

CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD

MONITORING AND REPORTING PROGRAM R5-2021-0059

FOR

SOUTH SAN JOAQUIN IRRIGATION DISTRICT
NICK C. DEGROOT WATER TREATMENT PLANT
STANISLAUS COUNTY

This Monitoring and Reporting Program (MRP) incorporates requirements for wastewater discharge monitoring at the South San Joaquin Irrigation District (SSJID) Nick C. DeGroot Water Treatment Plant (WTP). This MRP is issued pursuant to Water Code Section 13267. The monitoring reports are necessary to determine compliance with the WDRs Order. The Discharger shall not implement any changes to this MRP unless and until THE Central Valley Regional Water Quality Control Board (Central Valley Water Board) adopts, or the Executive Officer issues, a revised MRP.

A glossary of terms used in this MRP is included on the last page.

This MRP may be separately revised by the Executive Officer, in accordance with their delegated authority under Water Code section 13223.

I. GENERAL MONITORING REQUIREMENTS

A. FLOW MONITORING

Hydraulic flow rates shall be measured at the monitoring points specified in this MRP. All flow monitoring systems shall be appropriate for the conveyance system (i.e., open channel flow or pressure pipeline) and liquid type. The measurements may be based on flow meter readings or pump run time estimate if no flow meter is installed. The method of measurement must be specified in the monitoring report. Unless otherwise specified, each flow meter shall be equipped with a flow totalizer to allow reporting of cumulative volume as well as instantaneous flow rate. Flow meters shall be calibrated at the frequency recommended by the manufacturer; typically, at least once per year, and records of calibration shall be maintained for review upon request.

B. MONITORING AND SAMPLING LOCATIONS

Samples shall be obtained at the monitoring points specified in this MRP. The Central Valley Water Board Executive Officer shall approve any proposed changes to sampling locations prior to implementation of the change.

The Discharger shall monitor the locations listed in Table 1 to demonstrate compliance with the requirements of this MRP.

Table 1 Monitoring and Sampling Locations

Location name	Location description
Wastewater	Location where a representative sample of the wastewater can be obtained prior to discharge to percolation/evaporation ponds or to land application areas (LAAs).

Location name	Location description
Emergency overflow	Location where a representative sample of emergency overflow water can be obtained prior to discharge to percolation/evaporation ponds or to LAAs. (Note 1)

Note 1: For emergency overflow discharge, record the equipment name and or number that resulted in the overflow (e.g. CIP Tank #1).

C. SAMPLING AND SAMPLE ANALYSIS

All wastewater 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. For continuous analyzers, the Discharger shall report documented routine analyzer maintenance activities including date, time of day, and duration, in which the analyzer(s) is not in operation.

Field test instruments (such as pH, electrical conductivity, and dissolved oxygen) may be used provided that:

1. The operator is trained in the proper use of the instrument;
2. The instruments are field calibrated prior to each use;
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.

Laboratory analytical procedures shall comply with the methods and holding times specified in the following (as applicable to the medium to be analyzed):

- *Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater (EPA);*
- *Test Methods for Evaluating Solid Waste (EPA);*
- *Methods for Chemical Analysis of Water and Wastes (EPA);*
- *Methods for Determination of Inorganic Substances in Environmental Samples (EPA);*
- *Standard Methods for the Examination of Water and Wastewater (APHA/AWWA/WEF);* and
- *Soil, Plant and Water Reference Methods for the Western Region (WREP 125).*

Approved editions shall be those that are approved for use by the United States Environmental Protection Agency (EPA) or the State Water Resources Control Board (State Water Board), Division of Drinking Water's Environmental Laboratory Accreditation Program (ELAP). The Discharger may propose

alternative methods for approval by the Executive Officer. Where technically feasible, laboratory reporting limits shall be lower than the applicable water quality objectives for the constituents to be analyzed.

If monitoring consistently shows no significant variation in a constituent concentration or parameter after at least 12 months of monitoring, the Discharger may request this MRP be revised to reduce monitoring frequency. The proposal must include adequate technical justification for reduction in monitoring frequency. This monitoring program shall remain in effect unless and until a revised MRP is issued.

II. SPECIFIC MONITORING REQUIREMENTS

A. FLOW MONITORING

Flow rates to the percolation/evaporation ponds and LAAs shall be monitored as shown in Table 2.

