

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

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**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CA0077844
ORDER R5-2024-0023**

**WASTE DISCHARGE REQUIREMENTS FOR THE CITY OF PORTOLA,
PORTOLA WASTEWATER TREATMENT PLANT, PLUMAS COUNTY**

The following Discharger is subject to waste discharge requirements (WDRs) set forth in this Order:

Table 1. Discharger Information

Discharger:	City of Portola
Name of Facility:	Portola Wastewater Treatment Plant
Facility Street Address:	120 Main Street
Facility City, State, Zip:	Portola, CA 96122
Facility County:	Plumas County

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Disinfected Secondary Treated Wastewater	39.80189°	120.49561°	Middle Fork, Feather River
002	Secondary Treated Wastewater	39.80384°	120.48875°	Six-Acre Percolation Pond

Table 3. Administrative Information

This Order was Adopted on:	19 April 2024
This Order shall become effective on:	1 June 2024
This Order shall expire on:	31 May 2029
The Discharger shall file a Report of Waste Discharge (ROWD) as an application for reissuance of WDRs in accordance with title 23, California Code of Regulations (CCR), and an application for reissuance of a NPDES permit no later than:	31 May 2028
The United States Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, Central Valley Region have classified this discharge as follows:	Minor Discharge

I, Patrick Pulupa, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on **19 April 2024**.

PATRICK PULUPA, Executive Officer

**WASTE DISCHARGE REQUIREMENTS
TABLE OF CONTENTS**

I. Facility Information 3
II. Findings 3
III. Discharge Prohibitions 4
IV. Effluent Limitations and Discharge Specifications 5
 A. Effluent Limitations – Discharge Point 001 5
 1. Final Effluent Limitations – Discharge Point 001 5
 2. Interim Effluent Limitations - NOT APPLICABLE 6
 B. Land Discharge Specifications – Discharge Point 002 6
 1. Land Discharge Specifications – Discharge Point 002 6
 C. Recycling Specifications – NOT APPLICABLE 7
V. Receiving Water Limitations 7
 A. Surface Water Limitations 7
 B. Groundwater Limitations 9
VI. Provisions 10
 A. Standard Provisions 10
 B. Monitoring and Reporting Program (MRP) Requirements 14
 C. Special Provisions 14
 1. Reopener Provisions 14
 2. Special Studies, Technical Reports and Additional Monitoring Requirements 16
 3. Best Management Practices and Pollution Prevention 17
 4. Construction, Operation and Maintenance Specifications 17
 5. Special Provisions for Publicly-Owned Treatment Works (POTWs) 19
 6. Other Special Provisions 20
 7. Compliance Schedules 20
VII. Compliance Determination 21

TABLES

Table 1. Discharger Information 1
Table 2. Discharge Location 1
Table 3. Administrative Information 1
Table 4. Effluent Limitations 5
Table 5. Land Discharge Specifications 7

ATTACHMENTS

Attachment A – Definitions A-1
Attachment B – Map B-1
Attachment C – Flow Schematic C-1
Attachment D – Standard Provisions D-1
Attachment E – Monitoring and Reporting Program E-1
Attachment F – Fact Sheet F-1
Attachment G – Summary Of Reasonable Potential Analysis G-1
Attachment H-1 – Calculation of WQBELS H-1
Attachment H-2 – Calculation of WQBELS H-2

I. FACILITY INFORMATION

Information describing Portola Wastewater Treatment Plant (Facility) is summarized in Table 1 and in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the Facility's permit application.

II. FINDINGS

The California Regional Water Quality Control Board, Central Valley Region (hereinafter Central Valley Water Board), finds:

- A. Legal Authorities.** This Order serves as waste discharge requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as a National Pollutant Discharge Elimination System (NPDES) permit authorizing the Discharger to discharge into waters of the United States at the discharge location described in Table 2 subject to the WDRs in this Order.
- B. California Environmental Quality Act (CEQA).** Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA, (commencing with section 21100) of Division 13 of Public Resources Code. Additionally, the adoption of land discharge requirements for the Facility constitutes permitting of an existing facility that is categorically exempt from the provisions of CEQA pursuant to CCR, title 14, section 15301.
- C. Background and Rationale for Requirements.** The Central Valley Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for the requirements in this Order, is hereby incorporated into and constitutes Findings for this Order. Attachments A through E and G through H are also incorporated into this Order.
- D. Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections **IV.B, IV.C, and V.B** are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.
- E. Monitoring and Reporting.** 40 C.F.R. section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Central Valley Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. This Order and the Monitoring and Reporting Program, provided in Attachment E, establish monitoring and reporting requirements to implement federal and State

requirements. The burden, including costs, of these monitoring and reporting requirements bears a reasonable relationship to the need for these reports and the benefits to be obtained therefrom. The Discharger, as owner and operator of the Facility, is responsible for these requirements, which are necessary to determine compliance with this Order. The need for these requirements is further discussed in the Fact Sheet, Attachment F.

- F. Notification of Interested Persons.** The Central Valley Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet.
- G. Consideration of Public Comment.** The Central Valley Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet.

THEREFORE, IT IS HEREBY ORDERED that Order R5-2018-0088 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the Central Valley Water Board from taking enforcement action for violations of the previous Order.

III. DISCHARGE PROHIBITIONS

- A.** Discharge of wastewater from the Facility, as the Facility is specifically described in the Fact Sheet in section II.B, in a manner different from that described in this Order is prohibited.
- B.** The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Federal Standard Provisions I.G. and I.H. (Attachment D).
- C.** Neither the discharge nor its treatment shall create a nuisance as defined in section 13050 of the Water Code.
- D.** Discharge of waste classified as 'hazardous', as defined in the CCR, title 22, section 66261.1 et seq., is prohibited.
- E. Average Dry Weather Flow.** Discharges exceeding an average dry weather flow of 0.5 million gallons per day (MGD) are prohibited.
- F.** Discharge from the wetlands to the Middle Fork of the Feather River is prohibited when the Middle Fork of the Feather River flow as measured at the Department of Water Resources (DWR) "MFP" (Middle Fork Feather River Portola) gauging station is less than 40 cubic feet per second.

- G. The effluent flow discharging to the Middle Fork of the Feather River shall not exceed 2 percent of the Middle Fork of the Feather River flow as measured at the DWR “MFP” (Middle Fork Feather River Portola) gauging station.
- H. Discharge to the Middle Fork of the Feather River is prohibited between 1 May and 31 October.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point 001

1. Final Effluent Limitations – Discharge Point 001

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001. Unless otherwise specified, compliance shall be measured at Monitoring Location EFF-002, as described in the Monitoring and Reporting Program, Attachment E:

- a. The Discharger shall maintain compliance with the effluent limitations specified in Table 4:

Table 4. Effluent Limitations

Parameters	Units	Average Monthly	Average Weekly	Maximum Daily
Biochemical Oxygen Demand, 5-day @ 20°Celcius (BOD ₅)	milligrams per liter (mg/L)	45	65	--
Total Suspended Solids (TSS)	mg/L	45	65	--
Ammonia, Total as N	mg/L	18	29	--
Copper, Total Recoverable	micrograms per liter (µg/L)	22	--	44
Nitrate plus Nitrite	mg/L	20	37	--

- b. **pH:**
 - i. 6.0 Standard Units (SU) as an instantaneous minimum.
 - ii. 9.0 SU as an instantaneous maximum.
- c. **Percent Removal.** The average monthly percent removal of BOD₅ and TSS shall not be less than 65 percent.
- d. **Acute Whole Effluent Toxicity MDEL.** No *Onocorhynchus mykiss* (rainbow trout) acute aquatic toxicity test shall result in a “Fail” at the acute Instream Waste Concentration (IWC) (as stated in MRP Section V) AND a percent effect greater than or equal to 50 percent.

- e. **Acute Whole Effluent Toxicity MMEL.** No more than one *Onocorhynchus mykiss* (rainbow trout) acute aquatic toxicity test initiated in a calendar month shall result in a “Fail” at the acute IWC (as stated in MRP Section V).
- f. **Chronic Whole Effluent Toxicity MDEL.** No *Pimephales promelas* (fathead minnow) (growth test) chronic aquatic toxicity test shall result in a “Fail” at the chronic IWC (as stated in MRP Section V) effluent for the sub-lethal endpoint measured in the test AND a percent effect for that sub-lethal endpoint greater than or equal to 50 percent.
- g. **Chronic Whole Effluent Toxicity MMEL.** No more than one *Pimephales promelas* (fathead minnow) chronic aquatic toxicity test initiated in a calendar month shall result in a “Fail” at the chronic IWC (as stated in MRP Section V) for any endpoint.
- h. **Total Residual Chlorine.** Effluent total residual chlorine shall not exceed the following with compliance measured at Monitoring Location EFF-001 as described in the MRP, Attachment E:
 - i. 0.011 mg/L, as a 4-day average; and
 - ii. 0.019 mg/L, as a 1-hour average.
- i. **Total Coliform Organisms.** Effluent total coliform organisms shall not exceed the following with compliance measured at Monitoring Location EFF-001 as described in the MRP, Attachment E:
 - i. 23 most probable number per 100 milliliters (MPN/100 mL, as a 7-day median; and
 - ii. 240 MPN/100mL, more than once in any 30-day period.

2. Interim Effluent Limitations - NOT APPLICABLE

B. Land Discharge Specifications – Discharge Point 002

1. Land Discharge Specifications – Discharge Point 002

The Discharger shall maintain compliance with the following land discharge specifications at Discharge Point 002, with compliance measured at Monitoring Location LND-001 as described in the attached MRP.

- a. The Discharger shall maintain compliance with the land discharge specifications specified in Table 5:

Table 5. Land Discharge Specifications

Parameter	Units	Average Monthly	Average Weekly	Instantaneous Minimum	Instantaneous Maximum
BOD5	mg/L	45	65	--	--
TSS	mg/L	45	65	--	--
pH	standard units	--	--	6.0	9.0

C. Recycling Specifications – NOT APPLICABLE

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

The discharge shall not cause the following in the Middle Fork of the Feather River:

1. **Bacteria.** The six-week rolling geometric mean of Escherichia coli (E. coli) to exceed 100 colony forming units (cfu) per 100 milliliters (mL), calculated weekly, and a statistical threshold value (STV) of 320 cfu/100 mL to be exceeded by more than 10 percent of the samples collected in a calendar month, calculated in a static manner.
2. **Biostimulatory Substances.** Water to contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.
3. **Chemical Constituents.** Chemical constituents to be present in concentrations that adversely affect beneficial uses.
4. **Color.** Discoloration that causes nuisance or adversely affects beneficial uses.
5. **Dissolved Oxygen:**
 - a. The monthly median of the mean daily dissolved oxygen concentration to fall below 85 percent of saturation in the main water mass
 - b. The 95-percentile dissolved oxygen concentration to fall below 75 percent of saturation; nor
 - c. The dissolved oxygen concentration to be reduced below 7.0 mg/L at any time.
6. **Floating Material.** Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.
7. **Oil and Grease.** Oils, greases, waxes, or other materials to be present in concentrations that cause nuisance, result in a visible film or coating on the

surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.

8. **pH.** The pH to be depressed below 6.5 nor raised above 8.5

9. **Pesticides:**

- a. Pesticides to be present, individually or in combination, in concentrations that adversely affect beneficial uses;
- b. Pesticides to be present in bottom sediments or aquatic life in concentrations that adversely affect beneficial uses;
- c. Total identifiable persistent chlorinated hydrocarbon pesticides to be present in the water column at concentrations detectable within the accuracy of analytical methods approved by U.S. EPA or the Executive Officer;
- d. Pesticide concentrations to exceed those allowable by applicable antidegradation policies (see State Water Board Resolution No. 68-16 and 40 CFR section 131.12.);
- e. Pesticide concentrations to exceed the lowest levels technically and economically achievable;
- f. Pesticides to be present in concentration in excess of the maximum contaminant levels (MCLs) set forth in CCR, Title 22, division 4, chapter 15; nor
- g. Thiobencarb to be present in excess of 1.0 µg/L.

10. **Radioactivity:**

- a. Radionuclides to be present in concentrations that are harmful to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life; nor
- b. Radionuclides to be present in excess of the MCLs specified in Table 64442 of section 64442 and Table 64443 of section 64443 of Title 22 of the CCR.

11. **Salinity.** Electrical Conductivity at 25° C shall not exceed 150 µmhos/cm (90th percentile) in well-mixed water of the Middle Fork of the Feather River over a 10 year rolling average.

12. **Suspended Sediments.** The suspended sediment load and suspended sediment discharge rate of surface waters to be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
13. **Settleable Substances.** Substances to be present in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.
14. **Suspended Material.** Suspended material to be present in concentrations that cause nuisance or adversely affect beneficial uses.
15. **Taste and Odors.** Taste- or odor-producing substances to be present in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.
16. **Temperature.** The natural temperature to be increased by more than 5° Fahrenheit. Compliance to be determined based on the difference in temperature at Monitoring Locations RSW-001 and RSW-002.
17. **Toxicity.** Toxic substances to be present, individually or in combination, in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.
18. **Turbidity.**
 - a. Shall not exceed 2 Nephelometric Turbidity Units (NTU) where natural turbidity is less than 1 NTU;
 - b. Shall not increase more than 1 NTU where natural turbidity is between 1 and 5 NTUs;
 - c. Shall not increase more than 20 percent where natural turbidity is between 5 and 50 NTUs;
 - d. Shall not increase more than 10 NTU where natural turbidity is between 50 and 100 NTUs; nor
 - e. Shall not increase more than 10 percent where natural turbidity is greater than 100 NTUs.

B. Groundwater Limitations

1. Release of waste constituents from any portion of the Facility shall not cause groundwater to:

- a. Contain constituents in concentrations that exceed either the Primary or Secondary MCLs established in CCR, Title 22, or natural background water quality, whichever is greater;
- b. Contain total coliform organisms over any 7-day period equaling or exceeding 2.2 MPN/100 mL; or
- c. Contain taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D.
2. The Discharger shall comply with the following provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply:
 - a. If the Discharger's wastewater treatment plant is publicly owned or subject to regulation by California Public Utilities Commission, it shall be supervised and operated by persons possessing certificates of appropriate grade according to Title 23, CCR, division 3, chapter 26.
 - b. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:
 - i. violation of any term or condition contained in this Order;
 - ii. obtaining this Order by misrepresentation or by failing to disclose fully all relevant facts;
 - iii. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; and
 - iv. a material change in the character, location, or volume of discharge.

The causes for modification include:

- i. New regulations. New regulations have been promulgated under section 405(d) of the CWA, or the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued.

- ii. Land application plans. When required by a permit condition to incorporate a land application plan for beneficial reuse of sewage sludge, to revise an existing land application plan, or to add a land application plan.
- iii. Change in sludge use or disposal practice. Under 40 CFR section 122.62(a)(1), a change in the Discharger's sludge use or disposal practice is a cause for modification of the permit. It is cause for revocation and reissuance if the Discharger requests or agrees.

The Central Valley Water Board may review and revise this Order at any time upon application of any affected person or the Central Valley Water Board's own motion.

- c. If a toxic effluent standard or prohibition (including any scheduled compliance specified in such effluent standard or prohibition) is established under section 307(a) of the CWA, or amendments thereto, for a toxic pollutant that is present in the discharge authorized herein, and such standard or prohibition is more stringent than any limitation upon such pollutant in this Order, the Central Valley Water Board will revise or modify this Order in accordance with such toxic effluent standard or prohibition.

The Discharger shall comply with effluent standards and prohibitions within the time provided in the regulations that establish those standards or prohibitions, even if this Order has not yet been modified.

- d. This Order shall be modified, or alternately revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the CWA, if the effluent standard or limitation so issued or approved:
 - i. Contains different conditions or is otherwise more stringent than any effluent limitation in the Order; or
 - ii. Controls any pollutant limited in the Order.

The Order, as modified or reissued under this paragraph, shall also contain any other requirements of the CWA then applicable.

- e. The provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.
- f. The Discharger shall take all reasonable steps to minimize any adverse effects to waters of the State or users of those waters resulting from any discharge or sludge use or disposal in violation of this Order. Reasonable steps shall include such accelerated or additional monitoring as necessary

to determine the nature and impact of the non-complying discharge or sludge use or disposal.

- g. The Discharger shall ensure compliance with any existing or future pretreatment standard promulgated by U.S. EPA under section 307 of the CWA, or amendment thereto, for any discharge to the municipal system.
- h. A copy of this Order shall be maintained at the discharge facility and be available at all times to operating personnel. Key operating personnel shall be familiar with its content.
- i. Safeguard to electric power failure:
 - i. The Discharger shall provide safeguards to assure that, should there be reduction, loss, or failure of electric power, the discharge shall comply with the terms and conditions of this Order.
 - ii. Upon written request by the Central Valley Water Board, the Discharger shall submit a written description of safeguards. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means. A description of the safeguards provided shall include an analysis of the frequency, duration, and impact of power failures experienced over the past 5 years on effluent quality and on the capability of the Discharger to comply with the terms and conditions of the Order. The adequacy of the safeguards is subject to the approval of the Central Valley Water Board.
 - iii. Should the treatment works not include safeguards against reduction, loss, or failure of electric power, or should the Central Valley Water Board not approve the existing safeguards, the Discharger shall, within 90 days of having been advised in writing by the Central Valley Water Board that the existing safeguards are inadequate, provide to the Central Valley Water Board and U.S. EPA a schedule of compliance for providing safeguards such that in the event of reduction, loss, or failure of electric power, the Discharger shall comply with the terms and conditions of this Order. The schedule of compliance shall, upon approval of the Central Valley Water Board, become a condition of this Order.
- j. The Discharger, upon written request of the Central Valley Water Board, shall file with the Board a technical report on its preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. This report may be combined with that required under the Central Valley Water Board Standard Provision contained in section VI.A.2.i of this Order.

The technical report shall:

- i. Identify the possible sources of spills, leaks, untreated waste by-pass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.
- ii. Evaluate the effectiveness of present facilities and procedures and state when they became operational.
- iii. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

The Central Valley Water Board, after review of the technical report, may establish conditions which it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions shall be incorporated as part of this Order, upon notice to the Discharger.

- k. A publicly owned treatment works whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment and disposal facilities. The projections shall be made in January, based on the last 3 years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in 4 years, the Discharger shall notify the Central Valley Water Board by 31 January. A copy of the notification shall be sent to appropriate local elected officials, local permitting agencies and the press. Within 120 days of the notification, the Discharger shall submit a technical report showing how it will prevent flow volumes from exceeding capacity or how it will increase capacity to handle the larger flows. The Central Valley Water Board may extend the time for submitting the report.
- l. The Discharger shall submit technical reports as directed by the Executive Officer. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code, sections 6735, 7835, and 7835.1. To demonstrate compliance with Title 16, CCR, sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.
- m. The Central Valley Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

- n. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.
- o. This Order may be reopened to transfer ownership of control of this Order. The succeeding owner or operator must apply in writing requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Central Valley Water Board, and a statement. The statement shall comply with the signatory and certification requirements in the federal Standard Provisions (Attachment D, section V.B) and state that the new owner or operator assumes full responsibility for compliance with this Order.
- p. If the Discharger submits a timely and complete Report of Waste Discharge for permit reissuance, this permit shall continue in force and effect until the permit is reissued or the Regional Water Board rescinds the permit.
- q. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E.

C. Special Provisions

1. Reopener Provisions

- a. Conditions that necessitate a major modification of a permit are described in 40 CFR section 122.62, including, but not limited to:
 - i. If new or amended applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA, or amendments thereto, this permit may be reopened and modified in accordance with the new or amended standards.

- ii. When new information, that was not available at the time of permit issuance, would have justified different permit conditions at the time of issuance.
- b. **Mercury.** If mercury is found to be causing toxicity based on acute or chronic toxicity test results, or if a TMDL program is adopted, this Order shall be reopened, and the mass effluent limitation modified (higher or lower) or an effluent concentration limitation imposed. If the Central Valley Water Board determines that a mercury offset program is feasible for Dischargers subject to a NPDES permit, then this Order may be reopened to reevaluate the mercury mass loading limitation(s) and the need for a mercury offset program for the Discharger.
- c. **Best Practicable Treatment or Control Report and Anti-degradation Re-evaluation.** This Order requires the Discharger to complete and submit a technical report to evaluate the treatment and disposal systems at the WWTP and determine the best practicable treatment or control with respect to minimizing the impact to groundwater quality according to Special Provision VI.C.2.a. Based on a review of the report, this Order may be reopened to revise specifications or for additional groundwater effluent limitations and requirements.
- d. **Mixing Zone Study Update.** This Order requires the Discharger to submit a Mixing Zone Update. Based on a review of the update, this Order may be reopened to revise mixing zone specifications, dilution credits, and/or effluent limitations associated with prescribed mixing zones.
- e. **Water Effects Ratios (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating criteria for applicable inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total when developing effluent limitations for copper. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.
- f. **Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS).** On 17 January 2020, certain Basin Plan Amendments to incorporate new strategies for addressing ongoing salt and nitrate accumulation in the Central Valley became effective. Other provisions subject to U.S. EPA approval became effective on 2 November 2020, when approved by U.S. EPA. As the Central Valley Water Board moves forward to implement those provisions that are now in effect, this Order may be amended or modified to incorporate new or modified requirements necessary for implementation of the Basin Plan Amendments. More information regarding these Amendments can be found on the

[Central Valley Salinity Alternatives for Long-Term Sustainability](https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/)
(CV-SALTS) web page:
(https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/)

2. Special Studies, Technical Reports and Additional Monitoring Requirements

- a. **Best Practical Treatment or Control (BPTC) Report and Antidegradation Re-evaluation.** The Discharger shall submit a Best Practicable Treatment or Control (BPTC) Report and an Antidegradation Re-evaluation by the due dates provided in Technical Reports Table E-13. The Antidegradation Re-evaluation may also be included in the final BPTC Report. The rationale for the reports and required scope of the BPTC Report and Antidegradation Re-evaluation is described in Section VI.B.2.a of the Fact Sheet.
- b. **Mixing Zone Study Update.** The Discharger shall provide an update to the mixing zone-related studies submitted to the Central Valley Water Board in 2009 and 2010, by the due date provided in Technical Reports Table E-13.

The rationale for the update is provided in Section VI.B.2.b of the Fact Sheet. The update shall address Central Valley Water Board staff findings related to the mixing analysis confirmation report (*City of Portola Mixing Zone Dye Dilution Study, September 2010*), as described in Sections IV.C.2.c.iii. and VI.B.2.b. of the Fact Sheet. The objective and requirements of the Mixing Zone Study Update are provided in VI.B.2.b of the Fact Sheet.

- c. **Toxicity Reduction Evaluation (TRE).** The Discharger is required to initiate a TRE, as detailed in the Monitoring and Reporting Program (Attachment E, Section V.G), when any combination of two or more MDEL or MMEL violations occur within a single calendar month or within two successive calendar months. In addition, if other information indicates toxicity (e.g., results of additional monitoring, results of monitoring at a higher concentration than the IWC, fish kills, intermittent recurring toxicity) or if there is no effluent available to complete a routine monitoring test, MDEL test, or MMEL compliance test, the Executive Officer may require a TRE.

A TRE Work Plan is required to outline the procedures for identifying the source(s) of and reducing or eliminating effluent toxicity. The TRE Work Plan must be of adequate detail to allow the Discharger to immediately initiate a TRE and shall be developed in accordance with section V.G.2 in Attachment E and submitted by the due date in the Technical Reports Table E-13.

3. Best Management Practices and Pollution Prevention

- a. **Salinity Evaluation and Minimization Plan (SEMP).** The Discharger shall continue to implement a SEMP to identify and address sources of salinity discharged from the Facility.

The Discharger submitted a Notice of Intent to comply with the Salt Control Program and selected the Alternative Permitting Approach. Accordingly, the Discharger shall participate in the CV-SALTS Prioritization and Optimization (P&O) Study. Furthermore, an evaluation of the effectiveness of the SEMP shall be submitted with the ROWD. The evaluation shall include, at minimum, the calendar annual average concentrations of electrical conductivity in the discharge (i.e., EFF-001 and LND-001) during the term of the Order. If the average electrical conductivity concentration for any calendar year exceeds a **performance-based trigger of 672 $\mu\text{mhos/cm}$** , the Discharger shall evaluate possible sources of salinity contributing to the exceedance of the trigger and update the SEMP to include a plan of action to control salinity.

4. Construction, Operation and Maintenance Specifications

a. **Treatment Pond Operating Requirements**

- i. The treatment facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
- ii. Public contact with wastewater shall be precluded through such means as fences, signs, and other acceptable alternatives.
- iii. Ponds shall be managed to prevent breeding of mosquitos. In particular
 - a. An erosion control program shall be implemented to ensure that small coves and irregularities are not created around the perimeter of the water surface.
 - b. Weeds shall be minimized through control of water depth, harvesting, or herbicides.
 - c. Dead algae, vegetation, and debris shall not accumulate on the water surface.
- iv. Freeboard shall never be less than 2 feet (measured vertically to the lowest point of overflow).
- v. Ponds shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation and ancillary inflow

and infiltration during the non-irrigation season. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns. Freeboard shall never be less than 2 feet (measured vertically to the lowest point of overflow).

- vi. The discharge of waste classified as “hazardous” as defined in section 2521(a) of Title 23, California Code of Regulations (CCR), or “designated”, as defined in section 13173 of the Water Code, to the treatment ponds is prohibited.
- vii. Objectionable odors originated at the Facility shall not be perceivable beyond the limits of the wastewater treatment and disposal areas (or property owned by the Discharger).
- viii. As a means of ensuring compliance with section vii above, , the dissolved oxygen (DO) content in the upper one foot of any wastewater treatment or storage pond shall not be less than 1.0 mg/L for three consecutive sampling events. Notwithstanding the DO monitoring frequency specified in the monitoring and reporting program, If the DO in any single pond is below 1.0 mg/L for any single sampling event, the Discharger shall implement daily DO monitoring of that pond until the minimum DO concentration is achieved for at least three consecutive days. If the DO in any single pond is below 1.0 mg/L for three consecutive days, the Discharger shall report the findings to the Regional Water Board in accordance with General Reporting Requirement B.1 of the Standard Provisions and Reporting Requirements. The written notification shall include a specific plan to resolve the low DO results within 30 days of the first date of violation.
- ix. The Discharger shall operate all systems and equipment to optimize the quality of the discharge.
- x. The discharge shall remain within the permitted waste treatment/containment structures at all times.
- xi. No waste constituent shall be released, discharged, or placed where it will cause a violation of the Groundwater Limitations of this Order.
- xii. Wastewater contained in any unlined treatment pond (PND-001 to PND-007) shall not have a pH less than 6.0 or greater than 9.5.
- xiii. The Discharger shall monitor sludge accumulation in the wastewater treatment ponds at least every five years beginning in 2024, and shall periodically remove sludge as necessary to maintain adequate storage capacity. Specifically, if the estimated volume of sludge in the reservoir exceeds five percent of the permitted reservoir capacity, the

Discharger shall complete sludge cleanout within 12 months after the date of the estimate.

- b. **Operations Plan – Disinfection Verification.** Disinfection facilities are located after the stabilization ponds but prior to the outfall into the six-acre pond. The Discharger is required to disinfect the stabilization pond effluent when discharging to surface water (Middle Fork of the Feather River). However, effluent is not disinfected when discharging to land at the six-acre pond. As described in Section II.A. of the Fact Sheet (Facility Description), the Discharger manages effluent discharge to the six-acre pond such that no undisinfected effluent is present in the pond prior to sending disinfected effluent to the six-acre pond in anticipation of a surface water discharge. The Discharger shall submit an Operations Plan that details the operation of the disinfection facilities and the six-acre pond year-round; the operation plan shall demonstrate how the Discharger ensures that any effluent present in the six-acre pond that eventually is discharged to the receiving water is disinfected, in accordance with this Order. The operations plan shall also include a Water Board notification requirement that clearly communicates when the six-acre pond has been cleared of undisinfected effluent (or commingled effluent) prior to discharge to surface water and when disinfection facilities are used or not. In no case shall the discharge to the surface water contain undisinfected effluent.

5. **Special Provisions for Publicly-Owned Treatment Works (POTWs)**

- a. **Sludge/Biosolids Treatment or Discharge Specifications.** Sludge in this document means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screening material generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment at the wastewater treatment plant. Biosolids refer to sludge that has been treated and tested and shown to be capable of being beneficially and legally used pursuant to federal and state regulations as a soil amendment for agricultural, silvicultural, horticultural, and land reclamation activities as specified under 40 C.F.R. Part 503.
 - i. Collected screenings, residual sludge, biosolids, and other solids removed from liquid wastes shall be disposed of in a manner consistent with Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste, as set forth in Title 27, CCR, division 2, subdivision 1, section 20005, et seq. Removal for further treatment, storage, disposal, or reuse at sites (e.g., landfill, composting sites, soil amendment sites) that are operated in accordance with valid waste discharge requirements issued by a Regional Water Board will satisfy these specifications.

Sludge and solid waste shall be removed from screens, sumps, ponds, clarifiers, etc. as needed to ensure optimal plant performance.

The treatment of sludge generated at the Facility shall be confined to the Facility property and conducted in a manner that precludes infiltration of waste constituents into soils in a mass or concentration that will violate groundwater limitations in section V.B. of this Order. In addition, the storage of residual sludge, solid waste, and biosolids on Facility property shall be temporary and controlled, and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate groundwater limitations included in section V.B. of this Order.

- ii. The use, disposal, storage, and transportation of biosolids shall comply with existing federal and state laws and regulations, including permitting requirements and technical standards included in 40 C.F.R. Part 503. If the State Water Board and the Central Valley Water Board are given the authority to implement regulations contained in 40 C.F.R. Part 503, this Order may be reopened to incorporate appropriate time schedules and technical standards. The Discharger must comply with the standards and time schedules contained in 40 C.F.R. Part 503 whether or not they have been incorporated into this Order.
 - iii. The Discharger shall comply with section IX.A. Biosolids of the Monitoring and Reporting Program, Attachment E.
 - iv. The Discharger shall implement onsite sludge/biosolids treatment, processing, and storage for the Facility as described in the Fact Sheet (Attachment F, section II.A). This Order may be reopened to address any proposed change in the onsite treatment, processing, or storage of sludge/biosolids.
- b. Sludge/Biosolids Management Plan Update.** The Discharger shall submit a Sludge/Biosolids Management Plan Update according to the schedule in Technical Reports table E-13, that shall describe at a minimum:
- i. Sources and amounts of solids generated annually. This should evaluate any amounts currently on-site.
 - ii. Location(s) of on-site storage and description of the containment area.
 - iii. Plans for any treatment and ultimate disposal. For landfill disposal, include the present classification, name, and location of landfill.

6. Other Special Provisions

7. Compliance Schedules

VII. COMPLIANCE DETERMINATION

- A. BOD₅ and TSS Effluent Limitations (Sections IV.A.1.a and IV.A.1.c).** Compliance with the final effluent limitations for BOD₅ and TSS required in Waste Discharge Requirements section IV.A.1.a shall be ascertained by 24-hour composite samples. Compliance with effluent limitations required in Waste Discharge Requirements section IV.A.1.c for percent removal shall be calculated using the arithmetic mean of BOD₅ and TSS in effluent samples collected over a monthly period as a percentage of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period.
- B. Average Dry Weather Flow Prohibition (Section III.E).** The average dry weather discharge flow represents the daily average flow when groundwater is at or near normal and runoff is not occurring. Compliance with the average dry weather flow discharge prohibition will be determined annually based on the average daily flow over three consecutive dry weather months. The inflow and infiltration in the Portola area is high due to the presence of springs, melting snow, and high groundwater which persist late into the summer. For this reason, the dry weather flow is typically observed from 1 August through 31 October at this facility.
- C. Total Coliform Organisms Effluent Limitations (Section IV.A.1.i).** For each day that an effluent sample is collected and analyzed for total coliform organisms, the 7-day median shall be determined by calculating the median concentration of total coliform bacteria in the effluent utilizing the bacteriological results of the last 7 days. For example, if a sample is collected on a Wednesday, the result from that sampling event and all results from the previous 6 days (i.e., Tuesday, Monday, Sunday, Saturday, Friday, and Thursday) are used to calculate the 7-day median. If the 7-day median of total coliform organisms exceeds a most probable number (MPN) of 23 per 100 milliliters, the Discharger will be considered out of compliance.
- D. Instantaneous Maximum Effluent Limitation for pH (Section IV.A.1.b).** If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitations for a parameter, the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of noncompliance with the instantaneous minimum effluent limitation). If pH is monitored continuously, the Discharger shall be in compliance with pH limitations provided that the total excursion time does not exceed 20 minutes within a calendar day. For the purpose of establishing a pH excursion, a 20-minute running average may be used (measured continuously at no greater than 5 second intervals).
- E. Total Residual Chlorine Effluent Limitations (Section IV.A.1.h).** Continuous monitoring analyzers for chlorine residual or for dechlorination agent residual in the effluent are appropriate methods for compliance determination. A positive residual dechlorination agent in the effluent indicates that chlorine is not present in the

discharge, which demonstrates compliance with the effluent limitations. This type of monitoring can also be used to prove that some chlorine residual exceedances are false positives. Continuous monitoring data showing either a positive dechlorination agent residual or a chlorine residual at or below the prescribed limit are sufficient to show compliance with the total residual chlorine effluent limitations, as long as the instruments are maintained and calibrated in accordance with the manufacturer's recommendations.

Any excursion above the 1-hour average or 4-day average total residual chlorine effluent limitations is a violation. If the Discharger conducts continuous monitoring and the Discharger can demonstrate, through data collected from a back-up monitoring system, that a chlorine spike recorded by the continuous monitor was not actually due to chlorine, then any excursion resulting from the recorded spike will not be considered an exceedance, but rather reported as a false positive. Records supporting validation of false positives shall be maintained in accordance with Section IV Standard Provisions (Attachment D).

