VRSD's CAP has not achieved compliance with the standard by the scheduled end of the compliance period, the compliance period is automatically extended until the Landfill has been in continuous compliance for at least three consecutive years.

- 29. The EMP and AMP shall meet the following requirements:
  - i. The City/VRSD shall conduct water quality monitoring at the Landfill in accordance with 27 CCR § 20425 (EMP), and 40 CFR § 258.55 (AMP);
  - ii. The City/VRSD shall submit a proposal and compliance schedule for implementing an updated EMP and a federal AMP (under 40 CFR § 258.55), ACM (under 40 CFR § 258.56), and SOR (under 40 CFR § 258.67) at the Landfill, within 60 days of the effective date of this Order;
  - iii. Within 120 days of the effective date of this Order, the City/VRSD shall submit an initial Engineering Feasibility Study (EFS) under 27 CCR § 20420(k)(6) and shall begin an AMP, an ACM, and an SOR under 40 CFR § 258.55, § 258.56, and § 258.57, respectively, to the extent that these federal requirements are not addressed by the EMP or the Landfill's current monitoring program;
  - iv. The City/VRSD shall delineate the three-dimensional nature and extent of the release, pursuant to 40 CFR § 258.55(g)(1)(i) and 27 CCR § 20425(b) and install assessment wells as needed; and
  - v. In the event that any MPar involved in the release migrates offsite, the City/VRSD notify all offsite affected parties (under 40 CFR § 258.55(g)(1)(iii)) within 30 days after discovery or confirmation. Thereafter, keep this list updated and, within 30 days of creating or updating the list, provide the Regional Board with a copy and include a copy of it in the Landfill operating record.
- 30. The ACM, under 40 CFR § 258.56, shall include an assessment of:
  - a. The performance, reliability, ease of implementation, and potential impacts of appropriate potential remedies, including safety impacts, crossmedia impacts, and control of exposure to any residual pollution;
  - b. The time required to begin and complete the proposed remedy (including the proposed suite of corrective action measures (CAMs));
  - c. The costs of implementing the proposed remedy;
  - d. State or local permit requirements or other environmental or public health requirements that may substantially affect implementation of the remedy.

- 31. The selection of remedy (SOR) work, under 40 CFR § 258.57, shall address the following concerns regarding the proposed remedy:
  - a. The proposed remedy must meet the following goals and standards:
    - i. Protection of human health and the environment;
    - ii. Attainment of the groundwater protection standard (of 40 CFR § 258.57(h or i));
    - iii. Control of the source(s) of releases so as to reduce or eliminate further releases of COCs, including Appendix II constituents;
    - iv. Compliance with standards for management of wastes as specified in 40 CFR § 258.58(d).
  - b. In proposing a remedy, the City/VRSD shall include consideration of the evaluation factors contained in 40 CFR § 258.57(c); and
  - c. The City/VRSD shall propose a schedule, effective upon approval by the Executive Officer, for initiating and completing the remedial activities as set forth in 40 CFR § 258.57(d)(1-8).
  - d. Within 90 days of this Order being adopted, or at a later date approved by the Executive Officer, the City/VRSD shall install a well on the Landfill boundary, centered on where the release crosses (or will cross) it.
  - e. If at any time the City/VRSD determines that the release has crossed the Landfill boundary, the City/VRSD shall, within 30 days of such determination, begin providing the Regional Board with an up-to-date list that shows, at any given time, the names and addresses of all "affected parties" (all persons who own or reside upon land that overlies the release, pursuant to 40 CFR § 258.55(g)(1)(3)(iii)), so that the Regional Board can invite these affected parties to each Board Meeting at which the corrective measures are discussed and either chosen or revised.
- 32. Within 180 days from the effective date of this Order, the City/VRSD shall submit:
  - a. An estimate of the projected costs for plume delineation, CAP proposal, the implementation of interim corrective measures (interim CAMs), and

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the CAP:

- b. In the event that this estimate exceeds the Landfill's "reasonably foreseeable release" coverage, shall propose an update to the Landfill's corrective action financial assurance; and
- c. Prepare a detailed written estimate of the cost of hiring a third party to perform the corrective action pursuant to 40 CFR § 258.73(a).
- 33. The City/VRSD shall comply with and notify the Regional Board that it has complied with requirements of 40 CFR § 258.60(I)(1) that requires a notation on the deed of the Landfill property notifying any potential purchaser that:
  - a. The land has been used as a landfill facility, and
  - b. Its use is restricted under 40 CFR § 258.61(c).
- 34. The City/VRSD shall comply with notification requirements of 40 CFR § 258.55(g)(1)(iii) and discussion of the corrective measures assessment, prior to the selection of remedy, in a public meeting as required by 40 CFR § 258.56(d).
- 35. Within 180 days from the effective date of this Order, the City/VRSD shall submit an amended ROWD or joint technical document (JTD) to establish a CAP meeting 27 CCR § 20425(b-d) and 40 CFR § 258.56 through § 258.58.
- 36. The City/VRSD shall implement the CAP, pursuant to 27 CCR § 20430 and 40 CFR § 258.58, when the Regional Board determines that the EMP and the design of the CAP have been satisfactorily completed, the amended JTD, submitted pursuant to Provision No. B.35 above, has been approved, and the CAP WDRs for the Landfill have been appropriately revised.
- 37. Until the adoption of CAP WDRs, the City/VRSD shall implement any interim CAMs the Executive Officer either approves, at the City's/VRSD's request, or requires for the protection of water quality. To ensure the protection of human health and the environment, the City/VRSD shall consider the factors described in 40 CFR § 258.58 (a)(3)(i-vii) consisting of the following:
  - a. Time required to develop and implement a final remedy;
  - b. Actual or potential exposure of nearby populations or environmental receptors to hazardous constituents;

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- c. Actual or potential contamination of drinking water supplies or sensitive ecosystems;
- d. Further degradation of the ground-water that may occur if remedial action is not initiated expeditiously;
- e. Weather conditions that may cause hazardous constituents to migrate or be released:
- f. Risks of fire or explosion, or potential for exposure to hazardous constituents as a result of an accident or failure of a container or handling system; and
- g. Other situations that may pose threats to human health and the environment.
- 38. The City/VRSD shall install any additional groundwater, soil pore liquid, soil pore gas, or leachate monitoring devices necessary to comply with M&RP CI-5664, as adopted or as revised by the Executive Officer.

#### C. PROVISIONS FOR ONSITE USE OF WATER

- 1. Any water used for landscape irrigation, dust control or other non-emergency uses, shall be subject to WDRs, except for potable water uses and any other water allowed by this Order.
- 2. No water shall be routinely applied to the Landfill except for landscape irrigation water. Water used for these purposes shall only be applied by spraying, and in quantities not to exceed that necessary to support plant life.
- 3. All uses of water shall be within the boundaries of the Landfill property. During an emergency, this water may be used for fire fighting on the Landfill or on undeveloped areas off and adjacent to the Landfill.
- 4. A sampling station shall be established for each Landfill waste water source where representative samples can be obtained. Landfill waste water samples shall be obtained at sampling stations prior to being mixed with other water(s). The minimum sampling frequency for each Landfill waste water sampling station is on a monthly basis except for water purged from wells where the minimum sampling frequency shall be semiannual.
- 5. Prior to the onsite use of any Landfill waste water, VRSD shall submit to the

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Regional Board a technical report for the approval of the Executive Officer concerning a complete description of each proposed Landfill waste water sampling station with the data to support the conclusion that the proposed station will provide samples representative of the entire flow from that source.

- 6. During periods of precipitation, when the use of irrigation or dust control is not necessary for the purpose specified in this Order, all waste water generated at the Landfill shall be stored or hauled to a legal point of disposal.
- 7. Waste water used at the Landfill shall not percolate into the disposal areas or native soil, or enter the storm water collection system, unless specifically permitted by WDRs.
- 8. The waste water from each source identified in Specification Nos. C.4 and C.5 above shall not be used onsite if it exceeds screening levels used for general NPDES permits in the Los Angeles Region that apply to water with Municipal and Domestic Supply (MUN) and/or groundwater recharge (GWR) beneficial uses designations (see Attachment 2), if at any time the waste water is outside the range of 6.0 to 9.0 pH units, or if it exceeds the following limits:

Constituent	Unit	Maximum Limit
COD	mg/l	240
Oil and Grease	mg/l	15
Nitrate	mg/l	45
Coliform	Most probable number (MPN)/100 ml	23

9. The existing gas monitoring system and gas collection system and/or expansion of these systems for the Landfill shall be designed so that gas condensate is not returned to the waste management unit.

#### D. PROVISIONS FOR POSTCLOSURE MAINTENANCE ACTIVITIES

- 1. As the owner, VRSD is responsible for postclosure maintenance of the Coastal portion of the combined sites regulated by these WDRs.
- 2. As the owner, the City is responsible for postclosure maintenance of the Santa Clara portion of the combined sites regulated by these WDRs.
- 3. The property owner(s) have a continuing responsibility for correcting any problems which may arise in the future as a result of waste discharge at the site, and from gases and leachate that may be caused by infiltration or precipitation of drainage

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waters into the waste disposal units, or by infiltration of water applied to this property during subsequent use of the land for other purposes.

