



Central Valley Regional Water Quality Control Board

13 March 2024

Chad Brown
Madera County
20 W 4th Street, Suite 3100
Madera, CA 93637

CERTIFIED MAIL
7020 2450 0000 6785 8833

NOTICE OF APPLICABILITY (NOA); STATE WATER RESOURCES CONTROL BOARD ORDER WQ-2014-0153-DWQ; GENERAL WASTE DISCHARGE REQUIREMENTS FOR SMALL DOMESTIC WASTEWATER TREATMENT SYSTEMS; MADERA COUNTY; MARINA VIEW HEIGHTS WASTEWATER TREATMENT SYSTEM; MADERA COUNTY

On 24 January 2023, Ramon Mendez with Madera County (also referred to as County or Discharger) submitted a Report of Waste Discharge (RWD) for the Marina View Heights Wastewater Treatment System (WWTF or Facility). The intent of the RWD was to enroll the WWTF under State Water Resources Control Board's *General Waste Discharge Requirements for Small Domestic Wastewater Treatment Systems*, WQ 2014-0153-DWQ (General Order). On 26 July 2023, Central Valley Water Board staff received a revised RWD, including a technical report, on behalf of Discharger. The RWD was signed and stamped by Craig R. Wagner (RCE 41221). The Facility was previously covered under State Water Resources Control Board's *Water Quality Order No. 97-10-DWQ General Waste Discharge Requirements for Discharges to Land by Small Domestic Wastewater Treatment Systems* and was issued Notice of Applicability (NOA) Order No. 97-10-DWQ-R5160 by the Executive Officer on 30 April 2014.

Based on the information provided in the RWD, the Facility treats and disposes of less than 100,000 gallons per day (gpd) of domestic wastewater and is therefore eligible for coverage under the general and specific conditions of the General Order. This letter serves as formal notice that the General Order is applicable to your system and the wastewater discharge described below. You are hereby assigned enrollee number **2014-0153-DWQ-R5398** for your system. This letter and coverage under the General Order supersedes NOA 97-10-DWQ-R5160.

MARK BRADFORD, CHAIR | PATRICK PULUPA, ESQ., EXECUTIVE OFFICER

1685 E Street, Fresno, CA 93706 | www.waterboards.ca.gov/centralvalley

You should familiarize yourself with the entire General Order and its attachments enclosed with this letter, which describe mandatory discharge and monitoring requirements. Sampling, monitoring, and reporting requirements applicable to your treatment and disposal methods must be completed in accordance with the appropriate treatment system sections of the General Order and the attached **Monitoring and Reporting Program (MRP) No. 2014-0153-DWQ-R5398**. This MRP was developed after consideration of your waste characterization and site conditions described in the attached memorandum.

DISCHARGE DESCRIPTION

The Facility is located about seven miles southeast of Oakhurst, CA and is located on the southeast of Bass Lake near Road 274 in Madera County (see Attachments A and B). The extended aeration package plant and sodium hypochlorite disinfection system is located at approximately 37.2959° N, -119.5245° W. The spray field is located at approximately 37.2966 N, -119.5227° W. A site map is shown on Attachment A. Attachment C is a process flow diagram, which provides a schematic overview of the facilities. The system is designed for a flow of 30,000 gallons per day (gpd). The Facility features a manual bar screen, an extended aeration package plant consisting of an aeration basin and secondary clarifier, a 5,000-gallon poly tank where a 12.5% sodium hypochlorite solution is added for disinfection, and a three-acre spray field for disposal. Approximately 7,000 feet of gravity sewer lines convey the wastewater to the WWTF. Effluent flows from the Facility are metered using a 2-inch magnetic flow meter after disinfection. Effluent is pumped approximately 750 feet to the spray field east of the WWTF.

FACILITY SPECIFIC REQUIREMENTS AND EFFLUENT LIMITATIONS

The Discharger will maintain exclusive control over the discharge and shall comply with the terms and conditions of this NOA, General Order 2014-0153-DWQ, all attachments, and MRP No. 2014-0153-DWQ-R5398.

In accordance with Section B.1.a of the General Order, the monthly average total discharge from the WWTF to the spray field **shall not exceed 30,000 gpd**.

The General Order states in Section D that the discharge shall not exceed the applicable effluent limitations as described in Table 4 of the General Order. Table 1 below summarizes the applicable biochemical oxygen demand (BOD) and total suspended solids (TSS) effluent limitations for the Facility's discharge to the land application area (e.g., spray field). Compliance with this limitation shall be monitored at the Facility's discharge point to the land application area.

Table 1 - Effluent Limitations

Constituent	Units	Limits
BOD ₅	mg/L	30 (monthly average), 45 (7-day average)
TSS	mg/L	30 (monthly average), 45 (7-day average)

The General Order states in Section B.1 that the Discharger shall comply with the setbacks as described in Table 3 of the General Order. This table summarizes different setback requirements for wastewater treatment system equipment, activities, land application areas, and storage and/or treatment ponds from sensitive receptors and property lines, where applicable. The Discharger shall comply with the applicable setback requirements, as summarized in the Table 2 below:

Table 2 – Site-Specific Applicable Setback Requirements

Equipment or Activity	Domestic Well (feet)	Flowing Stream (feet)	Ephemeral Stream Drainage (feet)	Property Line (feet)	Lake or Reservoir (feet)
Septic Tank, Treatment Unit, Treatment System, or Collection System	150	50	50	5	70 (see 1 below)
Spray Field	100	50	50	100	200

1. The existing treatment system does not meet the 200-foot minimum setback from a lake or reservoir established in Table 3 of the General Order. As discussed in the attached memorandum, based on site specific conditions, a reduced setback of 70 feet is acceptable for the existing treatment system provided the treatment system is properly maintained and operated. Any future expansion will require a reevaluation of the setback distance.