F. Priority Pollutant Effluent Limitations. Compliance with effluent limitations for priority pollutants shall be determined in accordance with section 2.4.5 of the SIP, as follows:

1. Dischargers shall be deemed out of compliance with an effluent limitation, if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).
2. Dischargers shall be required to conduct a Pollutant Minimization Program (PMP) in accordance with section 2.4.5.1 of the SIP when there is evidence that the priority pollutant is present in the effluent above an effluent limitation and either:
 - a. sample result is reported as detected, but not quantified (DNQ) and the effluent limitation is less than the RL; or
 - b. sample result is reported as non-detect (ND) and the effluent limitation is less than the method detection limit (MDL).
3. When determining compliance with an average monthly effluent limitation (AMEL) and more than one sample result is available in a month, the discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of DNQ or ND. In those cases, the discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:
 - a. The data set shall be ranked from low to high, reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
 - b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the

data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

4. If a sample result, or the arithmetic mean or median of multiple sample results, is below the RL, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the discharger conducts a PMP (as described in section 2.4.5.1), the discharger shall **not** be deemed out of compliance.
- G. Dissolved Oxygen Receiving Water Limitation (Section V.A.5.a-c).** Once per week receiving water monitoring is required in the Monitoring and Reporting Program (Attachment E) and is sufficient to evaluate the impacts of the discharge and compliance with this Order. Once per week receiving water monitoring data, measured at monitoring locations RSW-001 and RSW-002, will be used to determine compliance with part “c” of the dissolved oxygen receiving water limitation to ensure the discharge does not cause the dissolved oxygen concentrations in the receiving water to be reduced below 7.0 mg/L at any time. However, should more frequent dissolved oxygen and temperature receiving water monitoring be conducted, Central Valley Water Board staff may evaluate compliance with parts “a” and “b”.
- H. Whole Effluent Toxicity Effluent Limitations.** The discharge is subject to determination of “Pass” or “Fail” from **acute** and **chronic** whole effluent toxicity tests using the Test of Significant Toxicity (TST) statistical t-test approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010), Appendix A, Figure A-1 and Table A-1 (Chronic Freshwater and East Coast Methods) and Appendix B, Table B-1.

The null hypothesis (Ho) for the TST statistical approach is:

Mean discharge Instream Waste Concentration (IWC) response \leq Regulatory Management Decision (RMD) x Mean control response, where the chronic RMD = 0.75 and the acute RMD = 0.80.

A test result that rejects this null hypothesis is reported as “Pass.” A test result that does not reject this null hypothesis is reported as “Fail.”

The relative “Percent Effect” at the discharge IWC is defined and reported as:

Percent Effect = ((Mean control response – Mean discharge IWC response) / Mean control response) x 100.

This is a t-test (formally Student’s t-Test), a statistical analysis comparing two sets of replicate observations, i.e., a control and IWC. The purpose of this statistical test is to determine if the means of the two sets of observations are

different (i.e., if the IWC differs from the control, the test result is “Pass” or “Fail”). The Welch’s t-test employed by the TST statistical approach is an adaptation of Student’s t-test and is used with two samples having unequal variances.

- 1. Acute and Chronic Whole Effluent Toxicity MDEL (Section IV.A.1.f).** If the result of a routine acute or chronic whole effluent toxicity test, using the TST statistical approach, is a “Fail” at the IWC for the survival endpoint measured in the test and the percent effect for the survival endpoint is greater than or equal to 50 percent, the Discharger will be deemed out of compliance with the MDEL.
- 2. Acute and Chronic Whole Effluent Toxicity MMEL (Section IV.A.1.g).** If the result of a routine acute or chronic whole effluent toxicity test, using the TST statistical approach, is a “Fail” at the IWC, the Discharger shall conduct a maximum of two additional MMEL compliance tests during the calendar month. If one of the additional MMEL compliance test results in a “Fail” at the IWC, the Discharger will be deemed out of compliance with the MMEL.

ATTACHMENT A – DEFINITIONS

1Q10

The lowest one-day flow with an average reoccurrence frequency of once in ten years.

7Q10

The lowest average seven consecutive day flow with an average reoccurrence frequency of once in ten years.

Acute Aquatic Toxicity Test

A test to determine an adverse effect (usually lethality) on a group of aquatic test organisms during a short-term exposure (e.g., 24, 48, or 96 hours).

Allowable Discharge Period

The allowable discharge to surface water period is 1 November through 30 April and corresponds to the dates outside of the period specified in Discharge Prohibition III.F. This term may also be referred to as the “discharge period”.

Alternative Hypothesis

A statement used to propose a statistically significant relationship in a set of given observations. Under the TST approach, when the Null Hypothesis is rejected, the Alternative Hypothesis is accepted in its place, indicating a relationship between variables and an acceptable level of toxicity.

Arithmetic Mean (m)

Also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

$$\text{Arithmetic mean} = m = Sx / n$$

where: Sx is the sum of the measured ambient water concentrations, and n is the number of samples.

Average Monthly Effluent Limitation (AMEL)

The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL)

The highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Bioaccumulative

Those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Calendar Month(s)

A period of time from a day of one month to the day before the corresponding day of the next month if the corresponding day exists, or if not to the last day of the next month (e.g., from January 1 to January 31, from June 15 to July 14, or from January 31 to February 28).

Calendar Quarter

A period of time defined as three consecutive calendar months.

Calendar Year

A period of time defined as twelve consecutive calendar months.

Chronic Aquatic Toxicity Test

A test to determine an adverse effect (sub-lethal or lethal) on a group of aquatic test organisms during an exposure of duration long enough to assess sub-lethal effects.

Carcinogenic

Pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV)

CV is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Daily Discharge

Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Detected, but Not Quantified (DNQ)

DNQ are those sample results less than the RL, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

Dilution Credit

Dilution Credit is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Effluent Concentration Allowance (ECA)

ECA is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in U.S. EPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Enclosed Bays

Enclosed Bays means indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake’s Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Endpoint

An effect that is measured in a toxicity study. Endpoints in toxicity tests may include, but are not limited to survival, reproduction, and growth. A measured response of a receptor to a stressor. An endpoint can be measured in a toxicity test or field survey.

Estimated Chemical Concentration

The estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Estuaries

Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters

All surface waters of the state that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation

The highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation

The lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Instream Waste Concentration (IWC)

The concentration of effluent in the receiving water after mixing.

Maximum Daily Effluent Limitation (MDEL)

The highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Median

The middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the n/2 and n/2+1).

Method Detection Limit (MDL)

MDL is the minimum measured concentration of a substance that can be reported with 99 percent confidence that the measured concentration is distinguishable from method blank results, as defined in in 40 C.F.R. Part 136, Attachment B.

Minimum Level (ML)

ML is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Mixing Zone

Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Not Detected (ND)

Sample results which are less than the laboratory's MDL.

Null Hypothesis

A statement used in statistical testing that has been put forward either because it is believed to be true or because it is to be used as a basis for argument, but has not been proved.

Ocean Waters

The territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

Percent Effect

The percent effect at the instream waste concentration (IWC) shall be calculated using untransformed data and the following equation:

$$\text{Percent Effect of the Sample} = \frac{\text{Mean Control Response} - \text{Mean Sample Response}}{\text{Mean Control Response}} \cdot 100$$

Persistent Pollutants

Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP)

PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Central Valley Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention

Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State Water Resources Control Board (State Water Board) or Central Valley Water Board.

Regulatory Management Decision (RMD)

The decision that represents the maximum allowable error rates and thresholds for toxicity and non-toxicity that would result in an acceptable risk to aquatic life.

Response

A measured biological effect (e.g., survival, reproduction, growth) as a result of exposure to a stimulus.

Satellite Collection System

The portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Source of Drinking Water

Any water designated as municipal or domestic supply (MUN) in a Central Valley Water Board Basin Plan.

Species Sensitivity Screening

An analysis to determine the single most sensitive species from an array of test species to be used in a single species laboratory test series.

Standard Deviation (s)

Standard Deviation is a measure of variability that is calculated as follows:

$$s = \left(\frac{\sum [(x - m)^2]}{n - 1} \right)^{0.5}$$

where:

x is the observed value;
m is the arithmetic mean of the observed values; and
n is the number of samples.

Statewide Toxicity Provisions

Refers to Section III.B and Section IV.B of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California.

Statistical Threshold Value (STV)

The STV for the bacteria receiving water limitation is a set value that approximates the 90th percentile of the water quality distribution of a bacterial population.

Test of Significant Toxicity (TST)

A statistical approach used to analyze aquatic toxicity test data, as described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010), Appendix A, Figure A-1 and Table A-1 (Chronic Freshwater and East Coast Methods) and Appendix B, Table B-1.

Toxicity Reduction Evaluation (TRE)

TRE is a study conducted in a stepwise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

WET Maximum Daily Effluent Limitation (MDEL)

For the purposes of chronic and acute aquatic toxicity, an MDEL is an effluent limitation based on the outcome of the TST approach and the resulting percent effect at the IWC.

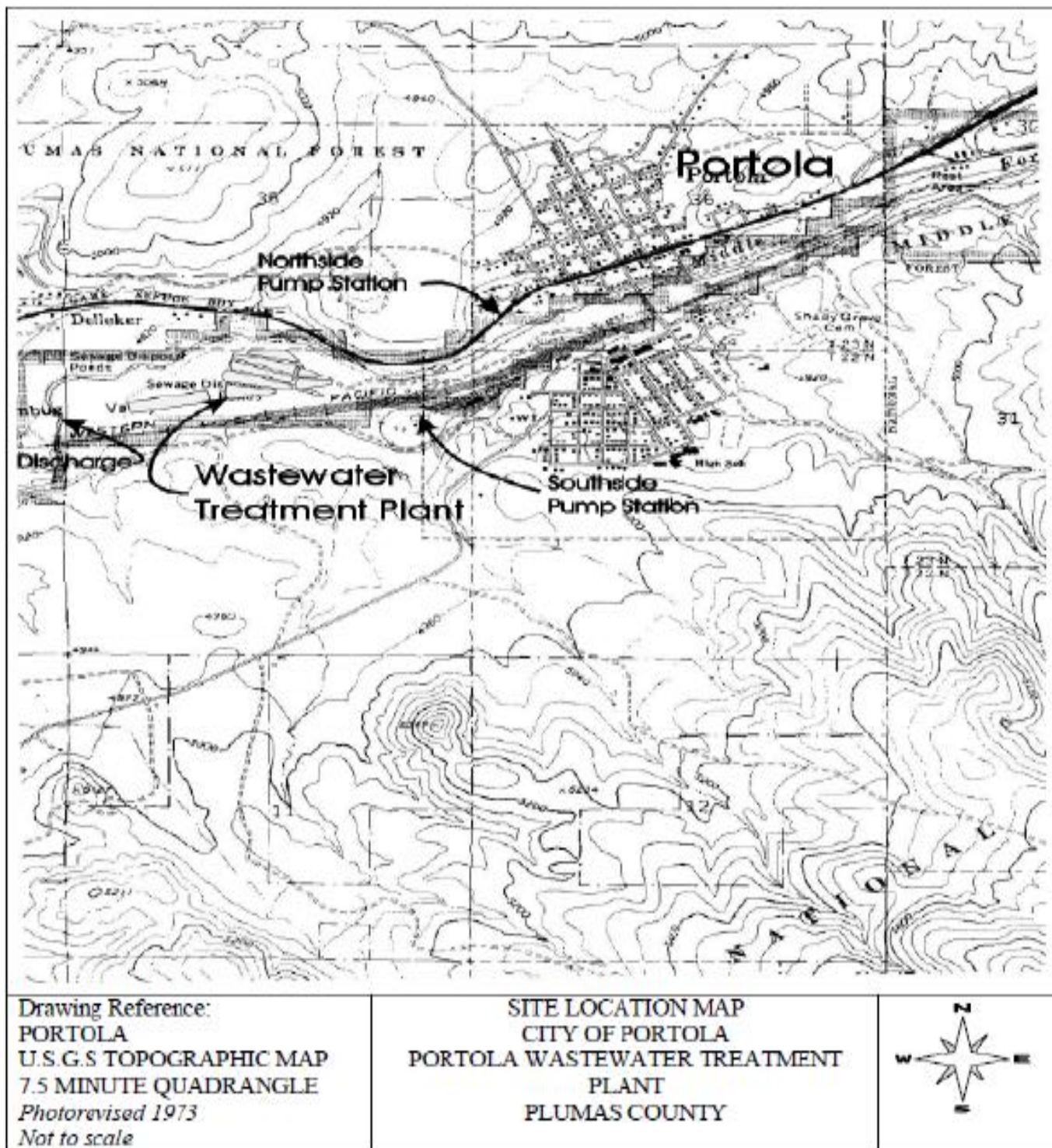
WET Median Monthly Effluent Limit (MMEL)

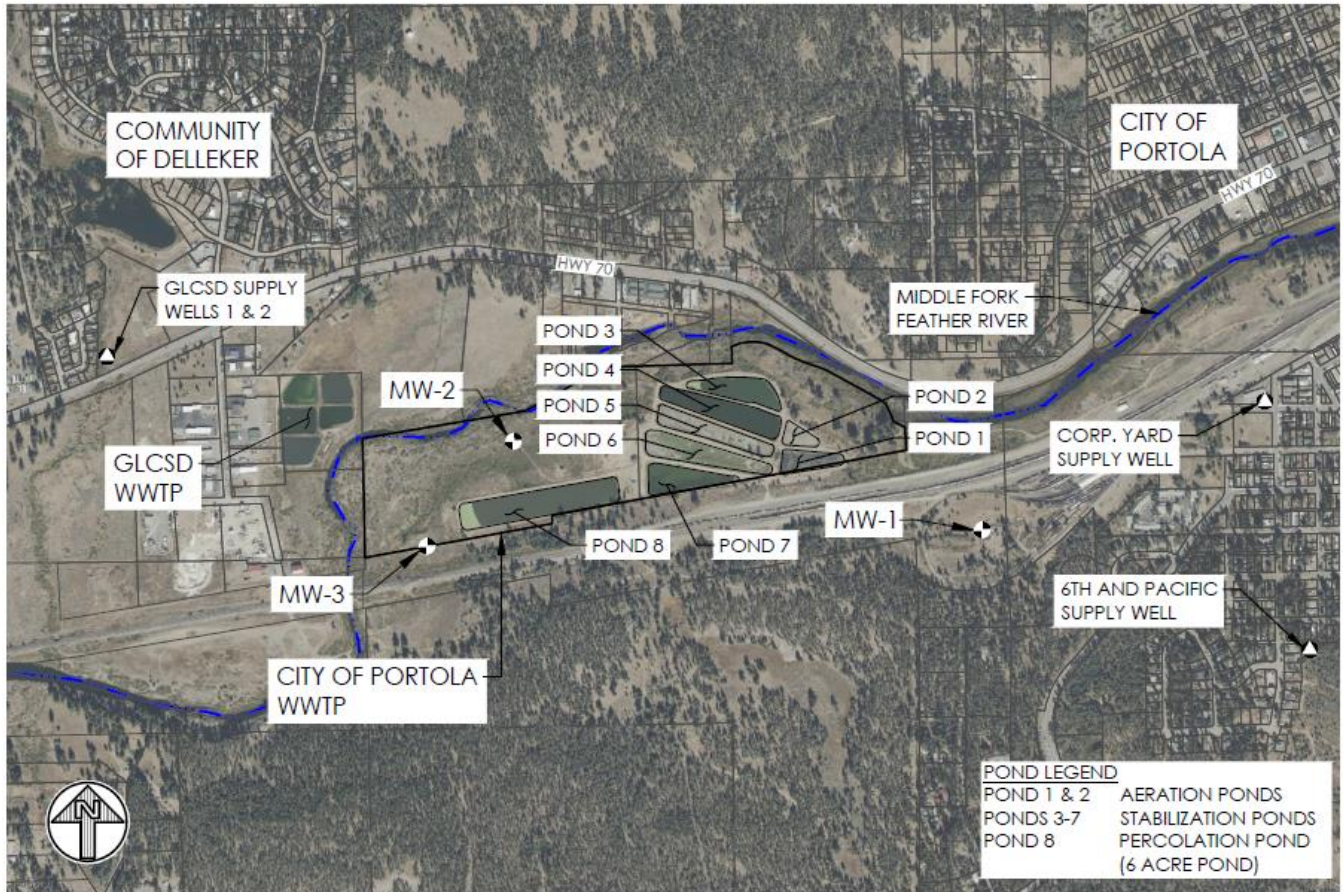
For the purposes of chronic and acute aquatic toxicity, an MMEL is an effluent limitation based on a maximum of three independent toxicity tests analyzed using the TST approach during a calendar month.

WET MMEL Compliance Tests

For the purposes of chronic and acute aquatic toxicity, a maximum of two tests that are used in addition to the routine monitoring test to determine compliance with the chronic and acute aquatic toxicity MMEL.

ATTACHMENT B – MAP

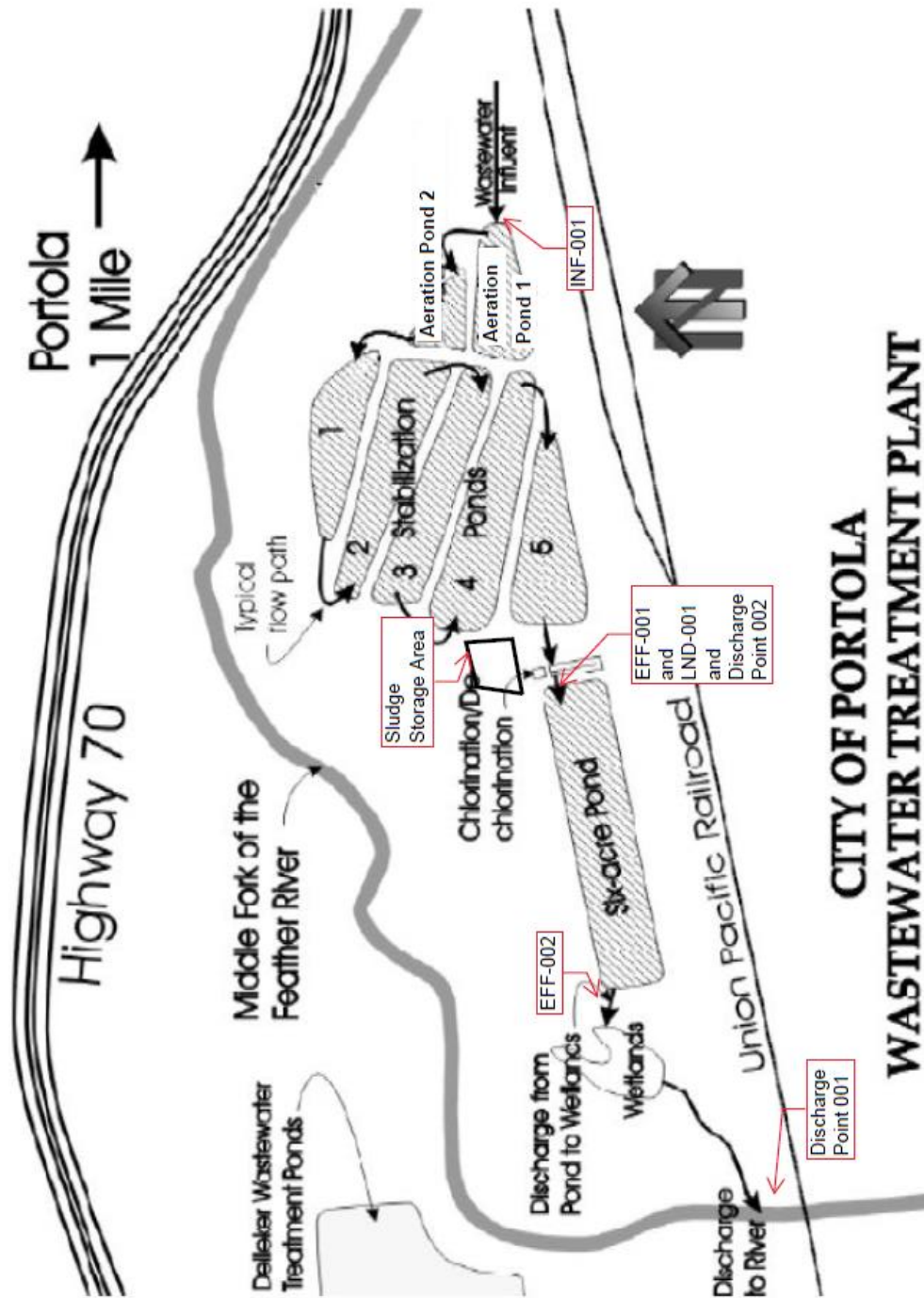




Aerial View and Monitoring Well Locations

ATTACHMENT C – FLOW SCHEMATIC

Flow Schematic and Monitoring Locations



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply:

1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 C.F.R. section 122.41(a); Wat. Code, sections 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)
2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. section 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 C.F.R. section 122.41(c).)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. section 122.41(d).)

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment or control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes having adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 C.F.R. section 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. section 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. section 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Central Valley Water Board, State Water Board, U.S. EPA, and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (33 U.S.C. section 1318(a)(4)(B); 40 C.F.R. section 122.41(i); Wat. Code, section 13267, 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (33 U.S.C section 1318(a)(4)(B)(ii); 40 C.F.R. section 122.41(i)(1); Wat. Code, sections 13267, 13383);
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. section 1318(a)(4)(B)(ii); 40 C.F.R. section 122.41(i)(2); Wat. Code, sections 13267, 13383);
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C section 1318(a)(4)(B)(ii); 40 C.F.R. section 122.41(i)(3); Wat. Code, section 13267, 13383); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C section 1318(a)(4)(B); 40 C.F.R. section 122.41(i)(4); Wat. Code, sections 13267, 13383.)

G. Bypass

1. Definitions
 - a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. section 122.41(m)(1)(i).)
 - b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. section 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not

subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. section 122.41(m)(2).)

3. Prohibition of bypass. Bypass is prohibited, and the Central Valley Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. section 122.41(m)(4)(i)):
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. section 122.41(m)(4)(i)(A));
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. section 122.41(m)(4)(i)(B)); and
 - c. The Discharger submitted notice to the Central Valley Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. section 122.41(m)(4)(i)(C).)
4. The Central Valley Water Board may approve an anticipated bypass, after considering its adverse effects, if the Central Valley Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. section 122.41(m)(4)(ii).)

5. **Notice**

- a. **Anticipated bypass.** If the Discharger knows in advance of the need for a bypass, it shall submit prior notice if possible, at least 10 days before the date of the bypass. The notice shall be sent to the Central Valley Water Board. As of 21 December 2023, all notices shall be submitted electronically to the initial recipient (State Water Board's [California Integrated Water Quality System](http://www.waterboards.ca.gov/water_issues/programs/ciwqs/) (CIWQS) Program website (http://www.waterboards.ca.gov/water_issues/programs/ciwqs/), defined in Standard Provisions – Reporting V.J below. Notices shall comply with 40 C.F.R. Part 3, section 122.22, and 40 C.F.R. Part 127. (40 C.F.R. section 122.41(m)(3)(i).)
- b. **Unanticipated bypass.** The Discharger shall submit a notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). The notice shall be sent to the Central Valley Water Board. As of 21 December 2023, all notices shall be submitted electronically to the initial recipient (State Water Board's [California Integrated Water Quality System](http://www.waterboards.ca.gov/water_issues/programs/ciwqs/) (CIWQS) Program website, (http://www.waterboards.ca.gov/water_issues/programs/ciwqs/), defined in Standard Provisions – Reporting V.J below. Notices shall comply with

40 C.F.R. Part 3, section 122.22, and 40 C.F.R. Part 127. (40 C.F.R. section 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. section 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. section 122.41(n)(2).)
2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. section 122.41(n)(3)):
 - a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. section 122.41(n)(3)(i));
 - b. The permitted facility was, at the time, being properly operated (40 C.F.R. section 122.41(n)(3)(ii));
 - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. section 122.41(n)(3)(iii)); and
 - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. section 122.41(n)(3)(iv).)
3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. section 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. section 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. section 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Central Valley Water Board. The Central Valley Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. section 122.41(l)(3); 122.61.)

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. section 122.41(j)(1).)

B. Monitoring must be conducted according to test procedures approved under 40 C.F.R. Part 136 for the analyses of pollutants unless another method is required under 40 C.F.R. subchapters N or O. Monitoring must be conducted according to sufficiently sensitive test methods approved under 40 C.F.R. Part 136 for the analysis of pollutants or pollutant parameters or as required under 40 C.F.R. chapter 1, subchapter N or O. For the purposes of this paragraph, a method is sufficiently sensitive when the method has the lowest ML of the analytical methods approved under 40 C.F.R. Part 136 or required under 40 C.F.R. chapter 1, subchapter N or O for the measured pollutant or pollutant parameter, or when:

1. The method minimum level (ML) is at or below the level of the most stringent effluent limitation established in the permit for the measured pollutant or pollutant parameter, and;
 - a. The method ML is at or below the level of the most stringent applicable water quality criterion for the measured pollutant or pollutant parameter, or;
 - b. The method ML is above the applicable water quality criterion but the amount of the pollutant or pollutant parameter in the facility's discharge is

high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge.

In the case of pollutants or pollutant parameters for which there are no approved methods under 40 C.F.R. Part 136 or otherwise required under 40 C.F.R. chapter 1, subchapters N or O, monitoring must be conducted according to a test procedure specified in this Order for such pollutants or pollutant parameters. (40 C.F.R. sections 122.21(e)(3), 122.41(j)(4); 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

- A.** Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 C.F.R. part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Central Valley Water Board Executive Officer at any time. (40 C.F.R. section 122.41(j)(2).)
- B.** Records of monitoring information shall include:
1. The date, exact place, and time of sampling or measurements (40 C.F.R. section 122.41(j)(3)(i));
 2. The individual(s) who performed the sampling or measurements (40 C.F.R. section 122.41(j)(3)(ii));
 3. The date(s) analyses were performed (40 C.F.R. section 122.41(j)(3)(iii));
 4. The individual(s) who performed the analyses (40 C.F.R. section 122.41(j)(3)(iv));
 5. The analytical techniques or methods used (40 C.F.R. section 122.41(j)(3)(v)); and
 6. The results of such analyses. (40 C.F.R. section 122.41(j)(3)(vi).)
- C.** Claims of confidentiality for the following information will be denied (40 C.F.R. section 122.7(b)):
1. The name and address of any permit applicant or Discharger (40 C.F.R. section 122.7(b)(1)); and
 2. Permit applications and attachments, permits and effluent data. (40 C.F.R. section 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Central Valley Water Board, State Water Board, or U.S. EPA within a reasonable time, any information which the Central Valley Water Board, State Water Board, or U.S. EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Central Valley Water Board, State Water Board, or U.S. EPA copies of records required to be kept by this Order. (40 C.F.R. section 122.41(h); Wat. Code, sections 13267, 13383.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Central Valley Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, V.B.5, and V.B.6 below. (40 C.F.R. section 122.41(k).)
2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA). (40 C.F.R. section 122.22(a)(3).)
3. All reports required by this Order and other information requested by the Central Valley Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. section 122.22(b)(1));
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. section 122.22(b)(2)); and
 - c. The written authorization is submitted to the Central Valley Water Board and State Water Board. (40 C.F.R. section 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Central Valley Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. section 122.22(c).)
5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.” (40 C.F.R. section 122.22(d).)
6. Any person providing the electronic signature for such documents described in Standard Provision – V.B.1, V.B.2, or V.B.3 that are submitted electronically shall meet all relevant requirements of Standard Provisions – Reporting V.B, and shall ensure that all of the relevant requirements of 40 C.F.R. part 3 (Cross-Media Electronic Reporting) and 40 C.F.R. part 127 (NPDES Electronic Reporting Requirements) are met for that submission. (40 C.F.R section 122.22(e).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. section 122.41(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Central Valley Water Board or State Water Board for reporting the results of monitoring, sludge use, or disposal practices. As of 21 December 2016, all reports and forms must be submitted electronically to the initial recipient, defined in Standard Provisions – Reporting V.J, and comply with 40 C.F.R. part 3, section 122.22, and 40 C.F.R. part 127. (40 C.F.R. section 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting

form specified by the Central Valley Water Board. (40 C.F.R. section 122.41(l)(4)(ii).)

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. section 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. section 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A report shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (combined sewer overflows, sanitary sewer overflows, or bypass events), type of sewer overflow structure (e.g., manhole, combined sewer overflow outfall), discharge volumes untreated by the treatment works treating domestic sewage, types of human health and environmental impacts of the sewer overflow event, and whether the noncompliance was related to wet weather.

As of 21 December 2020 all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events must be submitted electronically to the initial recipient (State Water Board) defined in Standard Provisions – Reporting V.J. The reports shall comply with 40 C.F.R. part 3. They may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. section 122.41(l)(6)(i).)

F. Planned Changes

The Discharger shall give notice to the Central Valley Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. section 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. section 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. section 122.41(l)(1)(ii).)
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R. section 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Central Valley Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order's requirements. (40 C.F.R. section 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in Standard Provision – Reporting V.E and the applicable required data in appendix A to 40 C.F.R. part 127. The Central Valley Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. section 122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Central Valley Water Board, State Water Board, or U.S. EPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. section 122.41(l)(8).)

J. Initial Recipient for Electronic Reporting Data

The owner, operator, or the duly authorized representative is required to electronically submit NPDES information specified in appendix A to 40 C.F.R. part 127 to the appropriate initial recipient, as determined by U.S. EPA, and as defined in 40 C.F.R. section 127.2(b). U.S. EPA will identify and publish the list of initial

recipients on its website and in the Federal Register, by state and by NPDES data group [see 40 C.F.R. section 127.2(c)]. U.S. EPA will update and maintain this listing. (40 C.F.R. section 122.41(l)(9).)

VI. STANDARD PROVISIONS – ENFORCEMENT

- A.** The Central Valley Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13350, 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Central Valley Water Board of the following (40 C.F.R. section 122.42(b)):

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 C.F.R. section 122.42(b)(1)); and
2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. (40 C.F.R. section 122.42(b)(2).)
3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 C.F.R. section 122.42(b)(3).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Table of Contents

I.	General Monitoring Provisions.....	E-2
II.	Monitoring Locations	E-3
III.	Influent Monitoring Requirements.....	E-4
	A. Monitoring Location INF-001.....	E-4
IV.	Effluent Monitoring Requirements	E-5
	A. Monitoring Location EFF-001.....	E-5
	B. Monitoring Location EFF-002.....	E-5
V.	Whole Effluent Toxicity Testing Requirements	E-8
VI.	Land Discharge Monitoring Requirements	E-14
	A. Monitoring Location LND-001	E-14
VII.	Recycling Monitoring Requirements – NOT APPLICABLE.....	E-16
VIII.	Receiving Water Monitoring Requirements	E-16
	A. Monitoring Location RSW-001	E-16
	B. Monitoring Location RSW-002	E-17
	C. Monitoring Locations RGW-001, RGW-002, and RGW-003	E-18
IX.	Other Monitoring Requirements.....	E-20
	A. Pond Monitoring.....	E-20
	E. Effluent and Receiving Water Characterization	E-21
X.	Reporting Requirements.....	E-28
	A. General Monitoring and Reporting Requirements.....	E-28
	B. Self-Monitoring Reports (SMRs)	E-28
	C. Discharge Monitoring Reports (DMRs)	E-32
	D. Other Reports	E-32

Tables

Table E-1.	Monitoring Station Locations.....	E-3
Table E-2.	Influent Monitoring.....	E-4
Table E-3.	Effluent Monitoring	E-5
Table E-4.	Effluent Monitoring	E-6
Table E-5.	Land Discharge Monitoring Requirements	E-15
Table E-6.	Receiving Water Monitoring Requirements – RSW-001	E-16
Table E-7.	Receiving Water Monitoring Requirements – RSW-002	E-18
Table E-8.	Groundwater Monitoring Requirements	E-19
Table E-9.	Pond Monitoring Requirements.....	E-20
Table E-10.	Pond Monitoring Requirements.....	E-21
Table E-11.	Effluent and Receiving Water Characterization Monitoring.....	E-22
Table E-12.	Monitoring Periods and Reporting Schedule	E-29
Table E-13.	Technical Reports	E-34

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (40 C.F.R. section 122.48) requires that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 authorize the Central Valley Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. This MRP establishes monitoring and reporting requirements that implement federal and California requirements.

I. GENERAL MONITORING PROVISIONS

- A.** Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and the approval of the Central Valley Water Board.
- B.** Final effluent samples shall be taken downstream of the last addition of wastes to the treatment or discharge works where a representative sample may be obtained prior to mixing with the receiving waters. Samples shall be collected at such a point and in such a manner to ensure a representative sample of the discharge.
- C.** Chemical, bacteriological, and bioassay analyses of any material required by this Order shall be conducted by a laboratory accredited for such analyses by the State Water Resources Control Board (State Water Board), Division of Drinking Water (DDW; formerly the Department of Public Health), in accordance with the provision of Water Code section 13176. Laboratories that perform sample analyses must be identified in all monitoring reports submitted to the Central Valley Water Board. In the event an accredited laboratory is not available to the Discharger for any onsite field measurements such as pH, dissolved oxygen (DO), turbidity, temperature, and residual chlorine, such analyses performed by a non-accredited laboratory will be accepted provided a Quality Assurance-Quality Control Program is instituted by the laboratory. A manual containing the steps followed in this program for any onsite field measurements such as pH, DO, turbidity, temperature, and residual chlorine must be kept onsite in the treatment facility laboratory and shall be available for inspection by Central Valley Water Board staff. The Discharger must demonstrate sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform these field measurements. The Quality Assurance-Quality Control Program must conform to U.S. EPA guidelines or to procedures approved by the Central Valley Water Board.
- D.** Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary, at least yearly, to ensure their

continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.

