



Central Valley Regional Water Quality Control Board

27 August 2019

Richard Loughead, Jr.
North Millerton Mutual Water Company
P.O. Box 3151
Shell Beach, CA 93448

CERTIFIED MAIL
7018 3090 0001 1194 6657

NOTICE OF APPLICABILITY (NOA), STATE WATER RESOURCES CONTROL BOARD ORDER WQ 2014-0153-DWQ-R5318, GENERAL WASTE DISCHARGE REQUIREMENTS FOR SMALL DOMESTIC WASTEWATER TREATMENT SYSTEMS; NORTH MILLERTON MUTUAL WATER COMPANY; THE PRESERVE AT MILLERTON LAKE WATER RECLAMATION FACILITY; MADERA COUNTY

On 21 March 2005, Central Valley Regional Water Quality Control Board (Central Valley Water Board) staff received a Report of Waste Discharge (RWD) for the Friant Development Corporation – North Fork Village Wastewater Treatment Facility in Madera County. A revised Form 200 dated 29 November 2018 was received seeking coverage under State Water Resources Control Board (State Water Board) Water Quality Order 2014-0153-DWQ *General Waste Discharge Requirements for Small Domestic Wastewater Treatment Systems* (General Order) for the Facility. North Millerton Mutual Water Company (Discharger) was named owner of The Preserve at Millerton Lake Water Reclamation Facility (Facility) in the revised Form 200. An amended RWD was also received on 2 November 2018. Furthermore, a Title 22 Engineering Report was submitted on 20 December 2018 and received conditional approval from the State Water Resources Control Board (State Water Board) Division of Drinking Water (DDW) on 8 February 2019.

Based on the information provided, Phase One of the system will treat and dispose of less than 100,000 gallons per day (gpd) 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 General Order **2014-0153-DWQ-R5318** for your system.

Please note that this NOA does not specify reclamation requirements. **Prior to commencing reclamation activities** at the Facility, the Discharger must apply for and

KARL E. LONGLEY SCD, P.E., CHAIR | PATRICK PULUPA, ESQ., EXECUTIVE OFFICER

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receive coverage under the State Water Board Order WQ 2016-0068-DDW, *Water Reclamation Requirements for Recycled Water Use* (Reclamation General Order).

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-R5318. This MRP was developed after consideration of your waste characterization and site conditions described in the attached memorandum.

DISCHARGE DESCRIPTION

The RWD describes Phase One as part of a larger project. Phase One will include 243 dwelling units with an estimated population of 722 persons generating an average daily flow of 0.05 million gallons per day (MGD). Two additional phases of the project are envisioned. Phase Two will serve an anticipated flow of 0.15 MGD. Phase Three, at full build-out, will ultimately serve approximately 1,083 dwelling units with a population of 3,300 people generating an average daily sewage flow of 0.25 MGD. This NOA only authorizes flows under Phase One. The proposed Facility is approximately one-mile northwest of the town of Friant in Madera County at a point latitude 37° 0' 33" N and 119° 43' 41" W. The sewage treatment plant has been sited on a 3.3-acre parcel adjacent to Cottonwood Creek along the west property line. Attachment A of this NOA contains a Site Location Map.

The Facility will consist of a membrane bioreactor (MBR) system, manufactured by Cloacina, and will meet the requirements of disinfected-tertiary recycled water consistent with Title 22 Requirements for unrestricted irrigation. The wastewater treatment system will include fine screening, equalization, activated sludge treatment with an anoxic zone, ultrafiltration, ultraviolet light (UV) disinfection, post-UV chlorine dosing, and sludge thickening and storage. Attachment B of this NOA contains a Process Flow Diagram for the proposed Facility.

The wastewater reclamation distribution facilities will consist of a recycled water pump station and a distribution pipeline to recycled water storage ponds and landscape irrigation areas. Phase One of the system will include three reclaimed water ponds and 17.66 acres of common area landscaping for irrigation with reclaimed water. The reuse system will be expanded to accommodate additional community landscape needs as the development grows.

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, with all attachments, and MRP No. 2014-0153-DWQ-R5318. A nitrogen effluent limit evaluation

was conducted and an effluent total nitrogen (as N) of 10 mg/L was determined necessary for the Facility. See the attached memorandum for further discussion regarding the nitrogen effluent limit evaluation.

In accordance with Section B.1.a of the General Order, treated wastewater discharged to the Facility's unlined recycled water storage ponds **shall not exceed 47,000 gpd as a monthly average.**

The General Order states in Section D.1.a that the discharge shall not exceed the applicable effluent limitations as described in Table 4. The high threat total nitrogen (as N) effluent limit of 10 mg/L is applicable as specified in the following table.

Table 1 – Nitrogen Effluent Limitations (Section D.1.a)

Constituent	Unit	Average Monthly Limit
Total Nitrogen (as N)	milligrams per liter (mg/L)	10 ¹

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 following table:

¹ The Discharger shall determine compliance with this limitation by calculating the average of all nitrogen samples gathered for the calendar year.