The Discharger shall comply with all applicable sections of the General Order, including:

1. Activated Sludge Systems requirements in Section B.4 of the General Order;
2. Land Application and/or Recycled Water System requirements in Section B.7 of the General Order;
3. Sludge/Solids/Biosolids Disposal requirements in Section B.8 of the General Order; and
4. Groundwater and Surface Water Limitations specified in Section C.1 of the General Order

The proposed discharge has a design flow rate that exceeds 20,000 gpd; however, actual flows are significantly less than 20,000 gpd. A nitrogen evaluation was conducted as described in Attachment 1 of the General Order to determine if nitrogen effluent limits are required (see attached memorandum). Based on the evaluation, nitrogen limits are not necessary at this time. However, the Discharger is required to conduct effluent nitrogen monitoring to characterize the Facility's discharge.

Provision E.1 of the General Order requires dischargers enrolled under the General Order to prepare and implement the following reports within **90 days**.

- Spill Prevention and Emergency Response Plan (Provision E.1.a.).

- Sampling and Analysis Plan (Provision E.1.b).
- Sludge Management Plan (Provision E.1.c).

A copy of the Spill Prevention and Emergency Response Plan and the Sampling and Analysis Plan shall be maintained at the treatment facility and shall be presented to the Regional Water Board staff upon request.

As stated in Section E.2.w., in the event any change in control or ownership of the Facility or wastewater disposal areas, the Discharger must notify the succeeding owner or operator of the existence of this General Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board Executive Officer.

Failure to comply with the requirements in this NOA, General Order 2014-0153-DWQ, with all attachments, and **MRP No. 2014-0153-DWQ-R5398** could result in an enforcement action as authorized by provisions of the California Water Code. Discharge of wastes other than those described in this NOA is prohibited. If the method of waste disposal changes from that described in this NOA, you must submit a new Report of Waste Discharge describing the new operation. If wastewater flows to the Facility substantially increase and the monthly average flows approach or exceed 30,000 gpd, the Central Valley Water Board staff must be contacted to determine if further analysis is required.

The required annual fee specified in the annual billing from the State Water Board shall be paid until this NOA is officially terminated. You must notify this office in writing if the discharge regulated by the General Order ceases, so that we may terminate coverage and avoid unnecessary billing.

On 31 May 2018, the Central Valley Water Board adopted Basin Plan amendments incorporating new strategies for addressing ongoing salt and nitrate accumulation in the Central Valley as part of the Central Valley Salinity Alternatives for Long-Term Sustainability (**CV-SALTS**) initiative. Further details of these strategies are discussed in the enclosed memorandum. As these strategies are implemented, the Central Valley Water Board may find it necessary to modify the requirements of this NOA to ensure the goals of the Salt and Nitrate Control Program are met.

All monitoring reports and other correspondences shall be converted to a searchable Portable Document Format (PDF) and submitted electronically. Documents that are less than 50MB should be emailed to: centralvalleyfresno@waterboards.ca.gov. Documents that are 50MB or larger should be transferred to a disk and mailed to the Central Valley Water Board office at 1685 E Street, Fresno, CA 93706. To ensure that your submittals are routed to the appropriate staff, the following information block should be included in any email used to transmit documents to this office:

Program: Non-15,
Place ID: 201087,
Facility Name: Marina View Heights Wastewater Treatment System,
Order: 2014-0153-DWQ-R5398.

All documents, including responses to inspections and written notifications, submitted to comply with this NOA shall be directed, via the paperless office system, to the Compliance and Enforcement Unit, attention to Omar Mostafa. Mr. Mostafa can be reached at (559) 445-5197 or Omar.Mostafa@waterboards.ca.gov. Questions regarding the permitting aspects of the NOA, and notification for termination of coverage under the Small Domestic General Order, shall be directed, via the paperless office system, to the WDR Permitting Unit, attention Cruz Romero. Mr. Romero can be reached at (559) 445-5036 or by email at Cruz.Romero@waterboards.ca.gov.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Resources Control Board to review the action in accordance with California Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Resources Control Board must receive the petition by 5:00 p.m., 30 days after the date of this NOA, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Resources Control Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the internet at [Copies of the laws and regulations applicable to filing petitions](https://www.waterboards.ca.gov/public_notices/petitions/water_quality) (https://www.waterboards.ca.gov/public_notices/petitions/water_quality) or will be provided upon request. If you have any questions regarding this matter, please contact Cruz Romero by phone at (559) 445-5036 or by email at Cruz.Romero@waterboards.ca.gov.

In order to conserve paper and reduce mailing costs, a paper copy of General Order WQO 2014-0153-DWQ has been sent only to the Discharger. Others are advised that the [General Order](#) is available on the State Water Board's website (http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2014/wqo2014_0153_dwq.pdf).

Original Signed by Alexander S. Mushegan for:
Patrick Pulupa
Executive Officer

(see next page for attachments, enclosures, and cc's)

Attachments:

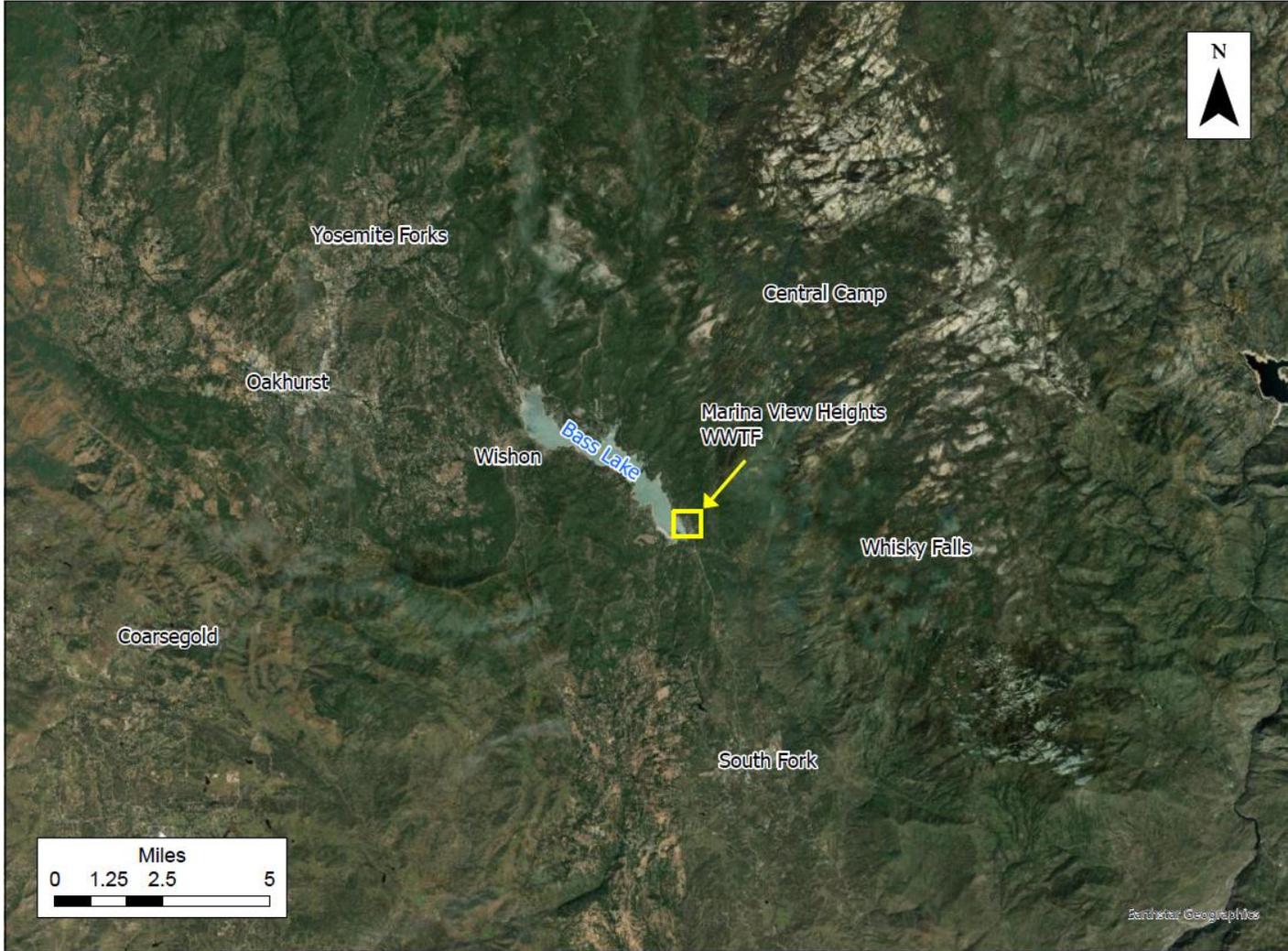
- Attachment A – Site Location Map
- Attachment B – Site Plan Map
- Attachment C – Process Flow Diagram

Enclosures:

- Monitoring and Reporting Program 2014-0153-DWQ-R5398
- Staff Review Memorandum for Marina View Heights WWTF
- State Water Resources Control Board Order WQ 2014-0153-DWQ
(Discharger only)

cc's:

- Christopher Moskal, State Water Resources Control Board, OCC, Sacramento
(via email)
- Omar Mostafa, Central Valley Regional Water Quality Control Board, Fresno
(via email)
- Orlando Gonzalez, State Water Resources Control Board, Division of Drinking Water
(via email)
- Craig Wagner, Madera County Public Works, Madera (via email)