- E. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this Monitoring and Reporting Program.
- F. Laboratory analytical methods shall be sufficiently sensitive in accordance with the Sufficiently Sensitive Methods Rule (SSM Rule) specified under 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv). A U.S. EPA-approved analytical method is sufficiently sensitive for a pollutant/parameter where:
 1. The method minimum level (ML) is at or below the applicable water quality objective for the receiving water, or;
 2. The method ML is above the applicable water quality objective for the receiving water but the amount of the pollutant/parameter in the discharge is high enough that the method detects and quantifies the level of the pollutant/parameter, or;
 3. the method ML is above the applicable water quality objective for the receiving water, but the ML is the lowest of the 40 C.F.R. 136 U.S. EPA-approved analytical methods for the pollutant/parameter.
- G. The Discharger shall file with the Central Valley Water Board technical reports on self-monitoring performed according to the detailed specifications contained in this Monitoring and Reporting Program.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	INF-001	Treatment plant headworks Latitude: 39.80399° - Longitude: -120.48456°
001	EFF-001	A location where a representative sample of the Facility effluent can be obtained immediately after the chlorine contact basin and prior to the six-acre pond Latitude: 39.80383° - Longitude: -120.48835°
001	EFF-002	A location where a representative sample of the Facility effluent can be obtained between the outfall from the six-acre pond and the receiving water Latitude: 39.80355° - Longitude: -120.49302°
002	LND-001	A location where a representative sample can be obtained prior to entering the six-acre pond

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
		Latitude: 39.80383° - Longitude: -120.48835°
--	RSW-001	Middle Fork of the Feather River – Within 100 feet upstream from the point of discharge on the west bank of the river Latitude: 39.80219° - Longitude: -120.49589°
--	RSW-002	Middle Fork of the Feather River – Approximately 500 feet downstream from the point of discharge Latitude: 39.80009 ° - Longitude: -120.49577°
--	PND-001	Aeration Pond 1
--	PND-002	Aeration Pond 2
--	PND-003	Stabilization Pond 1
--	PND-004	Stabilization Pond 2
--	PND-005	Stabilization Pond 3
--	PND-006	Stabilization Pond 4
--	PND-007	Stabilization Pond 5
--	PND-008	Six-acre Pond
--	PND-009	Wetland
--	RGW-001	Groundwater Monitoring Well – upstream 1
--	RGW-002	Groundwater Monitoring Well – downstream 1
--	RGW-003	Groundwater Monitoring Well – downstream 2

Table E-1 Note:

1. The North latitude and West longitude information in Table E-1 are approximate for administrative purposes.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

1. The Discharger shall monitor influent to the Facility at INF-001 in accordance with Table E-2 and the testing requirements described in section III.A.2 below:

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	MGD	Meter	Continuous
pH	standard units	Grab	1/Week
Biochemical Oxygen Demand, 5-day @ 20°Celsius (BOD ₅)	mg/L	24-hour Composite	1/Week
Total Suspended Solids (TSS)	mg/L	24-hour Composite	1/Week
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Week

2. **Table E-2 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-2:

- a. **Applicable to all parameters.** Parameters shall be analyzed using the analytical methods described in 40 CFR part 136; or by methods approved by the Central Valley Water Board or the State Water Board. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 CFR part 136 allowed sample type.
- b. **Grab Samples.** All grab samples shall not be collected at the same time each day to get a complete representation of variations in the influent.
- c. **24-Hour Composite Samples.** All composite samples shall be collected from a 24-hour flow proportional composite.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. When wastewater flows from the six-acre pond to the wetland (PND-009), the Discharger shall monitor the wastewater treatment plant effluent at monitoring location EFF-001 in accordance with Table E-3 and the testing requirements described in section IV.A.2 below:

Table E-3. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Chlorine, Total Residual	mg/L	Meter	Continuous
Total Coliform Organisms	MPN/100 mL	Grab	1/Week

2. **Table E-3 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-3:

- a. Parameters shall be analyzed using the analytical methods described in 40 CFR part 136 or by methods approved by the Central Valley Water Board or the State Water Board.

B. Monitoring Location EFF-002

1. When wastewater flows from the six-acre pond to the wetland (PND-009), the Discharger shall monitor the wastewater treatment plant effluent at monitoring location EFF-002 in accordance with Table E-4 and the testing requirements described in section IV.B.2 below:

Table E-4. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	MGD	Meter	Continuous
pH	standard units	Grab	1/Day
Electrical Conductivity @ 25°C	µmhos/cm	Grab	3/Week
Temperature	°C	Grab	3/Week
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Week
BOD ₅	mg/L	24-hour Composite	1/Week
Total Suspended Solids (TSS)	mg/L	24-hour Composite	1/Week
Aluminum, total recoverable	µg/L	Grab	1/Month
Aluminum, filtered	µg/L	Grab	1/Month
BOD ₅	% removal	Calculate	1/Month
Copper, total recoverable	µg/L	Grab	1/Month
Copper, dissolved	µg/L	Grab	1/Month
Dissolved Organic Carbon	mg/L	24-hour Composite	1/Month
Hardness, Total (as CaCO ₃)	mg/L	Grab	1/Month
Iron, total recoverable	µg/L	Grab	1/Month
Iron, filtered	µg/L	Grab	1/Month
Manganese, total recoverable	µg/L	Grab	1/Month
Manganese, filtered	µg/L	Grab	1/Month
Nitrate plus Nitrite, Total (as N)	mg/L	Calculate	1/Month
Manganese, total recoverable	µg/L	Grab	1/Month
Manganese, filtered	µg/L	Grab	1/Month
Total Nitrogen	mg/L	Grab	1/Month
TSS	% removal	Calculate	1/Month
Standard Minerals	mg/L	Grab	1/Year
Effluent and Receiving Water Characterization	(see Section IX.A)	(see Section IX.A)	(see Section IX.A)
Whole Effluent Toxicity	(see Section V)	(see Section V)	(see Section V)

2. **Table E-4 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-4:

- a. **Applicable to all parameters.** Parameters shall be analyzed using the analytical methods described in 40 CFR part 136 or by methods approved by the Central Valley Water Board or the State Water Board. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 CFR part 136 allowed sample type.
 - b. **24-hour composite samples** shall be collected from a 24-hour flow proportional composite.
 - c. **Handheld Field Meter.** A handheld field meter may be used for **temperature** and **pH**, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
 - d. **Temperature** and **pH** shall be recorded at the time of ammonia sample collection.
 - e. **Ammonia.** Ammonia samples shall be collected concurrently with whole effluent toxicity monitoring.
 - f. **Aluminum, Iron, and Manganese.** Filtered samples must be filtered through a 1.5 micron filter and collected at the same time as total recoverable samples.
 - g. **Total Residual Chlorine** must be monitored using an analytical method that is sufficiently sensitive to measure at the permitted level of 0.01 mg/L.
 - h. **Standard Minerals** shall include: boron, calcium, iron, magnesium, potassium, sodium, chloride, manganese, phosphorus, total alkalinity (including alkalinity series: bicarbonate, carbonate and hydroxide), and hardness, and include verification that the analysis is complete (i.e., cation/anion balance).
 - i. **Hardness** samples shall be collected concurrently with metals samples.
 - j. **Dissolved Organic Carbon monitoring** shall be conducted concurrently with pH and hardness sampling.
 - k. **Whole Effluent Toxicity monitoring** shall be in accordance with section V of this MRP.
3. **Intermittent Discharge.** If the discharge is intermittent rather than continuous, then on the first day of each such intermittent discharge, the Discharger shall monitor and record for all of the constituents listed above, after which the frequencies of analysis given in the schedule shall apply for the duration of each such intermittent discharge. In no event shall the Discharger be required to

monitor and record data more often than twice the frequencies listed in the schedule.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity Testing. The Discharger shall meet the following acute toxicity testing requirements:

1. **Instream Waste Concentration (IWC) for Acute Toxicity.** The acute toxicity IWC is 100 percent effluent.
2. **Routine Monitoring Frequency.** The Discharger shall perform routine acute toxicity testing once per calendar year in years in which there are at least 15 days of discharge in at least one calendar quarter, concurrent with effluent ammonia sampling.
3. **Calendar Month.** The calendar month is defined as the period of time beginning on the day of the initiation of the routine monitoring to the day before the corresponding day of the next month if the corresponding day exists, or if not to the last day of the next month (e.g., from January 1 to January 31, from June 15 to July 14, or from January 31 to February 28).
4. **Acute Toxicity MMEL Compliance Testing.** If a routine acute toxicity monitoring test results in a "fail" at the IWC, then a maximum of two acute toxicity MMEL compliance tests shall be completed. The acute toxicity MMEL compliance tests shall be initiated within the same calendar month that the routine monitoring acute toxicity test was initiated that resulted in the "fail" at the IWC. If the first acute toxicity MMEL compliance test results in a "fail" at the IWC, then the second acute toxicity MMEL compliance test is unnecessary and is waived.
5. **Sample Types.** The Discharger may use flow-through or static renewal testing. For static renewal testing, the samples shall be grab samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at Monitoring Location EFF-002.
6. **Test Species.** Test species shall be rainbow trout (*Oncorhynchus mykiss*).
7. **Methods.** The acute toxicity testing samples shall be analyzed using EPA-821-R-02-012, Fifth Edition or methods identified in the Code of Federal Regulations, title 40, part 136, or other U.S. EPA-approved methods. Temperature, total residual chlorine, and pH shall be recorded at the time of sample collection. No pH adjustment may be made unless approved by the Executive Officer.
8. **Test Failure.** If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger must conduct a replacement test as soon as possible, as specified in subsection A.9, below.

9. **Replacement Test.** When a required toxicity test for routine monitoring or MMEL compliance test is not completed, a new toxicity test to replace the toxicity test that was not completed shall be initiated as soon as possible. The new toxicity test shall replace the routine monitoring or MMEL compliance test, as applicable, for the calendar month in which the toxicity test that was not completed was required to be initiated, even if the new toxicity test is initiated in a subsequent month. The new toxicity test for routine monitoring or MMEL compliance tests, as applicable, and any MMEL compliance tests required to be conducted due to the results of the new toxicity test shall be used to determine compliance with the effluent limitations for the calendar month in which the toxicity test that was not completed was required to be initiated. The new toxicity test and any MMEL compliance tests required to be conducted due to the results of the new toxicity test shall not be used to substitute for any other required toxicity tests.

Any specific monitoring event is not required to be initiated in the required time period when the Central Valley Water Board staff determines that the test was not initiated in the required time period due to circumstances outside of the Discharger's control that were not preventable with the reasonable exercise of care, and the Discharger promptly initiates, and ultimately completes, a replacement test.

B. Chronic Toxicity Testing. The Discharger shall meet the following chronic toxicity testing requirements:

1. **Instream Waste Concentration (IWC) for Chronic Toxicity.** The chronic toxicity IWC is **10 percent effluent**.
2. **Routine Monitoring Frequency.** The Discharger shall perform routine chronic toxicity testing twice per calendar year in years in which there are at least 15 days of discharge in at least one calendar quarter, concurrent with effluent ammonia sampling.
3. **Calendar Month.** The calendar month is defined as the period of time beginning on the day of the initiation of the routine monitoring to the day before the corresponding day of the next month if the corresponding day exists, or if not to the last day of the next month (e.g., from January 1 to January 31, from June 15 to July 14, or from January 31 to February 28).
4. **Chronic Toxicity MMEL Compliance Testing.** If a routine chronic toxicity monitoring test results in a "fail" at the IWC, then a maximum of two chronic toxicity MMEL compliance tests shall be completed. The chronic toxicity MMEL compliance tests shall be initiated within the same calendar month that the routine monitoring chronic toxicity test was initiated that resulted in the "fail" at the IWC. If the first chronic toxicity MMEL compliance test results in a "fail" at the IWC, then the second chronic toxicity MMEL compliance test is unnecessary and is waived.

5. **Additional Routine Monitoring Tests for TRE Determination.** In order to determine if a TRE is necessary an additional routine monitoring test is required when there is one violation of the chronic toxicity MDEL or MMEL, but not two violations in a single calendar month. This additional routine monitoring test is not required if the Discharger is already conducting a TRE. This additional routine monitoring test shall be initiated within two weeks after the calendar month in which the MMEL or MDEL violation occurred. The calendar month of the violation and the calendar month of the additional routine monitoring shall be considered “successive calendar months” for purposes of determining whether a TRE is required. This additional routine monitoring test is also used for compliance purposes, and could result in the need to conduct MMEL compliance testing per Section V.B.4 above.
6. **Sample Volumes.** Adequate sample volumes shall be collected to provide renewal water to complete the test in the event that the discharge is intermittent.
7. **Test Species.** The testing shall be conducted using the most sensitive species. The Discharger shall conduct chronic toxicity tests with the **fathead minnow (*Pimephales promelas*)**, unless otherwise specified in writing by the Executive Officer.
8. **Test Methods.** Discharger shall conduct the chronic toxicity tests on effluent samples at the instream waste concentration for the discharge in accordance with species and test methods in Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA/821/R02/013, 2002; Table IA, 40 C.F.R. part 136).
9. **Dilution and Control Water.** Dilution water and control water shall be laboratory water prepared and used as specified in the test methods manual. If dilution water and control water is different from test organism culture water, then a second control using culture water shall also be used.
10. **Test Failure.** If the effluent chronic toxicity test does not meet all test acceptability criteria (TAC) specified in the referenced test method in EPA/821-R-02-013, the Discharger must conduct a Replacement Test as soon as possible, as specified in subsection B.11 below.
11. **Replacement Test.** When a required toxicity test for routine monitoring or MMEL compliance tests are not completed, a new toxicity test to replace the toxicity test that was not completed shall be initiated as soon as possible. The new toxicity test shall replace the routine monitoring or MMEL compliance tests, as applicable, for the calendar month in which the toxicity test that was not completed was required to be initiated, even if the new toxicity test is initiated in a subsequent month. The new toxicity test for routine monitoring or MMEL compliance tests, as applicable, and any MMEL compliance tests required to be conducted due to the results of the new toxicity test shall be used to determine compliance with the effluent limitations for the calendar month in which the

toxicity test that was not completed was required to be initiated. The new toxicity test and any MMEL compliance tests required to be conducted due to the results of the new toxicity test shall not be used to substitute for any other required toxicity tests.

Any specific monitoring event is not required to be initiated in the required time period when the Central Valley Water Board staff determines that the test was not initiated in the required time period due to circumstances outside of the Discharger's control that were not preventable with the reasonable exercise of care, and the Discharger promptly initiates, and ultimately completes, a replacement test.

C. Quality Assurance and Additional Requirements. Quality assurance measures, instructions, and other recommendations and requirements are found in the test methods manual previously referenced. Additional requirements are below.

1. The discharge is subject to determination of "Pass" or "Fail" from an acute toxicity test and a chronic toxicity test using the Test of Significant Toxicity (TST) statistical t-test approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010), Appendix A, Figure A-1 and Table A-1 (Chronic Freshwater and East Coast Methods) and Appendix B, Table B-1.

2. The null hypothesis (Ho) for the TST statistical approach is:

Mean discharge IWC response \leq RMD x Mean control response, where the chronic RMD = 0.75 and the acute RMD = 0.80.

A test result that rejects this null hypothesis is reported as "Pass." A test result that does not reject this null hypothesis is reported as "Fail."

3. The relative "Percent Effect" at the discharge IWC is defined and reported as:

Percent Effect = ((Mean control response – Mean discharge IWC response) / Mean control response) x 100.

This is a t-test (formally Student's t-Test), a statistical analysis comparing two sets of replicate observations, i.e., a control and IWC. The purpose of this statistical test is to determine if the means of the two sets of observations are different (i.e., if the IWC or receiving water concentration differs from the control, the test result is "Pass" or "Fail"). The Welch's t-test employed by the TST statistical approach is an adaptation of Student's t-test and is used with two samples having unequal variances.

D. WET Testing Notification Requirements. The Discharger shall notify the Central Valley Water Board of test results exceeding the acute toxicity effluent limitation or chronic toxicity effluent limitation as soon as the Discharger learns of the exceedance, but no later than 24-hours after receipt of the monitoring results.

- E. WET Testing Reporting Requirements.** The Discharger shall submit the full laboratory report for all toxicity testing as an attachment to CIWQS for the reporting period (e.g., monthly, quarterly, semi-annually or annually) and provide the data (i.e., Pass/Fail) in the PET tool for uploading into CIWQS. The laboratory report shall include:
1. The valid toxicity test results for the TST statistical approach, reported as “Pass” or “Fail” and “Percent Effect” at the IWC for the discharge, the dates of sample collection and initiation of each toxicity test, all results for effluent parameters monitored concurrently with the toxicity test(s); and progress reports on TRE investigations.
 2. The statistical analysis used in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010) Appendix A, Figure A-1 and Table A-1, and Appendix B, Table B-1.
 3. Statistical program (e.g., TST calculator, CETIS, etc.) output results, including graphical plots, for each toxicity test.
- F. Most Sensitive Species Screening.** The Discharger shall perform rescreening to re-evaluate the most sensitive species. **The species sensitivity screening shall be conducted as follows and the results submitted with the Report of Waste Discharge.**
1. **Frequency of Testing for Species Sensitivity Screening.** Species sensitivity screening for chronic toxicity shall include, at a minimum, chronic WET testing **conducted quarterly for 1-year in each quarter in which there is at least 15 days of discharge using the water flea (*Ceriodaphnia dubia*), fathead minnow (*Pimephales promelas*), and green alga (*Pseudokirchneriella subcapitata*).** If the discharge occurs in one quarter for the year, two sets of testing shall be conducted within the same quarter. The tests shall be performed at an IWC of no less than 10 percent effluent. An effluent concentration greater than the IWC may be used for the species sensitivity screening.
 2. **Determination of Most Sensitive Species.** If a single test in the species sensitivity screening testing results in a “Fail” using the TST statistical approach, then the species used in that test shall be established as the most sensitive species. If there is more than a single test that results in a “Fail”, then of the species with results of a “Fail”, the species that exhibits the highest percent effect shall be established as the most sensitive species. If none of the tests in the species sensitivity screening results in a “Fail”, but at least one of the species exhibits a percent effect greater than **10** percent, then the single species that exhibits the highest percent effect shall be established as the most sensitive species. In all other circumstances, the Executive Officer shall have discretion to determine which single species is the most sensitive considering the test results from the species sensitivity screening.

G. Toxicity Reduction Evaluations (TRE)

1. **TRE Implementation.** The Discharger is required to initiate a TRE when there is any combination of two or more chronic toxicity MDEL or MMEL violations within a single calendar month or within two successive calendar months has occurred. In addition, if other information indicates toxicity (e.g., results of additional monitoring, results of monitoring at a higher concentration than the IWC, fish kills, intermittent recurring toxicity), the Central Valley Water Board may require a TRE. A TRE may also be required when there is no effluent available to complete a routine monitoring test or MMEL compliance test.
 - a. **Toxicity Evaluation Study (TES).** If the median monthly percent effect is less than or equal to 50 percent at the IWC, the Discharger may participate in an approved TES in lieu of a site-specific TRE. The TES may be conducted individually or as part of a coordinated group effort with other similar dischargers. If the Discharger chooses not to participate in an approved TES, a site-specific TRE shall be conducted. Nevertheless, the Discharger may participate in an approved TES instead of a TRE if the Discharger has conducted a site-specific TRE within the past 12 months and has been unsuccessful in identifying the toxicant.
 - b. **Preparation and Implementation of Detailed TRE Action Plan.** The Discharger shall conduct TREs in accordance with an approved TRE Work Plan. Within 30 days of the test result that triggered the TRE, the Discharger shall submit to the Executive Officer a TRE Action Plan, which per the Discharger's approved TRE Work Plan. The TRE Action Plan shall include the following information, and comply with additional conditions set by the Executive Officer:
 - i. Specific actions the Discharger will take to investigate and identify the cause(s) of toxicity, including a TRE WET monitoring schedule;
 - ii. Specific actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and
 - iii. A schedule for these actions, progress reports, and the final report.
 - c. The Central Valley Water Board recognizes that toxicity may be episodic and identification of causes and reduction of sources of toxicity may not be successful in all cases. The TRE may be ended at any stage if monitoring finds there is no longer toxicity.
2. **TRE Work Plan.** The Discharger shall submit to the Central Valley Water Board a TRE Work Plan for approval by the Executive Officer by the due date in the Technical Reports Table E-13. If the Executive Officer does not disapprove the work plan within 60 days, the work plan shall become effective. The TRE Work Plan shall outline the procedures for identifying the source(s) of and reducing or eliminating effluent toxicity. The TRE Work Plan must be of adequate detail to

allow the Discharger to immediately initiate a TRE and shall be developed in accordance with U.S. EPA guidance as discussed below.

- a. Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants, EPA/833-B-99/002, August 1999.
- b. Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TREs), EPA/600/2-88/070, April 1989.
- c. Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures, Second Edition, EPA 600/6-91/003, February 1991.
- d. Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I, EPA/600/6-91/005F, May 1992.
- e. Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity, Second Edition, EPA/600/R-92/080, September 1993.
- f. Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity, Second Edition, EPA 600/R-92/081, September 1993.
- g. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, EPA-821-R-02-012, October 2002.
- h. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA-821-R-02-013, October 2002.
- i. Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, March 1991.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

A. Monitoring Location LND-001

1. The Discharger shall monitor treated wastewater at LND-001 in accordance with Table E-5 and the testing requirements described in section VI.A.2 below:

Table E-5. Land Discharge Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	MGD	Meter	Continuous
pH	standard units	Grab	1/Week
Electrical Conductivity	µmhos/cm	Grab	2/Month
BOD5	mg/L	24-hour Composite	1/Month
Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Month
Nitrogen, Total (as N)	mg/L	Grab	1/Month
TSS	mg/L	24-hour Composite	1/Month
Iron, filtered	µg/L	Grab	1/Quarter
Manganese, filtered	µg/L	Grab	1/Quarter
Standard Minerals	mg/L	Grab	1/Year

2. **Table E-5 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-5:
- a. **Applicable to all parameters.** Parameters shall be analyzed using the analytical methods described in 40 CFR part 136 or by methods approved by the Central Valley Water Board or the State Water Board. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 CFR part 136 allowed sample type.
 - b. **Handheld Field Meter.** A handheld field meter may be used for **pH**, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
 - c. **Flow.** Flow shall be monitored year-round, regardless if discharging at Discharge Point 001 or Discharge Point 002.
 - d. **Iron and Manganese.** Filtered samples must be filtered through a 1.5 micron filter.
 - e. **Standard Minerals** shall include: boron, calcium, iron, magnesium, potassium, sodium, chloride, manganese, phosphorus, total alkalinity (including alkalinity series: bicarbonate, carbonate and hydroxide), and hardness, and include verification that the analysis is complete (i.e., cation/anion balance).

VII. RECYCLING MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Monitoring Location RSW-001

1. Discharger shall monitor the Middle Fork of the Feather River at RSW-001 **during the allowable discharge period from 1 November through 30 April**, in accordance with Table E-6 and the testing requirements described in section VIII.A.2 below:

Table E-6. Receiving Water Monitoring Requirements – RSW-001

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	cfs	Meter	Continuous
Dissolved Oxygen	mg/L	Grab	1/Week (see note)
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Week (see note)
pH	standard units	Grab	1/Week (see note)
Temperature	°C	Grab	1/Week (see note)
Turbidity	NTU	Grab	1/Week (see note)
Escherichia coli (E.coli)	CFU/100mL	Grab	1/Month
Copper, Total Recoverable	µg/L	Grab	1/Month
Copper, dissolved	µg/L	Grab	1/Month
Dissolved Organic Carbon	mg/L	Grab	1/Month
Hardness, Total (as CaCO3)	mg/L	Grab	1/Month
Aluminum, filtered	µg/L	Grab	2/discharge period
Iron, filtered	µg/L	Grab	2/discharge period
Manganese, filtered	µg/L	Grab	2/discharge period
Effluent and Receiving Water Characterization	(see Section IX.A)	(see Section IX.A)	(see Section IX.A)

2. **Table E-6 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-6:
 - a. **Applicable to all parameters.** Parameters shall be analyzed using the analytical methods described in 40 CFR part 136 or by methods approved by the Central Valley Water Board or the State Water Board. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 CFR part 136 allowed sample type.
 - b. **Flow** within the Middle Forth of the Feather River shall me measured at the California Department of Water Resources Middle Fork Feather River near Portola gauging station MFP

- c. **1/Week sampling for Dissolved Oxygen, pH, Temperature, Turbidity, and Electrical Conductivity** is only required when discharging to the receiving water at Discharge Point 001. **1/Month** during the allowable discharge period sampling is required otherwise.
 - d. **2/discharge period** sampling for aluminum, iron, and manganese should occur in January and April, unless otherwise coordinated with the Executive Officer.
 - e. **Handheld Field Meter.** A handheld field meter may be used for **temperature** and **pH**, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
 - f. **Temperature** and **pH** shall be recorded at the time of ammonia sample collection.
 - g. **Aluminum, Iron, and Manganese.** Filtered samples must be filtered through a 1.5 micron filter.
3. In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by RSW-001 and RSW-002 when discharging to the Middle Fork of the Feather River. Attention shall be given to the presence of:
- a. Floating or suspended matter;
 - b. Discoloration;
 - c. Bottom deposits;
 - d. Aquatic life;
 - e. Visible films, sheens, or coatings;
 - f. Fungi, slimes, or objectionable growths; and
 - g. Potential nuisance conditions.

Notes on receiving water conditions shall be summarized in the monitoring report.

B. Monitoring Location RSW-002

- 1. **When discharging to the Middle Fork of the Feather River at D-001**, the Discharger shall monitor the Middle Fork of the Feather River at RSW-002 in

accordance with Table E-7 and the testing requirements described in section VIII.B.2 below as follows:

Table E-7. Receiving Water Monitoring Requirements – RSW-002

Parameter	Units	Sample Type	Minimum Sampling Frequency
Dissolved Oxygen	mg/L	Grab	1/Week
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Week
pH	standard units	Grab	1/Week
Temperature	°C	Grab	1/Week
Turbidity	NTU	Grab	1/Week
Escherichia coli (E.Coli)	CFU/100mL	Grab	1/Month
Copper, Total Recoverable	µg/L	Grab	1/Month
Copper, Dissolved	µg/L	Grab	1/Month

2. **Table E-7 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-7:
 - a. **Applicable to all parameters.** Parameters shall be analyzed using the analytical methods described in 40 CFR part 136 or by methods approved by the Central Valley Water Board or the State Water Board. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 CFR part 136 allowed sample type.
 - b. **Handheld Field Meter.** A handheld field meter may be used for **temperature** and **pH**, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

C. Monitoring Locations RGW-001, RGW-002, and RGW-003

1. The Discharger shall conduct groundwater monitoring at RGW-001, RGW-002, RGW-003, and any new groundwater monitoring wells in accordance with Table E-8 and the testing requirements described in section VIII.C.2 below:

Table E-8. Groundwater Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Ammonia (as N)	mg/L	Grab	1/Quarter
Bicarbonate alkalinity	mg/L	Grab	1/Quarter
Chloride	mg/L	Grab	1/Quarter
Depth to Groundwater	±0.01 feet	Measurement	1/Quarter
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Quarter
Escherichia coli (E.coli)	CFU/100mL	Grab	1/Quarter
Fixed Dissolved Solids	mg/L	Grab	1/Quarter
Groundwater Elevation	±0.01 feet	Calculated	1/Quarter
Gradient	feet/feet	Calculated	1/Quarter
Gradient Direction	degrees	Calculated	1/Quarter
Hardness, Total (as CaCO ₃)	mg/L	Grab	1/Quarter
Metals, dissolved	µg/L	Grab	1/Quarter
Metals, filtered	µg/L	Grab	1/Quarter
Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Quarter
Nitrite Nitrogen, Total (as N)	mg/L	Grab	1/Quarter
pH	standard units	Grab	1/Quarter
Total Coliform Organisms	MPN/100 mL	Grab	1/Quarter
Total Dissolved Solids	mg/L	Grab	1/Quarter
Total Kjeldahl Nitrogen	mg/L	Grab	1/Quarter
Total Nitrogen	mg/L	Grab	1/Quarter
Total Organic Carbon	mg/L	Grab	1/Quarter
Total Trihalomethanes	µg/L	Grab	1/Quarter
Standard Minerals	µg/L	Grab	1/Year

2. **Table E-8 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-8:
 - a. **Prior to sampling,** the groundwater elevations shall be measured, and the wells shall be purged of at least three well volumes until temperature, pH, and electrical conductivity have stabilized. Depth to groundwater shall be measured to the nearest 0.01 feet.
 - b. **Groundwater elevation** shall be determined based on depth-to-water measurements from a surveyed measuring point elevation on the well. The groundwater elevation shall be used to calculate the direction and gradient of groundwater flow, which must be reported.
 - c. **Total Trihalomethanes.** Sampling must include total of chloroform, bromodichloromethane, dibromochloromethane, and bromoform.

- d. **Metals, dissolved.** At a minimum, the following metals shall be included: arsenic, lead, and nickel. Samples shall be filtered with a 0.45-micron filter prior to preservation, digestion, and analysis.
- e. **Metals, filtered.** At a minimum, the following metals shall be included: copper, iron, manganese, and zinc. Samples shall be filtered through a 1.5 micron filter prior to preservation, digestion, and analysis.
- f. **Standard minerals** shall include the following: boron, calcium, iron, magnesium, potassium, sodium, chloride, manganese, phosphorus, total alkalinity (including alkalinity series), and hardness, and include verification that the analysis is complete (i.e., cation/anion balance).
- g. **Applicable to all parameters.** Parameters shall be analyzed using the analytical methods described in 40 CFR part 136 or by methods approved by the Central Valley Water Board or the State Water Board. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 CFR part 136 allowed sample type.

IX. OTHER MONITORING REQUIREMENTS

A. Pond Monitoring

1. Monitoring Locations PND-001, PND-002, PND-003, PND-004, PND-005, PND-006, PND-007, and PND-008

- a. The Discharger shall monitor the ponds as follows:

Table E-9. Pond Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Dissolved Oxygen	mg/L	Grab	1/Month
pH	standard units	Grab	1/Month
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Month
Excessive odors or other nuisances	Presence/Absence	Visual	1/Month
Excessive weed growth	Presence/Absence	Visual	1/Month
Liquid depth and freeboard	Feet	Measure	1/Month
Nitrogen, Total (as N)	mg/L	Grab	1/Month
Seepage through pond dikes	Presence/Absence	Visual	1/Month

- b. **Table E-9 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-9:

- i. **Applicable to all parameters.** Parameters shall be analyzed using the analytical methods described in 40 CFR part 136 or by methods approved by the Central Valley Water Board or the State Water Board. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 CFR part 136 allowed sample type.
- ii. **Handheld Field Meter.** A handheld field meter may be used for **pH**, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
- iii. **Nitrogen, Total (as N).** At influent to PND-003 and PND-008.
- iv. **Dissolved Oxygen.** Dissolved oxygen monitoring to be performed between the hours of 8:00 a.m. and 10:00 a.m., as feasible.

2. Monitoring Location PND-009

- a. The Discharger shall monitor the wetland at PND-009 as follows:

Table E-10. Pond Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow (inflow from six-acre pond)	Presence/Absence	Visual	1/Day
Flow (outflow to MFFR)	Presence/Absence	Visual	1/Day
Liquid presence	Presence/Absence	Visual	1/Day

E. Effluent and Receiving Water Characterization

1. Monitoring Frequency

Twice per permit term monitoring. Monitoring shall occur twice per permit term. Samples shall be collected when discharging during the allowed discharge period and shall occur in the first and second years of the permit (i.e., once per year), or in subsequent years if there is no effluent discharge in the particular year. If the Discharger does not discharge for the entirety of the time the permit is effective, samples are still required at a location that is representative of effluent sampling.

- a. **Effluent Sampling.** Samples shall be collected from the effluent (Monitoring Location EFF-002).

- b. **Receiving Water Sampling.** Samples shall be collected from the upstream receiving water (Monitoring Location RSW-001).
2. **Analytical Methods.** Constituents shall be collected and analyzed consistent with the Discharger’s Analytical Methods Report (MRP, X.D.2) using sufficiently sensitive analytical methods and Reporting Levels (RLs) per the SSM Rule specified in 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv). The “Reporting Level” is synonymous with the “Method Minimum Level” described in the SSM Rule. The results of the monitoring shall be submitted to the Central Valley Water Board with the quarterly self-monitoring reports. Each individual monitoring event shall provide representative sample results for the effluent and upstream receiving water.
3. **Analytical Methods Report Certification.** Prior to beginning the Effluent and Receiving Water Characterization monitoring, the Discharger shall provide a certification acknowledging the scheduled start date of the Effluent and Receiving Water Characterization monitoring and confirming that samples will be collected and analyzed as described in the previously submitted Analytical Methods Report. If there are changes to the previously submitted Analytical Methods Report, the Discharger shall outline those changes. A one-page certification form will be provided by Central Valley Water Board staff with the permit’s Notice of Adoption that the Discharger can use to satisfy this requirement. The certification form shall be submitted electronically via CIWQS submittal by the due date in the Technical Reports Table E-13.
4. The Discharger shall conduct effluent and receiving water characterization monitoring in accordance with Table E-11 and the testing requirements described in section IX.E-5 below.