Table 2 - Site-Specific Applicable Setback Requirements

Equipment or Activity	Domestic Well (feet)	Flowing Stream ¹ (feet)	Ephemeral Stream Drainage ² (feet)	Property Line (feet)	Lake or Reservoir ³ (feet)
Septic Tank, Treatment Unit, Treatment System, or Collection System	150 ⁴	50	50	5 ⁵	200 ⁶
Land Application Area (disinfected tertiary recycled water) ⁷	50 ⁸	25	50	25	200
Impoundment (disinfected tertiary recycled water)	100	100	100	50	200

The Discharger shall comply with the activated sludge systems requirements specified in Section B.4 of the General Order.

¹A flowing stream shall be measured from the ordinary high-water mark established by fluctuations of water elevations and indicated by characteristics such as shelving, changes in soil character, vegetation types, presence of litter or debris, or other appropriate means.

²Ephemeral Stream Drainage denotes a surface water drainage feature that flows only after rain or snow-melt and does not have sufficient groundwater seepage (baseflow) to maintain a condition of flowing surface water. The drainage shall be measured from a line that defines the limit of the ordinary high-water mark (described in footnote #1 above). Irrigation canals are not considered ephemeral streams drainage features. The ephemeral stream shall be a “losing stream” (discharging surface water to groundwater) at the proposed wastewater system site.

³ Lake or reservoir boundary measured from the high-water line.

⁴ Setback established by Onsite Wastewater Treatment System Policy, Section 7.5.6

⁵ Setback established by the California Plumbing Code, Table K-1.

⁶ Setback established in the Onsite Wastewater Treatment System Policy, Section 7.5.5

⁷ Disinfected tertiary recycled water is defined in the California Code of Regulations, Title 22, Section 60301.230.

⁸ Setback established in the California Code of Regulations, Title 22, Section 60310(a). A reduced setback is allowed as described in California Code of Regulations, Title 22, Section 60310(a) if all the conditions in the section are met and compliance is documented in the RWD and NOA.

The Discharger shall comply with the pond system requirements specified in Section B.5 of the General Order. Section B.5.a. states that sufficient freeboard shall be maintained at all times in the ponds to provide adequate storage capacity and prevent wastewater spills. Freeboard shall be measured vertically from the lowest elevation of the pond berm to the pond water surface. Section B.5.d states that objectionable odors shall not create nuisance conditions beyond the limits of the wastewater treatment facility. A dissolved oxygen concentration of less than 1.0 mg/L in the upper one foot of any wastewater pond shall be evidence of the potential to generate objectionable odors.

Section B.7 of the General Order specifies requirements related to wastewater land application areas (LAA). The Discharger shall comply with these specifications when applying treated wastewater to the recycled water use areas area. Section B.7.f of the General Order states if recycled water is applied, it shall comply with Title 22 water recycling criteria, this General Order, the NOA, a Title 22 Engineering Report, and any State Water Resources Control Board Division of Drinking Water (DDW) approval conditions. As previously mentioned, prior to commencing the reclamation of recycled water on use area, the Discharger must receive coverage under the Reclamation General Order. Per the Title 22 Engineering Report, Title 22 recycling criteria, and DDW's conditional approval letter, the Discharger must comply with the following treatment specifications.

1. The treated effluent 5-day biochemical oxygen demand (BOD₅) shall not exceed 10 mg/L as a monthly average and 20 mg/L as a daily maximum.
2. The treated effluent total suspended solids (TSS) shall not exceed 10 mg/L as a monthly average and 20 mg/L as a daily maximum.
3. The treated effluent total coliform shall not exceed:
 - a. 2.2 most probable number (MPN) per 100 mL, as a 7-day median; and
 - b. 23 MPN/100 mL, at any time.
4. The turbidity of filtered wastewater, prior to disinfection, shall not exceed:
 - a. 0.2 NTU more than 5 percent of the time within a 24-hour period, and
 - b. 0.5 NTU at any time.
5. The pH of the treated effluent shall be maintained between 6.5 to 8.4 standard pH units.
6. For the UV disinfection system, the following specifications shall be satisfied at all times:

- a. Peak flow rate (over a 24-hour period) shall not exceed 69 gallons per minute (gpm),
 - b. The minimum percent UV transmittance shall be 65%,
 - c. The minimum operational UV dose shall be 80 mJ/cm²,
 - d. The minimum lamp wattage shall be 800 watts, and
 - e. Sodium hypochlorite shall be dosed upstream of the recycled water pump station.
7. In the case of a failure or inadequate treatment, the Facility must automatically divert treated effluent flows to the emergency overflow pond and have automatic alarms sent to operators in the following cases:
- a. Power failure and automatic transfer switch or generator failure;
 - b. Recycled water pump failure (alarm if either pump fails, alarm and divert flows if both pumps fail);
 - c. Aeration blower failure;
 - d. More than one membrane module/cartridge is offline;
 - e. High turbidity (greater than 0.5 NTU);
 - f. Low-low UV intensity, transmittance, or operational dose;
 - g. Two adjacent UV lamp failure;
 - h. Multiple UV lamp failure; and
 - i. Effluent pH outside 6.5 to 8.4.