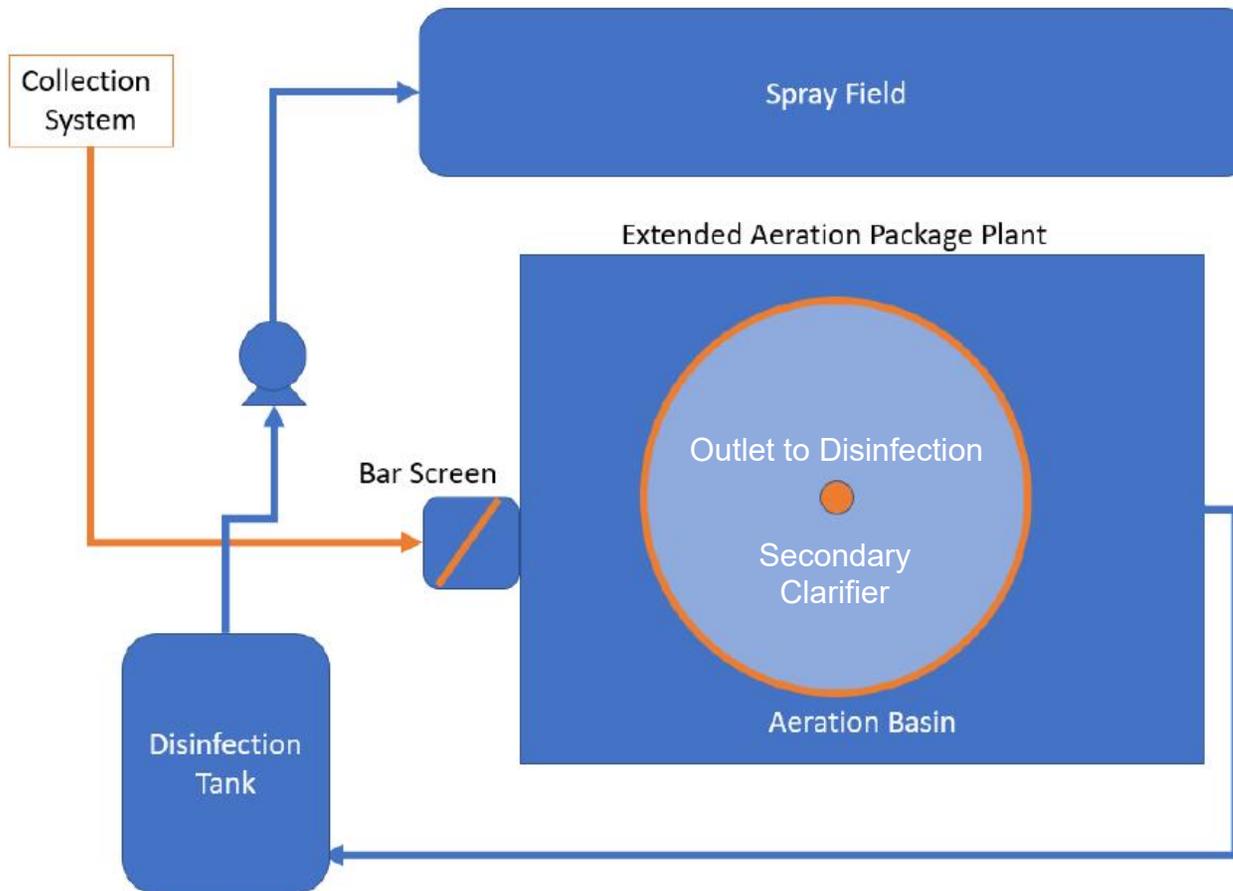
ATTACHMENT A – SITE LOCATION MAP

NOTICE OF APPLICABILITY 2014-0153-DWQ-R5398



ATTACHMENT B - SITE PLAN MAP

NOTICE OF APPLICABILITY 2014-0153-DWQ-R5398



ATTACHMENT C – PROCESS FLOW DIAGRAM

NOTICE OF APPLICABILITY 2014-0153-DWQ-R5398

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION**

**MONITORING AND REPORTING PROGRAM NO. 2014-0153-DWQ-R5398
FOR
MADERA COUNTY
MARINA VIEW HEIGHTS WASTEWATER TREATMENT SYSTEM;
MADERA COUNTY**

This Monitoring and Reporting Program (MRP) describes requirements for the Marina View Heights Wastewater Treatment System (WWTF or Facility). This MRP is issued pursuant to Water Code section 13267. Madera County (Discharger) shall not implement any changes to this MRP unless and until a revised MRP is issued by the Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) or 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 WWTF that is subject to the Notice of Applicability (NOA) 2014-0153-DWQ-R5398, which enrolls the WWTF under State Water Resources Control Board Order WQ 2014-0153-DWQ, *General Waste Discharge*

Requirements for Small Domestic Wastewater Treatment Systems (General Order). The reports required in this MRP are necessary to ensure that the Discharger complies with the NOA and General Order. Pursuant to Water Code section 13267, the Discharger shall implement this MRP and shall submit the monitoring reports described herein.

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. The name of the sampler, sample type (grab or composite), time, date, location, bottle type, and any preservative used for each sample shall be recorded on the sample chain of custody form. The chain of custody form must also contain all custody information including date, time, and to whom samples were relinquished. If composite samples are collected, the basis for sampling (time or flow weighted) shall be approved by Central Valley Water Board staff.

Field test instruments (such as those used to test pH, dissolved oxygen, and electrical conductivity) may be used provided that they are used by a State Water Resources Control Board, Environmental Laboratory Accreditation Program (ELAP) certified laboratory, or:

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 maintained and available for at least three years.

Activated Sludge Treatment Monitoring

Effluent Monitoring

Effluent samples shall be taken from a location that represents the effluent from after the disinfection tank prior to disposal at the spray field (Attachment C). At a minimum, effluent monitoring shall include the following:

Table 3 - Effluent Monitoring Requirements

Parameter	Units	Sample Type	Sampling Frequency	Reporting Frequency
Flow	gpd	Metered	Continuous	Quarterly
EC	µmhos/cm	Grab	Monthly	Quarterly
BOD ₅	mg/L	Grab	Monthly	Quarterly
TSS	mg/L	Grab	Monthly	Quarterly
Total Nitrogen (as N)	mg/L	Grab	Monthly	Quarterly

Parameter	Units	Sample Type	Sampling Frequency	Reporting Frequency
Total Coliform Organisms	MPN/100 mL	Grab	Monthly	Monthly

LAND APPLICATION MONITORING

The Discharger shall monitor the spray field (also referred to as LAAs) when wastewater and/or supplemental irrigation water is applied. If wastewater/supplemental irrigation water is not applied during a reporting period, the monitoring report shall so state. LAA monitoring shall include the following:

Table 4. LAA Monitoring Requirements

Parameter	Units	Sample Type	Sample Frequency	Inspection/Reporting Frequency
Supplemental Irrigation	gpd	Meter (see 1 below)	Quarterly	Quarterly
Wastewater Flow	gpd	Meter	Quarterly	Quarterly
Local Rainfall	Inches	Weather Station (see 2 below)	Quarterly	Quarterly
Acreage Applied	Acres	Calculated (See 3 below)	Quarterly	Quarterly
Soil Erosion Evidence	gal/acre /mo	Calculated	Quarterly	Quarterly
Containment Berm Condition	---	Observation	Quarterly	Quarterly
Soil Saturation/Ponding	---	Observation	Quarterly	Quarterly
Nuisance Odors/Vectors	---	Observation	Quarterly	Quarterly
Discharge Off-Site	---	Observation	Quarterly	Quarterly

1. Meter requires a meter reading, a pump run time meter, or other approved method.
2. Weather stations may be site-specific station or nearby governmental weather reporting station.
3. Acreage applied denotes the acreage to which wastewater is applied.

