

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

REVISED MONITORING AND REPORTING PROGRAM NO. R5-2002-0070

FOR
EAST BAY MUNICIPAL UTILITY DISTRICT
CAMANCHE RESERVOIR SOUTH SHORE RECREATION AREA
WASTEWATER TREATMENT PLANT
CALAVERAS COUNTY

This Revised Monitoring and Reporting Program (Revised MRP) presents requirements for monitoring of the wastewater influent, wastewater treatment and storage ponds, effluent, surface water, sludge, groundwater, and water supply. This Revised MRP is issued pursuant to Water Code Section 13267. The Discharger shall not implement any changes to this Revised MRP unless and until another revised MRP is issued by the Executive Officer.

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

Field testing 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 field 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 Revised MRP.

INFLUENT MONITORING

Influent monitoring shall be performed at each location where influent is discharged into Pond 1. 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>
Total Flow	gpd	Meter Observation	Daily	Monthly
20°C BOD ¹	mg/L	Grab	Quarterly	Quarterly ²

¹ 5-day Biochemical Oxygen Demand.

² Quarterly results shall be reported in the Monthly Monitoring Report for the month during which sampling occurs.

POND MONITORING

Each wastewater treatment and storage 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
pH	Standard units	Grab	Weekly	Monthly
Freeboard	0.1 feet	Measurement	Weekly	Monthly
Berm Seepage ³	NA	Observation	Weekly	Monthly
Odors	--	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 conditions that could affect monitoring interpretation, such as less than one foot of wastewater in pond.
- ³ Containment berms shall be observed for signs of seepage or surfacing water along the exterior toe of the levees. If surfacing water is found, then a sample shall be collected and tested for total coliform organisms and total dissolved solids.

EFFLUENT MONITORING

Effluent samples shall be collected from an established sampling station located in an area that shall provide a sample representative of the water in Pond 3. Effluent monitoring shall include the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
BOD ¹	mg/L	Grab	Monthly	Monthly
Total Coliform Organisms	MPN ² /100 mL	Grab	Monthly	Monthly
pH	Standard unit	Grab	Monthly	Monthly
Total Dissolved Solids	mg/L	Grab	Monthly	Monthly
Nitrate as Nitrogen	mg/L	Grab	Monthly	Monthly
Sodium	mg/L	Grab	Monthly	Monthly
Chloride	mg/L	Grab	Monthly	Monthly
Standard Minerals ³	mg/L	Grab	Annually	Annually

- ¹ 5-day Biochemical Oxygen Demand.
- ² Using a minimum of 15 tubes or three dilutions.
- ³ Standard Minerals shall include, at a minimum, the following elements/compounds: Barium, Calcium, Iron, Magnesium, Manganese, Potassium, Sulfate, Total Alkalinity (including alkalinity series), and Hardness.

SURFACE WATER MONITORING

The Discharger shall monitor surface water in the two terminal freshwater ponds (the “Trout Pond” and “Western Pond”, which is also known as “Beaver Pond”) surrounding the wastewater ponds. Grab samples shall be collected from the terminal ponds where the pond water flows into the Camanche Reservoir. Surface water monitoring shall include following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling and Reporting Frequency</u>
Surface Water Elevation	± 0.1 feet	Measurement	Semi-annual ¹
Nitrate Nitrogen	mg/l	Grab	Semi-annual ¹
Total Alkalinity	mg/l	Grab	Semi-annual ¹
Chloride	mg/l	Grab	Semi-annual ¹
Total Dissolved Solids	mg/l	Grab	Semi-annual ¹

¹ Semi-annual monitoring shall occur in the first and the third quarter of each calendar year.

GROUNDWATER MONITORING

Prior to construction and/or sampling of any groundwater monitoring wells, the Discharger shall submit plans and specifications to the Board for review and approval. Once installed, all new wells shall be added to the MRP and shall be sampled and analyzed according to the schedule below.

