

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO.  
FOR  
THE RUMSEY BAND OF WINTUN INDIANS  
CACHE CREEK GOLF CLUB WATER RECLAMATION PROJECT  
YOLO COUNTY

This Monitoring and Reporting Program (MRP) describes requirements for monitoring domestic wastewater treatment, reclaimed water, supplemental irrigation supply water, and groundwater. This MRP is issued pursuant to Water Code Section 13267. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer.

Specific sample station locations shall be approved by Regional Water Board staff prior to implementation of sampling activities. 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 electrical conductivity) may be used provided that:

1. The user is trained in proper use and maintenance of the instruments;
2. The instruments are field calibrated prior to monitoring events at the frequency recommended by the manufacturer;
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.

**TERTIARY EFFLUENT MONITORING**

The Discharger shall monitor tertiary effluent in accordance with the following. Tertiary effluent samples shall be taken downstream of the chlorine contact basin at the chlorine residual analyzer (except for the purpose of turbidity monitoring). Except as specifically noted below, grab samples will be considered representative of tertiary effluent. Tertiary effluent monitoring shall include, at a minimum, the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow	gpd	Continuous	Daily	Monthly
Turbidity <sup>1</sup>	NTU	Continuous	Daily	Monthly <sup>1</sup>
Total Chlorine Residual	mg/L	Continuous	Daily	Monthly
Total Coliform Organisms <sup>2</sup>	MPN/100 ml	Grab	Daily	Monthly

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
pH	pH units	Grab	Weekly	Monthly
Total Dissolved Solids	mg/L	Grab	Weekly	Monthly
Sodium	mg/L	Grab	Weekly	Monthly
Chloride	mg/L	Grab	Weekly	Monthly
Nitrate nitrogen	mg/L	Grab	Monthly	Monthly
<u>Total Kjeldahl nitrogen</u>	<u>mg/L</u>	<u>Grab</u>	<u>Monthly</u>	<u>Monthly</u>

- <sup>1</sup> For each day, report the minimum and maximum recorded turbidity, the total amount of time that turbidity exceeded 5 NTU, and the total amount of time that turbidity exceeded 10 NTU.
- <sup>2</sup> Using a minimum of 15 tubes or three dilutions.

**SUPPLEMENTAL WATER SUPPLY MONITORING**

The Discharger shall monitor supplementary irrigation water used at the golf course in accordance with the following. Samples shall be taken from the fresh water supply pipeline that was in use at, or just prior to, the sampling date. Grab samples will be considered representative. Supplemental water supply monitoring shall include, at a minimum, the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
pH	pH units	Grab	Weekly	Monthly
Total Dissolved Solids	mg/L	Grab	Weekly	Monthly
Sodium	mg/L	Grab	Weekly	Monthly
Chloride	mg/L	Grab	Weekly	Monthly

**RECLAIMED WATER STORAGE LAKE MONITORING**

The Discharger shall monitor South Lake in accordance with the following. Samples shall be collected from one or more permanent monitoring locations that will provide representative samples. Freeboard shall be measured vertically from the water surface to the lowest possible point of overflow (or spillway/overflow pipe invert), and shall be measured to the nearest 0.10 feet. Pond monitoring shall include, at a minimum, the following:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Freeboard <sup>1</sup>	0.1 feet	Measurement	Weekly	Monthly
Dissolved Oxygen <sup>2</sup>	mg/L	Grab	Weekly	Monthly

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Odors	---	observation	Daily	Monthly

<sup>1</sup> Report date(s) and estimated volume of overflows to fee land and/or surface water, if any.

<sup>2</sup> Samples shall be collected opposite the pond inlet at a depth of one foot between 0700 and 0900 hours.

### GOLF COURSE RECLAMATION MONITORING

The Discharger shall monitor reclamation activities at the golf course in accordance with the following. Reclamation monitoring shall be performed daily and the results shall be included in the monthly monitoring report. Erosion, ground saturation, tailwater runoff, reclaimed water storage lake overflows, and nuisance conditions shall be noted in the report. Reclaimed water shall also be monitored to determine loading rates at the golf courses. Reclamation 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 from Cache Creek to Five Pond	gpd	Continuous	Daily	Monthly
Flow from South Lake to irrigation areas	gpd	Continuous	Daily	Monthly
Rainfall	inches	Measurement	Daily	Monthly
Acreage Applied <sup>1</sup>	acres	Calculated	Daily	Monthly
Water Application Rate:				
Reclaimed water	gal/acre/day	Calculated	Daily	Monthly
Fresh water	gal/acre/day	Calculated	Daily	Monthly
Nitrogen Loading Rate <sup>2</sup>	lbs/ac/month	Calculated	Monthly	Monthly
Dissolved Solids Loading Rate	lbs/ac/month	Calculated	Monthly	Monthly

<sup>1</sup> Specific irrigation areas shall be identified.

<sup>2</sup> Including chemical fertilizers.

### GROUNDWATER MONITORING

Upon completion of monitoring well installation, and **no later than the second quarter of 2007**, the Discharger shall establish a quarterly sampling schedule for groundwater monitoring, with samples obtained approximately every three months.