SOLIDS DISPOSAL MONITORING

The Discharger shall report the handling and disposal of all solids (e.g., screenings, grit, sludge, biosolids, etc.) generated at the wastewater treatment system. Records shall include the name/contact information for the hauling company, the type and amount of waste transported, the date removed from the wastewater system, the disposal facility

name and address, and copies of analytical data required by the entity accepting the waste. These records shall be submitted as part of the annual monitoring report.

REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., effluent, solids, etc.), and reported analytical or visual inspection results are readily discernable. The data shall be summarized to clearly illustrate compliance with the General Order and NOA 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 regularly scheduled monitoring report and shall be included in calculations as appropriate.

All regulatory documents, submissions, materials, data, monitoring reports, and correspondence should be converted to a searchable Portable Document Format (PDF) and submitted electronically. Documents that are less than 50MB should be emailed to: centralvalleyfresno@waterboards.ca.gov. Documents that are 50MB or larger should be transferred to a disk and mailed to the appropriate Regional Water Board office, in this case 1685 E Street, Fresno, CA 93706.

To ensure that your submittals are routed to the appropriate staff, the following information block should be included in any email used to transmit documents to this office:

Program: Non-15,
Place ID: 201087,
Facility Name: Marina View Heights WWTF,
Order: 2014-0153-DWQ-R5398

A. Quarterly Monitoring Reports

Quarterly reports shall be submitted to the Regional Water Board on the **first day of the second month after the quarter ends** (e.g., the January-March Quarterly Report is due by May 1st). The reports shall bear the certification and signature of the Discharger's authorized representative. At the minimum, the quarterly reports shall include:

1. Results of all required monitoring.
2. A comparison of monitoring data to the requirements (including the flow limitation), disclosure of any violations of the NOA and/or General Order, and an explanation of any violation of those requirements. Data shall be presented in tabular format.
3. Copies of laboratory analytical report(s) and chain of custody form(s).
4. A copy of the logs from the wastewater collection system observations conducted during the quarter. The Discharger shall note if any repairs were conducted or need to be conducted.

B. Annual Report

Annual Reports shall be submitted to the Regional Water Board **by March 1st following the monitoring year**. The Annual Report shall include the following:

1. Tabular and graphical summaries of all monitoring data collected during the year.
2. An evaluation of the performance of the wastewater treatment system, including discussion of the capacity issues, nuisance conditions, system problems and a forecast of the flows anticipated in the next year. A flow rate evaluation, as described in the General Order (Provision E.2.c), shall also be submitted.
3. Copies of laboratory analytical report(s) and chain of custody form(s).
4. A discussion of compliance and the corrective action taken, as well as any planned or proposed actions needed to bring the discharge into compliance with the NOA and/or General Order.
5. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program.
6. The name and contact information for the wastewater operator responsible for operation, maintenance, and system monitoring.

C. State Water Board Volumetric Annual Reporting

Per [State Water Resources Control Board's Water Quality Control Policy](https://www.waterboards.ca.gov/water_issues/programs/water_recycling_policy/) (https://www.waterboards.ca.gov/water_issues/programs/water_recycling_policy/), amended in December 2018, dischargers of treated wastewater and recycled water are required to report annually monthly volumes of influent, wastewater produced, and effluent, including treatment level and discharge type. The Discharger shall submit an annual report to the State Water Board by **April 30 of each calendar year** furnished with the information detailed below. The Discharger must submit this annual report containing monthly data in electronic format via the [State Water Board's Internet GeoTracker system](https://geotracker.waterboards.ca.gov/) (<https://geotracker.waterboards.ca.gov/>). Required data shall be submitted to the GeoTracker database under a site-specific global identification number. Any data will be made publicly accessible as machine readable datasets. The Discharger must report all applicable items listed below:

1. **Influent.** Monthly volume of wastewater collected and treated by the wastewater treatment plant.
2. **Production.** Monthly volume of wastewater treated, specifying level of treatment.
3. **Discharge.** Monthly volume of treated wastewater discharged to land, where beneficial use is not taking place, including evaporation or percolation ponds,

overland flow, or spray irrigation disposal, excluding pasture of fields with harvested grounds.

4. **Reuse.** Monthly volume of recycled water distributed.
5. **Reuse Categories.** Annual volume of treated wastewater distributed for beneficial use in compliance with California Code of Regulations, title 22 in each of the use categories listed below:
 - a. Agriculture irrigation: pasture or crop irrigation.
 - b. Landscape irrigation: irrigation of parks, greenbelts, and playgrounds; school yards; athletic fields; cemeteries; residential landscaping, common areas; commercial landscaping; industrial landscaping; and freeway, highway and street landscaping.
 - c. Golf course irrigation: irrigation of golf courses, including water used to maintain aesthetic impoundments within golf courses.
 - d. Commercial application: commercial facilities, business use (such as laundries and office buildings), car washes, retail nurseries, and appurtenant landscaping that is not separately metered.
 - e. Industrial application: manufacturing facilities, cooling towers, process water, and appurtenant landscaping that is not separately metered.
 - f. Geothermal energy production: augmentation of geothermal fields.
 - g. Other non-potable uses: including but not limited to dust control, flushing sewers, fire protection, fill stations, snow making, and recreational impoundments.
 - h. Groundwater recharge: the planned use of recycled water for replenishment of a groundwater basin or an aquifer that has been designated as a source of water supply for a public water system. Includes surface or subsurface application, except for seawater intrusion barrier use.
 - i. Reservoir water augmentation: the planned placement of recycled water into a raw surface water reservoir used as a source of domestic drinking water supply for a public water system, as defined in section 116275 of the Health and Safety Code, or into a constructed system conveying water to such a reservoir (Water Code § 13561).
 - j. Raw water augmentation: the planned placement of recycled water into a system of pipelines or aqueducts that deliver raw water to a drinking water treatment plant that provides water to a public water system as defined in section 116275 of the Health and Safety Code (Water Code § 13561).
 - k. Other potable uses: both indirect and direct potable reuse other than for groundwater recharge, seawater intrusion barrier, reservoir water augmentation, or raw water augmentation.