- 4. As indicated in 27 CCR § 21769(c)(1)(C) the purpose of the final closure and postclosure maintenance plan is, upon the plan's being approved by the Regional Board, to provide an enforceable list and schedule of actions necessary for providing water quality protection at the Landfill during the closure and post-closure maintenance periods. As indicated in 27 CCR § 21890(b) postclosure maintenance plans may be revised during the postclosure maintenance period upon concurrence with the EA and approval by the CIWMB, and the Regional Board. Within 180 days of the adoption of this Order, the City/VRSD shall, with the concurrence of the EA and CIWMB, update the postclosure maintenance plan to reflect current postclosure maintenance monitoring activities at the Landfill, specifically focusing on the moisture monitoring requirements for low permeability layers of the existing final cover systems.
- 5. As part of the current, or revised, postclosure maintenance plan for the Landfill, the respective owners of Coastal and Santa Clara shall furnish routine monitoring, inspection and maintenance reports generated throughout the postclosure maintenance period for the two sites for the following environmental control systems:
  - a. Final Cover
  - b. Drainage Controls
  - c. Vegetative Cover
  - d. Gas Condensate Monitoring
  - e. Groundwater Monitoring
  - f. Final Grading
- 6. Regional Board Order Nos. 00-079 and 00-080 require the City and VRSD to evaluate the potential flux of landscape irrigation through the final cover into the refuse at Coastal and Santa Clara. Within 180 days of the adoption of this Order, the City and VRSD shall complete an evaluation of the impact of irrigation on saturated and unsaturated moisture movement in the final covers to document that the applied irrigation does not flux into the refuse mass.

#### **E.** PROVISIONS FOR REPORTING SCHEDULED ACTIVITIES

1. The City/VRSD shall notify Regional Board staff at least 30 days prior to any maintenance activities, for approval by the Executive Officer, which could alter existing surface drainage patterns or change existing slope configurations. These activities may include, but not be limited to, significant grading activities, the

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importation of fill material, the design and installation of soil borings, groundwater monitoring wells and other devices for site investigation purposes.

- 2. The City/VRSD shall furnish, within a reasonable time, any information the Regional Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The City/VRSD shall also furnish to the Regional Board, upon request, copies of records required to be kept by this Order.
- 3. Where the City/VRSD becomes aware that it failed to submit any relevant facts in any report to the Regional Board, it shall submit such facts or information within seven days of its discovery of the omission.
- 4. The Regional Board shall be notified of any incident resulting from Landfill operations that may endanger the environment, by telephone within 24 hours, and in writing within seven days. The written notification shall fully describe the incident including what occurred, when it occurred, the duration of the incident, when correction occurred (or when correction will occur if it is a continuing incident), and the steps taken or planned to reduce, eliminate, and/or prevent recurrence. All instances of noncompliance with this Order shall also be reported to the Regional Board in the same manner as stated above.
- 5. The City/VRSD shall notify the Executive Officer, in writing, at least 30 days in advance of any proposed transfer of this Order's responsibility and coverage between the City/VRSD and a new owner for postclosure maintenance of the Landfill. Any transfer agreement between the City/VRSD and a new owner or operator shall include an acknowledgement that the City/VRSD is liable for violations up to the transfer date and that the new owner is liable from the transfer date on. The agreement shall include an acknowledgement that the new owners accept responsibility for compliance with this Order that includes the postclosure maintenance of the Landfill.
- 6. The City/VRSD shall comply with the postclosure maintenance requirements and notification requirements contained in 27 CCR § 21769 and in accordance with the Postclosure Maintenance Plan (dated April 1995), or updated plan, approved for the Landfill by the Executive Officer, CIWMB, and EA.
- 7. The City shall perform stormwater discharge monitoring from the Landfill consistent with the requirements of Water Quality Order No. 97-03-DWQ (Waste Discharge Requirements for Discharge of Storm Water Associated with Industrial Activities Excluding Construction Activities) adopted by the SWRCB under the NPDES General Permit No. CAS000001.