Table E-11. Effluent and Receiving Water Characterization Monitoring

VOLATILE ORGANICS

CTR Number	Volatile Organic Parameters	CAS Number	Units	Effluent Sample Type
25	2-Chloroethyl vinyl Ether	110-75-8	µg/L	Grab
17	Acrolein	107-02-8	µg/L	Grab
18	Acrylonitrile	107-13-1	µg/L	Grab
19	Benzene	71-43-2	µg/L	Grab
20	Bromoform	75-25-2	µg/L	Grab
21	Carbon Tetrachloride	56-23-5	µg/L	Grab
22	Chlorobenzene	108-90-7	µg/L	Grab
24	Chloroethane	75-00-3	µg/L	Grab
26	Chloroform	67-66-3	µg/L	Grab
35	Methyl Chloride	74-87-3	µg/L	Grab
23	Dibromochloromethane	124-48-1	µg/L	Grab
27	Dichlorobromomethane	75-27-4	µg/L	Grab

CTR Number	Volatile Organic Parameters	CAS Number	Units	Effluent Sample Type
36	Methylene Chloride	75-09-2	µg/L	Grab
33	Ethylbenzene	100-41-4	µg/L	Grab
89	Hexachlorobutadiene	87-68-3	µg/L	Grab
34	Methyl Bromide (Bromomethane)	74-83-9	µg/L	Grab
94	Naphthalene	91-20-3	µg/L	Grab
38	Tetrachloroethylene (PCE)	127-18-4	µg/L	Grab
39	Toluene	108-88-3	µg/L	Grab
40	trans-1,2-Dichloroethylene	156-60-5	µg/L	Grab
43	Trichloroethylene (TCE)	79-01-6	µg/L	Grab
44	Vinyl Chloride	75-01-4	µg/L	Grab
21	Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	Grab
41	1,1,1-Trichloroethane	71-55-6	µg/L	Grab
42	1,1,2-Trichloroethane	79-00-5	µg/L	Grab
28	1,1-Dichloroethane	75-34-3	µg/L	Grab
30	1,1-Dichloroethylene (DCE)	75-35-4	µg/L	Grab
31	1,2-Dichloropropane	78-87-5	µg/L	Grab
32	1,3-Dichloropropylene	542-75-6	µg/L	Grab
37	1,1,2,2-Tetrachloroethane	79-34-5	µg/L	Grab
101	1,2,4-Trichlorobenzene	120-82-1	µg/L	Grab
29	1,2-Dichloroethane	107-06-2	µg/L	Grab
75	1,2-Dichlorobenzene	95-50-1	µg/L	Grab
76	1,3-Dichlorobenzene	541-73-1	µg/L	Grab
77	1,4-Dichlorobenzene	106-46-7	µg/L	Grab

SEMI-VOLATILE ORGANICS

CTR Number	Semi-Organic Volatile Parameters	CAS Number	Units	Effluent Sample Type
60	Benzo(a)Anthracene	56-55-3	µg/L	Grab
85	1,2-Diphenylhydrazine	122-66-7	µg/L	Grab
45	2-Chlorophenol	95-57-8	µg/L	Grab
46	2,4-Dichlorophenol	120-83-2	µg/L	Grab
47	2,4-Dimethylphenol	105-67-9	µg/L	Grab
49	2,4-Dinitrophenol	51-28-5	µg/L	Grab
82	2,4-Dinitrotoluene	121-14-2	µg/L	Grab
55	2,4,6-Trichlorophenol	88-06-2	µg/L	Grab
83	2,6-Dinitrotoluene	606-20-2	µg/L	Grab
50	2-Nitrophenol	88-75-5	µg/L	Grab
71	2-Chloronaphthalene	91-58-7	µg/L	Grab
78	3,3-Dichlorobenzidine	91-94-1	µg/L	Grab
62	Benzo(b)Fluoranthene	205-99-2	µg/L	Grab
52	4-Chloro-3-methylphenol	59-50-7	µg/L	Grab
48	2-Methyl-4,6-Dinitrophenol	534-52-1	µg/L	Grab

CTR Number	Semi-Organic Volatile Parameters	CAS Number	Units	Effluent Sample Type
51	4-Nitrophenol	100-02-7	µg/L	Grab
69	4-Bromophenyl Phenyl Ether	101-55-3	µg/L	Grab
72	4-Chlorophenyl Phenyl Ether	7005-72-3	µg/L	Grab
56	Acenaphthene	83-32-9	µg/L	Grab
57	Acenaphthylene	208-96-8	µg/L	Grab
58	Anthracene	120-12-7	µg/L	Grab
59	Benzidine	92-87-5	µg/L	Grab
61	Benzo(a)Pyrene	50-32-8	µg/L	Grab
63	Benzo(ghi)Perylene	191-24-2	µg/L	Grab
64	Benzo(k)Fluoranthene	207-08-9	µg/L	Grab
65	Bis (2-Chloroethoxy) Methane	111-91-1	µg/L	Grab
66	Bis (2-Chloroethyl) Ether	111-44-4	µg/L	Grab
67	Bis (2-Chloroisopropyl) Ether	108-60-1	µg/L	Grab
68	Bis(2-Ethylhexyl) Phthalate	117-81-7	µg/L	Grab
70	Butylbenzyl Phthalate	85-68-7	µg/L	Grab
73	Chrysene	218-01-9	µg/L	Grab
81	Di-n-butyl Phthalate	84-74-2	µg/L	Grab
84	Di-n-Octyl Phthalate	117-84-0	µg/L	Grab
74	Dibenzo(a,h)anthracene	53-70-3	µg/L	Grab
79	Diethyl Phthalate	84-66-2	µg/L	Grab
80	Dimethyl Phthalate	131-11-3	µg/L	Grab
86	Fluoranthene	206-44-0	µg/L	Grab
87	Fluorene	86-73-7	µg/L	Grab
88	Hexachlorobenzene	118-74-1	µg/L	Grab
90	Hexachlorocyclopentadiene	77-47-4	µg/L	Grab
91	Hexachloroethane	67-72-1	µg/L	Grab
92	Indeno(1,2,3-cd) Pyrene	193-39-5	µg/L	Grab
93	Isophorone	78-59-1	µg/L	Grab
98	N-Nitrosodiphenylamine	86-30-6	µg/L	Grab
96	N-Nitrosodimethylamine	62-75-9	µg/L	Grab
97	N-Nitrosodi-n-Propylamine	621-64-7	µg/L	Grab
95	Nitrobenzene	98-95-3	µg/L	Grab
53	Pentachlorophenol (PCP)	87-86-5	µg/L	Grab
99	Phenanthrene	85-01-8	µg/L	Grab
54	Phenol	108-95-2	µg/L	Grab
100	Pyrene	129-00-0	µg/L	Grab

INORGANICS

CTR Number	Inorganic Parameters	CAS Number	Units	Effluent Sample Type
NL	Aluminum	7429-90-5	µg/L	24-hour Composite
1	Antimony, Total	7440-36-0	µg/L	24-hour Composite

CTR Number	Inorganic Parameters	CAS Number	Units	Effluent Sample Type
2	Arsenic, Total	7440-38-2	µg/L	24-hour Composite
15	Asbestos	1332-21-4	µg/L	24-hour Composite
3	Beryllium, Total	7440-41-7	µg/L	24-hour Composite
4	Cadmium, Total	7440-43-9	µg/L	24-hour Composite
5a	Chromium, Total	7440-47-3	µg/L	24-hour Composite
6	Copper, Total	7440-50-8	µg/L	24-hour Composite
14	Iron, Total	7439-89-6	µg/L	24-hour Composite
7	Lead, Total	7439-92-1	µg/L	24-hour Composite
8	Mercury, Total	7439-97-6	µg/L	Grab
NL	Mercury, Methyl	22967-92-6	µg/L	Grab
NL	Manganese, Total	7439-96-5	µg/L	24-hour Composite
9	Nickel, Total	7440-02-0	µg/L	24-hour Composite
10	Selenium, Total	7782-49-2	µg/L	24-hour Composite
11	Silver, Total	7440-22-4	µg/L	24-hour Composite
12	Thallium, Total	7440-28-0	µg/L	24-hour Composite
13	Zinc, Total	7440-66-6	µg/L	24-hour Composite

NON-METALS/MINERALS

CTR Number	Non-Metal/Mineral Parameters	CAS Number	Units	Effluent Sample Type
NL	Boron	7440-42-8	µg/L	24-hour Composite
NL	Chloride	16887-00-6	mg/L	24-hour Composite
14	Cyanide, Total (as CN)	57-12-5	µg/L	Grab
NL	Sulfate	14808-79-8	mg/L	24-hour Composite
NL	Sulfide (as S)	5651-88-7	mg/L	24-hour Composite

PESTICIDES/PCBs/DIOXINS

CTR Number	Pesticide/PCB/Dioxin Parameters	CAS Number	Units	Effluent Sample Type
110	4,4-DDD	72-54-8	µg/L	24-hour Composite
109	4,4-DDE	72-55-9	µg/L	24-hour Composite
108	4,4-DDT	50-29-3	µg/L	24-hour Composite
112	alpha-Endosulfan	959-98-8	µg/L	24-hour Composite
103	alpha-BHC (Benzene hexachloride)	319-84-6	µg/L	24-hour Composite
102	Aldrin	309-00-2	µg/L	24-hour Composite
113	beta-Endosulfan	33213-65-9	µg/L	24-hour Composite
104	beta-BHC (Benzene hexachloride)	319-85-7	µg/L	24-hour Composite
107	Chlordane	57-74-9	µg/L	24-hour Composite
106	delta-BHC (Benzene hexachloride)	319-86-8	µg/L	24-hour Composite
111	Dieldrin	60-57-1	µg/L	24-hour Composite
114	Endosulfan Sulfate	1031-07-8	µg/L	24-hour Composite
115	Endrin	72-20-8	µg/L	24-hour Composite

CTR Number	Pesticide/PCB/Dioxin Parameters	CAS Number	Units	Effluent Sample Type
116	Endrin Aldehyde	7421-93-4	µg/L	24-hour Composite
117	Heptachlor	76-44-8	µg/L	24-hour Composite
118	Heptachlor Epoxide	1024-57-3	µg/L	24-hour Composite
105	gamma-BHC (Benzene hexachloride or Lindane)	58-89-9	µg/L	24-hour Composite
119	Polychlorinated Biphenyl (PCB) 1016	12674-11-2	µg/L	24-hour Composite
120	PCB 1221	11104-28-2	µg/L	24-hour Composite
121	PCB 1232	11141-16-5	µg/L	24-hour Composite
122	PCB 1242	53469-21-9	µg/L	24-hour Composite
123	PCB 1248	12672-29-6	µg/L	24-hour Composite
124	PCB 1254	11097-69-1	µg/L	24-hour Composite
125	PCB 1260	11096-82-5	µg/L	24-hour Composite
126	Toxaphene	8001-35-2	µg/L	24-hour Composite
16	2,3,7,8-TCDD (Dioxin)	1746-01-6	mg/L	24-hour Composite

NON-CONVENTIONAL PARAMETERS

CTR Number	Nonconventional Parameters	CAS Number	Units	Effluent Sample Type
NL	Foaming Agents (MBAS)	MBAS	mg/L	24-hour Composite
NL	Total Dissolved Solids (TDS)	TDS	mg/L	24-hour Composite

NUTRIENTS

CTR Number	Nutrient Parameters	CAS Number	Units	Effluent Sample Type
NL	Ammonia (as N)	7664 41 7	mg/L	24-hour Composite
NL	Nitrate (as N)	14797-55-8	mg/L	24-hour Composite
NL	Nitrite (as N)	14797-65-0	mg/L	24-hour Composite
NL	Phosphorus, Total (as P)	7723-14-0	mg/L	24-hour Composite

OTHER CONSTITUENTS OF CONCERN

CTR Number	Other Constituents of Concern	CAS Number	Units	Effluent Sample Type
NL	1,2,3-Trichloropropane (TCP)	96-18-4	µg/L	Grab
NL	Molybdenum	7439-98-7	µg/L	24-hour Composite
NL	Tributyltin	688-73-3	µg/L	24-hour Composite
NL	Picloram	1918-02-1	µg/L	24-hour Composite

5. **Table E-11 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-11:

- a. **Applicable to All Parameters.** Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. Part 136 or by methods approved by the Central Valley Water Board or the State Water Board.
- b. **Grab Samples.** A grab sample is defined as an individual discrete sample collected over a period of time not exceeding 15 minutes. It can be taken manually, using a pump, scoop, vacuum, or other suitable device.
- c. **24-hour Composite Samples.** All 24-hour composite samples shall be collected from a 24-hour flow proportional composite.
- d. **Redundant Sampling.** The Discharger is not required to conduct effluent monitoring for constituents that have already been sampled in a given month, as required in Table E-11, with the exception of hardness which shall be sampled concurrently with the hardness-dependent metals (cadmium, chromium III, lead, nickel, silver, and zinc).
- e. **Concurrent Sampling.** Effluent and receiving water sampling shall be performed at approximately the same time, on the same date.
- f. **Sample Type.** All receiving water samples shall be taken as grab samples. Effluent samples shall be taken as described in Table E-11.
- g. **Bis (2-ethylhexyl) phthalate.** In order to verify if bis (2-ethylhexyl) phthalate is truly present, the Discharger shall take steps to assure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected contaminant.
- h. **Total Mercury and Methyl Mercury.** Unfiltered methyl mercury and total mercury samples shall be taken using clean hands/dirty hands procedures, as described in U.S. EPA method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels, for collection of equipment blanks (section 9.4.4.2). The analysis of methyl mercury and total mercury shall be by U.S. EPA method 1630 and 1631 (Revision E), respectively, with a reporting limit of 0.05 ng/L for methyl mercury and 0.5 ng/L for total mercury.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. Upon written request of the Central Valley Water Board, the Discharger shall submit a summary monitoring report. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year(s).
3. **Compliance Time Schedules.** For compliance time schedules included in the Order, the Discharger shall submit to the Central Valley Water Board, on or before each compliance due date, the specified document or a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board by letter when it returns to compliance with the compliance time schedule.
4. The Discharger shall report to the Central Valley Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act" of 1986.

B. Self-Monitoring Reports (SMRs)

1. The Discharger shall electronically submit SMRs using the State Water Board's [California Integrated Water Quality System](http://www.waterboards.ca.gov/water_issues/programs/ciwqs/) (CIWQS) Program website (http://www.waterboards.ca.gov/water_issues/programs/ciwqs/). The CIWQS website will provide additional information for SMR submittal in the event there will be a planned service interruption for electronic submittal.
2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit monthly, quarterly, semiannual, and annual SMRs including the results of all required monitoring using U.S. EPA-approved test methods or other test methods specified in this Order. SMRs are to include all new monitoring results obtained since the last SMR was submitted. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR. Monthly SMRs are required even if there is no discharge. If no discharge occurs during the month, the monitoring report must be submitted stating that there has been no discharge.
3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-12. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	Submit with monthly SMR
1/Day	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with monthly SMR
1/Week	Permit effective date	Sunday through Saturday	Submit with monthly SMR
1/Month	Permit effective date	1st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
1/Quarter	Permit effective date	1 January through 31 March 1 April through 30 June 1 July through 30 September 1 October through 31 December	1 May 1 August 1 November 1 February of following year
1/Year	Permit effective date	1 January through 31 December	1 February of following year
2/discharge period	Permit effective date	1 November through 30 April	1 June

4. **Reporting Protocols.** The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current laboratory’s Method Detection Limit (MDL), as determined by the procedure in 40 C.F.R. part 136.

The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

- a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b. Sample results less than the RL, but greater than or equal to the laboratory’s MDL, shall be reported as “Detected, but Not Quantified,” or DNQ. The estimated chemical concentration of the sample shall also be reported.

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ. The laboratory may, if such information is available, include numerical estimates of the data

quality for the reported result. Numerical estimates of data quality may be percent accuracy (\pm a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

- c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.
 - d. Dischargers are to instruct laboratories to establish calibration standards so that the Minimum Level (ML) value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.
5. **Multiple Sample Data.** When determining compliance with an AMEL, AWEL, or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:
- a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
 - b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.
6. **The Discharger shall submit SMRs** in accordance with the following requirements:
- a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

- b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the waste discharge requirements; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.
 - c. The Discharger shall attach all final laboratory reports from all contracted commercial laboratories, including quality assurance/quality control information, with all its SMRs for which sample analyses were performed.
7. The Discharger shall submit in the SMRs calculations and reports in accordance with the following requirements:
- a. **Calendar Annual Average Limitations.** For constituents with effluent limitations specified as “calendar annual average” (electrical conductivity) the Discharger shall report the calendar annual average in the December SMR. The annual average shall be calculated as the average of the samples gathered for the calendar year.
 - b. **Removal Efficiency (BOD₅ and TSS).** The Discharger shall calculate and report the percent removal of BOD₅ and TSS in the SMRs. The percent removal shall be calculated as specified in section VII.A of the Waste Discharge Requirements.
 - c. **Total Coliform Organisms Effluent Limitations.** The Discharger shall calculate and report the 7-day median of total coliform organisms for the effluent. The 7-day median of total coliform organisms shall be calculated as specified in section VII.C of the Waste Discharge Requirements.
 - d. **Dissolved Oxygen Receiving Water Limitations.** The Discharger shall report monthly in the self-monitoring report the dissolved oxygen concentrations in the effluent (EFF-002) and the receiving water (RSW-001 and RSW-002).
 - e. **Turbidity Receiving Water Limitations.** The Discharger shall calculate and report the turbidity increase in the receiving water applicable to the natural turbidity condition specified in section V.A.17.a-e. of the Waste Discharge Requirements.
 - f. **Temperature Receiving Water Limitations.** The Discharger shall calculate and report the temperature increase in the receiving water based on the difference in temperature at Monitoring Locations RSW-001 and RSW-002.

C. Discharge Monitoring Reports (DMRs)

1. DMRs are U.S. EPA reporting requirements. The Discharger shall electronically certify and submit DMRs together with SMRs using Electronic Self-Monitoring Reports module eSMR 2.5 or any upgraded version. Electronic DMR submittal will be in addition to electronic SMR submittal.
[Information about electronic DMR submittal](http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring/)
(http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring/) is available on the Internet.

D. Other Reports

1. **The Discharger shall report BMPs** that are maintained or implemented at the facility including documentation of conditions prior to implementation, a description of the BMPs, and period of implementation.
2. **Analytical Methods Report.** The Discharger shall complete and submit an Analytical Methods Report, electronically via CIWQS submittal, by the due date shown in the Technical Reports Table E-13. The Analytical Methods Report shall include the following for each constituent to be monitored in accordance with this Order: 1) applicable water quality objective, 2) reporting level (RL), 3) method detection limit (MDL), and 4) analytical method. The analytical methods shall be sufficiently sensitive with RLs consistent with the SSM Rule per 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv), and with the Minimum Levels (MLs) in the SIP, Appendix 4. The "Reporting Level or RL" is synonymous with the "Method Minimum Level" described in the SSM Rule. If an RL is not less than or equal to the applicable water quality objective for a constituent, the Discharger shall explain how the proposed analytical method complies with the SSM Rule as outlined above in Attachment E, Section I.F. Central Valley Water Board staff will provide a tool with the permit's Notice of Adoption to assist the Discharger in completing this requirement. The tool will include the constituents and associated applicable water quality objectives to be included in the Analytical Methods Report.
3. **Annual Operations Report.** The Discharger shall submit a written report to the Central Valley Water Board, electronically via CIWQS submittal, containing the following by the due date in the Technical Reports Table E-13:
 - a. The names, certificate grades, and general responsibilities of all persons employed at the Facility.
 - b. The names and telephone numbers of persons to contact regarding the plant for emergency and routine situations.
 - c. A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration.

- d. A statement certifying whether the current operation and maintenance manual, and contingency plan, reflect the wastewater treatment plant as currently constructed and operated, and the dates when these documents were last revised and last reviewed for adequacy.
 - e. In accordance with section VI.C.4.a.xiii., the Discharger shall monitor sludge accumulation in the wastewater treatment ponds at least every five years beginning in 2024, and shall periodically remove sludge as necessary to maintain adequate storage capacity. The Annual Operations Report shall include the last time sludge accumulation was monitored.
 - f. Annual totals for flow measured at INF-001, LND-001, and EFF-002.
 - g. Using the values in subsection (f) above, estimate the total annual volume disposed through percolation into the groundwater and evaporation. Calculations must be included.
 - h. The Discharger may also be requested to submit an annual report to the Central Valley Water Board with both tabular and graphical summaries of the monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss the compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.
4. **Recycled Water Policy Annual Reports.** In accordance with Section 3 of the Water Quality Control Policy for Recycled Water (Recycled Water Policy), the Discharger shall electronically submit an annual report of monthly data to the State Water Board by 30 April annually covering the previous calendar year using the State Water Board's [GeoTracker](https://geotracker.waterboards.ca.gov/) website (<https://geotracker.waterboards.ca.gov/>). Information for setting up and using the GeoTracker system can be found in the *ESI Guide for Responsible Parties* document on the State Water Board's website for [Electronic Submittal of Information](https://www.waterboards.ca.gov/ust/electronic_submittal/index.html) (https://www.waterboards.ca.gov/ust/electronic_submittal/index.html).
- The annual report to GeoTracker must include volumetric reporting of the items listed in Section 3.2 of the [Recycled Water Policy](https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2018/121118_7_final_amendment_oal.pdf) (https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2018/121118_7_final_amendment_oal.pdf). A pdf of the upload confirmation from GeoTracker for the Recycled Water Policy Annual Report shall be uploaded into CIWQS annually as a technical report per Table E-13, to demonstrate compliance with this reporting requirement.
5. **Report of Waste Discharge (ROWD).** For the 5-year permit renewal, the Discharger shall submit a written report to the Central Valley Water Board, electronically via CIWQS submittal, containing, at minimum, the following by the due date in the Technical Reports Table E-13:

- a. Report of Waste Discharge (Form 200);
- b. NPDES Form 2A;
- c. NPDES Form 2S;
- d. **Salinity Evaluation and Minimization Plan (SEMP).** The Discharger shall evaluate the effectiveness of the SEMP and provide a summary with the Report of Waste Discharge; and

6. **Technical Report Submittals.** This Order includes requirements to submit a ROWD, special study technical reports, progress reports, and other reports identified in the MRP (hereafter referred to collectively as “technical reports”). The Technical Reports Table E-13 and subsequent table notes below summarize all technical reports required by this Order and the due dates for submittal. All technical reports shall be submitted electronically via CIWQS submittal. Technical reports should be uploaded as a PDF, Microsoft Word, or Microsoft Excel file attachment.

Table E-13. Technical Reports

Report #	Technical Report	Due Date	CIWQS Report Name
Intentionally left blank	Standard Reporting Requirements	Intentionally left blank	Intentionally left blank
1	Report of Waste Discharge	31 May 2028	ROWD
2	Analytical Methods Report	31 July 2024	MRP X.D.2
3	Analytical Methods Report Certification	3 MONTHS PRIOR TO START OF CHARACTERIZATION MONITORING	MRP IX.E.2
4	Annual Operations Report	1 February 2025	MRP X.D.3
5	Annual Operations Report	1 February 2026	MRP X.D.3
6	Annual Operations Report	1 February 2027	MRP X.D.3
7	Annual Operations Report	1 February 2028	MRP X.D.3
8	Annual Operations Report	1 February 2029	MRP X.D.3
9	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2025	MRP X.D.4
10	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2026	MRP X.D.4
11	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2027	MRP X.D.4

Report #	Technical Report	Due Date	CIWQS Report Name
12	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2028	MRP X.D.4
13	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2029	MRP X.D.4
Intentionally left blank	Other Reports	Intentionally left blank	Intentionally left blank
14	Best Practicable Treatment or Control (BPTC) and Antidegradation Re-evaluation	1 December 2025	WDR VI.C.2.a
15	Mixing Zone Study Update	31 May 2025	WDR VI.C.2.b
16	Toxicity Reduction Evaluation (TRE) Workplan	30 August 2024	WDR VI.C.2.c
17	Operations Plan – Disinfection Verification	1 October 2024	WDR VI.C.4.b
18	Sludge/Biosolids Management Plan	1 December 2024	WDR VI.C.5.b

ATTACHMENT F – FACT SHEET

Table of Contents

I.	Permit Information	F-3
II.	Facility Description	F-4
	A. Description of Wastewater and Biosolids Treatment and Controls	F-5
	B. Discharge Points and Receiving Waters.....	F-7
	C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data	F-7
	D. Compliance Summary.....	F-8
	E. Planned Changes	F-9
III.	Applicable Plans, Policies, and Regulations	F-9
	A. Legal Authorities	F-9
	B. California Environmental Quality Act (CEQA)	F-9
	C. State and Federal Laws, Regulations, Policies, and Plans	F-9
	D. Impaired Water Bodies on CWA 303(d) List	F-13
	E. Other Plans, Policies and Regulations.....	F-13
IV.	Rationale For Effluent Limitations and Discharge Specifications.....	F-14
	A. Discharge Prohibitions	F-14
	B. Technology-Based Effluent Limitations.....	F-15
	1. Scope and Authority.....	F-15
	2. Applicable Technology-Based Effluent Limitations	F-17
	C. Water Quality-Based Effluent Limitations (WQBELs).....	F-17
	1. Scope and Authority.....	F-17
	2. Applicable Beneficial Uses and Water Quality Criteria and Objectives	F-18
	3. Determining the Need for WQBELs	F-32
	4. WQBEL Calculations	F-54
	5. Whole Effluent Toxicity (WET)	F-57
	D. Final Effluent Limitation Considerations.....	F-60
	1. Mass-based Effluent Limitations – Not Applicable	F-60
	2. Averaging Periods for Effluent Limitations	F-60
	3. Satisfaction of Anti-Backsliding Requirements.....	F-61
	4. Antidegradation Policies	F-62
	5. Stringency of Requirements for Individual Pollutants.....	F-64
	E. Interim Effluent Limitations – Not Applicable.....	F-66
	F. Land Discharge Specifications.....	F-66
	G. Recycling Specifications – NOT APPLICABLE	F-66
V.	Rationale for Receiving Water Limitations	F-66
	A. Surface Water	F-66
	B. Groundwater	F-67
VI.	Rationale for Provisions.....	F-72
	A. Standard Provisions.....	F-72
	B. Special Provisions.....	F-73
	1. Reopener Provisions.....	F-73
	2. Special Studies and Additional Monitoring Requirements.....	F-74
	3. Best Management Practices and Pollution Prevention	F-76

4. Construction, Operation, and Maintenance Specifications.....	F-77
5. Special Provisions for POTWs.....	F-77
7. Compliance Schedules	F-78
VII. Rationale for Monitoring and Reporting Requirements.....	F-78
A. Influent Monitoring	F-79
B. Effluent Monitoring.....	F-79
C. Land Discharge Monitoring	F-79
D. Receiving Water Monitoring.....	F-79
1. Surface Water	F-79
2. Groundwater	F-80
E. Whole Effluent Toxicity Testing Requirements	F-84
E. Other Monitoring Requirements	F-86
VIII. Public Participation	F-87
A. Notification of Interested Persons	F-87
B. Written Comments	F-87
C. Public Hearing	F-87
D. Reconsideration of Waste Discharge Requirements.....	F-88
E. Information and Copying.....	F-88
F. Register of Interested Persons	F-88
G. Additional Information	F-88

Tables

Table F-1 Facility Information	F-3
Table F-2 Treatment Pond Characteristics	F-6
Table F-3 Historic Effluent Limitations	F-7
Table F-4 Basin Plan Beneficial Uses	F-10
Table F-5 303 (d) List for the Middle Fork of the Feather River	F-13
Table F-6 Summary of Technology-based Effluent Limitations	F-17
Table F-7 Mixing Zones and Dilution Credits.....	F-30
Table F-8 Percent Assimilative Capacity Used Calculations	F-30
Table F-9. Summary of Criteria for CTR Hardness-dependent Metals	F-31
Table F-10 Salinity Water Quality Criteria/Objectives	F-42
Table F-11 Copper RPA Criteria.....	F-50
Table F-12 Summary of Water Quality-Based Effluent Limitations.....	F-56
Table F-13 Acute Whole Effluent Toxicity Testing Results	F-58
Table F-14 Chronic Whole Effluent Toxicity Testing Results – Test of Significant Toxicity at 100 Percent Effluent	F-60
Table F-15 Summary of Final Effluent Limitations	F-65
Table F-16 Groundwater Monitoring Data	F-70
Table F-17 Summary of Monitoring Changes	F-81

ATTACHMENT F – FACT SHEET

As described in section II.B of this Order, the Central Valley Water Board incorporates this Fact Sheet as findings of the Central Valley Water Board supporting the issuance of this Order. This Fact Sheet discusses the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as “not applicable” have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as “not applicable” are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1 Facility Information

Waste Discharge ID:	5A320102001
CIWQS Facility Place ID:	248936
Discharger:	City of Portola
Name of Facility:	Portola Wastewater Treatment Plant
Facility Address:	120 Main Street
Facility City, State Zip:	Portola, California 96122
Facility County:	Plumas County
Facility Contact, Title and Phone Number:	Jared Recasens, Chief Plant Operator, 530-832-4216
Authorized Person to Sign and Submit Reports:	Jared Recasens, Chief Plant Operator, 530-832-4216
Mailing Address:	P.O. Box 1225, Portola, CA 96122
Billing Address:	P.O. Box 1225, Portola, CA 96122
Type of Facility:	Publicly Owned Treatment Works
Major or Minor Facility:	Minor
Threat to Water Quality:	2
Complexity:	B
Pretreatment Program:	No
Recycling Requirements:	Not Applicable
Facility Permitted Flow:	0.5 million gallons per day (MGD)
Facility Design Flow:	0.75 MGD (0.5 ADWF)
Watershed:	Feather River, Middle Fork
Receiving Water:	Feather River, Middle Fork
Receiving Water Type:	Inland Surface Water

- A.** The City of Portola (hereinafter Discharger) is the owner and operator of the Portola Wastewater Treatment Plant (hereinafter Facility), a Publicly-Owned Treatment Works (POTW).

For the purposes of this Order, references to the “discharger” or “permittee” in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

- B.** The Facility discharges wastewater to the Middle Fork of the Feather River, a water of the United States. The Discharger was previously regulated by Order R5-2018-0088 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0077844 adopted on 7 December 2018 and expired on 31 January 2024. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.
- C.** When applicable, state law requires dischargers to file a petition with the State Water Board, Division of Water Rights and receive approval for any change in the point of discharge, place of use, or purpose of use of treated wastewater that decreases the flow in any portion of a watercourse. The State Water Board retains separate jurisdictional authority to enforce any applicable requirements under Water Code section 1211. This is not an NPDES permit requirement.
- D.** The Discharger filed a report of waste discharge (ROWD) and submitted an application for reissuance of its waste discharge requirements (WDRs) and NPDES permit on 14 February 2023. Supplemental information was requested and received on 3 April 2023. The application was deemed complete on 5 April 2023.
- E.** Regulations at 40 C.F.R. section 122.46 limit the duration of NPDES permits to a fixed term not to exceed five years. Accordingly, Table 3 of this Order limits the duration of the discharge authorization. Under 40 C.F.R. section 122.6(d), States authorized to administer the NPDES program may administratively continue State-issued permits beyond their expiration dates until the effective date of the new permits, if State law allows it. Pursuant to California Code of Regulations (CCR), title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Discharger complies with all federal NPDES requirements for continuation of expired permits.

II. FACILITY DESCRIPTION

The Discharger provides sewerage service for the community of Portola and serves a population of approximately 2,100. According to 100-percent design documents listed in the 1992 WDRs for the Facility, the Facility has a design flow of 0.75 MGD and an average dry weather flow of 0.5 MGD.

A. Description of Wastewater and Biosolids Treatment and Controls

Wastewater is collected in two lift stations, one on the north side of the Middle Fork of the Feather River, and one on the south side of the river. At the Facility headworks, influent Parshall flumes at each pump station measure influent flow.

The treatment system at the Facility consists of two aerated ponds, five stabilization ponds, a liquid chlorine contact chamber, dechlorination with liquid sodium bisulfite, a six-acre percolation/polishing pond, and an adjacent wetland (1.4 acres) that discharges to the receiving water. A Parshall flume at the outfall from the six-acre pond to the wetland measures effluent flow.

The discharge to surface water is seasonal and only occurs between November 1 through April 30 and the ability to discharge to surface water is further constricted by receiving water flow conditions. During the term of the previous Order, discharge to the receiving water typically occurred over a period of one to two months and correlated with higher rates of inflow/infiltration into the sewer collection system from heavy precipitation. In the case of a dry winter, discharge to the receiving water may not occur or be necessary. Based on effluent flow data collected from February 2019 through April 2023, the average effluent flow was 0.76 MGD over 67 days during the 2018-2019 allowable discharge period, 0.29 MGD over 25 days during the 2019-2020 allowable discharge period, no surface water discharge during the 2020-2021 allowable discharge period, 0.44 MGD over 19 days during the 2021-2022 allowable discharge period, and 0.84 MGD over 75 days during the 2022-2023 allowable discharge period.

The discharge to land receives the same treatment as the surface water discharge, except that the land discharge is not disinfected prior to discharge to the six-acre percolation pond. Effluent discharge to land occurs between 1 May to 31 October and during times when the Discharger chooses to not discharge to surface water or if surface water discharge is prohibited due to receiving water flow conditions.

The six-acre pond is used as both a land disposal pond and a polishing pond for effluent discharge to receiving water (i.e., effluent flows through the six-acre pond prior to discharge to the receiving water via the wetland). The disinfection and dechlorination units are located upstream of the six-acre pond. The Discharger disinfects (and dechlorinates) effluent prior to the six-acre pond during periods of discharge to surface water. When the facility is not discharging to surface water, the treated effluent is not disinfected prior to disposal to land via the six-acre pond.

Since the six-acre pond is used to convey both disinfected and undisinfected treated wastewater, the Discharger operates the six-acre pond to fully percolate/evaporate the undisinfected effluent prior to sending disinfected effluent to the pond for surface water disposal.

The six-acre pond and two of the stabilization ponds (No. 4 and No. 5) have spray irrigators along the banks of each respective pond; these irrigators can be used to

promote evaporation in the summer months (spray is directed back toward the pond). The Discharger has stated that they no longer use these irrigators.

The total volume of the Facility ponds (including the six-acre pond) is 31.8 million gallons. Soil conditions beneath the ponds, as well as the permeability of the pond base and berms are unknown. Groundwater in the vicinity of the Facility is at or near the ground surface during the winter.

Approximate area, volume, and depth of the treatment ponds provided in the Discharger’s 2022 Regionalization Evaluation Report are provided below. Pond invert elevations provided from a 1990 treatment plant improvement project are also provided:

Table F-2 Treatment Pond Characteristics

Treatment Pond	Aerated	Normal Operating Depth (ft.)	Volume (MG)	Area (acres)	Pond Invert Elevation (ft. above mean sea level)
Aeration Pond 1	Yes	6.6	2.7	1.3	4823.4
Aeration Pond 2	Yes	5.0	1.0	0.6	4825.0
Stabilization Pond 1	No	5.0	3.7	2.3	4823.7
Stabilization Pond 2	No	5.3	6.0	3.5	4823.9
Stabilization Pond 3	No	5.1	5.4	3.2	4823.3
Stabilization Pond 4	No	4.0	4.1	3.2	4824.5
Stabilization Pond 5	No	4.4	3.9	2.8	4823.1
Six-acre pond	No	2.8	5.0	5.5	4822.5

The Facility lies almost entirely within the boundaries of the 100-year flood plain of the Middle Fork of the Feather River according to Federal Emergency Management Agency maps. In 1992, the berms of all ponds were raised and/or widened (crown width was increased from ten feet to twelve feet) to provide protection against berm washout and/or over-topping in case of flooding. The Discharger also enlarged the existing wetlands from 0.9 acres to 1.4 acres at that time.

Average annual rainfall in Portola is 22.9 inches, as given by California Department of Water Resources weather station information for the area. The 100-year return frequency rainfall season precipitation is approximately 39.5 inches. Average annual evaporation in the area is 54.5 inches.

The Facility is also regulated by a U.S. Army Corps of Engineers 404 Permit 9100587 requiring the Discharger to discharge storage water from the six-acre pond to the wetland to maintain the wetland through the month of August. During the term of the previous Order, the Discharger did not need to discharge effluent to the wetland during the summer months to comply with the Army Corp requirement. In the case that a discharge to the wetland was required, treated effluent would be disinfected.

