

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION
REVISED MONITORING AND REPORTING PROGRAM NO. R5-2003-0119

FOR
EAST BAY MUNICIPAL UTILITY DISTRICT
PARDEE CENTER WASTEWATER TREATMENT FACILITY
CALAVERAS COUNTY

This revised Monitoring and Reporting Program (MRP) describes requirements for monitoring influent, effluent, pond, land application area, groundwater, solid waste and sludge, and water supply. This MRP is issued pursuant to Water Code Section 13267. The East Bay Municipal Utility District (Discharger) shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer. Section 13267 of the California Water Code states, in part:

“In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.”

Section 13268 of the California Water Code states, in part:

“(a) Any person failing or refusing to furnish technical or monitoring program reports as required by subdivision (b) of Section 13267, or failing or refusing to furnish a statement of compliance as required by subdivision (b) of Section 13399.2, or falsifying and information provided therein, is guilty of a misdemeanor and may be liable civilly in accordance with subdivision (b).

(b)(1) Civil liability may be administratively imposed by a regional board in accordance with Article 2.5 (commencing with section 13323) of Chapter 5 for a violation of subdivision (a) in an amount which shall not exceed one thousand dollars (\$1,000) for each day in which the violation occurs.”

The Discharger owns and operates the facility that is subject to Waste Discharge Requirements (WDRs) Order No. R5-2003-0119. The monitoring reports are necessary to ensure that the Discharger complies with the WDRs.

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. The time, date, and location of each sample shall be recorded on the sample chain of custody form.

Field test instruments (such as those used to test pH and dissolved oxygen) may be used provided that:

1. The operator is trained in proper use and maintenance of the instruments;
2. The instruments are calibrated prior to each monitoring event;
3. Instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and
4. Field calibration reports are submitted as described in the "Reporting" section of this MRP.

INFLUENT MONITORING

Samples shall be collected at approximately the same time as effluent samples and shall be representative of the influent. Influent monitoring shall include the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow ¹	gpd	Meter	Daily	Monthly
BOD ₅ ²	mg/L	Grab	Monthly	Monthly

¹ Flow may be monitored from the pump station that conveys effluent into evaporation/percolation pond and/or the land application area.

² 5-day biochemical oxygen demand.

EFFLUENT MONITORING

Samples of effluent shall be collected from the pump station downstream of the wastewater treatment plant prior to discharge to the evaporation/percolation pond and/or the land application area. At a minimum, effluent monitoring shall consist of the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Total Coliform Organisms ¹	MPN/100 mL ²	Grab	Weekly	Monthly
pH	Standard	Grab	Monthly	Monthly
BOD ₅	mg/L	Grab	Monthly	Monthly
Electrical Conductivity	mg/L	Grab	Quarterly	Semi-annually
Total Dissolved Solids	mg/L	Grab	Quarterly	Semi-annually
Sodium	mg/L	Grab	Quarterly	Semi-annually
Chloride	mg/L	Grab	Quarterly	Semi-annually
Total Nitrogen	mg/L	Grab	Quarterly	Semi-annually
Standard Minerals ³	mg/L	Grab	Annually	Annually

¹ Total Coliform Organisms shall be monitored when the wastewater is applied to the land application area.

² Most probable number per 100 mL.

³ Standard Minerals shall include, at a minimum, the following elements/compounds: boron, calcium, magnesium, potassium, sulfate, total alkalinity (including alkalinity series), and hardness.

POND MONITORING

The evaporation/percolation pond shall be monitored as follows. If the pond is empty on the scheduled monitoring date, the Discharger may report the freeboard monitoring result as “dry”.

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Dissolved Oxygen ^{1,2}	mg/L	Grab	Weekly	Monthly
Freeboard	0.1 feet	Measurement	Weekly	Monthly
Odors	--	Observation	Weekly	Monthly
Berm condition ³	--	Observation	Weekly	Monthly

¹ If the pond depth exceeds one foot, samples shall be collected at a depth of one foot from each pond in use, opposite the inlet. If the water depth is less than one foot, surface sampling is acceptable.

² Record any upset conditions that could effect monitoring interpretation, such as less than one foot of wastewater in pond.

³ Berm shall be observed for signs of seepage or surfacing water along the exterior toe of the berm. If surfacing water is found, then a sample shall be collected and tested for total coliform organisms and total dissolved solids.

LAND APPLICATION AREA MONITORING

Monitoring of the land application area shall be conducted daily when the wastewater is applied, and the results shall be included in the monthly monitoring report. Evidence of erosion, saturation, irrigation runoff, or the presence of nuisance conditions shall be noted in the report. Effluent monitoring results shall be used in calculations to ascertain loading rates at the land application area. Monitoring of the land application area shall include the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow	Gallons	Meter	Daily	Monthly
Rainfall	Inches	Observation	Daily	Monthly
Acreage Applied	Acres	Calculated	Daily	Monthly
Water Application Rate	gal/acre/day	Calculated	Daily	Monthly

At least once per month when the land application area is being used, the entire land application area shall be inspected on the morning following an irrigation event to identify any equipment malfunction or other circumstances that might allow irrigation runoff to leave the irrigation area and/or create ponding conditions that violate the WDRs. A daily log of these inspections shall be kept at the facility and made available for review upon request.