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- 8. The City/VRSD shall report (on a quarterly basis) the total volume of all irrigation water used at the Landfill each month and the area(s) where it is applied.
- 9. All applications, reports, or information submitted to the Executive Officer shall be signed and certified as follows:
  - a. The applications, reports, or information shall be signed as follows:
    - i. For a corporation by a principal executive officer of at least the level of vice-president.
    - ii. For a partnership or sole proprietorship by a general partner or the proprietor, respectively.
    - iii. For a municipality, state, federal or other public agency by either a principal executive officer or ranking elected official.
    - iv. For a military installation by the base commander or the person with overall responsibility for environmental matters in that branch of the military.
  - b. All other reports required by this Order and other information required by the Executive Officer shall be signed by a person designated in paragraph [a] of this provision, or by a duly authorized representative of that person. An individual is a duly authorized representative only if:
    - i. The authorization is made in writing by a person described in paragraph [a] of this provision;
    - ii. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity; and
    - iii. The written authorization is submitted to the Executive Officer.
  - c. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining

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the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

#### F. GENERAL PROVISIONS

- 1. This Order does not authorize violation of any federal, state, or local laws or regulations.
- 2. The City/VRSD shall comply with all the other applicable provisions, requirements, and procedures contained in the most recent version of 27 CCR and any future amendments.
- 3. The City/VRSD shall allow the Regional Board, or an authorized representative, upon presentation of credentials and other documents as may be required by law, to:
  - a. Enter upon the City's/VRSD'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 shall 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 purpose of assuring compliance with this Order or as otherwise authorized by the CWC, any substances or parameters at this location.
- 4. The City/VRSD shall maintain a copy of this Order at the Landfill so as to be available at all times to Landfill operating personnel.
- 5. These requirements do not exempt the City/VRSD from compliance with any other current or future law that may be applicable. They do not legalize this waste management facility, and they leave unaffected any further restraints on the disposal of wastes at this waste management facility, which may be contained in other statutes.
- 6. This Order includes the attached Regional Board Order No. 93-062 incorporating

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federal Resource Conservation and Recovery Act (42 USC § 6901, et seq.) regulations (Attachment 3) and "Standard Provisions Applicable to Waste Discharge Requirements", adopted November 7, 1990 (Attachment 4) which are both incorporated herein by reference. If there is any conflict between provisions stated herein and the federal regulations or standard provisions, the provisions stated herein will prevail.

- 7. The requirements adopted herein do not authorize the commission of any act causing injury to the property of another, nor protect the City/VRSD from liabilities under federal, state, or local laws.
- 8. The filing of a request by the City/VRSD for a modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any condition, provision, or requirements of this Order.
- 9. This Order does not convey any property rights of any sort, or any exclusive privilege.
- 10. The City and VRSD are responsible parties for these WDRs and the M&RP for the Landfill. The City/VRSD shall comply with all conditions of these WDRs. 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 WDRs by the Regional Board.
- 11. The City/VRSD shall within 48 hours of a significant earthquake event, submit to the Regional Board a detailed post-earthquake report describing any physical damages to the containment features, groundwater monitoring and/or leachate control facilities and a corrective action plan to be implemented at the Landfill.
- 12. The City/VRSD shall immediately notify the Regional Board of any flooding, slope failure or other change in site conditions which could impair the integrity of waste containment facilities or of precipitation and drainage control structures.
- 13. The City/VRSD shall submit to the Regional Board and to the CIWMB evidence of financial assurance for postclosure maintenance, pursuant to 27 CCR, division 2, chapter 6. The postclosure period shall be at least 30 years. However, the postclosure maintenance period shall extend as long as wastes pose a threat to water quality.
- 14. Within 180 days of the adoption of this Order, the City/VRSD shall submit to the CIWMB, in accordance with 27 CCR § 22222, assurance of financial responsibility

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in an amount acceptable to the Executive Officer for initiating and completing corrective action for all known or reasonably foreseeable releases from the Landfill.

- 15. The City/VRSD shall comply with all conditions of this Order and any additional conditions prescribed by the Regional Board in addenda thereto. Noncompliance with this Order constitutes a violation of the CWC and is grounds for:
  - a. enforcement action;
  - b. termination, revocation and reissuance, or modification of this Order; or
  - c. denial of a ROWD in application for new or revised WDRs.
- 16. The City/VRSD shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncompliance.
- 17. This Order is not transferable to any person except after notice to the Executive Officer. The Regional Board may require modification or revocation and reissuance of this Order to change the name of the City/VRSD and incorporate such other requirements as may be necessary under the CWC. The City/VRSD shall submit notice of any proposed transfer of this Order's responsibility and coverage as described under Provision No. E.5 of this Order.
- 18. In accordance with CWC § 13263(g), these requirements shall not create a vested right to continue to discharge and are subject to rescission or modification. All discharges of waste into the waters of the state are privileges, not rights.
- 19. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.
- 20. This Order becomes effective on the date of adoption by the Regional Board.
- 21. This Order may be terminated or modified for cause, including, but not limited to:
  - a. Violation of any term or condition contained in this Order;
  - b. Obtaining this Order by misrepresentation, or failure to disclose all relevant facts;

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- c. A change in any condition that required either a temporary or permanent reduction or elimination of the authorized waste discharge.
- 22. Except for violation enforcement purposes, Regional Board Order Nos. 00-079 and 00-080, adopted June 29, 2000, are hereby rescinded. Because Order No. 93-062 also applies to other municipal waste landfills in the region, incorporating federal regulations, it is not rescinded.