Solids are collected from all ponds as needed to maintain the Facility operation and allowed to dry on site during the summer and fall months at the sludge storage area located near stabilization pond 5 and surrounded by an earthen berm to prevent washout and contain rainfall of a 100-year frequency. Due to the extended residence time of the wastewater and the large storage volume provided by the ponds, little sludge is generated during treatment. Dried biosolids are sampled and hauled to a permitted landfill. Biosolids were last removed from the two aeration ponds in 2022.

B. Discharge Points and Receiving Waters

1. The Facility is located in section 2, T22, R13E, MDB&M, as shown in Attachment B, a part of this Order.
2. Disinfected secondary-treated municipal wastewater is discharged at Discharge Point 001 to the Middle Fork of the Feather River, a water of the United States at a point latitude 39° 48' 7" N and longitude 120° 29' 44" W.
3. Discharge Point 001 is located within the Sloat Hydrologic Unit No. 518.33 as defined by the interagency hydrologic map for the Sacramento Hydrologic Basin prepared by the Department of Water Resources (1986).
4. Secondary-treated municipal wastewater is discharged at Discharge Point 002 to an unlined six-acre polishing/percolation pond at a point latitude 39° 48' 14" N and longitude 120° 29' 18" W.

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

Effluent limitations contained in Order R5-2018-0088 for discharges from Discharge Point 001 and representative monitoring data from the term of Order R5-2018-0088 collected between 1 February 2019 and 30 April 2023 are as follows:

Table F-3 Historic Effluent Limitations

Parameter	Units	Historic Effluent Limitations	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
BOD5	mg/L	AMEL 45 AWEL 65 MDEL 90	41	56	56

Parameter	Units	Historic Effluent Limitations	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
BOD5	lbs/day	AMEL 375 AWEL 542 MDEL 751	248	248	248
BOD5	% removal	AMEL 65	33 (Minimum)	--	--
TSS	mg/L	AMEL 45 AWEL 65 MDEL 90	50	100	100
TSS	lbs/day	AMEL 375 AWEL 542 MDEL 751	333	--	--
TSS	% removal	AMEL 65	34 (Minimum)	--	--
pH	Standard units	Instantaneous Max 9.0 Instantaneous Min 6.0	--	--	6.6 – 9.0
Ammonia, Total as N	mg/L	AMEL 18 AWEL 34	10.9	13	13
Ammonia, Total as N	lbs/day	AMEL 150 AWEL 292	64	--	--
Copper, Total Recoverable	µg/L	AMEL 26 MDEL 53	12	12	12
Acute Whole Effluent Toxicity	% survival	Minimum 70 Three consecutive 90	15 (Minimum)	--	--
Total Residual Chlorine	mg/L	4-day average 0.011 1-hour average 0.019	<0.01	--	--
Total Coliform Organisms	MPN/100 mL	7-day median 23 30-day period 240	--	>1600	>1600
Electrical Conductivity	µmhos/cm	Annual Average 684	563	541	629

D. Compliance Summary

1. During the term of Order R5-2018-0088, monetary penalties were assessed for violations of effluent limitations as follows:
 - a. On 5 February 2020, Administrative Civil Liability Order (ACLO) R5-2020-0503 was issued for \$9,000 in mandatory minimum penalties occurring between March 2018 and May 2020 for violations of total coliform organisms, total suspended solids, and acute toxicity effluent limitations.
 - b. On 2 February 2023, ACLO R5-2022-0512 was issued for \$3,000 in mandatory minimum penalties occurring between February 2022 and

March 2022 for violations of total suspended solids and acute toxicity effluent limitations.

2. The Discharger committed 20 violations of Order Conditions in Order 2018-0088 for elevated pH in the treatment ponds and 2 violations for inadequate freeboard in the treatment ponds.

E. Planned Changes

There are no planned changes for the Facility.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this Facility to surface waters.

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA, (commencing with section 21100) of Division 13 of the Public Resources Code. Additionally, the adoption of land discharge requirements for the Facility constitutes permitting of an existing facility that is categorically exempt from the provisions of CEQA pursuant to CCR, title 14, section 15301.

C. State and Federal Laws, Regulations, Policies, and Plans

1. **Water Quality Control Plan.** Requirements of this Order specifically implement the applicable Water Quality Control Plans.
 - a. **Basin Plan.** The Central Valley Water Board adopted a Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fifth Edition, May 2018 (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this Order implement the Basin Plan. In addition, the Basin Plan implements State Water Board Resolution 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or

domestic supply. Beneficial uses applicable to the Middle Fork of the Feather are as follows:

Table F-4 Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Middle Fork, Feather River (From Little Last Chance Creek to Lake Oroville)	<u>Existing:</u> Municipal and domestic water supply (MUN); contact (REC-1) and non-contact (REC-2) water recreation; warm freshwater habitat (WARM); cold freshwater habitat (COLD); spawning (SPWN); wildlife habitat (WILD).
002	Underlying Groundwater	<u>Existing:</u> Municipal and domestic water supply (MUN); agriculture supply (AGR); industrial service supply (IND); industrial process supply (PRO).

- b. **Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California.** The Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (ISWEBE Plan) was adopted by the State Water Resources Control Board (State Water Board) on 1 December 2020, under authority provided by Water Code sections 13140 and 13170. Except as otherwise indicated, this ISWEBE Plan establishes provisions for toxicity, water quality and sediment quality that apply to all inland surface waters, enclosed bays, and estuaries and coastal lagoons of the state, including both waters of the United States and surface waters of the state.
2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** U.S. EPA adopted the NTR on 22 December 1992, and later amended it on 4 May 1995 and 9 November 1999. About forty criteria in the NTR applied in California. On 18 May 2000, U.S. EPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on 13 February 2001. These rules contain federal water quality criteria for priority pollutants.
3. **State Implementation Policy.** On 2 March 2000, the State Water Board adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). The SIP became effective on 28 April 2000, with respect to the priority pollutant criteria promulgated for California by the U.S. EPA through the NTR and to the priority pollutant objectives established by the Central Valley Water Board in the Basin Plan. The SIP became effective on 18 May 2000, with respect to the priority pollutant criteria promulgated by the U.S. EPA through the CTR. The State Water Board adopted amendments to the SIP on 24 February 2005, that became effective on 13 July 2005. The SIP establishes implementation

provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

4. **Antidegradation Policy.** Federal regulation 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16 ("Statement of Policy with Respect to Maintaining High Quality of Waters in California") (State Anti-Degradation Policy). The State Anti-Degradation Policy is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. The State Anti-Degradation Policy requires that existing water quality be maintained unless degradation is justified based on specific findings. The Central Valley Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 C.F.R. section 131.12 and the State Anti-Degradation Policy. The Board finds this order is consistent with the Federal and State Water Board antidegradation regulations and policy.
5. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.
6. **Domestic Water Quality.** In compliance with Water Code section 106.3, it is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order promotes that policy by requiring discharges to meet maximum contaminant levels (MCLs) designed to protect human health and ensure that water is safe for domestic use.
7. **Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.
8. **Emergency Planning and Community Right to Know Act.** Section 13263.6(a) of the Water Code, requires that "the Regional Water Board shall prescribe effluent limitations as part of the waste discharge requirements of a POTW for all substances that the most recent toxic chemical release data reported to the state emergency response commission pursuant to section 313 of the Emergency

Planning and Community Right to Know Act of 1986 (42 U.S.C. Sec. 11023) (EPCRA) indicate as discharged into the POTW, for which the State Water Board or the Regional Water Board has established numeric water quality objectives, and has determined that the discharge is or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to, an excursion above any numeric water quality objective”.

The most recent toxic chemical data report does not indicate any reportable off-site releases or discharges to the collection system for this Facility. Therefore, a reasonable potential analysis based on information from EPCRA cannot be conducted. Based on information from EPCRA, there is no reasonable potential to cause or contribute to an excursion above any numeric water quality objectives included within the Basin Plan or in any State Water Board plan, so no effluent limitations are included in this permit pursuant to Water Code section 13263.6(a).

However, as detailed elsewhere in this Order, available effluent data indicate that there are constituents present in the effluent that have a reasonable potential to cause or contribute to exceedances of water quality standards and require inclusion of effluent limitations based on federal and state laws and regulations.

9. **Storm Water Requirements.** U.S. EPA promulgated federal regulations for storm water on 16 November 1990 in 40 C.F.R. parts 122, 123, and 124. The NPDES Industrial Storm Water Program regulates storm water discharges from wastewater treatment facilities. Wastewater treatment plants are applicable industries under the storm water program and are obligated to comply with the federal regulations. The State Water Board does not require wastewater treatment facilities with design flows less than 1 MGD to obtain coverage under the Industrial Storm water General Order. Therefore, this Order does not regulate storm water.
10. **Statewide General Waste Discharge Requirements for Sanitary Sewer Systems.** The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order 2006-0003-DWQ (General Order) on 2 May 2006. The State Water Board amended the MRP for the General Order through Order WQ 2013-0058-EXEC on 6 August 2013. The State Water Board renewed the General Order and adopted Order 2022-0103-DWQ on 6 December 2022. Order 2022-0103-DWQ became effective on 5 June 2023. The General Order requires public agencies that own or operate sanitary sewer systems with greater than 1 mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all sanitary sewer overflows (SSOs), among other requirements and prohibitions.

The Discharger is subject to the requirements of, and must comply with, State Water Board Order 2006-0003-DWQ, Statewide General Waste Discharge

Requirements for Sanitary Sewer Systems, as amended by State Water Board Order WQ 2013-0058-EXEC, and renewed by State Water Board Order 2022-0103-DWR and any subsequent order.

- 11. Sewage Sludge and Biosolids.** This Order does not authorize any act that results in violation of requirements administered by U.S. EPA to implement 40 C.F.R. Part 503, Standards for the Use or Disposal of Sewage Sludge. These standards regulate the final use or disposal of sewage sludge that is generated during the treatment of domestic sewage in a municipal wastewater treatment facility. The Discharger is responsible for meeting all applicable requirements of 40 C.F.R. Part 503 that are under U.S. EPA’s enforcement authority.

D. Impaired Water Bodies on CWA 303(d) List

- Under section 303(d) of the 1972 CWA, states, territories, and authorized tribes are required to develop lists of water quality limited segments. The waters on these lists do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. On 6 April 2018 U.S. EPA gave final approval to California's 2014 – 2016 section 303(d) List of Water Quality Limited Segments. The Basin Plan references this list of Water Quality Limited Segments (WQLSs), which are defined as “...those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate limitations for point sources (40 C.F.R. part 130, et seq.)” The Basin Plan also states, “Additional treatment beyond minimum federal standards will be imposed on dischargers to [WQLSs]. Dischargers will be assigned or allocated a maximum allowable load of critical pollutants so that water quality objectives can be met in the segment.” The listing for the “Feather River, Middle Fork (Sierra Valley to Lake Oroville, Butte and Plumas Counties)” includes: toxicity.
- Total Maximum Daily Loads (TMDLs). Table F-5, below, identifies the 303(d) listings and any applicable TMDLs. At the time of this permit renewal, there are no approved TMDLs with waste load allocations (WLAs) that apply to this Facility.

Table F-5 303 (d) List for the Middle Fork of the Feather River

Pollutant	Potential Sources	TMDL Status
Toxicity	Unknown	Planned for completion 2027

- The 303(d) listings and TMDLs have been considered in the development of the Order.

E. Other Plans, Polices and Regulations

- Title 27.** The discharge authorized herein, and the treatment and storage facilities associated with the discharge of treated municipal wastewater, except

for discharges of residual sludge and solid waste, are exempt from the requirements of Title 27, CCR, section 20005 et seq (hereafter Title 27). The exemption, pursuant to Title 27 CCR section 20090(a), is based on the following:

- a. The waste consists primarily of domestic sewage and treated effluent;
- b. The waste discharge requirements are consistent with water quality objectives; and
- c. The treatment and storage facilities described herein are associated with a municipal wastewater treatment plant.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 C.F.R. section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

A. Discharge Prohibitions

1. **Prohibition III.A (No discharge or application of waste other than that described in this Order).** This prohibition is based on Water Code section 13260 that requires filing of a ROWD before discharges can occur. The Discharger submitted a ROWD for the discharges described in this Order; therefore, discharges not described in this Order are prohibited.
2. **Prohibition III.B (No bypasses or overflow of untreated wastewater, except under the conditions at CFR section 122.41(m)(4)).** As stated in section I.G of Attachment D, Standard Provisions, this Order prohibits bypass from any portion of the treatment facility. Federal regulations, 40 C.F.R. section 122.41(m), define “bypass” as the intentional diversion of waste streams from any portion of a treatment facility. This section of the federal regulations, 40 C.F.R. section 122.41(m)(4), prohibits bypass unless it is unavoidable to prevent loss of life, personal injury, or severe property damage. In considering the Regional Water Board’s prohibition of bypasses, the State Water Board adopted a precedential decision, Order No. WQO 2002-0015, which cites the federal regulations, 40 C.F.R. section 122.41(m), as allowing bypass only for essential maintenance to assure efficient operation.
3. **Prohibition III.C (No controllable condition shall create a nuisance).** This prohibition is based on Water Code section 13050 that requires water quality

objectives established for the prevention of nuisance within a specific area. The Basin Plan prohibits conditions that create a nuisance

4. **Prohibition III.D (No discharge of hazardous waste).** This prohibition is based on CCR, title 22, section 66261.1 et seq, that prohibits discharge of hazardous waste.
5. **Prohibition III.E (Average Dry Weather Flow).** This prohibition is based on the design average dry weather flow treatment capacity rating for the Facility and ensures the Facility is operated within its treatment capacity. The average dry weather flow of 0.5 MGD flow represents base sewage flow, absent wet weather inflow and infiltration into the Facility.
6. **Prohibition III.F (Minimum receiving water flow).** Discharge is prohibited when flow in the Middle Fork of the Feather River is less than 40 cfs as measured at the DWR "MFP" (Middle Fork Feather River Portola) gauging station to assure adequate assimilative capacity for the wastewater discharge.
7. **Prohibition III.G (Minimum dilution ratio).** Discharge is prohibited when the effluent flow from the wetlands is greater than 2 percent of the Middle Fork of the Feather River as measured at the DWR "MFP" (Middle Fork Feather River Portola) gauging station to assure that adequate dilution is available in the receiving water.
8. **Prohibition III.H (Dates with no discharge).** Discharge after 30 April and prior to 1 November is prohibited to better coincide with recreational (fishing) season in the Middle Fork of the Feather.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing U.S. EPA permit regulations at 40 C.F.R. section 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at 40 C.F.R. part 133.

Regulations promulgated in 40 C.F.R. section 125.3(a)(1) require technology-based effluent limitations for municipal Dischargers to be placed in NPDES permits based on Secondary Treatment Standards or Equivalent to Secondary Treatment Standards.

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) established the minimum performance requirements for POTWs [defined in section 304(d)(1)]. Section 301(b)(1)(B) of that Act requires that such treatment

works must, as a minimum, meet effluent limitations based on secondary treatment as defined by the U.S. EPA Administrator.

Based on this statutory requirement, U.S. EPA developed secondary treatment regulations, which are specified in 40 C.F.R. part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of BOD₅, TSS, and pH.

Following publication of the secondary treatment regulations, legislative history indicates that Congress was concerned that U.S. EPA had not “sanctioned” the use of certain biological treatment techniques that were effective in achieving significant reductions in BOD₅ and TSS for secondary treatment. Therefore, to prevent unnecessary construction of costly new facilities, Congress included language in the 1981 amendment to the Construction Grants statutes [section 23 of Pub. L. 97-147] that required U.S. EPA to provide allowance for alternative biological treatment technologies such as trickling filters or waste stabilization ponds. In response to this requirement, definition of secondary treatment was modified on September 20, 1984 and June 3, 1985, and published in the revised secondary treatment regulations contained in 40 C.F.R. section 133.105. These regulations allow alternative limitations for facilities using trickling filters and waste stabilization ponds that meet the requirements for “equivalent to secondary treatment.” These “equivalent to secondary treatment” limitations are up to 45 mg/L (monthly average) and up to 65 mg/L (weekly average) for BOD₅ and TSS.

Therefore, POTWs that use waste stabilization ponds, identified in 40 C.F.R. section 133.103, as the principal process for secondary treatment and whose operation and maintenance data indicate that the TSS values specified in the equivalent-to-secondary regulations cannot be achieved, can qualify to have their minimum levels of effluent quality for TSS adjusted upwards.

In order to be eligible for equivalent-to-secondary limitations, a POTW must meet all of the following criteria:

- a. The principal treatment process must be either a trickling filter or waste stabilization pond.
- b. The effluent quality consistently achieved, despite proper operations and maintenance, is in excess of 30 mg/L BOD₅ and TSS.
- c. Water quality is not adversely affected by the discharge. (40 C.F.R. section 133.101(g).)

The treatment works as a whole provides significant biological treatment such that a minimum 65 percent reduction of BOD₅ is consistently attained (30-day average).

2. Applicable Technology-Based Effluent Limitations

- a. **BOD₅ and TSS.** Federal regulations at 40 C.F.R. part 133, establish the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for BOD₅ and TSS.

The effluent concentrations consistently achievable through proper operations and maintenance is in excess of secondary treatment standards, the principal treatment process is waste stabilization ponds, and the treatment works provide significant biological treatment of municipal wastewater. Therefore, this Facility meets all criteria of 40 C.F.R. part 133.101(g) and qualifies for equivalent-to-secondary limitations specified in 40 C.F.R. parts 133.105(a) and (b). These specify that the BOD and TSS 30-day average discharge limits shall not exceed 45 mg/L, the 7-day average shall not exceed 65 mg/L, and the 30-day BOD and TSS percent removal shall not be less than 65 percent.

- b. **pH.** The secondary treatment regulations at 40 C.F.R. part 133 also require that pH be maintained between 6.0 and 9.0 standard units.

**Summary of Technology-based Effluent Limitations
 Discharge Point D-001**

Table F-6 Summary of Technology-based Effluent Limitations

Parameter	Units	Effluent Limitations
BOD5	mg/L	AMEL 45 AWEL 65
BOD5	% removal	65
TSS	mg/L	AMEL 45 AWEL 65
TSS	% removal	65
pH	Standard Units	Instantaneous Max 9.0 Instantaneous Min 6.0

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

CWA section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) of 40 C.F.R. requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) U.S. EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated beneficial uses of the receiving water as specified in the Basin Plan and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

Finally, 40 C.F.R. section 122(d)(1)(vii) requires effluent limits to be developed consistent with any available WLAs developed and approved for the discharge.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply.

The Basin Plan on page 2-1 states: "Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning..." and with respect to disposal of wastewaters states that "...disposal of wastewaters is [not] a prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses."

The federal CWA section 101(a)(2), states: "it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water be achieved by July 1, 1983." Federal Regulations, developed to implement the requirements of the CWA, create a rebuttable presumption that all waters be designated as fishable and swimmable. Federal Regulations, 40 CFR sections 131.2 and 131.10, require that all waters of the State regulated to protect the beneficial uses of public water supply, protection and propagation of fish, shellfish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. 40 C.F.R. section 131.3(e) defines existing

beneficial uses as those uses actually attained after 28 November 1975, whether or not they are included in the water quality standards. Federal Regulation, 40 C.F.R. section 131.10 requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States.

- a. **Receiving Water and Beneficial Uses.** Refer to III.C.1. above for a complete description of the receiving water and beneficial uses. The Middle Fork of the Feather River lies in Plumas and Butte counties in the Feather River drainage. Flows primarily come from dam releases from Frenchman Lake and Lake Davis and has a natural pattern of high flows and peak runoff events in winter and low flows in the summer and fall. The Middle Fork, along with the North and South Forks, drain to Lake Oroville. The Middle Fork of the Feather River is a federally designated Wild and Scenic River and supports prime trout fishing throughout its 70 mile reach. Additionally, the Basin Plan prohibits the direct discharge of municipal and industrial wastes (excluding storm water discharges) into the “Middle Fork, Feather River (from Delleker to Lake Oroville)”, as noted in section 4.2.2.4.1.
- b. **Effluent and Ambient Background Data.** The reasonable potential analysis (RPA), as described in section IV.C.3 of this Fact Sheet, was based on data collected during the allowable discharge to surface water period from 1 February 2019 through 30 April 2023, which includes effluent and ambient background data submitted in SMRs, except for hardness data noted in section e below.
- c. **Assimilative Capacity/Mixing Zone**
 - i. The CWA directs the states to adopt water quality standards to protect the quality of its waters. U.S. EPA’s current water quality standards regulation authorizes states to adopt general policies, such as mixing zones, to implement state water quality standards (40 CFR sections 122.44 and 122.45). The U.S. EPA allows states to have broad flexibility in designing its mixing zone policies. Primary policy and guidance on determining mixing zone and dilution credits is provided by the SIP and the Basin Plan. If no procedure applies in the SIP or the Basin Plan, then the Central Valley Water Board may use the U.S. EPA Technical Support Document for Water Quality-Based Toxics Control (EPA/505/2-90-001) (TSD).

For non-Priority Pollutant constituents, the allowance of mixing zones by the Central Valley Water Board is discussed in the Basin Plan, Policy for Application of Water Quality Objectives, which states the following, in part: *“In conjunction with the issuance of NPDES and storm water permits, the Regional Board may designate mixing zones*

within which water quality objectives will not apply provided the discharger has demonstrated to the satisfaction of the Regional Board that the mixing zone will not adversely impact beneficial uses. If allowed, different mixing zones may be designated for different types of objectives, including, but not limited to, acute aquatic life objectives, chronic aquatic life objectives, human health objectives, and acute and chronic whole effluent toxicity objectives, depending in part on the averaging period over which the objectives apply. In determining the size of such mixing zones, the Regional Board will consider the applicable procedures and guidelines in the EPA's Water Quality Standards Handbook and the [TSD]. Pursuant to EPA guidelines, mixing zones designated for acute aquatic life objectives will generally be limited to a small zone of initial dilution in the immediate vicinity of the discharge."

For Priority Pollutants, the SIP supersedes the Basin Plan mixing zone provisions. Section 1.4.2 of the SIP states, in part, "...with the exception of effluent limitations derived from TMDLs, in establishing and determining compliance with effluent limitations for applicable human health, acute aquatic life, or chronic aquatic life priority pollutant criteria/objectives or the toxicity objective for aquatic life protection in a basin plan, the Regional Board may grant mixing zones and dilution credits to dischargers...The applicable priority pollutant criteria and objectives are to be met through a water body except within any mixing zone granted by the Regional Board. **The allowance of mixing zones is discretionary and shall be determined on a discharge-by-discharge basis.** The Regional Board may consider allowing mixing zones and dilution credits only for discharges with a physically identifiable point of discharge that is regulated through an NPDES permit issued by the Regional Board." [emphasis added]

For incompletely mixed discharges, the Discharger must complete an independent mixing zone study to demonstrate to the Central Valley Water Board that a dilution credit is appropriate. In granting a mixing zone, section 1.4.2.2 of the SIP requires the following to be met:

"A mixing zone shall be as small as practicable. The following conditions must be met in allowing a mixing zone:

A mixing zone shall not:

- 1. compromise the integrity of the entire water body;*
- 2. cause acutely toxic conditions to aquatic life passing thorough the mixing zone;*
- 3. restrict the passage of aquatic life;*

4. *adversely impact biologically sensitive or critical habitats, including, but not limited to, habitat of species listed under federal or State endangered species laws;*
5. *produce undesirable or nuisance aquatic life;*
6. *result in floating debris, oil, or scum;*
7. *produce objectionable color, odor, taste, or turbidity;*
8. *cause objectionable bottom deposits;*
9. *cause nuisance;*
10. *dominate the receiving water body or overlap a mixing zone from different outfalls; or*
11. *be allowed at or near any drinking water intake. A mixing zone is not a source of drinking water. To the extent of any conflict between this determination and the Sources of Drinking Water Policy (Resolution No. 88-63), this SIP supersedes the provisions of that policy."*

Section 1.4.2.1 of the SIP establishes the authority for the Central Valley Water Board to consider dilution credits based on the mixing zone conditions in a receiving water. Section 1.4.2.1 in part states:

*"The dilution credit, D, is a numerical value associated with the mixing zone that accounts for the receiving water entrained into the discharge. The dilution credit is a value used in the calculation of effluent limitations (described in section 1.4). **Dilution credits may be limited or denied on a pollutant-by-pollutant basis, which may result in a dilution credit for all, some, or no priority pollutants in the discharge.**"*

- ii. **Middle Fork of the Feather River and Outfall Characteristics.** The Middle Fork of the Feather River characteristics in the vicinity of the discharge are very reactive to area precipitation and flows vary greatly depending on the weather and runoff conditions. Generally, the river has a natural pattern of high flows and peak runoff events in winter/spring and low flow in summer/fall. During the last 5 years, the river flows varied from a low of 8 cfs in the summer and early fall to over 6,000 cfs in late winter. Consequently, the river width and depth vary. At about 40 cfs flow, the river conditions are approximately 80 feet wide and 1 foot deep in the immediate and downstream vicinity of the discharge. The ROWD describes the receiving water's critical

low flow (acute) as 5 cfs and the critical low flow (chronic) as 10 cfs based on year-round flow data.

The outfall to the river is from the side bank from the constructed wetland, with no outfall pipe or diffuser. The outfall is on the east bank of the river directly upstream of a railroad crossing over the river. The railroad crossing has concrete abutments that divide the river into two sections and at lower flows, a third channel is created by shallow water that receives all of the effluent flow. This third channel is approximately 3 feet wide and travels 30 feet until it empties out to the full 80-foot wide river for mixing.

Additionally, the Delleker Wastewater Treatment Plant's effluent outfall is located approximately 1,000 feet upstream of the Facility outfall; Delleker's NPDES permit (Order R5-2019-0052) granted an acute and chronic mixing zone that extends to 30 feet downstream of the Delleker WWTP outfall.

iii. Dilution/Mixing Zone Study Results.

This Order contains a discharge prohibition whereas no effluent shall be discharged to surface water unless the receiving water has at least 40 cfs of flow. In addition, this Order further prohibits discharge to surface water under conditions when the effluent discharge flow exceeds 2 percent of the receiving water flow. The latter prohibition essentially equates to a 50:1 receiving water to effluent flow ratio (i.e., 2 percent) at completely mixed conditions. Combining the minimum receiving water flow condition (40 cfs) with the 2 percent prohibition produces a maximum effluent discharge rate of 0.52 MGD (0.8 cfs) that would be allowed during a 40 cfs receiving water condition.

In 2009, the Discharger submitted to the Central Valley Water Board, *City of Portola Mixing Zone Analysis, 6 January 2009* (Mixing Analysis), prepared by their consultants, Sauers Engineering. The Mixing Analysis utilized a computer model to determine where a dilution factor of 20:1 existed downstream of the facility outfall under the critical flow condition (50:1). The Mixing Analysis analyzed the following receiving water conditions: 40 cfs and 80 cfs. The Mixing Analysis concluded that a 20:1 dilution ratio should be met within approximately 100 feet for the following flow combinations: 40 cfs receiving water to 0.5 MGD effluent (52:1), and 80 cfs receiving water to 1.0 MGD effluent (52:1). Based on the results of the Mixing Analysis, previous Order No. R5-2009-0093 granted an acute and chronic aquatic life mixing zone of up to 100 feet in the development of copper and ammonia effluent limitations, however, the Discharger was required to conduct a dye or tracer study to confirm the results of the Mixing Analysis.

In 2010, the Discharger submitted *City of Portola Mixing Zone Dye Dilution Study, September 2010* (Dye Study), prepared by their consultants, Sauers Engineering. The purpose of the study was to, in part, field verify whether the discharge of effluent maintains a dilution of 20:1 within a 100-foot mixing zone boundary downstream of the outfall and thus confirm the results of the 2009 Mixing Analysis. The Dye Study was conducted under a river flow of 72 cfs and an effluent flow of 0.5 MGD (93:1) in order to perform the verification.

The Dye Study concluded that *“the mixing zone does not compromise the integrity of the entire water body nor restrict the passage of aquatic life, nor does it dominate the receiving water body nor overlap a mixing zone of a different outfall, nor is it near any drinking water intake.”* The Dye Study also confirmed that the mixing zone remains along the east bank of the river and does not extend past the midpoint of the river width. Lastly, the Dye Study concluded that the results validated the findings of the 2009 Mixing Analysis. Specifically, the Dye Study stated that a 20:1 dilution was observed within 70 feet downstream of the point of discharge. Subsequently, previous Order No. R5-2018-0088 continued the allowance of an acute and chronic aquatic life mixing zone of up to 100 feet in the development of copper and ammonia effluent limitations.

However, upon further staff review, the Dye Study conclusion may not be entirely accurate. This is due to the study incorrectly comparing a 52:1 modeling result (80 cfs to 1.0 MGD) from the Mixing Analysis directly to the 93:1 field condition in the Dye Study to conclude that the dye study validated the model results. This error was not realized until the current Order was under development.

As a result of this discovery, and as described in Section VI.C.2.b, this Order includes a requirement for the Discharger to reevaluate and update the results of the Mixing Analysis and the Dye Study and provide confirmation on dilution factors downstream of the discharge at critical flow conditions (e.g., 50:1).

Based on available data from the studies conducted, the Central Valley Water Board determines that for the purposes of estimating a mixing zone size given the critical conditions of 40 cfs receiving water flow and corresponding effluent flow of 0.52 MGD (using the minimum flow ratio of 50:1), a 20:1 dilution is achieved at a distance 100 feet downstream of the discharge point. This dilution credit is based primarily on the results of the 2009 Mixing Analysis. A reopener provision has been included in this Order (see Section VI.C.1.d) to adjust the dilution credit(s), if necessary, as a result of the mixing zone/dilution credits confirmation exercise prescribed by this Order.

- iv. **Evaluation of Available Dilution for Human Health Criteria.** The SIP requires a mixing zone must be as small as practicable and comply with eleven (11) mixing zone prohibitions under section 1.4.2.2.A. Based on Central Valley Water Board staff evaluation, the mixing zone extends up to 100 feet downstream of the Facility's outfall and a maximum available dilution credit of 20:1 meets the eleven prohibitions of the SIP as follows:
- (1) Shall not compromise the integrity of the entire water body – The TSD states that, *“If the total area affected by elevated concentrations within all mixing zones combined is small compared to the total area of a water body (such as a river segment), then mixing zones are likely to have little effect on the integrity of the water body as a whole, provided that the mixing zone does not impinge on unique or critical habitats.”* The mixing zone is not applicable to aquatic life criteria. The mixing zone does not compromise the integrity of the entire water body.
 - (2) Shall not cause acutely toxic conditions to aquatic life passing through the mixing zone – The mixing zone is not applicable to aquatic life criteria. Therefore, acutely toxic conditions will not occur in the mixing zone.
 - (3) Shall not restrict the passage of aquatic life – The human health mixing zone is not applicable to aquatic life criteria. Therefore, the mixing zone will not restrict the passage of aquatic life.
 - (4) Shall not adversely impact biologically sensitive or critical habitats, including, but not limited to, habitat of species listed under federal or State endangered species laws – The mixing zone is not applicable to aquatic life criteria. The mixing zone will not impact biologically sensitive or critical habitats.
 - (5-9) Shall not produce undesirable or nuisance aquatic life; result in floating debris, oil, or scum; produce objectionable color, odor, taste, or turbidity; cause objectionable bottom deposits; cause nuisance – The allowance of the mixing zone will not produce undesirable or nuisance aquatic life, result in floating debris, oil, or scum; produce objectionable color, odor, taste, or turbidity; cause objectionable bottom deposits; or cause nuisance.
 - (10) Shall not dominate the receiving water body or overlap a mixing zone from different outfalls – The mixing zone is small relative to the water body, so it will not dominate the water body. Furthermore, the mixing zone does not overlap mixing zones from other outfalls. There are no outfalls or mixing zones in the vicinity of the discharge.

- (11) Shall not be allowed at or near any drinking water intake – The mixing zone is not near a drinking water intake.

A pollutant-by-pollutant evaluation is provided in subsection vi below to evaluate whether the mixing zones for each pollutant are as small as practicable and comply with the State and federal antidegradation requirements.

- v. **Evaluation of Available Dilution for Acute and Chronic Aquatic Life Criteria.** The SIP requires a mixing zone must be as small as practicable and comply with eleven (11) prohibitions under section 1.4.2.2.A. Based on Central Valley Water Board staff evaluation, the mixing zone extends up to 100 feet downstream of the Facility's outfall and a maximum available dilution credit of 20:1 meets the eleven prohibitions of the SIP as follows:
- (1) Shall not compromise the integrity of the entire waterbody – The TSD states that, *“If the total area affected by elevated concentrations within all mixing zones combined is small compared to the total area of a waterbody (such as a river segment), then mixing zones are likely to have little effect on the integrity of the waterbody as a whole, provided that the mixing zone does not impinge on unique or critical habitats.”* The mixing zones are approximately 100 feet x 40 feet, which makes up a small fraction of the multi-mile length creek. The mixing zones do not compromise the integrity of the entire waterbody.
 - (2) Shall not cause acutely toxic conditions to aquatic life passing through the mixing zone – The SIP requires that the acute mixing zone be appropriately sized to prevent lethality to organisms passing through the mixing zone. U.S. EPA recommends that float times through a mixing zone less than 15 minutes ensures that there will not be lethality to passing organisms. The acute mixing zone allowed in this Order extends only 100 feet downstream from the outfall. The float time is very short, less than one minute. In addition, this Order includes an acute toxicity effluent limitation that requires compliance to be determined based on acute bioassays using 100% effluent. Compliance with these requirements ensures that acutely toxic conditions to aquatic life passing through the acute and chronic mixing zones do not occur.
 - (3) Shall not restrict the passage of aquatic life – The Discharger conducted a mixing zone study to evaluate the near-field effects of the discharge. The Discharger evaluated the zone of passage around the mixing zone where water quality objectives are met. The allowed mixing zone has been established to ensure an adequate zone of passage is maintained. The Middle Fork of the

Feather River is approximately 80 feet wide (bank to bank) at the downstream edge of the mixing zone. The effluent is discharged from an outfall pipe located on the east bank of the river and the effluent plume remains towards the east bank of the river throughout the mixing zone. The maximum width of the mixing zone is approximately 40 feet, resulting in a zone of passage on the other side of the mixing zone.