A Construction Quality Assurance (CQA) Plan and an Operation, Maintenance, and Monitoring Plan shall be submitted to the Central Valley Water Board prior to the construction of the lined on-site emergency storage pond. The CQA Plan should identify key personnel including the CQA officer, a professional engineer responsible for site preparation, construction, and liner installation. At a minimum the CQA Plan needs to include responsibilities, procedures, and testing requirements to ensure proper construction of the pond and liner installation in accordance with the design specifications (e.g., slope stability analysis, sieve analysis, compaction testing, anchor trenches, seam testing, etc.). In addition, an electrical leak detection survey needs to be conducted on the installed liner prior to discharge of any wastewater into the on-site emergency storage pond.

Provision E.1 of the General Order requires dischargers enrolled under the General Order to prepare and implement the following reports within **90 days** of the issuance of the NOA: Since the Facility has yet to be constructed, the Discharger must prepare these reports 90 days prior commencing operations at the Facility.

- 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 Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) Executive Officer.

Upon completion of construction of Phase One, but prior to the discharge of wastewater from the Facility, as-built drawings of the wastewater treatment system, wastewater collection system, reclaimed water storage ponds, and reclamation distribution system must be submitted to the Central Valley Water Board.

Failure to comply with the requirements in this NOA, General Order **2014-0153-DWQ**, with all attachments, and MRP No. 2014-0153-DWQ-R5318 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 increases and the monthly average approaches 47,000 gpd, the Central Valley Water Board staff must be contacted to determine if further analysis is required.

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. These programs, once effective, could change how the Central Valley Water Board permits discharges of salt and nitrate.

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.

The Central Valley Water Board has gone to a Paperless Office System. 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 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: 244531,
Facility Name: The Preserve at Millerton Lake,
Order: 2014-0153-DWQ-R5318,

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 [General Order WQO 2014-0153-DWQ](http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2014/wqo2014_0153_dwq.pdf) (http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2014/wqo2014_0153_dwq.pdf) is available on the State Water Board's website.

If you have any questions regarding this matter, please contact Jeff Robins by phone at (559) 445-5500, by email at jeff.robins@waterboards.ca.gov.

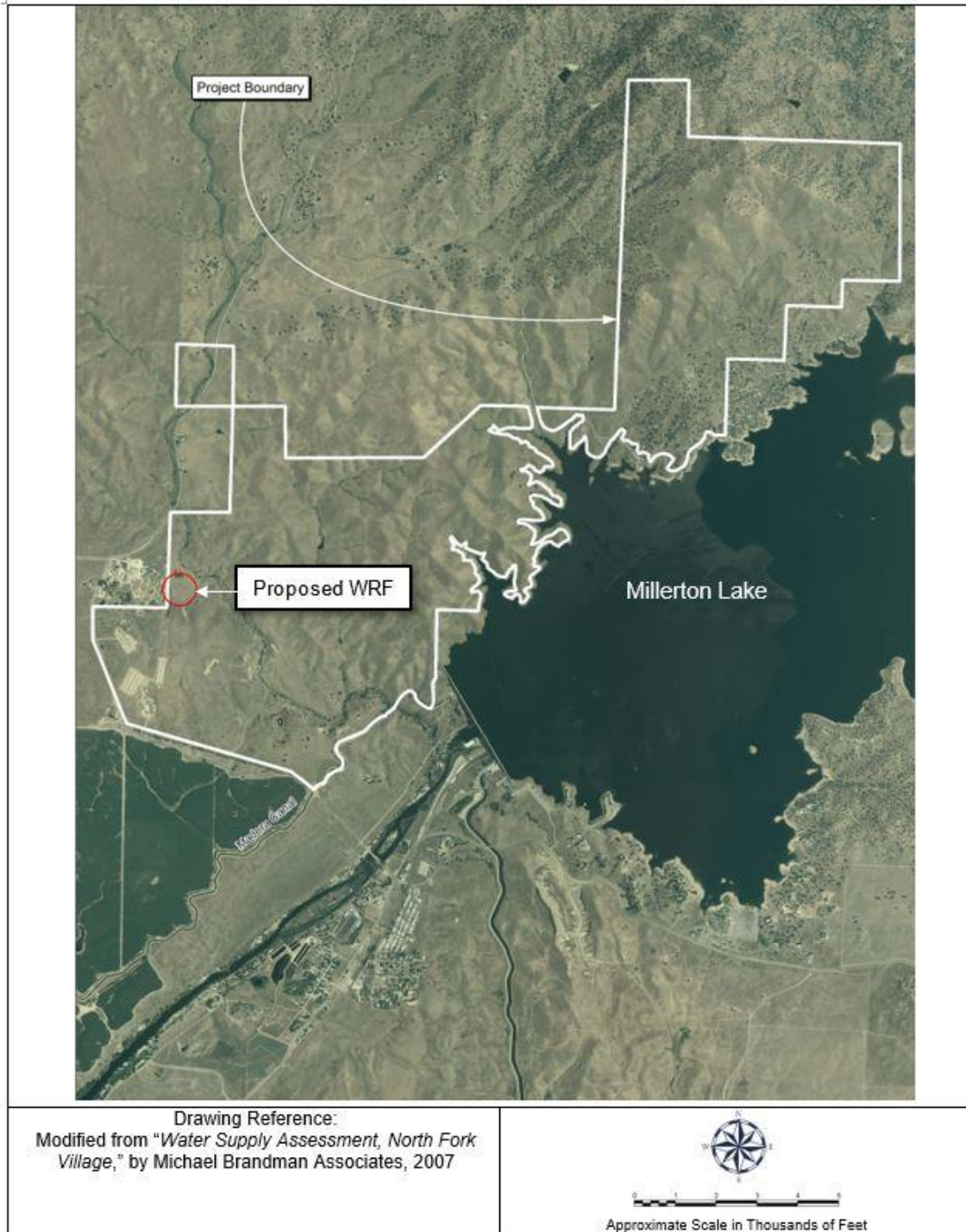
Original Signed Scott Hatton for:
Patrick Pulupa
Executive Officer