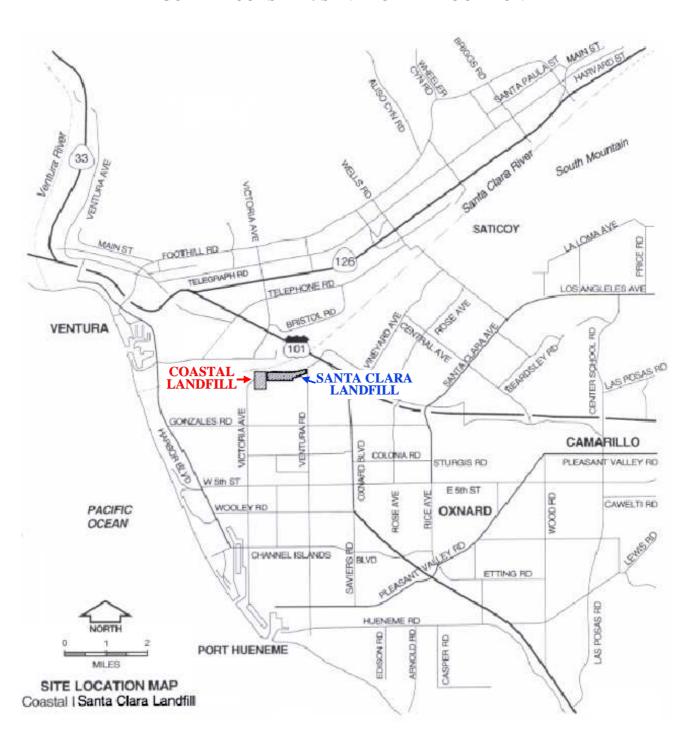
This Order in no way limits the authority of the Regional Board, as contained in the CWC, to require additional investigations and cleanups pertinent to this project. This Order may be revised by the Executive Officer as additional information from the project becomes available.

Failure to comply with the terms and conditions of this Order may result in imposition of civil liability against the City/VRSD by the Regional Board, either by the Regional Board or judicially by the Superior Court, in accordance with CWC § 13350 et. seq. and/or referral to the Attorney General of the State of California for such legal action as may be deemed appropriate.

I, Dennis A. Dickerson, Executive Officer, do certify that the foregoing is a full, true, and correct copy of an order adopted by the Regional Board on December 12, 2002.

Dennis A. Dickerson Executive Officer

FIGURE 1 - COASTAL / SANTA CLARA LOCATION MAP



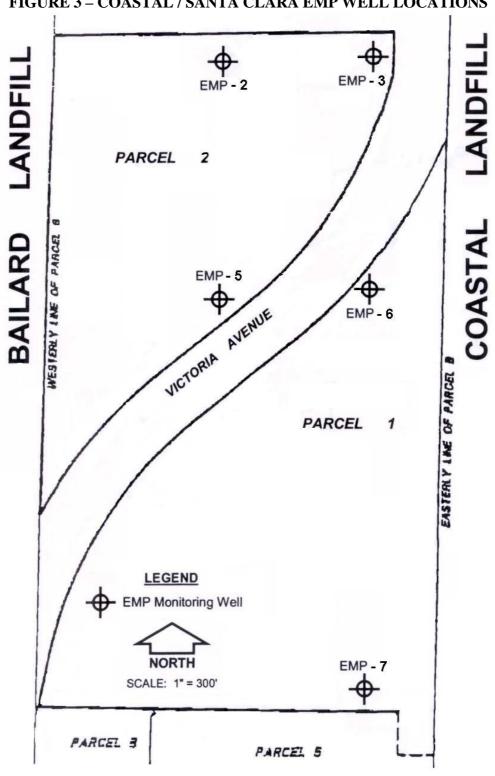
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### FIGURE 2 – AEREAL PHOTOGRAPH OF THE COASTAL / SANTA CLARA AREA SHOWING SURROUNDING LAND USES



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FIGURE 3 - COASTAL / SANTA CLARA EMP WELL LOCATIONS



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FIGURE 4 – COASTAL / SANTA CLARA WELL LOCATIONS