- (4) Shall not adversely impact biologically sensitive or critical habitats, including, but not limited to, habitat of species listed under federal or State endangered species laws – The acute and chronic mixing zones will not cause acutely toxic conditions, allow an adequate zone of passage, and are sized appropriately to ensure that there will be no adverse impacts to biologically sensitive or critical habitats.
- (5-9) Shall not produce undesirable or nuisance aquatic life; result in floating debris, oil, or scum; produce objectionable color, odor, taste, or turbidity; cause objectionable bottom deposits; cause nuisance – The allowance of the acute and chronic mixing zones will not produce undesirable or nuisance aquatic life, result in floating debris, oil, or scum; produce objectionable color, odor, taste, or turbidity; cause objectionable bottom deposits; or cause nuisance.
- (10) Shall not dominate the receiving water body or overlap a mixing zone from different outfalls – The acute and chronic mixing zones are small relative to the water body, so it will not dominate the water body. Furthermore, the mixing zones do not overlap mixing zones from other outfalls. The outfall for the Delleker WWTP is approximately 1,000 feet upstream from the Facility outfall; however, the acute and chronic mixing zones only extend 30 feet downstream from the outfall and do not overlap the mixing zone established from the Facility's outfall.
- (11) Shall not be allowed at or near any drinking water intake – The acute and chronic mixing zones are not near a drinking water intake.

A pollutant-by-pollutant evaluation is provided in subsection v.i below to evaluate whether the mixing zones for each pollutant are as small as practicable and comply with the State and federal antidegradation requirements.

**vi. Evaluation of Available Dilution for Specific Constituents
(Pollutant-by-Pollutant Evaluation)**

When determining whether to allow dilution credits for a specific pollutant, several factors must be considered, such as available assimilative capacity, facility performance, and compliance with state and federal antidegradation requirements. The receiving water contains assimilative capacity for copper, ammonia, nitrate plus nitrite, and chronic whole effluent toxicity; and the human health criteria, acute aquatic life criteria, and chronic aquatic life criteria mixing zones meet the mixing zone prohibitions of the SIP section 1.4.2.2.A.

The SIP also requires that “[a] mixing zone shall be as small as practicable” and states in Section 1.4.2.2.B that “[t]he RWQCB shall deny or significantly limit a mixing zone and dilution credits as necessary to protect beneficial uses, meet the conditions of this Policy, or comply with other regulatory requirements.” The State Anti-Degradation Policy, which incorporates the federal antidegradation policy (State Water Board Order WQ 86-17 [Fay]), requires that existing quality of waters be maintained unless degradation is justified based on specific findings. Item 2 of the State Anti-Degradation Policy states:

“Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.”

The mixing zones allowed in this Order are as small as practicable and will result in the Discharger implementing best practicable treatment or control of the discharge necessary to assure that pollution or nuisance will not occur and the highest water quality consistent with maximum benefit to the people of the State will be maintained.

A pollutant-by-pollutant evaluation is provided below that evaluates facility performance and percent assimilative capacity used for each pollutant.

(a) **Ammonia.** As outlined above, acute and chronic aquatic life criteria mixing zones extending 100 feet downstream of the Facility’s outfall and a dilution credit of up to 20 meets the eleven mixing zone prohibitions of Section 1.4.2.2.A of the SIP. Furthermore, considering Facility performance and compliance with the state and federal antidegradation requirements, the mixing zones are as small as practicable and comply with Section 1.4.2.2.B of the SIP.

This Order is carrying forward the effluent limitations for ammonia from previous Order R5-2018-0088 based on the allowance of the mixing zone. Therefore, no additional use of assimilative capacity is being authorized by this Order. The effluent limits continue to result in the implementation of best practicable treatment or control of the discharge necessary to assure that a pollution or nuisance will not occur and the highest water quality consistent with maximum benefit to the people of the State will be maintained.

- (b) **Nitrate plus Nitrite.** As outlined above, a human health mixing zone extending 100 feet downstream of the Facility's outfall and a dilution credit of up to 20 meets the eleven mixing zone prohibitions of Section 1.4.2.2.A of the SIP. In this case, however, to ensure the mixing zone is as small as practicable and considering section 1.4.2.2.B of the SIP, the Central Valley Water Board finds the mixing zone must be limited. The dilution credit for nitrate plus nitrite has been adjusted based on Facility performance resulting in a dilution credit of 1 and a mixing zone extending less than 30 feet downstream has been granted for nitrate plus nitrite.

The allowance of a mixing zone and dilution credits are a discretionary act by the Central Valley Water Board. The mixing zone and dilution credit for nitrate plus nitrite permitted in this Order will result in a minor increase in the discharge (i.e., use 1.4 percent of the available assimilative capacity in the receiving water). According to U.S. EPA's memorandum on Tier 2 Antidegradation Reviews and Significance Thresholds, any individual decision to lower water quality for nonbioaccumulative chemicals that is limited to 10 percent of the available assimilative capacity represents minimal risk to the receiving water and is fully consistent with the objectives and goals of the Clean Water Act. Per U.S. EPA guidance a simple antidegradation analysis is appropriate in this case. Furthermore, considering existing Facility performance and the de minimis impact on the receiving water, the effluent limits will result in the implementation of best practicable treatment or control of the discharge necessary to assure that a pollution or nuisance will not occur and the highest water quality consistent with maximum benefit to the people of the State will be maintained.

- (c) **Copper.** As outlined above, acute and chronic aquatic life criteria mixing zones extending 100 feet downstream of the Facility's outfall and dilution credits of up to 20 meet the eleven mixing zone prohibitions of Section 1.4.2.2.A of the SIP. Furthermore, considering Facility performance and compliance with the state and federal antidegradation requirements, the mixing zones are as small as practicable and comply with Section 1.4.2.2.B of the SIP.

This Order establishes effluent limitations for copper, based on the allowance of the mixing zone, that are more stringent than those in previous Order R5-2018-0088. Therefore, no additional use of assimilative capacity is being authorized by this Order. The effluent limits continue to result in the implementation of best practicable treatment or control of the discharge necessary to assure that a pollution or nuisance will not occur and the highest water quality consistent with maximum benefit to the people of the State will be maintained.

- (d) **Chronic Whole Effluent Toxicity.** As outlined above, a chronic aquatic life criteria mixing zone extending 100 feet downstream of the Facility's outfall and a dilution credit of up to 20 meet the eleven mixing zone prohibitions of Section 1.4.2.2.A of the SIP. In this case, however, to ensure the mixing zone is as small as practicable and considering section 1.4.2.2.B of the SIP, the Central Valley Water Board finds the whole effluent toxicity mixing zone must be limited.

A chronic dilution credit of 9 (IWC of 10 percent effluent) is granted for chronic whole effluent toxicity. The effluent limits will result in the implementation of best practicable treatment or control of the discharge necessary to assure that a pollution or nuisance will not occur and the highest water quality consistent with maximum benefit to the people of the State will be maintained.

Based on the findings above, this Order grants mixing zones and dilution credits that have been used for the calculation of WQBELs for ammonia, copper, nitrate plus nitrite, and chronic whole effluent toxicity. The dimensions of the mixing zones and allowable dilution credits are shown in Table F-7, below. The percent assimilative capacity used was calculated for antidegradation purposes comparing current permitted discharge to the revised permitted discharge with the mixing zone at the long-term receiving water flow of 68 cfs during the allowable discharge period. Use of the long-term receiving water flow is appropriate for antidegradation purposes which considers the long-term effect of an allowed permitted increase in the mass loading on the receiving water. The percent assimilative capacity used calculations are summarized in Table F-7, below.

Table F-7 Mixing Zones and Dilution Credits

Parameter	Mixing Zone Type	Allowed Dilution Credit	Approximate Mixing Zone Size (feet)
Ammonia as N	Acute and Chronic Aquatic Life	Acute: 20 Chronic: 14	40W x 100L 30W x 100L
Copper, total	Acute and Chronic Aquatic Life	Acute: 12 Chronic: 20	30W x 100L 40W x 100L
Nitrate plus Nitrite	Human Health	1	<3W x <30L
Whole Effluent Toxicity	Chronic Aquatic Life	Chronic: 9	30W x 100L

Table F-8 Percent Assimilative Capacity Used Calculations

Parameter	Ammonia as N	Copper, Total	Nitrate plus Nitrite
Water Quality Objective/ Criteria	Acute: 2.14 mg/L Chronic: 1.44 mg/L	Acute: 7.1 µg/L Chronic: 5.1 µg/L	10 mg/L
Maximum Background Concentration	0.5 mg/L	4.0 µg/L	0.05 mg/L
Existing Permitted Condition	18 mg/L	26 µg/L	10 mg/L
Revised Permitted Condition	18 mg/L	22 µg/L	20 mg/L
Existing Permitted Assimilative Capacity	0.90 mg/L	0.81 µg/L	9.82 mg/L
Revised Permitted Assimilative Capacity	0.90 mg/L	0.86 µg/L	9.68 mg/L
Percent Assimilative Capacity Used	0	-6.6	1.4

Table F-8 Notes:

- Existing Permitted Condition is the existing average monthly effluent limitation or applicable water quality objective/criteria if there is currently no effluent limitation. (Previous Order R5-2018-0088 did not have nitrate plus nitrite effluent limitation).
- Revised Permitted Condition is new average monthly effluent limitation implemented in this Order with the allowed mixing zone(s).
- Assimilative Capacity calculated using mass balance equation with a long-term average receiving water flow of 37 MGD (68 cfs) during the allowable discharge period and permitted effluent Average Dry Weather flow of 0.5 MGD.

- d. **Conversion Factors.** The default U.S. EPA conversion factors contained in Appendix 3 of the SIP were used to convert the applicable dissolved criteria to total criteria when developing effluent limitations for CTR metals, including copper. Per the Reopener Provisions of this Order, if the Discharger performs studies to determine site-specific dissolved-to-total metal translators this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.
- e. **Hardness-Dependent CTR Metals Criteria.** The CTR and the NTR contain water quality criteria for seven metals that vary as a function of hardness. The lower the hardness the lower the water quality criteria. The metals with hardness-dependent criteria include cadmium, copper, chromium III, lead, nickel, silver, and zinc. This Order has established the criteria for hardness-dependent metals based on the hardness of the receiving water (actual ambient hardness) as required by the SIP and the CTR.

The ambient hardness for the Middle Fork of the Feather River ranges from 49 mg/L to 79 mg/L based on ambient data collected during the allowable discharge period from January 2020 through April 2023. Given the high variability in ambient hardness values, there is no single hardness value that describes the ambient receiving water for all possible scenarios (e.g., minimum, maximum). Because of this variability, staff has determined that based on the ambient hardness concentrations measured in the receiving water, the Central Valley Water Board has discretion to select ambient hardness values within the range of 49 mg/L (minimum) up to 79 mg/L (maximum).

The Central Valley Water Board finds that the use of the ambient hardness values and associated acute and chronic criteria shown in Table F-9 to conduct the reasonable potential analysis (RPA) and, unless otherwise noted in the table, to calculate WQBELs, protect beneficial uses under all ambient receiving water conditions and comply with the SIP, CTR, and Basin Plan.

Table F-9. Summary of Criteria for CTR Hardness-dependent Metals

CTR Metals	Ambient Hardness (mg/L)	Acute Criteria (µg/L, total)	Chronic Criteria (µg/L, total)
Copper	59	8.5	5.9
Chromium III	59	1100	130
Cadmium	58 (acute) 59 (chronic)	2.4	1.6
Lead	57	40	1.6
Nickel	59	300	33
Silver	55	1.5	--

CTR Metals	Ambient Hardness (mg/L)	Acute Criteria (µg/L, total)	Chronic Criteria (µg/L, total)
Copper	59	8.5	5.9
Chromium III	59	1100	130
Cadmium	58 (acute) 59 (chronic)	2.4	1.6
Zinc	59	77	77

Table F-9 Notes:

1. **Criteria (µg/L total).** Acute and chronic criteria were rounded to two significant figures in accordance with the CTR (40 C.F.R. section 131.38(b)(2)).
2. **Ambient hardness (mg/L).** Values in Table F-9 represent actual observed receiving water hardness measurements collected during the allowable discharge period.
3. **Copper.** This Order allows a mixing zone for copper. The ambient hardness shown above is only appropriate for conducting the RPA, because dilution has not been considered. As discussed in Section IV.C.2.c, when considering dilution to calculate the WQBELs the appropriate ambient hardness is 49 mg/L (as CaCO₃) based solely on upstream receiving water hardness.

3. Determining the Need for WQBELs

Clean Water Act section 301(b)(1)(C) requires effluent limitations necessary to meet water quality standards, and 40 C.F.R. section 122.44(d) requires NPDES permits to include conditions that are necessary to achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality. Federal regulations at 40 C.F.R 122.44(d)(1)(i) state, "Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level that will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." Additionally, 40 C.F.R. section 122(d)(1)(vii) requires effluent limits to be developed consistent with any available WLAs developed and approved for the discharge. The process to determine whether a WQBEL is required as described in 40 C.F.R. section 122.44(d)(1)(i) is referred to as a reasonable potential analysis or RPA. Central Valley Water Board staff conducted RPAs for nearly 200 constituents, including the 126 U.S. EPA priority toxic pollutants. This section includes details of the RPAs for constituents of concern for the Facility. The entire RPA is included in the administrative record and a summary of the constituents of concern is provided in Attachment G.

For priority pollutants, the SIP dictates the procedures for conducting the RPA. For non-priority pollutants the Central Valley Water Board is not restricted to one particular RPA method; therefore, the RPAs have been conducted based

on U.S. EPA guidance considering multiple lines of evidence and the site-specific conditions of the discharge. Ammonia, acute toxicity, chlorine residual, nitrate plus nitrite, pH, and pathogens are not priority pollutants. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA for these non-priority pollutant parameters based on a qualitative assessment as recommended by U.S. EPA guidance. U.S. EPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available...A permitting authority might also determine that WQBELs are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBELs for pathogens in all permits for POTWs discharging to contact recreational waters)." U.S. EPA's TSD also recommends that factors other than effluent data should be considered in the RPA, "When determining whether or not a discharge causes, has the reasonable potential to cause, or contributes to an excursion of a numeric or narrative water quality criterion for individual toxicants or for toxicity, the regulatory authority can use a variety of factors and information where facility-specific effluent monitoring data are unavailable. These factors also should be considered with available effluent monitoring data." With regard to POTWs, U.S. EPA recommends that, "POTWs should also be characterized for the possibility of chlorine and ammonia problems." (TSD, p. 50)

- a. **Constituents with No Reasonable Potential.** Central Valley Water Board staff conducted reasonable potential analyses for nearly 200 constituents, including the 126 U.S. EPA priority toxic pollutants. All reasonable potential analyses are included in the administrative record and a summary of the constituents of concern is provided in Attachment G. WQBELs are not included in this Order for constituents that do not demonstrate reasonable potential to cause or contribute to an instream excursion of an applicable water quality objective; however, monitoring for those pollutants is established in this Order as required by the SIP. If the results of effluent monitoring demonstrate reasonable potential, this Order may be reopened and modified by adding an appropriate effluent limitation.

Most constituents with no reasonable potential are not discussed in this Order. This section only provides the rationale for the reasonable potential analyses for the following constituents of concern that were found to have no reasonable potential after assessment of the data:

- i. **Aluminum**

- (a) **WQO.** The State Water Board Division of Drinking Water (DDW) has established Secondary Maximum Contaminant Levels

(MCLs) to assist public drinking water systems in managing their drinking water for public welfare considerations, such as taste, color, and odor. The Secondary MCL for aluminum is 200 µg/L for protection of the MUN beneficial use. The Basin Plan requires compliance with Secondary MCLs on an annual average basis.

The 2018 U.S. EPA NAWQC for protection of freshwater aquatic life for aluminum recommends acute (1-hour average; criteria maximum concentration or CMC) and chronic (4-day average; criteria continuous concentration or CCC) standards based upon Multiple Linear Regression (MLR) models for vertebrate and invertebrate species that use pH, dissolved organic carbon (DOC), and total hardness to quantify the effects of these water chemistry parameters on the bioavailability and resultant toxicity of aluminum to aquatic organisms. The U.S. EPA aluminum criteria have been used to implement the Basin Plan's narrative toxicity objective.

A CMC of 808 µg/L and CCC of 396 µg/L were calculated considering pH, hardness, and DOC representative of the receiving water and effluent conditions. Effluent and receiving water sampling results collected during the allowable discharge period for pH and hardness from February 2019 through April 2023 were used in the evaluation. In the absence of DOC data, the criteria were calculated considering a conservative assumption of DOC for the receiving water and effluent of 1 mg/L and 5 mg/L, respectively.

- (b) **RPA Results.** For priority pollutants, the SIP dictates the procedures for conducting the RPA. Aluminum is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board used professional judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent. The Secondary MCL is derived from human welfare considerations (e.g., taste, odor, laundry staining), not for toxicity. Secondary MCLs are drinking water standards contained in the Basin Plan and requires compliance with these standards on an annual average basis with samples that have been passed through a 1.5-micron filter. To be consistent with how compliance with the standards is determined, for the Secondary MCL the RPA was conducted based on the calendar annual average effluent aluminum concentrations. Calculating a maximum annual average concentration considers variability in the data, per 40 C.F.R. § 122.44(d)(1)(ii).

The maximum annual average effluent concentration for total recoverable aluminum was 260 µg/L based on 6 samples collected from February 2019 through April 2023. The maximum annual average background receiving water concentration for total recoverable aluminum was 228 µg/L based on 19 samples. However, no 1.5-micron filtered samples are available to compare with the Basin Plan objectives.

Therefore, the data is inappropriate and insufficient to determine reasonable potential to cause or contribute to an excursion of the Secondary MCL for aluminum.

The Central Valley Water Board can require additional monitoring for a pollutant in place of an effluent limitation if data are unavailable or insufficient. Instead of effluent limitations, monitoring for total recoverable and filtered aluminum will be required once per month in the effluent and filtered aluminum sampling in the receiving water will be required every discharge season. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard, this Order may be reopened according to Reopener Provision VI.C.1.a.ii and modified by adding an appropriate effluent limitation.

For the 2018 U.S. EPA NAWQC the RPA was conducted considering the maximum effluent concentration (MEC) for aluminum, which was 360 µg/L based on 7 samples collected from February 2019 through April 2023. Effluent aluminum is consistently less than the NAWQC. Therefore, the Central Valley Water Board finds the discharge does not have reasonable potential to cause or contribute to an exceedance of the narrative toxicity objective in the receiving water and the Facility is adequately controlling the discharge of aluminum.

ii. **pH**

- (a) **WQO.** The Basin Plan includes a water quality objective for surface waters (except for Goose Lake) that the “pH shall not be depressed below 6.5 nor raised above 8.5.”
- (b) **RPA Results.** For priority pollutants, the SIP dictates the procedures for conducting the RPA. pH is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board used professional judgment in determining the appropriate

method for conducting the RPA for this non-priority pollutant constituent.

The effluent ranged from 6.6 to 9.0 based on 187 samples collected from February 2019 through April 2023. The upstream receiving water pH collected during the allowable discharge period ranged from 6.2 to 8.5 during the same time frame. The downstream receiving water pH collected when discharging to the receiving water ranged from 7.1 to 8.5.

There are times during the allowable discharge period when the pH in the upstream receiving water is below the Basin Plan objective of 6.5. However, the minimum pH in the effluent is above the Basin Plan objective of 6.5. Furthermore, all downstream pH values are between the Basin Plan objective of 6.5 to 8.5.

Additionally, review of paired upstream, downstream, and effluent pH data does not indicate that the pH in the effluent has a measurable impact on the pH in the receiving water.

Therefore, the Central Valley Water Board finds the discharge does not have reasonable potential to cause or contribute to an exceedance of the Basin Plan objective in the receiving water and the Facility and this Order does not include WQBEL's for pH. However, this Order includes technology-based minimum and maximum effluent limitations of 6.0 and 9.0, respectively, based on the secondary treatment standards at 40 C.F.R. part 133.

- b. **Constituents with No Data or Insufficient Data.** Reasonable potential cannot be determined for the following constituents because effluent data are limited or ambient background concentrations are not available. The Discharger is required to continue to monitor for these constituents in the effluent using analytical methods that provide the best feasible detection limits. When additional data become available, further analysis will be conducted to determine whether to add numeric effluent limitations or to continue monitoring.

- i. **Iron**

- (a) **WQO.** The Department of Drinking Water (DDW) has established MCLs to assist public drinking water systems in managing their drinking water for public welfare considerations, such as taste, color, and odor. The Secondary MCL for iron is 300 µg/L for protection of the MUN beneficial use. The Basin Plan requires compliance with Secondary MCLs on an annual average basis.

- (b) **RPA Results.** For priority pollutants, the SIP dictates the procedures for conducting the RPA. Iron is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board used professional judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent. The Secondary MCL is derived from human welfare considerations (e.g., taste, odor, laundry staining), not for toxicity. Secondary MCLs are drinking water standards contained in the Basin Plan and requires compliance with these standards on an annual average basis with samples that have been passed through a 1.5-micron filter. To be consistent with how compliance with the standards is determined, for the Secondary MCL the RPA is conducted based on the calendar annual average effluent iron concentrations. Calculating a maximum annual average concentration considers variability in the data, per 40 C.F.R. § 122.44(d)(1)(ii).

The maximum annual average effluent concentration for total recoverable iron was 1,170 µg/L based on 8 samples and the maximum annual average concentration for dissolved iron (passed through a 0.45 micron filter) was 390 ug/L based on 5 samples collected from February 2019 through April 2023; the average of all 5 dissolved iron values in the effluent is 137 µg/L. The maximum annual average background receiving water concentration for total recoverable iron was 515 µg/L based on 17 samples collected from February 2019 through April 2023. However, no 1.5-micron filter samples are available to compare with Basin Plan Objectives. Therefore, the data is inappropriate and insufficient to determine reasonable potential to cause or contribute to an excursion of the Secondary MCL for iron.

Furthermore, although an iron concentration using a 1.5-micron filter rather than a 0.45 micron filter (i.e., dissolved) would likely be higher for a given sample (due to the larger filter size), only one of the 5 samples collected for the dissolved fraction of iron in the effluent is above the Secondary MCL of 300 µg/L. The sample, measured at 390 µg/L dissolved iron, is the only dissolved iron sample collected over the course of a calendar year at the Facility. Since the sample was the only sample collected in the calendar year, it also represents the “maximum annual average value” that can be used to compare to the Secondary MCL. In this case, the one dissolved sample collected in the calendar year is insufficient to determine reasonable potential to cause or contribute to an excursion of the Secondary MCL.

The Central Valley Water Board can require additional monitoring for a pollutant in place of an effluent limitation if data are unavailable or insufficient. Instead of effluent limitations, monitoring for total and filtered iron will be required monthly in the effluent and filtered iron will be required every allowable discharge period in the receiving water. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard, this Order may be reopened according to Reopener Provision VI.C.1.a.ii and modified by adding an appropriate effluent limitation.

ii. **Manganese**

- (a) **WQO.** The Department of Drinking Water (DDW) has established MCLs to assist public drinking water systems in managing their drinking water for public welfare considerations, such as taste, color, and odor. The Secondary MCL for manganese is 50 µg/L for protection of the MUN beneficial use. The Basin Plan requires compliance with Secondary MCLs on an annual average basis.
- (b) **RPA Results.** For priority pollutants, the SIP dictates the procedures for conducting the RPA. Manganese is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board used professional judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent. The Secondary MCL is derived from human welfare considerations (e.g., taste, odor, laundry staining), not for toxicity. Secondary MCLs are drinking water standards contained in the Basin Plan and requires compliance with these standards on an annual average basis with samples that have been passed through a 1.5-micron filter. To be consistent with how compliance with the standards is determined, for the Secondary MCL the RPA is conducted based on the calendar annual average effluent manganese concentrations. Calculating a maximum annual average concentration considers variability in the data, per 40 C.F.R. § 122.44(d)(1)(ii).

The maximum annual average effluent concentration for total recoverable manganese was 265 µg/L based on 9 samples and the maximum annual average concentration for dissolved manganese (passed through a 0.45 micron filter) was 190 µg/L based on 5 samples collected from February 2019 through April 2023. The maximum annual average background receiving

water concentration for total recoverable manganese was 107 µg/L based on 18 samples collected from February 2019 through April 2023. However, no 1.5-micron filter samples are available to compare with Basin Plan Objectives. Therefore, the data is inappropriate and insufficient to determine reasonable potential to cause or contribute to an excursion of the Secondary MCL for manganese.

Furthermore, although an manganese concentration using a 1.5-micron filter rather than a 0.45 micron filter (i.e., dissolved) would likely be higher for a given sample (due to the larger filter size), three of the five samples collected for the dissolved fraction in the effluent are above the Secondary MCL of 50 µg/L. These three samples result in annual dissolved manganese averages of 100 µg/L (2022 annual average) and 190 µg/L (2023 annual average) to compare to the Secondary MCL for manganese.

Since only one sample was collected to obtain the annual average in 2022, this value does not consider the variability in the manganese concentrations that may exist throughout the year to compare to the Secondary MCL. Two samples were collected in 2023 which resulted in an annual average dissolved manganese concentration of 190 µg/L. However, the Discharger's municipal water supply data collected during the wet season in 2023 show a value of 610 µg/L for total recoverable manganese, which varies considerably from the maximum value of 6 µg/L for data collected since 2019. The source for the Discharger's municipal water supply is a spring and surface water blend. This indicates that the abnormally wet winter in 2023 may have influenced the manganese in the water supply and consequently the effluent, which is not representative of normal operating conditions. For these additional reasons, the manganese data is inappropriate and insufficient to determine reasonable potential to cause or contribute to an excursion of the Secondary MCL for manganese.

The Central Valley Water Board can require additional monitoring for a pollutant in place of an effluent limitation if data are unavailable or insufficient. Instead of effluent limitations, monitoring for total and filtered manganese will be required monthly in the effluent and filtered manganese will be required every allowable discharge period in the receiving water. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard, this Order may be reopened according

to Reopener Provision VI.C.1.a.ii and modified by adding an appropriate effluent limitation.

iii. **Mercury**

- (a) **WQO.** The State Water Board adopted Resolution 2017-0027 on 2 May 2017, which approved Part 2 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California, Tribal and Subsistence Fishing Beneficial Uses and Mercury Provisions (Statewide Mercury Provisions). The Statewide Mercury Provisions establish a Sport Fish Water Quality Objective of an average 0.2 mg/kg methylmercury fish tissue concentration within a calendar year for waters with the beneficial uses of commercial and sport fishing (COMM), tribal tradition and culture (CUL), wildlife habitat (WILD), and marine habitat (MAR). This fish tissue objective corresponds to a water column concentration of 12 ng/L of total mercury for flowing water bodies. As shown in Table F-4, the beneficial uses of the Middle Fork of the Feather River include WILD; therefore, the Sport Fish Water Quality Objective is applicable and is the most stringent objective.
- (b) **RPA Results.** The Statewide Mercury Provisions specify that the RPA shall be conducted using the maximum annual average effluent and background mercury concentrations for comparison with the Sport Fish Water Quality Objective. The maximum observed effluent mercury concentration was non-detect with a method detection limit of 100 ng/L based on 2 samples collected from 1 February 2019 through April 2023. The maximum background concentration for mercury was non-detect with a method detection limit of 100 ng/L based on 2 samples collected from 1 February 2019 through April 2023.

The effluent and receiving water results were all non-detects with a method detection limit above the criteria. Therefore, the data is inappropriate and insufficient to determine reasonable potential.

The Central Valley Water Board can require additional monitoring for a pollutant in place of an effluent limitation if data are unavailable or insufficient. Instead of effluent limitations, monitoring for mercury will be required two times as part of the effluent and receiving water characterization. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard, this Order may be reopened according to Reopener

Provision VI.C.1.a.ii and modified by adding an appropriate effluent limitation.

Additionally, this Order requires an Analytical Methods Report to be submitted according to Table E-13, which requires constituents to be analyzed using sufficiently sensitive analytical methods and Reporting Levels per the SSM Rule specified in 40 C.F.R. 122.21(e)(30 and 122.44(i)(1)(iv). By following an approved Analytical Methods Report, the Discharger will collect data during the term of this Order with appropriate method detection limits and reporting limits to compare with the applicable criteria for determining reasonable potential.

iv. **Salinity**

- (a) **WQO.** The Basin Plan contains a site-specific EC objective of “150 µmhos/cm (90 percentile) in well-mixed waters of the Feather River”; the objective is applicable to the Middle Fork of the Feather River, from Little Last Chance Creek to Lake Oroville.

The Basin Plan also contains a chemical constituent objective that incorporates state MCLs, contains a narrative objective, and contains numeric water quality objectives for certain specified water bodies for electrical conductivity, total dissolved solids, sulfate, and chloride. The U.S. EPA Ambient Water Quality Criteria for Chloride recommends acute and chronic criteria for the protection of aquatic life. There are no U.S. EPA water quality criteria for the protection of aquatic life for electrical conductivity, total dissolved solids, and sulfate. Additionally, there are no U.S. EPA numeric water quality criteria for the protection of agricultural, livestock, and industrial uses. Numeric values for the protection of these uses are typically based on site specific conditions and evaluations to determine the appropriate constituent threshold necessary to interpret the narrative chemical constituent Basin Plan objective. The Central Valley Water Board must determine the applicable numeric limit to implement the narrative objective for the protection of agricultural supply. Table F-10, below, contains various recommended levels for EC or TDS, sulfate, and chloride.

Table F-10 Salinity Water Quality Criteria/Objectives

Parameters	Secondary MCL Recommended Level.	Secondary MCL Upper Level	Secondary MCL Short-term Maximum	U.S. EPA NAWQC	Maximum Calendar Annual Average Effluent Concentration	Maximum Daily Effluent Concentration
EC (µmhos/cm) or TDS (mg/L)	EC 900 or TDS 500	EC 1,600 or TDS 1,000	EC 2,200 or TDS 1,500	N/A	EC 538 TDS 300	EC 629 TDS 301
Sulfate (mg/L)	250	500	600	N/A	41	41
Chloride (mg/L)	250	500	600	860 1-hour / 230 4-day	44	44

Table F-10 Notes:

- 1. Agricultural Water Quality Objectives.** Applicable agricultural water quality objectives vary. Procedures for establishing the applicable numeric limitation to implement the narrative chemical constituent objective can be found in the Policy for Application of Water Quality Objectives, section 4.2.2.1.9 of the Basin Plan. However, the Basin Plan does not require improvement over naturally occurring background concentrations. In cases where the natural background concentration of a particular constituent exceeds an applicable water quality objective, the natural background concentration will be considered to comply with the objective.
- 2. Secondary MCLs.** Secondary MCLs are for protection of public welfare and are stated as a recommended level, upper level, and a short-term maximum level.
- 3. Chloride.** The Secondary MCL for chloride is 250 mg/L, as a recommended level, 500 mg/L as an upper level, and 600 mg/L as a short-term maximum.
- 4. Electrical Conductivity or Total Dissolved Solids.** The Secondary MCL for EC is 900 µmhos/cm as a recommended level, 1600 µmhos/cm as an upper level, and 2200 µmhos/cm as a short-term maximum, or when expressed as TDS is 500 mg/L as a recommended level, 1000 mg/L as an upper level, and 1500 mg/L as a short-term maximum. The Basin Plan contains a site-specific EC limit of 150 µmhos/cm (90 percentile) in well-mixed waters of the Middle Fork of the Feather River.
- 5. Sulfate.** The Secondary MCL for sulfate is 250 mg/L as a recommended level, 500 mg/L as an upper level, and 600 mg/L as a short-term maximum.

(b) **RPA Results.**

- (1) **Chloride.** Chloride concentrations in the effluent ranged from 20 mg/L to 44 mg/L, with an average of 32 mg/L. These levels do not exceed the Secondary MCL. Background concentrations ranged from 1.2 mg/L to 5.7 mg/L, with an average of 3.8 mg/L.
- (2) **Electrical Conductivity or Total Dissolved Solids.** For priority pollutants, the SIP dictates the procedures for conducting the RPA. EC is not priority a pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used its professional judgement in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent.

A review of the Discharger's monitoring reports shows an average effluent EC of 403 $\mu\text{mhos/cm}$, with a range from 251 $\mu\text{mhos/cm}$ to 629 $\mu\text{mhos/cm}$. These levels exceed the Basin Plan site-specific EC limit of 150 $\mu\text{mhos/cm}$ (90 percentile) in well-mixed waters of the Middle Fork of the Feather River. The upstream receiving water EC, collected year-round, ranged from 71 $\mu\text{mhos/cm}$ to 318 $\mu\text{mhos/cm}$ and averaged 169 $\mu\text{mhos/cm}$.

Additionally, data collected year-round at monitoring location RSW-003 included in the previous Order, located approximately 0.5 miles downstream of the discharge location, ranged from 100 $\mu\text{mhos/cm}$ to 377 $\mu\text{mhos/cm}$ with an average of 168 $\mu\text{mhos/cm}$. The average value at monitoring location RSW-003 from March 2010 through April 2023 is 165 $\mu\text{mhos/cm}$.

The previous permit required a Salinity/EC Site-Specific Study to investigate the appropriate effluent salinity/EC levels to meet the Basin Plan objective in the vicinity of the discharge. The study and the Salinity Evaluation and Minimization Plan noted that available data shows that the Facility's discharge does not affect the EC in the river when comparing upstream and downstream EC samples and factoring in times when the Facility does not discharge to surface water. Also, the Salinity/EC Site-Specific Study noted that additional data was necessary to determine if the objective was being met in well-mixed water of the Middle Fork of the Feather River. Between October 2020

and August 2021, Central Valley Water Board staff collected quarterly EC data from four locations in the Middle Fork of the Feather River from upstream of the confluence with Little Last Chance Creek (upstream of Facility) to a location approximately 25 miles downstream of the Facility. Staff monitoring efforts found that EC levels further downstream of the Facility, in more well-mixed waters of the Middle Fork of the Feather River than of monitoring location RSW-003, met the Basin Plan Objective more consistently, with a reported average EC concentration of 136 $\mu\text{mhos/cm}$ at the monitoring locations during the one-year sampling event.