A letter transmitting the monitoring reports shall accompany each report. The letter shall report violations found during the reporting period, and actions taken or planned to correct the violations and prevent future violations. The transmittal letter shall contain the following penalty of perjury statement and shall be signed by the Discharger or the Discharger's authorized agent:

"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 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."

The Discharger shall begin implementing the above monitoring program **13 March 2024**.

Ordered by:

Original Signed by Alexander S. Musegan for:
PATRICK PULUPA, Executive Officer

3/13/2024
(Date)

GLOSSARY

BOD ₅	Five-day biochemical oxygen demand
CaCO ₃	Calcium carbonate
DO	Dissolved oxygen
EC	Electrical conductivity at 25° C
FDS	Fixed dissolved solids
TDS	Total dissolved solids
TKN	Total Kjeldahl nitrogen
TSS	Total suspended solids
Continuous	The specified parameter shall be measured by a meter continuously.
24-hr Composite	Samples shall be a flow-proportioned composite consisting of at least eight aliquots over a 24-hour period.
Daily	Every day except weekends or holidays.
Twice Weekly	Twice per week on non-consecutive days.
Weekly	Once per week.
Twice Monthly	Twice per month during non-consecutive weeks.
Monthly	Once per calendar month.
Quarterly	Once per calendar quarter.
Semiannually	Once every six calendar months (i.e., two times per year) during non-consecutive quarters.
Annually	Once per year.
mg/L	Milligrams per liter
mg/kg	Milligrams per kilogram
mL/L	Milliliters [of solids] per liter
µg/L	Micrograms per liter
µmhos/cm	Micromhos per centimeter
gpd	Gallons per day
gal/acre/mo	Gallons per acre per month
mgd	Million gallons per day
MPN/100 mL	Most probable number [of organisms] per 100 milliliters
NA	Denotes not applicable
NTU	Nephelometric Turbidity Units
UV	Ultraviolet
mJ/cm ²	Millijoules/cm ²
SU	Standard pH units



Central Valley Regional Water Quality Control Board

TO: Alexander S. Mushegan
Supervising Water Resource Control Engineer

FROM: Cruz Romero
Water Resource Control Engineer

DATE: 13 March 2024

APPLICABILITY OF COVERAGE UNDER STATE WATER RESOURCES CONTROL BOARD ORDER WQ 2014-0153-DWQ; GENERAL WASTE DISCHARGE REQUIREMENTS FOR SMALL DOMESTIC WASTEWATER TREATMENT SYSTEMS; MADERA COUNTY; MARINA VIEW HEIGHTS WASTEWATER TREATMENT SYSTEM; MADERA COUNTY

On 24 January 2023, Central Valley Regional Water Quality Control Board (Central Valley Water Board) staff received a Report of Waste Discharge (RWD) for the Marina View Heights Wastewater Treatment System (WWTF or Facility) on behalf of Madera County (Discharger). The RWD requested coverage under State Water Resources Control Board's WQ Order 2014-0153-DWQ, *General Waste Discharge Requirements for Small Domestic Wastewater Treatment Systems* (General Order) for the Facility. On 26 July 2023, Central Valley Water Board staff received a revised RWD for the WWTF because the January RWD was not stamped. The July RWD was signed and stamped by Craig R. Wagner (RCE 41221), a California registered professional engineer. This memorandum provides a summary of Central Valley Water Board staff's review of the RWD, and other provided documents, and the applicability of the Facility's discharge to be covered under the General Order.

BACKGROUND INFORMATION

The Facility is located in Madera County at Assessors Parcel Number (APN) 059-153-012 (37.2960°, -119.5246°), near the southeast portion of Bass Lake, approximately 7 miles southeast of Oakhurst (as shown in Attachment A of the Notice of Applicability [NOA]). The Facility is currently permitted under State Water Resources Control Board's Water Quality Order No. 97-10-DWQ (NOA No. 97-10-DWQ-R5160), which states that the system has a design flow of 30,000 gallons per day (gpd). The WWTF was previously (prior to NOA 97-10-DWQ-R5160) regulated by WDRs Order 85-058.

DESCRIPTION OF DISCHARGE

The Facility receives domestic wastewater from 76 residential homes in the Marina View Heights Community. A collection system consisting of gravity and pressure sewer pipes delivers domestic wastewater to the WWTF. The current WWTF features a manual bar screen, an extended aeration package plant, disinfection using a 12.5% sodium hypochlorite solution, a 5,000-gallon poly tank, and a three-acre spray field. The extended aeration package plant is a 20 foot by 20 foot concrete basin consisting of a secondary clarifier in the center with an aeration basin outside of the clarifier. The blower in the aeration basin is stopped to allow sludge to accumulate on the bottom, which allows a contractor to remove sludge from the basin and in the primary clarifier.