Table 2 Volumetric Flow Monitoring

Parameter	Units	Sample type	Sampling Frequency	Reporting Frequency
Flow from wastewater settling beds or vessel(s)	gallons	Meter reading	Per discharge event	Semi-annually
Emergency flow from recycle pump station	gallons	Calculation	Per discharge event	Semi-annually
Emergency flow from stabilization basins	gallons	Calculation	Per discharge event	Semi-annually
Other emergency flows	gallons	Calculation	Per discharge event	Semi-annually

B. WASTEWATER MONITORING

Wastewater discharged to the percolation/evaporation ponds and LAAs shall be monitored as described below. Grab samples representative of the discharge shall be collected prior to discharge to LAA or pond.

If no discharge occurs in a given month, no sampling is required, and the fact must be noted in the monitoring report. Wastewater monitoring shall include, at a minimum, constituents listed in Table 3. All samples shall be filtered prior to preservation.

Table 3 Wastewater Sampling and Reporting

Constituent	Units	Sample type	Sampling frequency	Reporting frequency
Manganese, dissolved	µg/L	Grab	Per discharge event	Semi-annually
Aluminum, dissolved	µg/L	Grab	Per discharge event	Semi-annually
Iron, dissolved	µg/L	Grab	Per discharge event	Semi-annually
Sodium	mg/L	Grab	Per discharge event	Semi-annually
Chloride	mg/L	Grab	Per discharge event	Semi-annually
Total Dissolved Solids (TDS)	mg/L	Grab	Per discharge event	Semi-annually

C. POND MONITORING

Permanent markers (e.g., staff gages) shall be placed in both ponds. The markers shall have calibrations indicating water level at the design capacity and available operational freeboard.

The Discharger shall inspect the condition of the ponds at least once per month and document visual observations. Notations shall include presence of water in the pond, color of the water (e.g., dark green, brown, gray, etc.), presence of odors or nuisance conditions, and whether algae, vegetation, scum, or debris are accumulating in the pond(s). A summary of these entries shall be included in the subsequent monitoring report.

Table 4 Pond Freeboard Monitoring

Parameter	Units	Sample type	Sampling Frequency	Reporting Frequency
Freeboard (to the nearest 0.1 ft)	feet	Observation	Monthly	Semi-annually

D. LAND APPLICATION AREA MONITORING

The Discharger shall perform the following routine monitoring calculations for the LAA. The Discharger shall inspect the LAA at least once weekly prior to and during irrigation events. Evidence of erosion, saturation, runoff, or the presence of nuisance conditions (i.e., flies, ponding, etc.) shall be noted in the Facility's logbook and included as part of the quarterly monitoring report. In addition, the Discharger shall perform the following routine monitoring calculations for each discrete irrigation area within the LAA each week when wastewater is applied. If supplemental irrigation water is used, the volume used shall be recorded. The

data shall be collected and presented in graphical (map) and/or tabular format and shall include the parameters listed in Table 5.

Table 5 Land Application Area Monitoring

Parameter	Units	Sample type	Sampling Frequency	Reporting Frequency
Area irrigated	acres	Observation	Weekly	Semi-annual
Wastewater volume, total	gallons	Metered	Monthly	Semi-annual

III. REPORTING REQUIREMENTS

All regulatory documents, submissions, materials, data, monitoring reports, and correspondence should be converted to a searchable Portable Document Format (PDF) file and submitted electronically. Documents that are less than 50 MB should be emailed to centralvalleysacramento@waterboards.ca.gov. Documents that are 50 MB or larger should be transferred to a CD, DVD, or flash drive and mailed to the following address:

Central Valley Regional Water Quality Control Board
ECM Mailroom
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670

To ensure that your submittal is routed to the appropriate staff person, the following information should be included in the body of the email or transmittal sheet:

County: Stanislaus
Facility: SSJID Nick C. DeGroot WTP
Program: Non-15 Compliance
Order: R5-2021-0059
CIWQS Place ID: 783271

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., effluent, groundwater, 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 WDRs 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.

A transmittal letter shall accompany each monitoring report. The letter shall include a discussion of all violations of the WDRs and this MRP during the reporting period and actions taken or planned for correcting each violation. If the Discharger has previously submitted a report describing corrective actions taken and/or a time schedule for

implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain a statement by the Discharger or the Discharger's authorized agent certifying under penalty of perjury that the report is true, accurate and complete to the best of the signer's knowledge.

Laboratory reports submitted in compliance with this MRP shall include the constituent name, sample location, sample name, sample date, analysis date, analytical method, dilution factor, result, units, and method detection limit (MDL). Laboratory analysis reports do not need to be included in the monitoring reports; however, all laboratory reports must be retained for a minimum of three years in accordance with Standard Provision C.3. For a Discharger conducting any of its own analyses, reports must also be signed and certified by the chief of the laboratory.