This monitoring program applies to all monitoring wells designated to monitor groundwater up gradient and downgradient of the golf course. Prior to construction of any groundwater monitoring

wells, the Discharger shall submit plans and specifications to the Regional Water Board for review and approval. Once installed, all new monitoring wells shall be added to the MRP, and shall be sampled and analyzed according to the schedule below. Monitoring wells used to monitor the golf course shall not be disinfected except as expressly approved pursuant to submittal of an appropriate disinfection protocol.

Prior to well purging, groundwater elevations shall be measured. 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 direction of flow. The monitoring wells shall be purged of at least three well volumes or until temperature, pH, and electrical conductivity have stabilized. Samples shall be collected and analyzed using approved EPA methods. Groundwater monitoring shall include, at a minimum, the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling and Reporting Frequency</u>
Depth to groundwater	0.01 feet	Measurement	Quarterly
Groundwater elevation <sup>1</sup>	0.01 feet	Calculated	Quarterly
Gradient	feet/feet	Calculated	Quarterly
Gradient direction	degrees	Calculated	Quarterly
pH	pH units	Grab	Quarterly
Total Dissolved Solids	mg/L	Grab	Quarterly
Nitrate nitrogen	mg/L	Grab	Quarterly
Ammonia nitrogen	mg/L	Grab	Quarterly
Total Coliform Organisms <sup>2</sup>	MPN/100 ml	Grab	Quarterly
Standard minerals <sup>3</sup>	mg/L	Grab	Quarterly
Metals <sup>4</sup>	ug/L	Grab	Quarterly
Total Trihalomethanes <sup>5</sup>	ug/L	Grab	Quarterly

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

<sup>2</sup> Using a minimum of 15 tubes or three dilutions

<sup>3</sup> Standard Minerals shall include, at a minimum, the following elements/compounds: boron, bromide, calcium, chloride, fluoride, magnesium, phosphate, potassium, sodium, sulfate, total alkalinity (including alkalinity series), and hardness as CaCO<sub>3</sub>.

<sup>4</sup> At a minimum, the following metals shall be included: aluminum, arsenic, cadmium, copper, lead, iron, manganese, nickel, and zinc. Analytical methods shall be selected to provide reporting limits below the Water Quality Limit for each constituent.

<sup>5</sup> Using US EPA Method 8260B or approved equivalent. Individual trihalomethane constituent concentrations shall be reported.

## 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 Monitoring and Reporting Program shall be reported to the Regional Water Board.

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 Professional Engineer or Geologist and signed by the registered professional.

#### **A. Monthly Monitoring Reports**

Monthly reports shall be submitted to the Regional Water Board on the **1<sup>st</sup> day of the second month following sampling** (i.e. the January Report is due by 1 March). At a minimum, the monthly monitoring reports shall include:

1. Results of the following monitoring:
  - a. Tertiary effluent monitoring;
  - b. Supplemental water supply monitoring;
  - c. Reclaimed water storage lake monitoring; and
  - d. Golf course reclamation monitoring.
2. Calculation of the 30-day flow-weighted average concentrations of total dissolved solids, sodium, and chloride for the reclaimed water and the combination of reclaimed and fresh water.
3. A comparison of monitoring data to the discharge specifications and an explanation of any violation of those requirements. Data shall be presented in tabular format.
4. If requested by staff, copies of laboratory analytical report(s).

#### **B. Quarterly Monitoring Reports**

**Beginning with the second quarter of 2007**, the Discharger shall submit quarterly monitoring reports to the Regional Water Board by the **1<sup>st</sup> day of the second month after the quarter** (i.e. the January-March quarter is due by May 1<sup>st</sup>) each year. The Quarterly Monitoring Report shall include the following:

1. Results of groundwater monitoring;
2. 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 WDRs, 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 casing volume; and total volume of water purged;

3. 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;
4. 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);
5. A comparison of monitoring data to the groundwater limitations and an explanation of any violation of those requirements;
6. Summary data tables of historical and current water table elevations and analytical results;
7. 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;
8. Copies of laboratory analytical report(s) for groundwater monitoring.

### **C. Annual Report**

An Annual Report shall be prepared as the fourth quarter monitoring report. The Annual Report shall include all monitoring data required in the monthly/quarterly schedule. The Annual Report shall be submitted to the Regional Water Board by **1 February** each year. In addition to the data normally presented, the Annual Report shall include the following:

1. The contents of the regular quarterly monitoring report for the last quarter of the year.
2. Analytical results for all annual monitoring.
3. If requested by staff, tabular and graphical summaries of all data collected during the year;
4. An evaluation of the performance of the WWTF which demonstrates the facility's ability to consistently meet treatment standards for recycled water use on a public golf course specified in Title 22, Division 4, CCR (Section 60301, et seq.), as well as a forecast of the flows anticipated in the next year;
5. An evaluation of the groundwater quality beneath the golf course;
6. A discussion of compliance and the corrective action taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements;

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7. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program;

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 agents, as described in the Standard Provisions General Reporting Requirements Section B.3.

The Discharger shall implement the above monitoring program as of the date of this Order.

Ordered by: \_\_\_\_\_  
PAMELA C. CREEDON, Executive Officer

\_\_\_\_\_  
(Date)

ALO:10/12/2006