According to the RWD, the 5,000-gallon poly tank sits in the bottom of an unused concrete lined holding basin. The concrete lined holding basin measures 55 feet by 45 feet and is 20 feet deep with an estimated pond capacity of 370,000 gallons. The RWD states that the WWTF was designed for an influent flow rate of 30,000 gallons per day (gpd) and a population of about 300 people. There are no recreational vehicle (RV) waste connections and RV waste discharge to the WWTF is not authorized. Attachment C of the NOA is a process flow diagram that provides a schematic overview of the facilities.

The spray field is located at APN 059-153-010 approximately 600 feet east of the WWTF. Disinfected effluent from the Facility is pumped up a hill to the spray field. A total of seven one-inch sprinkler nozzles spray the effluent in a 15-foot radial direction at the three-acre spray field. Public access to the spray field is precluded with a chain-link fence and signage. Additionally, the disposal area can only be accessed by foot.

Screenings collected from the WWTF are deposited into a disposal container, where once full, the container is disposed of at an appropriate landfill. Sludge removed from the aeration basin and primary clarifier are taken to the Oakhurst Wastewater Treatment Plant for processing, dewatering, and disposal as a biosolid. The RWD states that sludge is removed bi-weekly during the summer months and once or twice in the winter.

POTENTIAL THREAT TO WATER QUALITY

According to the Discharger, effluent flows are monitored using a 2-inch magnetic flow meter after disinfection, prior to discharging to the spray field. Monthly average flows from January 2021 through December 2023 are summarized in Table 1 below. For this date range, the average wastewater flow was approximately 7,100 gpd and ranged from 3,000 gpd to 16,000 gpd, much less than the design flow of 30,000 gpd. According to the RWD, the population increases during the summer months due to the recreational, boating, and fishing activities at Bass Lake.

Table 1 - Monthly Average Wastewater Flows (2021-2023)

Month	2021 (gpd)	2022 (gpd)	2023 (gpd)
January	5,600	6,000	12,000
February	5,000	5,000	6,000
March	4,900	4,000	16,000
April	5,700	5,000	5,000
May	5,900	6,000	6,000
June	9,000	11,000	10,000
July	11,300	13,000	14,000
August	8,700	9,000	9,000
September	5,200	6,000	6,000
October	3,800	4,000	3,000
November	4,500	5,000	4,000
December	7,900	8,000	5,000

Monthly average effluent 5-day biochemical oxygen demand (BOD₅) for the same date range is summarized in Table 2 below. Generally, these results comply with the effluent limitation specified in the General Order for activated sludge systems (monthly average limit of 30 mg/L BOD₅). However, effluent BOD₅ concentrations well exceeded the proposed limit of 30 mg/L for BOD₅. According to the July 2023 self-monitoring report(s) (SMRs), high flows caused excessive effluent BOD₅ concentrations. To correct the issue, Facility staff removed sludge from the system to maintain the mixed liquor suspended solids (MLSS) concentration. The August 2023 SMR indicated that too much sludge was removed during July 2023, causing the MLSS concentration to be too low. Sludge was hauled from another wastewater treatment facility to re-seed the Facility and increase the MLSS concentration.

Table 2 - Effluent BOD₅ Data (2021-2023)

Month	2021 (mg/L)	2022 (mg/L)	2023 (mg/L)
January	10	7	23.8
February	6.8	16	10.1
March	10.7	19	17
April	22	21	12
May	25	39.5	17
June	37.5	23	10
July	140	55	160
August	80.5	16.3	68.7
September	34.7	37.5	36.5
October	43	16	21.5
November	15	10.3	5.1
December	13	16.4	15.5

Monthly average effluent total suspended solids (TSS) measurements since the beginning of 2021 are summarized in Table 3 below. The average concentrations for TSS were 55.6 mg/L in 2021, 16.4 mg/L in 2022, and 36.6 mg/L in 2023. Similarly, TSS

concentrations increased because of the high flows and removal of too much sludge. The corrective actions decreased the effluent concentrations of TSS well below the proposed 30 mg/L limit.

Table 3 - Effluent TSS Data (2021-2023)

Month	2021 (mg/L)	2022 (mg/L)	2023 (mg/L)
January	10	7	2
February	6.8	16	3.3
March	10.7	19	6.9
April	22	21	8
May	25	39.5	11.1
June	37.5	23	11.5
July	140	55	245
August	80.5	16.3	117.3
September	34.7	37.5	12
October	43	16	13
November	15	10.3	7.6
December	13	16.4	2

Monthly average effluent total nitrogen measurements since the beginning of 2021 are summarized in Table 4 below. The average concentrations for total nitrogen were 22.3 mg/L in 2021, 24 mg/L in 2022, and 38.8 mg/L in 2023. High flows during the summer also caused increases in effluent total nitrogen concentrations. However, plant corrective actions reduced the effluent total nitrogen concentrations.

Table 4 - Effluent Total Nitrogen Data (2021-2023)

Month	2021 (mg/L)	2022 (mg/L)	2023 (mg/L)
January	2.2	17.1	8.4
February	ND	32	23.5
March	1.45	32.7	7.1
April	17.6	32.0	34.5
May	4.05	25.5	32
June	47.5	11.7	18.5
July	58	38.5	71
August	39.5	8.8	122.9
September	9.8	18.5	19.7
October	9.1	40	41
November	28.5	15.5	55.5
December	27.5	17.0	31.5

Monthly average effluent total coliform organisms' measurements from January 2021 through December 2022 are summarized in Table 5 below. Total coliform organisms were typically less than 1 MPN/100 mL during this period.