Attachments:

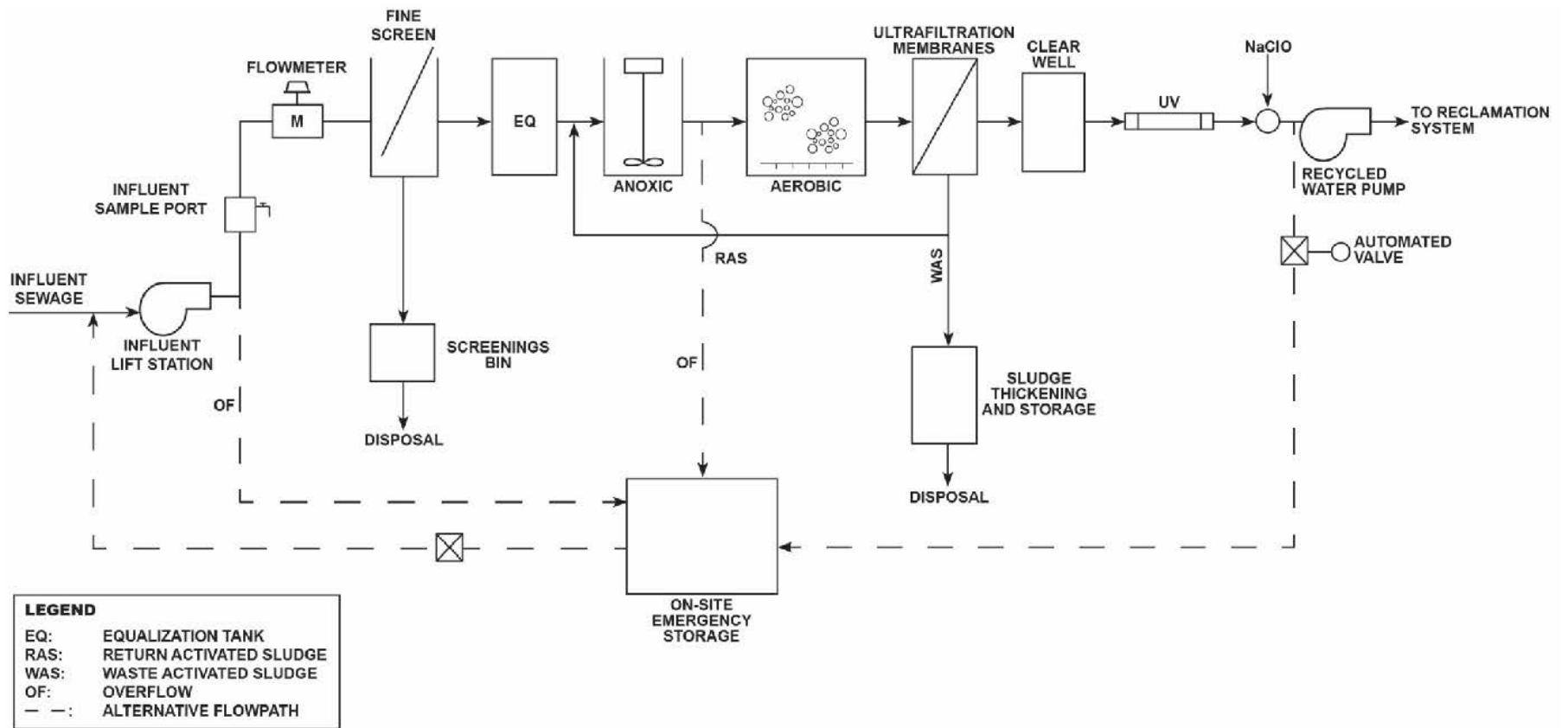
- Attachment A - Site Location Map
- Attachment B – Process Flow Diagram
- Monitoring and Reporting Program 2014-0153-DWQ-R5318
- Review Memorandum of The Preserve at Millerton Lake
- State Water Resources Control Board Order WQ 2014-0153-DWQ (Discharger only)

cc:

- Madera County Planning Department, Madera, CA
- Madera County Environmental Health Services, Madera, CA
- Kassy Chauhan, P.E. State Water Board Division of Drinking Water (via email)
- Rick Loughead, Jr. (via email)
- Eileen Shields, MKN Associates (via email)
- John Ennis, Ennis Consulting (via email)



ATTACHMENT A – SITE LOCATION MAP
NOTICE OF APPLICABILITY 2014-0153-DWQ-R5318
FOR
NORTH MILLERTON MUTUAL WATER COMPANY;
THE PRESERVE AT MILLERTON LAKE
WATER RECLAMATION FACILITY MADERA COUNTY



ATTACHMENT B – PROCESS FLOW DIAGRAM

NOTICE OF APPLICABILITY 2014-0153-DWQ-R5318

FOR

NORTH MILLERTON MUTUAL WATER COMPANY;

THE PRESERVE AT MILLERTON LAKE

WATER RECLAMATION FACILITY MADERA COUNTY

DRAWING REFERENCE: TITLE 22 ENGINEERING REPORT 21 DECEMBER 2018

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

**MONITORING AND REPORTING PROGRAM NO. 2014-0153-DWQ-R5318
FOR
NORTH MILLERTON MUTUAL WATER COMPANY
THE PRESERVE AT MILLERTON LAKE WATER RECLAMATION FACILITY
MADERA COUNTY**

This Monitoring and Reporting Program (MRP) describes requirements for monitoring a wastewater treatment system. This MRP is issued pursuant to Water Code section 13267. North Millerton Mutual Water Company (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 The Preserve at Millerton Lake Water Reclamation Facility (Facility) that is subject to the Notice of Applicability (NOA) of Water Quality Order 2014-0153-DWQ-R5318. The reports 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.

If monitoring consistently shows no significant variation in magnitude of 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.

TREATMENT SYSTEM MONITORING

Influent Monitoring

Influent samples shall be taken from a location that provides representative samples of the Facility's influent wastewater quality, prior to any treatment or return flows. At a minimum, influent monitoring shall consist of the following:

Constituent	Units	Sample Type	Monitoring Frequency	Reporting Frequency
Flow	MGD	Meter	Continuous	Quarterly
pH	SU	Grab	Weekly	Quarterly
EC	µmhos/cm	Grab	Weekly	Quarterly
BOD ₅	mg/L	Grab	Monthly	Quarterly
TSS	mg/L	Grab	Monthly	Quarterly
Total Nitrogen (as N)	mg/L	Grab	Monthly	Quarterly

Effluent Monitoring

Effluent samples shall be collected immediately after the ultraviolet light disinfection system. At a minimum, effluent shall be monitored as specified below:

Constituent	Units	Sample Type	Monitoring Frequency	Reporting Frequency
Flow	MGD	Meter	Continuous	Quarterly
BOD ₅	mg/L	Grab	Weekly	Quarterly
TSS	mg/L	Grab	Weekly	Quarterly
EC	µmhos/cm	Grab	Weekly	Quarterly
Total Nitrogen (as N)	mg/L	Grab	Monthly	Quarterly
Standard Minerals	mg/L	Grab	Quarterly	Annually

DISINFECTION MONITORING

Ultraviolet Light (UV) Disinfection Monitoring

The Discharger shall monitor the ultraviolet light disinfection system as follows:

Constituent	Units	Sample Type	Monitoring Frequency	Reporting Frequency
Flow	MGD	Meter	Continuous	Quarterly
Turbidity	NTU	Meter ^{1,2}	Continuous	Quarterly
Number of ultraviolet light banks in operation	Number	Observation	Continuous	Quarterly
UV light transmittance	Percent (%)	Meter	Continuous	Quarterly
UV Power Setting	Percent (%)	Meter	Continuous	Quarterly
UV Dose ³	mJ/cm ²	Calculated	Continuous	Quarterly
Total Coliform Organisms ⁴	MPN/100 mL	Grab	Daily	Quarterly

Chlorine Monitoring

Samples shall be collected from immediately downstream of the chlorine injection system. At a minimum, chlorine injection system monitoring shall consist of the following:

Constituent	Units	Sample Type	Monitoring Frequency	Reporting Frequency
Chlorine	mg/L	Continuous	Continuous	Quarterly
EC	µmhos/cm	Grab	Weekly	Quarterly

¹ The turbidity meter shall be stationed after the clear well, immediately prior to the ultraviolet light disinfection process.

² Report daily average turbidity and maximum turbidity. If the turbidity exceeds 0.5 NTU, the water shall be diverted to the on-site emergency storage basin.

³ Report daily minimum ultraviolet light dose, daily average ultraviolet light dose, and weekly average ultraviolet light dose. For the daily minimum ultraviolet light dose, also report associated number of banks, channel flow, water temperature, and ultraviolet light transmittance used in the calculation. If effluent discharge has received less than the minimum ultraviolet light dose and is not diverted from discharging to the reclamation area distribution system, report the duration and dose calculation variables associated with each incident.