In addition to the requirements of Standard Provision C.3, monitoring information shall include the MDL and the reporting limit (RL) or practical quantitation limit (PQL). If the regulatory limit for a given constituent is less than the RL (or PQL), then any analytical results for that constituent that are below the RL (or PQL) but above the MDL shall be reported and flagged as estimated.

As required by the Business and Professions Code sections 6735, 7835, and 7835.1, all Groundwater Monitoring Reports and any monitoring reports that involve planning, investigation, evaluation or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared under the direct supervision of a Registered Professional Engineer or Professional Geologist and signed by the registered professional.

A. Semi-annual Monitoring Reports

Semi-annual reports shall be submitted to the Central Valley Water Board by the **first day of the second month after the calendar half**. The Semi-annual Report submittal schedule is shown here.

Table 6 Semi-annual Report Due Dates

Period	Monitoring Period	Due Date
First half (1H)	January - June	1 August
Second half (2H)	July – December	1 February

The Semi-annual Report shall include the following, at a minimum:

1. Results of volumetric flow monitoring for all wastewater and emergency flows discharged to the percolation/evaporation ponds and LAAs.
2. Results of wastewater monitoring in tabular format for each month during the reported time period.
3. Results of pond monitoring as specified in Section II.C.

4. Results of land application area monitoring as specified in Section II.D.
5. A comparison of monitoring data to the flow limitations and an explanation of any violation of those requirements.
6. A copy of inspection log page(s) documenting inspections and observations completed during the half year.

B. Annual Monitoring Reports

An Annual Monitoring Report shall be submitted by **1 February** each year and shall include the following:

1. Total annual wastewater and emergency discharge flow to the ponds and to LAAs compared to the total annual flow limitation of the WDRs Order.
2. Tabular and graphical summaries of all data collected during the year.
3. Calculation of the annual flow-weighted average wastewater monitoring results for each monitored wastewater constituent.
 - a. The flow-weighted annual average wastewater concentration for each required constituent shall be calculated using the following formula, considering all wastewater discharged:

$$C_{\text{constituent}} = \frac{\sum_1^{12} [(C_i V_i) + (C_{Ei} V_{Ei})]}{\sum_1^{12} (V_i + V_{Ei})}$$

Where:

$C_{\text{constituent}}$ = Flow-weighted average annual concentration of *constituent* in the units reported for that component's concentration

i = the number of the month (e.g., January = 1, February = 2, etc.)

C_i = Monthly average wastewater concentration of *constituent* for calendar month i

C_{Ei} = Monthly average Emergency discharge concentration of *constituent* for calendar month i (Note: for potable-quality water, standard potable water quality concentration may be used.)

V_i = volume of wastewater discharged in calendar month i

V_{Ei} = volume of Emergency overflow discharged in calendar month i

4. A summary of any changes in production or cleaning operations that might affect waste characterization and/or discharge flow rates.

5. 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 these WDRs.
6. Names, titles, and telephone numbers of persons to contact regarding the Facility for emergency and routine situations.
7. A calibration log verifying calibration of all hand-held monitoring instruments and devices used to comply with the prescribed monitoring program
8. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program.
9. Whether any expansion of the water treatment plant's capacity is planned or anticipated in the next calendar year.

A letter transmitting the monitoring reports shall accompany each report. The letter shall include a discussion of any requirement violations 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 signatory statement by the Discharger or its authorized agent as described in Section B.3 of the Standard Provisions.

The Discharger shall implement the above monitoring program on the first day of the month following adoption of this Order.

I, PATRICK PULUPA, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of the Monitoring and Reporting Program issued by the California Regional Water Quality Control Board, Central Valley Region on 15 October 2021.

PATRICK PULUPA, Executive Officer

GLOSSARY

µg/L	Micrograms per liter
APHA	American Public Health Association
AWWA	American Water Works Association
ELAP	Environmental Laboratory Accreditation Program
EPA	U.S. Environmental Protection Agency
ft	foot (feet)
LAA	Land Application Area
MDL	Method Detection Limit
mg/L	Milligrams per liter
Monthly	Once per calendar month
MRP	Monitoring and Reporting Program
PQL	Practical Quantitation Limit
RL	Reporting Limit
Semi-annually	Once every six months
TDS	Total dissolved solids
Weekly	Once per week
WEF	Water Environment Foundation
WREP	Wetlands Reserve Enhancement Program
WTP	Water Treatment Plant