Based on this information, staff finds that the Basin Plan objective is being met in locations in the Middle Fork of the Feather River downstream of the discharge and monitoring location RSW-003 in the previous permit is not representative of a location to determine if the Basin Plan objective is being met. Therefore, there is insufficient data to determine if the EC in the discharge exhibits reasonable potential to cause or contribute to an in-stream excursion of the Basin Plan objective for EC.

The average TDS effluent concentration was 227 mg/L with concentrations ranging from 120 mg/L to 301 mg/L. These levels do not exceed the Secondary MCL. The background receiving water TDS ranged from 110 mg/L to 290 mg/L, with an average of 166 mg/L.

- (3) **Sulfate.** Sulfate concentrations in the effluent ranged from 18 mg/L to 41 mg/L, with an average of 26 mg/L. These levels do not exceed the Secondary MCL. Background concentrations ranged from 3 mg/L to 18 mg/L, with an average of 6.5 mg/L.

(c) **WQBELs.**

As discussed above, there is insufficient data to determine if the discharge exhibits reasonable potential to cause or contribute to an in-stream excursion of water quality objectives for salinity.

On 17 January 2020, certain amendments to the Basin Plan incorporating a Program to Control and Permit Salt Discharges to Surface and Groundwater (Salt Control Program) became effective. Other amendments became effective on 2 November 2020 when approved by the U.S. EPA. The Salt Control Program is a three-phased program, with each phase

lasting 10 to 15 years. The Basin Plan requires all salt dischargers to comply with the provisions of the program. Two compliance pathways are available for salt dischargers during Phase 1.

The Phase 1 Compliance pathways are: 1) Conservative Salinity Permitting Approach, which utilizes the existing regulatory structure and focuses on source control, conservative salinity limits on the discharge, and limits the use of assimilative capacity and compliance time schedules; and, 2) Alternative Salinity Permitting Approach, which is an alternative approach to compliance through implementation of specific requirements such as participating in the Salinity Prioritization and Optimization Study (P&O) rather than the application of conservative discharge limits.

The Discharger submitted a Notice of Intent for the Salinity Control Program indicating its intent to meet the Alternative Salinity Permitting Approach. This Order requires implementation of a Salinity Evaluation and Minimization Plan, participation in the Salinity P&O Study, and includes a performance-based trigger for EC consistent with the Alternative Salinity Permitting Approach.

- c. **Constituents with Reasonable Potential.** The Central Valley Water Board finds that the discharge has a reasonable potential to cause or contribute to an instream excursion above a water quality standard for ammonia, chlorine, copper, nitrate and nitrite, and pathogens. WQBELs for these constituents are included in this Order. A summary of the RPA is provided in Attachment G, and a detailed discussion of the RPA for each constituent is provided below.

- i. **Ammonia**

- (a) **WQO.** The 2013 U.S. EPA National Ambient Water Quality Criteria (NAWQC) for the protection of freshwater aquatic life for total ammonia (2013 Criteria), recommends acute (1-hour average; criteria maximum concentration or CMC) and chronic (30-day average; criteria continuous concentration or CCC) standards based on pH and temperature. U.S. EPA also recommends that no 4-day average concentration should exceed 2.5 times the 30-day CCC. The 2013 Criteria reflects the latest scientific knowledge on the toxicity of ammonia to certain freshwater aquatic life, including toxicity data on sensitive freshwater unionid mussels, non-pulmonary snails, and other freshwater organisms.

The Central Valley Clean Water Association (CVCWA) organized a coordinated effort for POTWs within the Central Valley Region, the Freshwater Mussel Collaborative Study for Wastewater Treatment Plants, to determine how the latest scientific knowledge on the toxicity of ammonia reflected in the 2013 Criteria could be implemented in the Central Valley Region. Through this effort a Criteria Recalculation Report was developed in January 2020 using toxicity studies for the freshwater mussel species present in Central Valley Region waters.

The Criteria Recalculation Report implemented U.S. EPA's Recalculation Procedure utilizing toxicity bioassays conducted on resident mussel species to replace the toxicity data for the eastern mussel species in the national dataset to develop site-specific ammonia criteria for waters within the Central Valley Region, including all surface waters in the Sacramento River, San Joaquin River, and Tulare Lake Basin Plans.

U.S. EPA Office of Science and Technology reviewed and approved the Criteria Recalculation Report with a more conservative approach for utilizing the acute-to-chronic ratio procedure for developing the site-specific chronic criterion. The Central Valley Water Board finds that the site-specific ammonia criteria provided in the January 2020 Criteria Recalculation Report implements the Basin Plan's narrative toxicity objective to protect aquatic life beneficial uses of the receiving water.

Site-specific Criteria for the Middle Fork of the Feather River. The recalculated site-specific criteria developed in the Criteria Recalculation Report for the acute and chronic criteria are presented based on equations that vary according to pH and temperature for situations where freshwater mussels are present and where they are absent. In this case, for the Middle Fork of the Feather River, freshwater mussels have been assumed to be present. In addition, the recalculated criteria include equations that provide enhanced protection for important salmonid species in the genus *Oncorhynchus*, that can be implemented for receiving waters where salmonid species are present. Because the receiving water has a beneficial use of cold freshwater habitat and the presence of salmonids is well-documented, the criteria equations for waters where salmonids are present were used.

The acute (1-hour average) criterion or CMC was calculated using paired effluent pH and temperature data, collected during

the period from February 2019 through April 2023. The most stringent CMC of 0.88 mg/L (ammonia as N) calculated has been implemented in this Order.

The chronic (30-day average) criterion or CCC was calculated using paired downstream receiving water pH and temperature data, collected during the allowable discharge period from February 2019 through April 2023. The most stringent 30-day rolling average CCC of 2.6 mg/L (ammonia as N) has been implemented in this Order.

The chronic (4-day average) concentration is derived in accordance with the U.S. EPA criterion as 2.5 times the 30-day CCC. Based on the 30-day CCC of 2.6 mg/L (ammonia as N), the 4-day average concentration that should not be exceeded is 6.5 mg/L (ammonia as N).

- (b) **RPA Results.** The Facility is a POTW that treats domestic wastewater. Untreated domestic wastewater contains ammonia in concentrations that is harmful to aquatic life and exceed the Basin Plan narrative toxicity objective. Inadequate or incomplete treatment may result in the discharge of ammonia to the receiving stream, which creates the basis for the discharge to have a reasonable potential to cause or contribute to an instream excursion above the site-specific acute and chronic criteria for ammonia provided by the January 2020 Criteria Recalculation Report.

Additionally, the maximum effluent concentration for ammonia was 13 mg/L, based on 34 samples collected from February 2019 through April 2023.

Therefore, the Central Valley Water Board finds the discharge has reasonable potential for ammonia and WQBELs are required.

- (c) **WQBELs.** The Central Valley Water Board calculates WQBELs in accordance with SIP procedures for non-CTR constituents, and ammonia is a non-CTR constituent. The SIP procedure assumes a 4-day averaging period for calculating the long-term average discharge condition (LTA). However, U.S. EPA recommends modifying the procedure for calculating permit limits for ammonia using a 30-day averaging period for the calculation of the LTA corresponding to the 30-day CCC. Therefore, while the LTAs corresponding to the acute and 4-day chronic criteria were calculated according to SIP procedures, the LTA corresponding to the 30-day CCC was calculated

assuming a 30-day averaging period. The lowest LTA representing the acute, 4-day CCC, and 30-day CCC is then selected for deriving the average monthly effluent limitation (AMEL) and average weekly effluent limitation (AWEL).

When a mixing zone is allowed, ammonia criteria may be calculated using upstream pH and temperature because assimilative capacity is considered in the WQBEL calculations. Therefore, paired upstream pH and temperature collected during the allowable discharge period was used to calculate criteria in the receiving water to compare to the upstream samples (B) collected during the allowable discharge period in order to establish the receiving water's assimilative capacity for ammonia.

As explained above, the Effluent Concentration Allowance for ammonia is calculated by the following equation:

$$ECA = C1 + D(C2 - B)$$

Where:

ECA = effluent concentration allowance

D = dilution credit

C1 = criteria calculated from paired effluent pH and temperature (CMC) or paired downstream receiving water pH and temperature (CCC)

C2 = criteria calculated from upstream receiving water pH and temperature (to establish the receiving water assimilative capacity for ammonia).

B = ambient background concentration

The remainder of the WQBEL calculation for ammonia was performed according to the SIP procedures.

An acute aquatic life dilution credit of 20 and a chronic aquatic life dilution credit of 14 were allowed in the development of WQBEL's for ammonia. This Order contains an AMEL of 18 mg/L and AWEL of 29 mg/L, respectively.

- (d) **Plant Performance and Attainability.** Analysis of the effluent data shows that the MEC of 13 mg/L is less than the applicable WQBELs. The Central Valley Water Board concludes, therefore,

that immediate compliance with these effluent limitations is feasible.

ii. **Copper**

- (a) **WQO.** The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for copper. These criteria are presented in dissolved concentrations, as 1-hour acute criteria and 4-day chronic criteria. Default U.S. EPA translators were used to translate dissolved concentrations to total concentrations.
- (b) **RPA Results.** The maximum effluent concentration for copper was 12 µg/L, based on 11 samples collected from February 2019 through April 2023.

The maximum observed upstream receiving water copper concentration was 30 µg/L, based on 52 samples collected year-round from February 2019 through April 2023.

The Facility's outfall is located approximately 1000 feet downstream of the Delleker WWTP effluent outfall, and, the Facility's upstream receiving water monitoring location (RSW-001) is located downstream of the Delleker facility. The Delleker WWTP has been granted 30-foot copper mixing zones for acute and chronic aquatic life protection. The Delleker mixing zone does not overlap with the Facility mixing zone. However, copper data collected during the term of the previous Order at RSW-001 indicate instances of elevated copper in the receiving water that are not consistent with observed copper concentrations in the receiving downstream of the Facility and upstream of the Delleker facility. Review of receiving water copper concentrations collected downstream of the Facility outfall at RSW-002 indicate that the receiving water concentrations are below applicable copper criteria.

Additionally, the Discharger informed Central Valley Water Board staff that upstream receiving water samples were not collected at "100 feet upstream from point of discharge," as described in the previous Order (R5-2018-0088), due to safety concerns and site accessibility issues. Instead, RSW-001 samples were collected approximately 600 feet upstream of the Discharger's outfall and closer to potential influence from the unlined treatment ponds at the Delleker WWTP. As discussed in Section VII.D.1.a. of this Fact Sheet, the RSW-001 location/description has been changed in order to obtain samples from the west bank of the river directly upstream of the

outfall. Staff anticipates more reliable and representative data, including copper, will be collected at the relocated RSW-001 location.

The SIP allows discretion to determine applicable data for determination of ambient background concentration and use of the maximum observed downstream data from both Facilities collected when the Facilities are discharging provides a conservative approach to determine assimilative capacity in the river for copper.

For this reason, this Order has excluded RSW-001 copper data from the RPA and instead has used the results from monitoring conducted at RSW-002. The maximum background copper concentration at RSW-002 was 4.0 µg/L based on 10 samples collected during the allowable discharge period from February 2019 through April 2023.

The RPA was conducted using the upstream receiving water hardness as shown in Section IV.C.2.e of this Fact Sheet to calculate the criteria for comparison to the maximum ambient background concentration, and likewise using the receiving water design ambient hardness shown in Section IV.C.2.e of this Fact Sheet to compare the maximum effluent concentration. The table below shows the specific criteria used for the RPA:

Table F-11 Copper RPA Criteria

Water Type	CTR Chronic Criterion (Total)	Maximum Concentration (Total)	Criteria Exceeded? (Y/N)
Receiving Water	5.1 µg/L	4.0 µg/L	Yes
Effluent	5.9 µg/L	12 µg/L	Yes

Table F-11 Notes:

- 1. Receiving Water.** The CTR Chronic Criterion (Total) for the receiving water is based on lowest observed upstream hardness collected during the allowable discharge period of 49 mg/L (as CaCO₃).
- 2. Effluent.** The CTR Chronic Criterion (Total) for the effluent is based on receiving water ambient hardness of 59 mg/L (as CaCO₃).

Based on the available data, the maximum effluent concentration exceeded the applicable criteria. Therefore, per section 1.3, step 6 of the SIP, copper in the discharge has a reasonable potential to cause or contribute to an instream

excursion above the CTR criteria for the protection of freshwater aquatic life.

- (c) **WQBELs.** This Order contains a final average monthly effluent limitation (AMEL) and maximum daily effluent limitation (MDEL) for copper of 22 µg/L and 44 µg/L, respectively. The WQBELs were calculated with the allowance of acute and chronic aquatic life criteria mixing zones and dilution credits based on the CTR criteria for the protection of freshwater aquatic life as discussed in Section IV.C.2.c of this Fact Sheet. Additionally, the ambient background data used to calculate the WQBELs for copper was based on the maximum observed downstream receiving water sample of 4.0 µg/L collected at RSW-002, as discussed in the RPA section above.
- (d) **Plant Performance and Attainability.** Analysis of the effluent data shows that the MEC of 12 µg/L is less than the applicable WQBELs. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

iii. Chlorine Residual

- (a) **WQO.** U.S. EPA developed NAWQC for protection of freshwater aquatic life for chlorine residual. The recommended 4-day average (chronic) and 1-hour average (acute) criteria for chlorine residual are 0.011 mg/L and 0.019 mg/L, respectively. These criteria are protective of the Basin Plan's narrative toxicity objective.
- (b) **RPA Results.** The concentrations of chlorine used to disinfect wastewater are high enough to harm aquatic life and violate the Basin Plan narrative toxicity objective if discharged to the receiving water. Reasonable potential therefore does exist and effluent limits are required.

The Discharger uses chlorine for disinfection, which is extremely toxic to aquatic organisms. Although the Discharger uses a sodium bisulfite process to dechlorinate the effluent prior to discharge to the Middle Fork of the Feather River, the existing chlorine use and the potential for chlorine to be discharged provides the basis for the discharge to have a reasonable potential to cause or contribute to an instream excursion above the NAWQC.

- (c) **WQBELs.** The U.S. EPA's TSD for Water Quality-Based Toxics Control [EPA/505/2-90-001] contains statistical methods for

converting chronic (4-day) and acute (1-hour) aquatic life criteria to average monthly and maximum daily effluent limitations based on the variability of the existing data and the expected frequency of monitoring. However, because chlorine is an acutely toxic constituent that can and will be monitored continuously, an average 1-hour limitation is considered more appropriate than an average daily limitation. This Order contains a 4-day average effluent limitation and 1-hour average effluent limitation for chlorine residual of 0.011 mg/L and 0.019 mg/L, respectively, based on U.S. EPA's NAWQC, which implements the Basin Plan's narrative toxicity objective for protection of aquatic life.

- (d) **Plant Performance and Attainability.** Analysis of the effluent data shows that the MEC of non-detect at a method detection limit of 0.01 mg/L is less than the applicable WQBELs. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

iv. Nitrate and Nitrite

- (a) **WQO.** DDW has adopted Primary MCLs for the protection of human health for nitrite and nitrate that are equal to 1 mg/L and 10 mg/L (measured as nitrogen), respectively. DDW has also adopted a Primary MCL of 10 mg/L for the sum of nitrate and nitrite, measured as nitrogen.

U.S. EPA has developed a primary MCL and an MCL goal of 1 mg/L for nitrite (as nitrogen). For nitrate, U.S. EPA has developed Drinking Water Standards (10 mg/L as Primary MCL) and NAWQC for protection of human health (10 mg/L for non-cancer health effects).

- (b) **RPA Results.** The Facility is a POTW that treats domestic wastewater. Untreated domestic wastewater contains ammonia in concentrations that are harmful to aquatic life and exceed the Basin Plan's narrative toxicity objective. Inadequate or incomplete treatment may result in the discharge of nitrate and/or nitrite to the receiving stream in concentrations that may exceed the Primary MCL and would violate the Basin Plan's narrative chemical constituents' objective. Consistent with federal and state regulations, including the State Policy for Implementation of Toxics Standard for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP), the Board may determine—based on professional judgment and considering available information, such as the facility or discharge type—that a water quality-based effluent limitation is

required to protect beneficial uses. In this case, the Facility receives influent containing substantial levels of nitrogen. A review of the treatment process and limited effluent data for nitrate indicate that current practices result in low levels of nitrate discharge. Effluent limitations for nitrate plus nitrite will ensure that any potential future changes to treatment practices will continue to meet nitrate discharge limitations. Therefore, the Central Valley Water Board finds the discharge has a reasonable potential to cause or contribute to an instream excursion above the Primary MCL and WQBELs are required for nitrate plus nitrite.

- (c) **WQBELs.** The receiving water contains assimilative capacity for nitrate and nitrite, therefore, a dilution credit of 1 was allowed in the development of the WQBELs for nitrate plus nitrite. This Order contains an average monthly effluent limitation (AMEL) and average weekly effluent limitation (AWEL) for nitrate plus nitrite of 20 mg/L and 37 mg/L, respectively, based on the Basin Plan's narrative chemical constituents objective for protection of the MUN beneficial use. These effluent limitations are included in this Order to protect the beneficial use of municipal and domestic supply. Inclusion of the nitrate plus nitrite effluent limitation is also appropriate because it aligns with the CV-SALTS approach of controlling sources of nitrogen to achieve compliance with water quality objectives and manage water supplies for long term sustainability. The State Water Board is continuing work to develop a statewide policy for water quality control to reduce nutrient impacts, biostimulation, and harmful algal blooms in surface waters and to support biological integrity in wadeable streams and rivers.
- (d) **Plant Performance and Attainability.** Analysis of the effluent data shows that the MEC of 0.6 mg/L is less than the applicable WQBELs. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

v. **Pathogens**

- (a) **WQO.** In a letter to the Central Valley Water Board dated 8 April 1999, DDW indicated it would consider wastewater discharged to water bodies with identified beneficial uses of irrigation or contact recreation and where the wastewater receives dilution of more than 20:1 to be adequately disinfected if the effluent coliform concentration does not exceed 23 MPN/100 mL as a 7-day median and if the effluent coliform concentration does not exceed 240 MPN/100 mL more than

once in any 30 day period. Based on a review of data submitted by the Discharger and the period of record for the California Department of Water Resources monitoring stations on the Middle Fork of the Feather River, there is at least a 20:1 (river flow to design effluent flow) dilution available at all times. Additionally, the Discharger is prohibited from discharging to the receiving water when the river to effluent flow is below 50:1.

- (b) **RPA Results.** Raw domestic wastewater inherently contains human pathogens that threaten human health and life, and constitute a threatened pollution and nuisance under CWC section 13050 if discharged untreated to the receiving water. Municipal and domestic supply and body contact water recreation are beneficial uses of the MFFR. Although the Discharger provides disinfection, inadequate or incomplete disinfection creates the potential for pathogens to be discharged. Therefore, the Central Valley Water Board finds the discharge has reasonable potential for pathogens and WQBELs are required.
- (c) **WQBELs.** Pursuant to guidance from DDW, this Order includes effluent limitations for total coliform organisms of 23 MPN/100 mL as a 7-day median and 240 MPN/100 mL, not to be exceeded more than once in a 30-day period. These total coliform organisms limits are imposed to protect the beneficial uses of the receiving water, including public health through contact recreation and drinking water pathways.
- (d) **Plant Performance and Attainability.** Analysis of the effluent data shows that although there were 9 samples that exceeded 23 MPN/100 mL from February 2019 through April 2023, immediate compliance with these effluent limitations is feasible.

4. WQBEL Calculations

- a. This Order includes WQBELs for ammonia, chlorine, copper, nitrate and nitrite, and pathogens. The general methodology for calculating WQBELs based on the different criteria/objectives is described in subsections IV.C.5.b through e, below. See Attachment H for the WQBEL calculations.
- b. **Effluent Concentration Allowance.** For each water quality criterion/objective, the ECA is calculated using the following steady-state mass balance equation from section 1.4 of the SIP:

$$\begin{aligned} \text{ECA} &= C + D(C - B) \text{ where } C > B, \text{ and} \\ \text{ECA} &= C \text{ where } C \leq B \end{aligned}$$

where:

ECA = effluent concentration allowance
D = dilution credit
C= the priority pollutant criterion/objective
B= the ambient background concentration.

According to the SIP, the ambient background concentration (B) in the equation above shall be the observed maximum with the exception that an ECA calculated from a priority pollutant criterion/objective that is intended to protect human health from carcinogenic effects shall use the arithmetic mean concentration of the ambient background samples.

Additionally, see section IV.C.3.c in this Fact Sheet for explanation of how the effluent concentration allowance was calculated for ammonia.

- c. **Primary and Secondary MCLs.** For non-priority pollutants with primary MCLs to protect human health (e.g., nitrate plus nitrite), the AMEL is set equal to the primary MCL and the AWEL is calculated using the AWEL/AMEL multiplier, where the AWEL multiplier is based on a 98th percentile occurrence probability and the AMEL multiplier is from Table 2 of the SIP.

For non-priority pollutants with secondary MCLs that protect public welfare (e.g., taste, odor, and staining), WQBELs were calculated by setting the LTA equal to the secondary MCL and using the AMEL multiplier to set the AMEL. The AWEL was calculated using the MDEL/AMEL multiplier from Table 2 of the SIP.

- d. **Aquatic Toxicity Criteria.** For priority pollutants with acute and chronic aquatic toxicity criteria, the WQBELs are calculated in accordance with section 1.4 of the SIP. The ECAs are converted to equivalent long-term averages (i.e. LTA_{acute} and $LTA_{chronic}$) using statistical multipliers and the lowest LTA is used to calculate the AMEL and MDEL using additional statistical multipliers. For non-priority pollutants, WQBELs are calculated using similar procedures, except that an AWEL is determined utilizing multipliers based on a 98th percentile occurrence probability.
- e. **Human Health Criteria.** For priority pollutants with human health criteria, the WQBELs are calculated in accordance with section 1.4 of the SIP. The AMEL is set equal to the ECA and the MDEL is calculated using the MDEL/AMEL multiplier from Table 2 of the SIP. For non-priority pollutants with human health criteria, WQBELs are calculated using similar procedures, except that an AWEL is established using the MDEL/AMEL multiplier from Table 2 of the SIP.

$$\begin{aligned}
 AMEL &= mult_{AMEL} \left[\min \left(\overbrace{M_A ECA_{acute}, M_C ECA_{chronic}}^{LTA_{acute}} \right) \right] \\
 MDEL &= mult_{MDEL} \left[\min \left(M_A ECA_{acute}, \underbrace{M_C ECA_{chronic}}_{LTA_{chronic}} \right) \right] \\
 MDEL_{HH} &= \left(\frac{mult_{MDEL}}{mult_{AMEL}} \right) AMEL_{HH}
 \end{aligned}$$

where:

$mult_{AMEL}$ = statistical multiplier converting minimum LTA to AMEL
 $mult_{MDEL}$ = statistical multiplier converting minimum LTA to MDEL
 M_A = statistical multiplier converting acute ECA to LTA_{acute}
 M_C = statistical multiplier converting chronic ECA to $LTA_{chronic}$

**Summary of Water Quality-Based Effluent Limitations
 Discharge Point 001**

Table F-12 Summary of Water Quality-Based Effluent Limitations

Parameter	Units	Average Monthly Effluent Limitation	Average Weekly Effluent Limitation	Maximum Daily Effluent Limitation
Ammonia Nitrogen, Total (as N)	mg/L	18	29	--
Chlorine, Total Residual	mg/L	0.011	0.019	--
Copper, Total Recoverable	µg/L	22	--	44
Nitrate plus Nitrite (as N)	mg/L	20	37	--
Total Coliform Organisms	MPN/100 mL	23	--	240

Table F-12 Notes:

- Chlorine, Total Residual – Average Monthly Effluent Limitation.** Applied as a 4-day average effluent limitation
- Chlorine, Total Residual – Average Weekly Effluent Limitation.** Applied as a 1-hour average effluent limitation
- Total Coliform Organisms – Average Monthly Effluent Limitation.** Applied as a 7-day median
- Total Coliform Organisms – Maximum Daily Effluent Limitation.** Applied as: Not to exceed more than once in any 30-day period

5. Whole Effluent Toxicity (WET)

The Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (ISWEBE Plan) contains toxicity provisions, including numeric objectives for acute and chronic aquatic toxicity, that are applicable to this discharge and are hereafter referred to as the Toxicity Provisions.

a. Acute Toxicity.

- i. **WQO.** The acute aquatic toxicity water quality objective is expressed as a null hypothesis and an alternative hypothesis with a regulatory management decision (RMD) of 0.80, where the following null hypothesis, H_0 , shall be used:

H_0 : Mean response (ambient water) $\leq 0.80 \cdot$ mean response (control)

And where the following alternative hypothesis, H_a , shall be used:

H_a : Mean response (ambient water) $> 0.80 \cdot$ mean response (control)

Attainment of the water quality objective is demonstrated by conducting acute aquatic toxicity testing and rejecting this null hypothesis in accordance with the TST statistical approach. When the null hypothesis is rejected, the alternative hypothesis is accepted in its place, and there is no exceedance of the acute aquatic toxicity water quality objective. Failing to reject the null hypothesis (referred to as a “fail”) is equivalent to an exceedance of the acute aquatic toxicity water quality objective.

- ii. **RPA.** For priority pollutants, the SIP dictates the procedures for conducting the RPA. Chronic toxicity is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA. U.S. EPA’s September 2010 NPDES Permit Writer’s Manual, page 6-30, states, “State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available...A permitting authority might also determine that WQBELs are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBELs for pathogens in all permits for POTWs discharging to contact recreational waters).”

The minimum percent survival for acute toxicity was 15% based on 8 samples collected from February 2019 through April 2023 as shown in the table below.

Table F-13 Acute Whole Effluent Toxicity Testing Results

Date	Rainbow Trout (<i>Oncorhynchus mykiss</i>) % Survival
4/9/2019	100
4/25/2019	100
4/6/2020	100
4/13/2020	100
3/7/2022	15
2/6/2023	100
3/22/2023	100
4/10/2023	100

The Facility is a POTW that treats domestic wastewater containing ammonia and other toxic pollutants, and a mixing zone for acute and chronic aquatic life criteria was granted in the development of effluent limitations for ammonia, copper, and chronic whole effluent toxicity. Additionally, acute whole effluent toxicity monitoring indicated a 15 percent survival of the rainbow trout test species on 7 March 2022. Therefore, the discharge has a reasonable potential to cause or contribute to an instream exceedance of the Statewide Toxicity Provisions aquatic toxicity numeric objectives and Basin Plan’s narrative toxicity objective and water quality-based effluent limits for acute toxicity are required.

- iii. **WQBELs.** The following effluent limitations have been established for acute whole effluent toxicity:

Acute Whole Effluent Toxicity MDEL. No acute aquatic toxicity test shall result in a “Fail” at the Instream Waste Concentration (IWC) of 100% AND a percent effect greater than or equal to 50 percent.

Acute Whole Effluent Toxicity MMEL. No more than one acute aquatic toxicity test initiated in a calendar month shall result in a “Fail” at the IWC of 100%.

b. **Chronic Toxicity.**

- i. **WQO.** The chronic aquatic toxicity water quality objective is expressed as a null hypothesis and an alternative hypothesis with a regulatory management decision (RMD) of 0.75, where the following null hypothesis, Ho, shall be used

Ho: Mean response (ambient water) \leq 0.75 • mean response (control)

And where the following alternative hypothesis, Ha, shall be used:

Ha: Mean response (ambient water) > 0.75 • mean response (control)

Attainment of the water quality objective is demonstrated by conducting chronic aquatic toxicity testing and rejecting this null hypothesis in accordance with the Test of Significant Toxicity (TST) statistical approach described in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, 2010), Appendix A, Figure A-1 and Table A-1 (Chronic Freshwater and East Coast Methods) and Appendix B, Table B-1. When the null hypothesis is rejected, the alternative hypothesis is accepted in its place, and there is no exceedance of the chronic aquatic toxicity water quality objective. Failing to reject the null hypothesis (referred to as a “fail”) is equivalent to an exceedance of the chronic aquatic toxicity water quality objective.

The Basin Plan contains a narrative toxicity objective that states, “All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.” (Basin Plan at page section 3.1.20.) To evaluate compliance with the Statewide Toxicity Provisions aquatic toxicity numeric objectives and Basin Plan’s narrative toxicity objective, acute and chronic whole effluent toxicity testing data has been evaluated in the development of this Order.

- ii **RPA.** Chronic toxicity testing has been conducted at an instream waste concentration (IWC) of 100 percent effluent. A test result that fails the Test of Significant Toxicity (TST) or has a percent effect of 10 percent or greater at the IWC demonstrates the discharge has a reasonable potential to cause or contribute to an exceedance of the Statewide Toxicity Provisions aquatic toxicity numeric objectives. Based on chronic toxicity testing conducted between April 2019 through April 2020 there were one or more fails of the TST and the percent effect exceeded 10 percent, therefore, the discharge has a reasonable potential to cause or contribute to an instream exceedance of the Statewide Toxicity Provisions numeric chronic aquatic toxicity objective and Basin Plan’s narrative toxicity objective.

The table below presents the results of the chronic WET testing performed by the Discharger between April 2019 through April 2020.

Table F-14 Chronic Whole Effluent Toxicity Testing Results – Test of Significant Toxicity at 100 Percent Effluent

Date	Fathead Minnow (<i>Pimephales promelas</i>) Survival		Fathead Minnow (<i>Pimephales promelas</i>) Growth		Water Flea (<i>Ceriodaphnia dubia</i>) Survival		Water Flea (<i>Ceriodaphnia dubia</i>) Reproduction		Green Algae (<i>Selenastrum capricornutum</i>) Growth	
	Pass/Fail	Percent Effect	Pass/Fail	Percent Effect	Pass/Fail	Percent Effect	Pass/Fail	Percent Effect	Pass/Fail	Percent Effect
4/6/2020	Fail	74	Fail	78	Pass	0	Pass	-28	Pass	-188
4/8/2019	Pass	0	Pass	14	Pass	0	Pass	-13	Pass	-54

- iii. **WQBELs.** As discussed in Attachment F, section IV.C.2.c.vi(f), a dilution credit of 9 (IWC of 10 percent effluent) is available for chronic whole effluent toxicity. Effluent limitations have been established in Section IV.A.1 of this Order for chronic whole effluent toxicity.

The following effluent limitations have been established for chronic whole effluent toxicity:

Chronic Whole Effluent Toxicity Median Monthly Effluent Limitation (MMEL). No more than one chronic aquatic toxicity test initiated in a calendar month shall result in a “Fail” at the chronic IWC (as stated in MRP Section V) for any endpoint.

Chronic Whole Effluent Toxicity Maximum Daily Effluent Limitation (MDEL). No chronic aquatic toxicity test shall result in a “Fail” at the Instream Waste Concentration (IWC) for the sub-lethal endpoint measured in the test and a percent effect for the survival endpoint greater than or equal to 50 percent.

D. Final Effluent Limitation Considerations

- 1. **Mass-based Effluent Limitations – Not Applicable**
- 2. **Averaging Periods for Effluent Limitations**

40 C.F.R. section 122.45 (d) requires average weekly and average monthly discharge limitations for POTWs unless impracticable. For copper, average weekly effluent limitations have been replaced with maximum daily effluent limitations in accordance with section 1.4 of the SIP. Furthermore, for chlorine, weekly average effluent limitations have been replaced or supplemented with effluent limitations utilizing shorter averaging periods. The rationale for using shorter averaging periods for these constituents is discussed in section IV.C.3 of this Fact Sheet.

3. Satisfaction of Anti-Backsliding Requirements

The CWA specifies that a revised permit may not include effluent limitations that are less stringent than the previous permit unless a less stringent limitation is justified based on exceptions to the anti-backsliding provisions contained in CWA sections 402(o) or 303(d)(4), or, where applicable, 40 C.F.R. section 122.44(l).

The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order, with the exception of effluent limitations for electrical conductivity. The effluent limitations for these pollutants are less stringent than those in Order R5-2018-0088. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

- a. **CWA section 402(o)(1) and 303(d)(4).** CWA section 402(o)(1) prohibits the establishment of less stringent water quality-based effluent limits “except in compliance with Section 303(d)(4).” CWA section 303(d)(4) has two parts: paragraph (A) which applies to nonattainment waters and paragraph (B) which applies to attainment waters.
 - i. For waters where standards are not attained, CWA section 303(d)(4)(A) specifies that any effluent limit based on a TMDL or other WLA may be revised only if the cumulative effect of all such revised effluent limits based on such TMDLs or WLAs will assure the attainment of such water quality standards.
 - ii. For attainment waters, CWA section 303(d)(4)(B) specifies that a limitation based on a water quality standard may be relaxed where the action is consistent with the antidegradation policy.

The Middle Fork of the Feather River is considered an attainment water for electrical conductivity because the receiving water is not listed as impaired on the 303(d) list for this constituent. As discussed in section IV.D.4, below, relaxation or removal of the effluent limits complies with federal and state antidegradation requirements. Thus, removal of the effluent limitations for electrical conductivity from Order R5-2018-0088 meets the exception in CWA section 303(d)(4)(B).

- b. **CWA section 402(o)(2).** CWA section 402(o)(2) provides several exceptions to the anti-backsliding regulations. CWA 402(o)(2)(B)(i) allows a renewed, reissued, or modified permit to contain a less stringent effluent limitation for a pollutant if information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance.

As described further in section IV.C.3.b of this Fact Sheet, updated information, that was not available at the time Order R5-2018-0088 was issued, indicates that there is insufficient data to determine if electrical conductivity exhibits reasonable potential to cause or contribute to an exceedance of water quality objectives in the receiving water. Additionally, the Discharger is complying with the Salt Control Program and is participating in the CV-SALTS Prioritization and Optimization Study. Furthermore, the Discharger will continue to implement the Salinity Evaluation and Minimization Plan to limit electrical conductivity discharged to the Middle Fork of the Feather River. Finally, this Order contains a performance-based effluent trigger for electrical conductivity of 672 $\mu\text{mhos/cm}$ as an annual average.

Thus, removal of the performance-based effluent limitation for electrical conductivity from Order R5-2018-0088 is in accordance with CWA section 402(o)(2)(B)(i), which allows for less stringent effluent limitations based on information that was not available at the time of permit issuance.

4. Antidegradation Policies

- a. **Surface Water.** The permitted surface water discharge is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and the State Anti-Degradation Policy. Compliance with these requirements will result in the use of BPTC of the discharge. The impact on existing water quality will be insignificant.