⁴ The sample shall be taken immediately after UV disinfection.

POND SYSTEM MONITORING

Pond Monitoring

All wastewater and treated wastewater storage ponds shall be monitored as specified below.

Constituent	Units	Sample Type	Sample Frequency	Reporting Frequency
DO	mg/L	Grab	Monthly	Quarterly
Freeboard	0.1 feet	Measurement	Monthly	Quarterly
EC	µmhos/cm	Grab	Monthly	Quarterly
Odors	--	Observation	Monthly	Quarterly
Berm Condition	--	Observation	Monthly	Quarterly
Liner Condition		Observation	Monthly	Quarterly

SOLIDS DISPOSAL MONITORING

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

The Central Valley Water Board has gone to a Paperless Office System. 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: 244531,
Facility Name: The Preserve at Millerton Lake,
Order: 2014-0153-DWQ-R5318.

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. If requested by staff, copies of laboratory analytical report(s) and chain of custody form(s).

B. Annual Report

Annual Reports shall be submitted to the Regional Water Board by February 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 nuisances' 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. 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.
4. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program.
5. The name and contact information for the wastewater operator responsible for operation, maintenance, and system monitoring.

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 implement the above monitoring program upon initiating operations and discharge of effluent from the Facility.

Ordered by:

Original Signed by Scott Hatton for:
PATRICK PALUPA, Executive Officer

27 August 2019
(Date)

GLOSSARY

BOD ₅	Five-day biochemical oxygen demand
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
Standard minerals	Shall include the following elements/compounds: boron, calcium, chloride, iron, magnesium, manganese, potassium, sodium, sulfate, total alkalinity (including alkalinity series), hardness, and verification that the analysis is complete (i.e., cation/anion balance).
Continuous	The specified parameter shall be measured by a meter continuously. For continuous analyzers, the Discharger shall report documented routine meter maintenance activities including date, time of day, and duration, in which the analyzer(s) is not in operation.
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.
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
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: Scott J. Hatton
Supervising Water Resource Control Engineer

FROM: Alexander S. Mushegan
Senior Water Resource Control Engineer
RCE 84208

Jeff Robins
Water Resource Control Engineer

DATE: 27 August 2019

APPLICABILITY OF COVERAGE UNDER STATE WATER RESOURCES CONTROL BOARD ORDER WQ 2014-0153-DWQ; GENERAL WASTE DISCHARGE REQUIREMENTS FOR SMALL DOMESTIC WASTEWATER DISCHARGE SYSTEMS; NORTH MILLERTON MUTUAL WATER COMPANY; THE PRESERVE AT MILLERTON LAKE WATER RECLAMATION FACILITY; MADERA COUNTY

On 21 March 2005, Central Valley Regional Water Quality Control Board (Central Valley Water Board) staff received a Report of Waste Discharge (RWD) for the Friant Development Corporation – North Fork Village Wastewater Treatment Facility in Madera County. Multiple documents for the wastewater treatment facility were submitted subsequent to March 2005, culminating with the submittal of an amended RWD on 2 November 2018 (November 2018 RWD), signed by Eileen Shields (RCE 74757) with Michael K. Nunley & Associates, Inc. Since the submittal of the original RWD from March 2005, the wastewater treatment facility's owner and name were changed to North Millerton Mutual Water Company (Discharger) and The Preserve at Millerton Lake Water Reclamation Facility, respectively. A Title 22 Engineering Report was submitted on 20 December 2018 and a conditional approval letter for the Title 22 Engineering Report was issued by the State Water Resources Control Board, Division of Drinking Water (DDW) on 8 February 2019. As of date for this memorandum, The Preserve at Millerton Lake Water Reclamation Facility (Facility) has yet to be constructed.

This memorandum provides a summary of Central Valley Water Board's review of the November 2018 RWD and the applicability of this discharge to be covered under State Water Resources Control Board Order WQ 2014 0153 DWQ, General Waste Discharge Requirements for Small Domestic Wastewater Treatment Systems (General Order).

BACKGROUND INFORMATION

The Facility will receive and treat domestic wastewater from the proposed Preserve at Millerton Lake Development, which, in its entirety, will consist of 1,083 residential units in Friant. The November 2018 RWD only evaluates Phase One of the development. Phase One will include 243 dwelling units with an estimated population of 722 persons generating an average daily flow of 0.05 million gallons per day (MGD). Two additional phases of the project are envisioned. Phase Two will serve an anticipated flow of 0.15 MGD. For Phase Three, at full build-out, the Facility will ultimately serve approximately 1,083 dwelling units with a population of 3,300 people generating an average daily sewage flow of 0.25 MGD. The expansions will occur by adding additional packaged wastewater treatment facilities to the first packaged wastewater treatment facility.

Phase One wastewater flows will be solely domestic. Buildout flows will include a small amount of wastewater from commercial establishments. The assumed influent wastewater characteristics are based on primarily residential wastewater and assume water conservation methods continue. The main design parameters for influent wastewater characteristics are summarized in Table 1 below.