Table 5 – Effluent Total Coliform Organisms Data (2021-2023)

Month	2021 (MPN/100 mL)	2022 (MPN/100 mL)	2022 (MPN/100 mL)
January	<1	86.6	<1
February	<1	<1	<2
March	3.1	10.7	<1
April	<1	<1	<1
May	<1	<2	<1
June	3.6	6.0	<2
July	<1	154.3	614
August	<1	<1	490
September	<1	<1	<1
October	<1	<1	<1
November	<1.8	<2.4	<2
December	<1	<1	<2

To help determine underlying groundwater quality, Central Valley Water Board staff reviewed available well data for nearby wells using the [California Department of Water Resources Groundwater Ambient Monitoring and Assessment Tool \(GAMA\)](https://gamagroundwater.waterboards.ca.gov/gama) (<https://gamagroundwater.waterboards.ca.gov/gama>). Two wells were located within a 1.5-mile radius from the WWTF (Well #A = CA2000551002002 and Well #B = CA2000550002002). Averages of samples collected for Well #A and Well #B between 1999 and 2023 are summarized in Table 6 below. The number in parentheses represents the total number of samples during the sample period.

Table 6 – Groundwater Quality from Nearby Wells

Constituent/Parameter)	Well #A	Well #B
Alkalinity, Total (mg/L)	151.2 (5)	201.2 (5)
Arsenic (µg/L)	17.3 (59)	96.8 (51)
Bicarbonate Alkalinity (mg/L)	163.6 (5)	205.8 (5)
Chloride (mg/L)	23.8 (5)	54.4 (5)
Fluoride (mg/L)	0.2 (5)	1.0 (5)
Gross Alpha Radioactivity (pCi/L)	74.1 (29)	96.6 (16)
Iron (µg/L)	128 (5)	575.1 (7)
Manganese (µg/L)	59.9 (12)	101.3 (6)
Nitrate as N (mg/L)	0.45 (18)	0.5 (19)
Sodium (mg/L)	32.9 (5)	52.2 (5)
Specific Conductivity (µmhos/cm)	363.3 (5)	552 (6)
Sulfate (mg/L)	4.3 (5)	16.4 (5)
TDS (mg/L)	188.6 (5)	297.2 (5)

The groundwater data above demonstrates that underlying groundwater is of poor quality in regard to arsenic, iron, and manganese. According to the 2021 Consumer Confidence Report for the Marina View Water System (CA2000551), the typical source of inorganic contaminants in regional groundwater are from the erosion of natural deposits. For salinity and nitrogen, underlying groundwater quality appears to be of

good quality.

According to satellite imagery, the minimum distance between the edge of the Facility to the shore of Bass Lake is approximately 70 feet, which is less than the 200 feet setback distance included in *Table 3: Summary of Wastewater System Setbacks* of the General Order. While the distance does not meet the minimum setback requirement included in the General Order, the General Order states that for existing sites not able to comply with the setbacks provided in Table 3, the existing site may be permitted under the General Order if nuisance conditions do not result from the noncompliance. The flows from the existing Facility are much lower than the design treatment capacity of 30,000 gpd, which if maintained should prevent runoff and nuisance conditions from occurring. Also, the treatment system provides secondary treatment and disinfection.

MONITORING REQUIREMENTS

Monitoring requirements included in the following sections from Attachment C of the General Order are appropriate for this discharge:

- Activated Sludge Systems Monitoring;
- Disinfection System Monitoring;
- Land Application Area Monitoring and;
- Solids Disposal Monitoring;

NITROGEN LIMIT EVALUATION

Attachment 1 of the General Order includes five site-specific considerations (Step A) that shall be considered when evaluating a discharge and the need for nitrogen effluent limits. These five site-specific considerations include: flow, groundwater depth, percolation rate, wastewater strength, and if nitrogen is of concern in the area. The proposed flow is greater than 20,000 gpd, and therefore, a nitrogen effluent limit evaluation is required for the WWTF.

Effluent monitoring for total nitrogen was required by Monitoring and Reporting Program 97-10-DWQ-R5160. Based on effluent data provided by the Discharger in the monthly SMRs, the annual average concentrations of total nitrogen in the effluent discharged to the spray fields was 20.4 mg/L in 2021, 24.1 mg/L in 2022, and 38.8 mg/L in 2023. According to the RWD, there are no significant contributions of nitrogen from other sources like recreational vehicles, institutions, and factories. Therefore, based on the data and the sources of wastewater, the WWTF's effluent does not exceed typical domestic wastewater strength.

In addition, effluent flows are much less than the design flow capacity of the system (average flows of 6,600 gpd). Also, spray irrigation of the effluent allows for plants and other biota in the soil to remove nutrients such as nitrogen and phosphorus. Therefore, nitrogen limits are not necessary, at this time.

SALT AND NITRATE CONTROL PROGRAMS

As part of the Central Valley Salinity Alternatives for Long Term Sustainability (CV-SALTS) initiative, the Central Valley Water Board adopted Basin Plan amendments incorporating new programs for addressing ongoing salt and nitrate accumulation in the Central Valley at its 31 May 2018 Board Meeting (Resolution R5-2018-0034). Pursuant to the Basin Plan amendments, dischargers were sent a Notice to Comply on 5 January 2021 with instructions and obligations for the Salt Control Program within one year of the effective date of the amendments. Upon receipt of the Notice to Comply, the Discharger was given until 15 July 2021 to inform the Central Valley Water Board of their choice between Option 1 (Conservative Option for Salt Permitting) or Option 2 (Alternative Option for Salt Permitting). The Discharger signed up for the P&O study and paid their fee on 28 October 2021.

For the Nitrate Control Program, the WWTF is not within a prioritized basin. Implementation within an unprioritized basin/sub-basins will occur at the direction of the Executive Officer. More information on the Salt and Nitrate Control Programs can be found at the [CV-SALTS Website](https://www.cvsalinity.org/public-info) (<https://www.cvsalinity.org/public-info>).