GROUNDWATER MONITORING

Groundwater samples shall be collected from each groundwater monitoring well in accordance with an approved groundwater sampling plan. Prior to sampling, depth to groundwater shall be measured to the nearest 0.01 feet. Water table elevations shall be calculated and used to determine groundwater gradient and flow direction. Samples shall be collected and analyzed using approved EPA methods or other methods approved by the

Central Valley Water Board. Semi-annual groundwater monitoring shall occur in January and July. Groundwater monitoring shall include, at a minimum, the following:

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling and Reporting Frequency</u>
Depth to Groundwater	0.01 feet	Measurement	Semi-annually
Groundwater Elevation ¹	0.01 feet	Calculated	Semi-annually
Gradient Magnitude	feet/feet	Calculated	Semi-annually
Gradient Direction	degrees	Calculated	Semi-annually
Electrical Conductivity	mg/L	Grab	Semi-annually
Total Dissolved Solids	mg/L	Grab	Semi-annually
Nitrate Nitrogen	mg/L	Grab	Semi-annually
pH	pH units	Grab	Semi-annually
Total Coliform Organisms	MPN/100 mL	Grab	Semi-annually
Standard Minerals ²	mg/L	Grab	Annually

¹ Groundwater elevation shall be determined based on depth-to-water measurements using a surveyed measuring point elevation on the well and a surveyed reference elevation.

² Standard Minerals shall include, at a minimum, the following elements/compounds: boron, iron, manganese, calcium, magnesium, potassium, sulfate, sodium, chloride, total alkalinity (including alkalinity series), and hardness.

SOLID WASTE AND SLUDGE MONITORING

A log shall be kept of solid waste (grits and screenings) and sludge quantities generated and of handling and disposal activities, and shall be submitted as part of the monthly monitoring reports.

WATER SUPPLY MONITORING

A sampling station shall be established where a representative sample of the municipal water supply can be obtained. Water supply monitoring shall include at least the following for each water source used during the previous year:

<u>Constituents</u>	<u>Units</u>	<u>Sampling Frequency</u>
Electrical Conductivity	mg/L	Annually
Total Dissolved Solids	mg/L	Annually
pH	pH units	Annually
Standard Minerals ¹	mg/L	Annually

¹ Standard Minerals shall include, at a minimum, the following elements/compounds: boron, calcium, magnesium, sodium, potassium, chloride, nitrogen, sulfate, total alkalinity (including alkalinity series), and hardness.

REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., effluent, pond, etc.), and reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate

compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required at the locations specified in the MRP shall be reported in the next scheduled monitoring report.

As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all Groundwater Monitoring Reports shall be prepared under the direct supervision of a California Registered Engineer or Geologist and signed by the registered professional.

A. Monthly Monitoring Reports

Monthly monitoring reports shall be submitted to the Central Valley Water Board by the **1st day of the second month** following the end of the reporting period (e.g., the January monthly report is due by 1 March). At a minimum, the reports shall include:

1. Results of the influent, effluent, pond, solid waste and sludge, and land application area monitoring;
2. A comparison of the monitoring data to the discharge specifications and an explanation of any violation of those requirements;
3. If requested by staff, copies of laboratory analytical report(s);
4. A calibration log verifying calibration of all monitoring instruments and devices used to fulfill the prescribed monitoring program; and
5. Whether wastewater was discharged to the land application area during that month.
6. Loading rates at the land application area.

B. Semi-Annual Monitoring Reports

In addition to the monthly monitoring reports, the Discharger shall establish a semi-annual sampling schedule for groundwater monitoring such that samples are obtained approximately every six months. Semi-Annual Monitoring Reports shall be submitted to the Central Valley Water Board by the **1st day of March and September**. The Semi-Annual Monitoring Reports shall include the following:

1. Results of the quarterly effluent monitoring;
2. Results of groundwater monitoring;
3. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the groundwater monitoring. The narrative shall be sufficiently detailed to verify compliance with the WDR, this revised MRP, and the Standard Provisions and Reporting Requirements. The narrative shall be supported by field logs for each well documenting depth to groundwater and method of sampling;
4. Calculation of groundwater elevations, an assessment of groundwater flow direction and gradient on the date of measurement, comparison of previous flow direction and gradient data, and discussion of seasonal trends if any;
5. A narrative discussion of the analytical results for all groundwater locations monitored including spatial and temporal trends, with reference to summary data tables, graphs, and

appended analytical reports (as applicable);

6. Summary data tables of historical and current water table elevations and analytical results;
7. A comparison of monitoring data to the groundwater limitations and an explanation of any violation of those requirements;
8. A scaled map showing relevant structures and features of the facility, the locations of monitoring wells and any other sampling stations, and groundwater elevation contours referenced to mean sea level datum; and
9. Copies of laboratory analytical report(s) for groundwater monitoring.

C. Annual Report

In addition to the monthly and semi-annual monitoring reports, an Annual Report shall be prepared. The Annual Report shall be submitted to the Central Valley Water Board by **1 February** each year. The Annual Report shall include the following:

1. If requested by staff, tabular and graphical summaries of all data collected during the year;
2. An evaluation of the groundwater quality beneath the wastewater treatment facility and the land application area;
3. A discussion of compliance and the corrective actions taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements;
4. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program;
5. A copy of the certification for each certified wastewater treatment plant operator working at the facility and a statement about whether the Discharger is in compliance with Title 23, CCR, Division 3, Chapter 26.
6. The results from annual monitoring of the groundwater wells and water supply;
7. The results from any sludge monitoring required by the disposal facility;
8. Equipment maintenance and calibration records, as described in Standard Provision No. C.4;
9. A forecast of influent flows, as described in Standard Provision No. E.4; and
10. The results to date of the Upcountry Wastewater Collection System Condition Assessment.

A letter transmitting the self-monitoring reports shall accompany each report. The letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time

schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain the penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions General Reporting Requirements Section B.3.

The Discharger shall implement the above monitoring program on the first day of the month following issuance of this revised MRP.

Ordered by: Original Signed by Frederick Moss for
PAMELA C. CREEDON, Executive Officer

22 August 2011
(Date)