Table 1. Assumed Influent Wastewater Characteristics

Constituent	Units	Monthly Average
5-Day Biochemical Oxygen Demand (BOD ₅)	mg/L	350
Total Suspended Solids (TSS)	mg/L	350
Total Nitrogen	mg/L	55
Ammonia as N	mg/L	35
pH	Standard Units	6.5-7.5

Source water for the project will be provided by on-site groundwater wells. For Phase One of the project, four wells will be used to provide source water and, at full build-out, seven wells.

The wastewater collection system will include both gravity flow and force main sections. There are four collection system lift stations planned for project build-out, two are anticipated for Phase One. Each collection system lift station will contain two pumps, each sized to handle the peak hour flow, to provide redundancy.

The Facility is proposed to be built on a 3.3-acre parcel adjacent to Cottonwood Creek at Latitude 37° 0' 33" N and Longitude 119°43' 41" W as shown in Attachment A of the Notice of Applicability (NOA). The wastewater treatment process will be a membrane bioreactor system and will meet the requirements of disinfected tertiary recycled water consistent with Title 22 Requirements for unrestricted irrigation. A process flow diagram of the treatment process is shown in Attachment B of the NOA. Wastewater will initially

be pumped by an influent lift station through fine screens to an equalization basin. Following the equalization basin, wastewater flows into an activated sludge process, which includes an initial anoxic tank with mixer, followed by an aerobic tank, followed by solids separation using ultrafiltration membranes. The removed solids are either returned to the anoxic tank (return activated sludge) or wasted to the sludge storage tanks for thickening and disposal. The water output from ultrafiltration passes on to a clear well, followed by ultraviolet (UV) light disinfection, low dosing with liquid sodium hypochlorite, and then finally pumped to the reclamation system.

The design criteria for the UV disinfection system are summarized in Table 2 below.

Table 2. UV System Design Criteria

Criterion	Value
Peak Flow Rate (over 24 hours)	69 gpm (99,360 gpd)
% Transmittance	65%
Operational UV Dose	80 mJ/cm ²
Lamp	800 Watts

The Facility design includes an onsite emergency overflow basin. According to the Title 22 Engineering Report (20 December 2018), wastewater from the influent lift station, anoxic tank, and/or UV system can all be sent to the on-site emergency storage basin. Water in the on-site emergency basin can be routed back to the plant influent lift station. The emergency storage pond will be lined with a 60-mil single layer high density polyethylene (HDPE) geomembrane textile and installed adjacent to the wastewater treatment facility. The pond shall be sized to accommodate 24 hours of sewage flow (roughly 250,000 gallons at buildout and a minimum of 70,500 gallons during Phase One) and will be used to buffer flows as required. A Construction Quality Assurance (CQA) Plan needs to be submitted prior to the construction of the pond and installation of the pond liner.

North Millerton Mutual Water Company currently is the specified owner of the Facility. However, according to the Discharger, once the Facility is constructed Cal Water Services will take ownership of the Facility. Cal Water Services will be responsible for treatment and use of the reclaimed water and will operate the treatment system and recycled water distribution system. Upon change of ownership, a new Form 200 must be completed and submitted to the Central Valley Water Board.

TITLE 22 CONSIDERATIONS

The reclamation facilities will consist of a recycled water pump station and a distribution pipeline to recycled water storage ponds and landscape irrigation areas. Phase One of the system will include three reclaimed water ponds. 17.66 acres of use areas are designated to be irrigated with reclaimed water in Phase One. The recycled water will

be used for irrigation of common landscape areas throughout the development. The system will be expanded with storage ponds and irrigation use areas as the development grows. During Phase One, reclaimed water will be used on common area landscaping such as open space, parks and medians. At full build-out, the common areas for reclaimed water may include areas such as a golf course, parks, schools, trail ways, and other public right-of-ways.

The 8 February 2019 conditional approval letter from DDW lists conditions for approval of the Title 22 Engineering Report. Prior to commencing reclamation of treated effluent at the Facility, the Discharger must be issued reclamation requirements. Based on available information, the proposed reclamation appears eligible for enrollment on under the State Water Resources Control General Order WQ 2016-0068-DDW, *Water Reclamation Requirements for Recycled Water Use* (Reclamation General Order). The Title 22 Engineering report mentions that the report “anticipates” application under the Reclamation General Order. To be considered for enrollment under the Reclamation General Order, the Discharger must submit a Notice of Intent (described in Attachment A of the General Order WQ 2016-0068-DDW) and the applicable application fee.