Samples shall be collected in the wells MW-5 through MW-12. 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. 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>
Groundwater Elevation ¹	0.01 feet	Measured	Semi-annually ³
Depth to groundwater	0.01 feet	Measured	Semi-annually ³
Gradient	feet/feet	Calculated	Semi-annually ³
Gradient Direction	degrees	Calculated	Semi-annually ³
pH	pH units	Grab	Semi-annually ³
Chloride	mg/L	Grab	Semi-annually ³
Sodium	mg/L	Grab	Semi-annually ³
Total Coliform Organisms	MPN/100 mL	Grab	Semi-annually ³
Total Dissolved Solids	mg/L	Grab	Semi-annually ³
Nitrate Nitrogen	mg/L	Grab	Semi-annually ³
Standard Minerals ²	mg/L	Grab	Annually ⁴

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: Barium, Calcium, Iron, Manganese, Magnesium, Potassium, Sulfate, Total Alkalinity (including alkalinity series), and Hardness.

³ Semi-annual groundwater monitoring shall occur in the first and the third quarter of each calendar year.

⁴ Annual groundwater monitoring shall occur in the first quarter of each calendar year.

SLUDGE MONITORING

A composite sample of sludge shall be collected when removed from the treatment and storage/disposal ponds in accordance with EPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989, and tested for the following metals:

Cadmium	Copper	Nickel
Chromium	Lead	Zinc

Sampling and analytical records shall be retained for a minimum of five years. A log shall be kept of sludge quantities generated and of handling and disposal activities. The frequency of entries is discretionary; however, the log shall be complete enough to serve as a basis for part of the annual report.

WATER SUPPLY MONITORING

A sampling station shall be established where a representative sample of the public water supply can be obtained. Water supply monitoring shall include at least the following:

<u>Constituents</u>	<u>Units</u>	<u>Sampling Frequency</u>
Electrical Conductivity ¹	µmhos/cm	Annually
pH	pH units	Annually
Standard Minerals ²	mg/L	Annually

¹ If the source water is from more than one well, the EC shall be reported as a weighted average and include copies of supporting calculations.

² Standard Minerals shall include, at a minimum, the following elements/compounds: Barium, Calcium, Chloride, Manganese, Magnesium, Iron, Sodium, Potassium, Nitrate, 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 Revised MRP shall be reported in the next scheduled monitoring report.

A. Monthly Monitoring Reports

Monthly 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 (i.e. the January monthly report is due by 1 March). At a minimum, the reports shall include:

1. Results of influent, pond, and effluent monitoring;

2. A comparison of monitoring data to the discharge specifications and effluent limitations and an explanation of any violation of those requirements. Data shall be presented in tabular format;
3. If requested by staff, copies of laboratory analytical report(s);
4. A calibration log verifying calibration of all hand-held monitoring instruments and devices used to comply with the prescribed monitoring program; and
5. A discussion on whether the wastewater contingency plan has been implemented.

B. Semi-Annual Monitoring Reports

Semi-annual monitoring reports shall be submitted to the Central Valley Water Board by the **1st day of August** (for the period of January through June) and **February** (for the period of July through December).

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 Registered Engineer or Geologist and signed by the registered professional.

The semi-annual reports shall include the following:

1. Results of groundwater monitoring;
2. Results of surface water monitoring;
3. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for groundwater monitoring. The narrative shall be sufficiently detailed to verify compliance with the WDR, this MRP, and the Standard Provisions and Reporting Requirements. The narrative shall be supported by field logs for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of the casing volume; and total volume of water purged;
4. Calculation of groundwater elevations, an assessment of the groundwater flow direction and gradient on the date of measurement, comparison to previous flow direction and gradient data, and discussion of seasonal trends, if any;
5. A narrative discussion of the analytical results for all media and 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 groundwater 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

An Annual Report shall be submitted to the Central Valley Water Board by **1 February** each year. The Annual Report shall include the following:

1. The results from annual monitoring of the effluent, groundwater, and water supply;
2. Tabular and graphical summaries of all data collected during the year;
3. A digital database (Microsoft Excel) containing historic groundwater data;
4. An evaluation of the groundwater quality beneath the wastewater treatment facility and land application area;
5. 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;
6. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program;
7. 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;
8. The results from any sludge monitoring required by the disposal facility;
9. Equipment maintenance and calibration records, as described in Standard Provision No. C.4; and
10. A forecast of influent flows, as described in Standard Provision No. E.4.

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 adoption of this Order.

Ordered by:

Original signed by

PAMELA C. CREEDON, Executive Officer

14 December 2011

(Date)

LF: 12/14/2011