POTENTIAL THREAT TO WATER QUALITY

According to the 2018 November RWD and the December 2018 Title 22 Engineering Report, the Facility will provide disinfected tertiary treatment consistent with Title 22 requirements for unrestricted irrigation. Reclaimed water will be used for irrigation of landscaping around the development. Three reclaimed water storage ponds are proposed for Phase One to facilitate reuse. The ponds will be unlined and some percolation is anticipated. The wastewater treatment plant will be designed to produce treated effluent with total nitrogen (as N) concentrations of less than 10 mg/L. Table 3 summarizes the anticipated treated effluent water quality specified in the December 2018 Title 22 Engineering Report

Table 3. Anticipated Treated Effluent Water Quality

Constituent	Units	Limit
BOD ₅	mg/L	10 (Monthly Average), 20 (daily maximum)
TSS	mg/L	10 (Monthly Average), 20 (daily maximum)
Total Nitrogen	mg/L	10 (annual average)
pH	SU	6.5 – 8.4
Turbidity	NTU	0.2 (95% of the time), 0.5 (max) ¹
Total Coliform	MPN/100 mL	<2.2 (7-day median), 23 (max) ²

¹ Turbidity less than 0.2 NTU 95% of the time and at no time greater than 0.5 NTU.

² Total Coliform less than 2.2 MPN/100 ml for 7-day median, and 23 MPN/100 ml maximum.

Nearby groundwater was considered by reviewing the well data for nearby wells. Three wells were located within 5 miles using the National Water Quality Monitoring Council's Water Quality Portal website. The data are summarized in Table 4 below.

Table 4. Groundwater Quality from Nearby Wells¹

Well Number	011S020E23M001M	011S021E18E001M	011S016E03H001M
Well Depth (ft bgs ²)	23	310	30
Date Sampled	6/9/1966	4/17/2008	3/1/1966
EC (µmhos/cm)	224	405	368
Nitrate as N (mg/L)	4.1	4.2	4.5
Sodium (mg/L)	15	42.9	19
Calcium (mg/L)	18	32.8	37
Chloride (mg/L)	14.0	21.7	26
Magnesium (mg/L)	7.3	3.3	14
Iron (µg/L)	0.0	ND	0.0
Arsenic (µg/L)	--	2.2	--

Initial water well drillers reports were included and summarized in Appendix F of the Environmental Impact Report for the development. The information generally indicated the site is underlain by 0 to 20 feet of soil and then fractured metamorphic and/or igneous rock. Selected data are summarized in Table 5 below.

¹ Data from the National Water Quality Monitoring Council, <https://www.waterqualitydata.us/portal>. Data is from the most recent sampling date. If there were two sample results from a single day, the average is reported.

² ft bgs = feet below ground surface

Table 5. Data from Water Well Drillers Reports and Summarized Data

Date	Well Number ¹	Well Depth feet	Water Depth feet
4 April 1990	1	400	60 to 80
17 August 1979	2	380	10
10 August 1989	2 ²	575	Artesian
11 August 1989	11	127	17
20 October 1989	15	800	41
24 October 1989	17	848	52
10 November 1989	19	501	145
20 November 1989	20	450	101

Eileen Shields with Michael K. Nunley & Associates, Inc. provided a revised water balance for the Facility on 15 August 2019. It estimated the annual production of treated effluent will be 53 acre-feet (AF) during Phase One of the development. It estimated that annually 35.1 AF of recycled water will be reclaimed on the 17.66 acres of land application areas, 9.5 AF of recycled water will evaporate from the three reclaimed water ponds, and 8.4 AF of recycled water will percolate to groundwater at the three reclaimed water ponds. The water balance also estimated that if the pond levels are lowered at the end of the fall, the reclaimed water ponds have enough storage to store the entire amount of wastewater flow for December, January, and February.

The November 2018 RWD mentions that some designated residential “estate” sites may require on-site septic systems. In those situations, the systems would be regulated by the Madera County Health Department.

NITROGEN LIMIT EVALUATION

The General Order requires that wastewater systems with a flow rate greater than 20,000 gpd be evaluated to determine if nitrogen effluent limits are required as described in Attachment 1 of the General Order. The monthly average daily flow for the Facility is predicted to be 47,000 gallons per day. As the monthly average flow exceeds 20,000 gpd, the General Order requires a nitrogen effluent limit evaluation. The water well drilling logs mentioned in Table 5 show the underlying 0 to 20 feet consists of soil composed of sand, gravel, cobbles, decomposed granite and/or schist. Underneath this unconsolidated soil is fractured bedrock (mostly granite and schist). Typical percolation rates for a gravel to sandy loam substrate are 0 to 30 minutes per inch (Metcalf and Eddy, 3rd Edition). Based on these conditions (i.e., high percolation rate and potentially fractured environment with limited soil cover), a nitrogen effluent limit is required. Since

¹ Note: These wells appear to be down-gradient of Millerton Lake.

² Note: The original well was redrilled deeper in 1989.

treated wastewater is proposed to be stored in unlined ponds and the Facility will provide denitrification, the Notice of Applicability should specify an annual average total nitrogen limit of 10 mg/L (as N).

MONITORING REQUIREMENTS

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

- Activated Sludge Monitoring
- Pond System Monitoring,
- Disinfection System Monitoring
- Land Application Area Monitoring, and
- Solids Disposal Monitoring.

SALT AND NITRATE CONTROL PROGRAMS

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. These programs, once effective, could change how the Central Valley permits discharges of salt and nitrate.