This Order removes the performance-based effluent limitation for electrical conductivity based on updated monitoring data demonstrating that there is insufficient data to determine if the effluent causes or contributes to an exceedance of the applicable water quality criteria or objectives in the receiving water. The removal of WQBELs for this parameter will not result in an increase in pollutant concentration or loading, a decrease in the level of treatment or control, or a reduction of water quality. This Order requires implementation of a Salinity Evaluation and Minimization Plan and includes a performance-based trigger that is based on the maximum annual average electrical conductivity data from February 2019 through April 2023, plus an additional 25% to account for drought conditions. The effluent trigger of 672 $\mu\text{mhos/cm}$ as an annual average is less than the effluent limit concentration of 684 $\mu\text{mhos/cm}$ in previous Order R5-2018-0088, which was meant to be an interim limit until more data was collected during the term of the previous Order. Therefore, the Central Valley Water Board finds that the removal of the effluent limitation does not result in an increase in pollutants or any additional degradation of the receiving water. Thus, the removal of effluent limitations is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and the State Anti-Degradation Policy.

This Order also removes MDELs and mass-based effluent limitations for BOD₅ and TSS, and the mass-based effluent limitation for ammonia based on 40 CFR parts 122.45 (d) and (f). The removal of the MDELs and mass-based effluent limits for BOD₅ and TSS, and the mass-based effluent limit for ammonia will not result in a decrease in the level of treatment or control or a reduction in water quality.

Furthermore, both concentration-based AMELs and AWELs remain for ammonia, BOD₅ and TSS, as well as an average dry weather flow prohibition that limits the amount of flow that can be discharged to the receiving water during dry weather months. The combination of concentration-based effluent limits and a flow prohibition in this Order are equivalent to mass-based effluent limitations, which were redundant limits contained in previous Orders by multiplying the concentration-based effluent limits and permitted average dry weather flow by a conversion factor to determine the mass-based effluent limitations. The Central Valley Water Board finds that the removal of the MDELs and mass-based effluent limits for BOD₅ and TSS, and the mass-based effluent limit for ammonia does not result in an allowed increase in pollutants or any additional degradation of the receiving water. Thus, the removal of the MDELs and mass-based effluent limits for BOD₅ and TSS, and the mass-based limit for ammonia is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and the State Antidegradation Policy.

- b. **Groundwater.** The Discharger uses aeration ponds and facultative ponds for treatment and an unlined six-acre pond for percolation. Domestic wastewater contains constituents such as total dissolved solids (TDS), electrical conductivity, pathogens, nitrates, organics, metals and oxygen demanding substances (BOD). Percolation from the six-acre pond may result in an increase in the concentration of these constituents in groundwater. The increase in the concentration of these constituents in groundwater must be consistent with State Water Board Resolution No. 68-16. Some degradation of groundwater by the Discharger is consistent with Resolution No. 68-16 provided that:
 - i. The degradation will not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives;
 - ii. The degradation will not unreasonably affect present and anticipated future beneficial uses;
 - iii. The Discharger will employ BPTC to minimize degradation; and
 - iv. The degradation is consistent with the maximum benefit to the people of the state.

The Board, in Order R5-2018-0088, previously authorized limited degradation of groundwater from the Discharger's treatment ponds, consistent with Resolution No. 68-16. Groundwater monitoring data indicates there have been no sustained exceedances of applicable groundwater quality objectives, and the discharge to the groundwater has not resulted in impacts to beneficial uses. Compliance with this Order will continue to result in the use of BPTC to prevent impacts to groundwater. This Order retains groundwater limitations for protection of the MUN beneficial use of groundwater. Additionally, this Order requires compliance with land application requirements, increased groundwater monitoring and reporting requirements (see Attachment E of this Order), pond operating specifications, sludge and biosolid specifications, and the CV-SALTS Basin Plan Amendment. Ongoing groundwater monitoring, along with the Best Practicable Treatment or Control (BPTC) Report and an Antidegradation Re-evaluation required under Special Provisions section VI.C.2 of this Order, will be used to continue to evaluate any groundwater impacts and the effectiveness of permit requirements. Any increase in pollutant concentrations in groundwater, despite the above-referenced controls, is consistent with maximum benefit to the people of the State given the necessity of wastewater utility service to accommodate housing and economic expansion in the area. Accordingly, the permitted discharge is consistent with Resolution No. 68-16.

5. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD5, TSS, and pH. Restrictions on BOD5, TSS, and pH are discussed in section IV.B of the Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

WQBELs have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 C.F.R. section 131.38. The procedures for calculating the individual WQBELs for priority pollutants are based on the CTR implemented by the SIP, which was approved by U.S. EPA on 18 May 2000. Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

**Summary of Final Effluent Limitations
 Discharge Point 001**

Table F-15 Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations	Basis¹
Ammonia Nitrogen, Total (as N)	mg/L	AMEL 18 AWEL 29	NAWQC
BOD5	mg/L	AMEL 45 AWEL 65	CFR
BOD5	% Removal	65	CFR
Chlorine, Total Residual	mg/L	4-day average 0.019 1-hour average 0.011	NAWQC
Copper, Total Recoverable	µg/L	AMEL 22 MDEL 44	CTR
Nitrate plus Nitrite (as N)	mg/L	AMEL 20 AWEL 37	MCL
pH	Standard Units	Instantaneous Max 9.0 Instantaneous Min 6.0	CFR
Total Coliform Organisms	MPN/100 mL	7-day median 23 30-day period 240	Title 22
TSS	mg/L	AMEL 45 AWEL 65	CFR
TSS	% Removal	65	CFR
Acute Toxicity	Pass/Fail	MDEL: Pass MMEL: Pass	TOX
Chronic Toxicity	Pass/Fail	MDEL: Pass MMEL: Pass	TOX

Table F-15 Notes:

- CFR** – Based on secondary treatment standards contained in 40 CFR part 133.
BP – Based on water quality objectives contained in the Basin Plan.
CTR – Based on water quality criteria contained in the California Toxics Rule and applied as specified in the SIP.
NAWQC – Based on U.S. EPA’s National Ambient Water Quality Criteria for the protection of freshwater aquatic life.
TOX – Based on the Statewide Toxicity Provisions
MCL – Based on the Primary Maximum Contaminant Level.
Title 22 – Based on State Water Board Division of Drinking Water Reclamation Criteria, CCR, Division 4, Chapter 3 (Title 22).

E. Interim Effluent Limitations – Not Applicable

F. Land Discharge Specifications

1. The Land Discharge Specifications are necessary to protect the beneficial uses of the groundwater.

G. Recycling Specifications – NOT APPLICABLE

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

1. CWA section 303(a-c), requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The Central Valley Water Board adopted water quality criteria as water quality objectives in the Basin Plan. The Basin Plan states that “[t]he numerical and narrative water quality objectives define the least stringent standards that the Regional Water Board will apply to regional waters in order to protect the beneficial uses.” The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies. This Order contains receiving surface water limitations based on the Basin Plan numerical and narrative water quality objectives for bacteria, biostimulatory substances, color, chemical constituents, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, suspended sediment, settleable substances, suspended material, tastes and odors, temperature, toxicity, and turbidity.
 - a. **Bacteria.** On 7 August 2018 the State Water Board adopted Resolution No. 2018-0038 establishing Bacteria Provisions, which are specifically titled “Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California—Bacteria Provisions and a Water Quality Standards Variance Policy” and “Amendment to the Water Quality Control Plan for Ocean Waters of California—Bacteria Provisions and a Water Quality Standards Variance Policy.” The Bacteria Water Quality Objectives established in the Bacteria Provisions supersede any numeric water quality objective for bacteria for the REC-1 beneficial use contained in a water quality control plan before the effective date of the Bacteria Provisions.

The Bacteria Water Quality Objectives correspond with the risk protection level of 32 illnesses per 1,000 recreators and use *E. coli* as the indicator of pathogens in freshwaters and enterococci as the indicator of pathogens in estuarine waters and ocean waters.

The Bacteria Provisions provide that where a permit, waste discharge requirement (WDR), or waiver of WDR includes an effluent limitation or discharge requirement that is derived from a water quality objective or other guidance to control bacteria (for any beneficial use) that is more stringent than the Bacteria Water Quality Objective, the Bacteria Water Quality

Objective would not be implemented in the permit, WDR, or waiver of WDR. This standard has not been met in this Order, therefore, the Bacteria Water Quality Objective has been implemented as a receiving water limitation.

The bacteria receiving water limitation in this Order has been established based on the Bacterial Water Quality Objective for inland surface waters, which requires the six-week rolling geometric mean of *Escherichia coli* (*E. coli*) shall not exceed 100 colony forming units (cfu) per 100 milliliters (mL), calculated weekly, and a statistical threshold value (STV) of 320 cfu/100 mL not to be exceeded by more than 10 percent of the samples collected in a calendar month, calculated in a static manner.

B. Groundwater

1. The beneficial uses of the underlying groundwater are municipal and domestic supply, industrial service supply, industrial process supply, and agricultural supply.
2. During the term of previous Order R5-2018-0088, the Discharger submitted the report, *City of Portola - Background Groundwater Quality Study, 2021*; and on 16 December 2021, the Discharger submitted *Revised Background Groundwater Quality Study for the City of Portola Wastewater Treatment Facility, December 2021* (Groundwater Study). The purpose of the study was to evaluate the chemical background quality of the groundwater in the vicinity of Facility and determine if the wastewater discharge had degraded, or is likely to degrade, groundwater quality. The Groundwater Study provides a summary of monitoring data (five years of quarterly groundwater sampling events), calculation of the concentration in the background monitoring well, and a comparison to downgradient wells used to monitor the Facility.
3. The Facility has three monitoring wells that were installed in September 2011, decades after the installation of the treatment ponds. Monitoring Well No. 1 (RGW-001) is located southeast of the Facility on City-owned property adjacent to Lift Station #2 and near the Railroad Museum. The Groundwater Study states that based on the northwesterly groundwater flow direction, RGW-001 is located upgradient of the Facility and best represents the shallow background water quality present in the vicinity of the Facility. Monitoring Well No. 2 (RGW-002) is located north-northwest of the Facility ponds and is representative of groundwater directly downgradient of these ponds. Monitoring Well No. 3 (RGW-003) is located west-southwest of the 6-acre percolation pond and is representative of the groundwater directly west of the 6-acre pond.

RGW-002 and RGW-003 are also in the floodplain of the Middle Fork of the Feather River and are both at an approximate ground elevation of 4820 feet and 4821 feet, respectively. The Groundwater Study states the normal elevation of the Middle Fork of the Feather River near the locations of RGW-002 and RGW-003 is approximately 4818 feet but can rise to floodplain level during wet

weather seasons. The bottom of the monitoring wells RGW-002 and RGW-003 (4809 feet and 4807 feet, respectively) are below the normal flow level of the Middle Fork of the Feather River. As a result, the Middle Fork of the Feather River may have influence on RGW-002 and RGW-003.

4. The Groundwater Study provided the following information with respect to groundwater depth: The groundwater in the vicinity of the Facility is very shallow. Based on quarterly monitoring of depth to groundwater, the average groundwater depths range from 3.71 to 6.82 feet below ground surface. Groundwater depth fluctuates throughout the year depending on seasonal rainfall amounts. Maximum groundwater depth is approximately 11 feet below ground surface (usually seen in fourth quarter period) and minimum groundwater depth is approximately 2 feet below ground surface (usually seen during the first and second quarter periods). Water level elevations can fluctuate throughout the year by up to approximately 6 feet with the highest water elevations occurring during the Winter and early Spring (first and second quarter) sampling periods.
5. The Groundwater Study provided the following information with respect to groundwater gradient: Groundwater flow direction tends to generally be in a west-northwesterly direction with a shallow gradient between 0.003 to 0.004 ft/ft (based on sampling events since January 2012). The flow direction follows along the slope of the ground surface, as well as surface drainages, which generally flow toward the Middle Fork of the Feather River. Data from the past 8 years (prior to 2021) demonstrated that during the fourth and first quarter (November and January) sampling periods, the average groundwater gradient was 0.0033 and 0.0034 ft/ft with a direction of 85 and 90 degrees west of north (basically due west), respectively. During the second and third quarter sampling periods, the groundwater gradient was 0.0039 and 0.0037 ft/ft with a direction of 70 and 74 degrees west of north, respectively.
6. The Groundwater Study provided the following information with respect to water depths at the Facility ponds between 2015 to 2020: The data for the 6-acre pond demonstrated that the pond is essentially dry for the majority of the year with an average annual depth of 1.31 feet. The 6-acre pond experiences the greatest depth of water during the months of February through April when the average depth during this time is 3.39 feet. [This timeframe corresponds with operation of the 6-acre pond as a polishing treatment pond that discharges to the Middle Fork of the Feather River through the adjacent wetland.] During the rest of the year during the months from May through January, the average depth of water in the 6-acre pond is 0.60 feet, with many months during mid to late summer when the 6-acre pond is empty.
7. The Groundwater Study noted that the groundwater analytical data for the Facility monitoring wells shows an apparent seasonal effect on constituent quantities or levels; constituent levels increase during the late winter or early spring time period when the Facility ponds contain higher levels of effluent and the wells themselves have higher groundwater levels from the winter rain and snowmelt.

8. The results of the Groundwater Study suggests that the groundwater downgradient of the Facility is "*potentially affected by the operations at the treatment plant.*" However, applicable groundwater objectives or limitations have not been exceeded except for one nitrate concentration (11 mg/L) observed in a downgradient well (RGW-003) in April 2016. Total coliform concentrations above the groundwater objective (<2.2 MPN/100 mL) have also been observed in all three wells, however, total coliform has occurred in the background well at higher concentrations than the downgradient wells. The Groundwater Study states, "it is most likely that the presence of coliform in these wells is more likely due to surface contamination or surface water infiltration than from the WWTP ponds due to the shallow groundwater table and shallow well seals. The Study recommends that future monitoring samples be taken for E. coli in the three wells to determine if the coliform detected in the wells is from E. coli and thus potentially from the Facility, or is the elevated bacteria a result of surface bacteria entering the wells. This Order includes E. coli monitoring in the groundwater.
9. Average nitrate values in the downgradient well located directly west of the 6-acre percolation pond (RGW-003) were observed higher than the upgradient well (3.91 mg/L and 0.41 mg/L, respectively) but still below the nitrate groundwater objective of 10 mg/L. The average nitrate values in the downgradient well located north-northwest of the treatment ponds (RGW-002) was reported at 0.11 mg/L, lower than the average concentration of the upgradient well. Nitrite concentrations have not been detected in all three monitoring wells and ammonia levels are shown to be detected more often in the upgradient well than the two downgradient wells.

Ammonia was detected twice out of the seven samples reviewed for the Study, both in RGW-002 and RGW-003. The Study states that this data set might suggest that the ammonia in the ponds had been converted to nitrates and that if there is influence of the ponds on the groundwater quality, then those converted nitrates had made their way to the groundwater. The Study also states another explanation for the data is that since nitrates are soluble in water, the nitrates in the monitoring wells could be influenced from the river. Lower dissolved oxygen values observed in the downgradient wells in comparison to the upgradient concentrations may further support the former explanation, since the lower dissolved oxygen concentrations could be due to where in the nitrogen cycle dissolved oxygen is consumed in the biological oxidation of ammonia (from the ponds) to nitrate.

10. Concentration of nitrates over time in all three wells show increased levels of nitrates toward the end of the wet season; "*nitrate levels steadily increase from early winter to the end of spring and then tail off from summer through fall.*" The Study states that higher levels of nitrates during the wet season might be attributed to two factors: 1) The possible influence of the nearby river on the monitoring wells. The groundwater depth in the wells are to within 2-feet of ground surface during the wet season and as the river runs higher, this may affect the water quality in the wells as well. 2) The Facility ponds are at their

greatest depths of wastewater during the months from February through April and at their lowest depths, or even dry, from May to January. The higher water depths in the ponds may affect the groundwater depths and groundwater quality.

11. The Groundwater Study also noted that there was a gradual but steady increase in nitrates in downgradient well, RGW-003, during the winter to spring months from 2011 to 2016. Then from winter/spring 2017 to winter/spring 2021 the level of nitrates in RGW-003 decreased to 2011 levels. To explain this observation, the Groundwater Study pointed to a potentially significant operational change at the Facility: *“In the summer of 2016, a new plant operator took over the operation of the Portola WWTP and instituted additional and different operational methods. Those methods included operating the first two aeration ponds as full as possible and a significant reduction in the aeration run time in the two aeration ponds. The system operator believes this had two benefits. First, with the right aeration balance, this promoted the ammonia to nitrite to nitrate reaction. Secondly, this also makes the organisms in the pond starve for oxygen, and they begin to pull it out of the nitrate compound reducing the total nitrogen concentration. Another operation change starting in 2016 was keeping the ponds 3, 4, 5 and 6 as low as possible. This helps make the organisms compete for that oxygen as well as nutrients, resulting in a further reduction of nitrogenic/nutrient compounds. Based on laboratory data, the operators report that the plant is witnessing a 60-70% reduction in total nitrogen in the treatment process from pond 3 through 8. It is also possible that lower wastewater levels in ponds 3, 4, 5, and 6 leads to reduced infiltration.”* During the term of Order R5-2018-0088, the Discharger was required to collect total nitrogen samples at the influent to ponds 3 and 8. Based on samples collected between February 2019 through April 2023, the average total nitrogen was reduced about 55%.

12. Groundwater data collected quarterly between February 2019 through April 2023 (standard minerals were analyzed only once per year) is listed in Table F-16. The table shows the maximum annual average concentration collected in each groundwater monitoring well and the maximum observed effluent concentration obtained at Monitoring Location EFF-002. Applicable groundwater quality objectives are also provided for reference.

Table F-16 Groundwater Monitoring Data

Constituent	Units	Effluent EFF-002	Up- gradient RGW-001	Down- gradient RGW-002	Down- gradient RGW- 003	Water Quality Objective
Total Dissolved Solids (TDS)	mg/L	301	290	399	300	500
Nitrate (as N)	mg/L	ND	1.7	2	4.8	10
Total Nitrogen	mg/L	17	1.9	2.6	4.7	--

Constituent	Units	Effluent EFF-002	Up- gradient RGW-001	Down- gradient RGW-002	Down- gradient RGW- 003	Water Quality Objective
Ammonia as Nitrogen	mg/L	13	0.4	0.2	0.4	--
TKN (as N)	mg/L	--	0.5	0.7	1.4	--
Manganese, Total	ug/L	265	660	720	120	50
Iron, Total	ug/L	2,800	23,000	2,200	10,000	300
Chloride	mg/L	44	2.4	45	42	250
Total Coliform Organisms	MPN/ 100 mL	1600	170	49	33	<2.2
EC	umhos/ cm	629	322	700	497	700
pH	su	9.0	6.5 – 7.3	6.5 – 7.8	6.2 – 7.9	6.5 - 8.5
Fixed Dissolved Solids	mg/L	--	290	320	250	--
Phosphorus, Total	mg/L	1	0.5	0.05	0.2	--
Potassium, Total	mg/L	8.2	1.8	2.5	1.7	--
Sodium, Total	mg/L	38	10	28	35	--
Magnesium, Total	mg/L	8.2	4.1	16	11	--
Calcium, Total	mg/L	27	25	51	38	--

13. Manganese. The secondary MCL for manganese is 50 µg/L. Secondary MCLs are drinking water standards contained in the Basin Plan and the Basin Plan requires compliance with these standards on an annual average basis with samples that have been passed through a 1.5-micron filter. The average total recoverable manganese concentration of 10 samples for the effluent is 152 µg/L. The average total recoverable manganese concentration across 5 samples at each well is 428 µg/L for upgradient well RGW-001, 694 µg/L for downgradient well RGW-002, and 105 µg/L for downgradient well RGW-003. No filtered or dissolved manganese data is available in the groundwater monitoring wells to determine if the discharge is causing or contributing to an exceedance of the secondary MCL of 50 µg/L in the groundwater. Therefore, this Order establishes 1.5 micron filtered manganese monitoring at the groundwater monitoring locations and at the discharge to the 6-acre pond (LND-001) to compare results to the secondary MCL; this Order also retains the groundwater limitation for manganese at the secondary MCL of 50 µg/L.

14. **Iron.** The secondary MCL for iron is 300 µg/L. Secondary MCLs are drinking water standards contained in the Basin Plan and the Basin Plan requires compliance with these standards on an annual average basis with samples that have been passed through a 1.5-micron filter. The average total recoverable iron concentration of 8 samples for the effluent is 735 µg/L. The average total recoverable iron concentration across 5 samples at each well is 12,632 µg/L for upgradient well RGW-001, 1000 µg/L for downgradient well RGW-002, and 5,196 µg/L for downgradient well RGW-003. No filtered or dissolved iron data is available in the groundwater monitoring wells to determine if the discharge is causing or contributing to an exceedance of the secondary MCL of 300 µg/L in the groundwater. Therefore, this Order establishes 1.5 micron filtered iron monitoring at the groundwater monitoring locations and at the discharge to the 6-acre pond (LND-001) to compare results to the secondary MCL; this Order also retains the groundwater limitation for manganese at the secondary MCL of 300 µg/L.
15. Basin Plan water quality objectives include narrative objectives for chemical constituents, tastes and odors, and toxicity of groundwater. The toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants, animals, or aquatic life. The chemical constituent objective states groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use. The tastes and odors objective prohibits taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan also establishes numerical water quality objectives for chemical constituents and radioactivity in groundwaters designated as municipal supply. These include, at a minimum, compliance with MCLs in Title 22 of the CCR. The bacteria objective prohibits coliform organisms at or above 2.2 MPN/100 mL. The Basin Plan requires the application of the most stringent objective necessary to ensure that waters do not contain chemical constituents, toxic substances, radionuclides, taste or odor-producing substances, or bacteria in concentrations that adversely affect municipal or domestic supply, agricultural supply, industrial supply or some other beneficial use.
16. This Order contains groundwater limitations to ensure that Facility discharges protect the beneficial uses of the underlying groundwater.

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. section 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

Sections 122.41(a)(1) and (b) through (n) of 40 C.F.R. establish conditions that apply to all state issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) of 40 C.F.R. allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 C.F.R. section 123.25, this Order omits federal conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

- a. **Mercury.** This provision allows the Central Valley Water Board to reopen this Order in the event mercury is found to be causing toxicity based on acute or chronic toxicity test results, or if a TMDL program is adopted. In addition, this Order may be reopened if the Central Valley Water Board determines that a mercury offset program is feasible for dischargers subject to NPDES permits.
- b. **Best Practicable Treatment or Control Report and Antidegradation Re-evaluation.** This Order requires the Discharger to complete and submit a technical report to evaluate the treatment and disposal systems at the Facility and determine the best practicable treatment or control with respect to minimizing the impact to groundwater quality according to special provision VI.C.2.a. Based on a review of the report, this Order may be reopened to revise specifications or for additional groundwater effluent limitations and requirements.
- c. **Mixing Zone Study Update.** The Order requires the Discharger to submit a Mixing Zone Update Report. Based on a review of the report, this Order may be reopened to revise mixing zone specifications, dilution credits, and/or effluent limitations associated with prescribed mixing zones.
- d. **Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS).** On 17 January 2020, certain Basin Plan Amendments to incorporate new strategies for addressing ongoing salt and nitrate accumulation in the Central Valley became effective. Other provisions subject to U.S. EPA approval became effective on 2 November 2020, when approved by U.S. EPA. As the Central Valley Water Board moves forward to implement those provisions that are now in effect, this Order may be amended or modified to incorporate new or modified requirements necessary for implementation of the Basin Plan Amendments. More information regarding these Amendments can be found on the [Central Valley Salinity Alternatives for Long-Term Sustainability](#)

(CV-SALTS) web page:
(https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/)

- e. **Water Effects Ratio (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating criteria for applicable inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total when developing effluent limitations for copper. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

2. Special Studies and Additional Monitoring Requirements

- a. **Best Practicable Treatment or Control Report and Antidegradation Re-evaluation.**

Previous WDRs Order R5-2018-0088 required multiple technical reports concerning groundwater protection: Background Groundwater Quality Study Report (Special Provision VI.C.2.b), a BPTC Evaluation Workplan and Report (Special Provision VI.C.2.c), and an Antidegradation Re-evaluation (Special Provision VI.C.2.d).

The Discharger completed the technical report “*Revised Background Groundwater Quality Study*,” dated 16 December 2021 (Groundwater Study). The Groundwater Study suggests that the groundwater downgradient of the Facility is “*potentially affected by the operations at the treatment plant.*”

The BPTC Evaluation Workplan was submitted and approved by Central Valley Water Board staff on 7 March 2023; however, the BPTC Report and the Antidegradation Re-evaluation were not completed during the term of the previous Order.

The approved BPTC Workplan set forth the scope and schedule for a systematic and comprehensive technical evaluation of each component of the Facility’s waste treatment and disposal systems (including percolation into groundwater from all ponds) to determine best practicable treatment or control with respect to minimizing potential impacts to groundwater quality.

This Order requires the submittal of the BPTC Report; the Discharger shall submit a final BPTC Report in accordance with the BPTC Workplan, as approved, and in accordance with comments provided in the Central Valley Water Board approval letter dated 7 March 2023.

Additionally, as noted in previous WDRs Order R5-2018-0088, Special Provision VI.C.2.c, where deficiencies in the treatment system are documented, *“the technical report shall provide recommendations for necessary modifications (e.g., new or revised salinity source control measures, WWTP component upgrade and retrofit) to achieve BPTC and identify the source of funding and proposed schedule for modifications. The technical report shall include specific methods the Discharger proposes as a means to measure processes and assure continuous optimal performance of BPTC measures.”*

This Order also requires the submittal of the Antidegradation Re-evaluation that was never completed during the term of the previous Order. WDRs Order R5-2018-0088 required an Antidegradation Re-evaluation using information in the BPTC Report to confirm that any groundwater degradation that has occurred as a result of Facility operations has not resulted in any exceedances of applicable groundwater water quality objectives or in any impacts to beneficial uses. The Antidegradation Re-evaluation shall also confirm that any effects of the treatment system on groundwater is consistent with the State Antidegradation Policy. The Discharger submitted a summary of initial findings as part of the Best Practicable Treatment or Control (BPTC) Evaluation Workplan and Report, concluding that groundwater quality objectives are not being exceeded, that discharge to the groundwater is not resulting in impacts to beneficial uses due to WWTP operations, and that a complete BPTC and Antidegradation Report will be provided at a later date. The Antidegradation Re-evaluation may be included within the final BPTC Report or provided as a separate submittal by the due date in the Technical Reports Table E-13.

- b. **Mixing Zone Study Update.** In 2010, the Discharger submitted *City of Portola Mixing Zone Dye Dilution Study, September 2010* (Dye Study), prepared by their consultants, Sauers Engineering as a requirement of Special Provision VI.C.2.e in previous Order R5-2009-0093. The purpose of the study was to, in part, field verify whether the discharge of effluent maintains a dilution of 20:1 within a 100-foot mixing zone boundary downstream of the outfall and thus confirm the results of the 2009 Mixing Analysis. The Dye Study concluded, in part, that the results validated the findings of the 2009 Mixing Analysis. However, upon further staff review, the Dye Study conclusion may not be entirely accurate. This is due to the study incorrectly comparing a 52:1 modeling result (80 cfs to 1.0 MGD) from the Mixing Analysis directly to the 93:1 field condition in the Dye Study to conclude that the dye study validated the model results. This error was not realized until the current Order was under development.

This Order includes a requirement for the Discharger to reevaluate the results of the Mixing Analysis and the Dye Study and provide a letter providing updated dilution factors downstream of the discharge at the

critical flow conditions (40 cfs receiving water flow and 50:1 dilution of effluent), including expected downstream mixing zone length to maintain a dilution of 20:1.

- c. **Toxicity Reduction Evaluation (TRE).** The Discharger is required to initiate a TRE, as detailed in the Monitoring and Reporting Program (Attachment E, Section V.G), when any combination of two or more MDEL or MMEL violations occur within a single calendar month or within two successive calendar months. In addition, if other information indicates toxicity (e.g., results of additional monitoring, results of monitoring at a higher concentration than the IWC, fish kills, intermittent recurring toxicity) or if there is no effluent available to complete a routine monitoring test, MDEL test, or MMEL compliance test, the Executive Officer may require a TRE.

A TRE Work Plan is required to outline the procedures for identifying the source(s) of and reducing or eliminating effluent toxicity. The TRE Work Plan must be of adequate detail to allow the Discharger to immediately initiate a TRE and shall be developed in accordance with section V.G.2 in Attachment E and submitted by the due date in the Technical Reports Table E-13.

3. **Best Management Practices and Pollution Prevention**

- a. **Salinity Evaluation and Minimization Plan (SEMP).** The Basin Plan includes a Salt Control Program for discharges to groundwater and surface water. The Salt Control Program is a phased approach to address salinity in the Central Valley Region. During Phase I the focus will be on conducting a Prioritization and Optimization (P&O) Study to provide information for subsequent phases of the Salt Control Program. During Phase I, the Salt Control Program includes two compliance pathways for dischargers to choose; a Conservative Salinity Permitting Approach and an Alternative Salinity Permitting Approach.

The Discharger submitted a notice to intent for the Salt Control Program indicating its intent to meet the Alternative Salinity Permitting Approach. Under the Alternative Permitting Approach, the Basin Plan requires dischargers implement salinity minimization measures to maintain existing salinity levels and participate in the P&O Study. The Discharger's NOI demonstrated adequate participation in the P&O and this Order requires continued participation to meeting the requirements of the Alternative Salinity Permitting Approach. This Order also requires continued implementation of the Discharger's SEMP and includes a performance-based salinity trigger to ensure salinity levels do not increase. In accordance with the Basin Plan, the salinity trigger was developed based on existing facility performance and considers possible

temporary increases that may occur due to water conservation and/or drought.

4. **Construction, Operation, and Maintenance Specifications**

- a. The operation and maintenance specifications for the treatment ponds are necessary to protect the beneficial uses of the groundwater and to ensure the treatment ponds have adequate capacity and not create nuisance conditions. The specifications included in this Order are retained from Order R5-2018-0088.
- b. **Operations Plan – Disinfection Verification.** Disinfection Verification. Disinfection facilities are located after the stabilization ponds but prior to the outfall into the six-acre pond. The Discharger is required to disinfect the stabilization pond effluent when discharging to surface water (Middle Fork of the Feather River). However, effluent is not disinfected when discharging to land at the six-acre pond. As described in Section II.A. of this Fact Sheet (Facility Description), the Discharger manages effluent discharge to the six-acre pond such that no undisinfected effluent is present in the pond prior to sending disinfected effluent to the six-acre pond in anticipation of a surface water discharge. The Discharger shall submit an Operations Plan that details the operation of the disinfection facilities and the six-acre pond year-round; the operation plan shall demonstrate how the Discharger ensures that any effluent present in the six-acre pond that eventually is discharged to the receiving water is disinfected, in accordance with this Order. The operations plan shall also include a Water Board notification requirement that clearly communicates when the six-acre pond has been cleared of undisinfected effluent (or commingled effluent) prior to discharge to surface water and when disinfection facilities are used or not. In no case shall the discharge to the surface water contain undisinfected effluent.

5. **Special Provisions for POTWs**

- a. **Sludge/Biosolids Treatment or Discharge Specifications.** Sludge in this Order means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screening material generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment at the wastewater treatment plant. Biosolids refer to sludge that has been treated and tested and shown to be capable of being beneficially and legally used pursuant to federal and state regulations as a soil amendment for agricultural, silvicultural, horticultural, and land reclamation activities as specified under 40 C.F.R. part 503. This Order does not regulate offsite use or disposal of biosolids, which are regulated instead under 40 C.F.R. part 503; administered by U.S. EPA. The Sludge/Biosolids Treatment or Discharge Specifications in this Order

implement the California Water Code to ensure sludge/biosolids are properly handled onsite to prevent nuisance, protect public health, and protect groundwater quality.

- b. **Sludge/Biosolids Management Plan Update.** A Sludge/Biosolids Management Plan is needed to ensure the Discharger properly handles sludge/biosolids onsite to prevent nuisance, protect public health, and protect groundwater quality. The Discharge previously submitted a preliminary Sludge Disposal Plan, dated 4 June 2014, prepared by Sauers Engineering. However, the Discharger indicated in the ROWD that biosolids are being disposed of at a landfill rather than land application at the site as noted in the preliminary Sludge Disposal Plan. An update is needed to verify current practices.

6. Other Special Provisions

7. Compliance Schedules

VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

CWA section 308 and 40 C.F.R. sections 122.41(h), (j)-(l), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 authorize the Central Valley Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The Monitoring and Reporting Program (MRP), Attachment E of this Order establishes monitoring, reporting, and recordkeeping requirements that implement federal and state requirements. The burden, including costs, of these monitoring and reporting requirements bears a reasonable relationship to the need for the reports and the benefits to be obtained therefrom. The Discharger, as owner and operator of the Facility, is required to comply with these requirements, which are necessary to determine compliance with this Order. The following provides additional rationale for the monitoring and reporting requirements contained in the MRP for this facility.

Water Code section 13176, subdivision (a), states: "The analysis of any material required by [Water Code sections 13000-16104] shall be performed by a laboratory that has accreditation or certification pursuant to Article 3 (commencing with section 100825) of Chapter 4 of Part 1 of Division 101 of the Health and Safety Code." The DDW accredits laboratories through its Environmental Laboratory Accreditation Program (ELAP).

Section 13176 cannot be interpreted in a manner that would violate federal holding time requirements that apply to NPDES permits pursuant to the CWA. (Wat. Code sections 13370, subd. (c), 13372, 13377.). Section 13176 is inapplicable to NPDES permits to the extent it is inconsistent with CWA requirements. (Wat. Code section 13372, subd. (a).) Lab accreditation is not required for field tests such as tests for color, odor, turbidity, pH, temperature, dissolved oxygen, electrical conductivity, and disinfectant residual. Due to the location of the Facility, it is both legally and factually impossible for the Discharger to

comply with section 13176 for constituents with short holding times. analysis within the required hold times.

A. Influent Monitoring

1. Influent monitoring is required to collect data on the characteristics of the wastewater and to assess compliance with effluent limitations (e.g., BOD₅ and TSS reduction requirements). The monitoring frequencies and sample types have been retained from Order R5-2018-0088, except as noted in Table F-17, below.
2. Septage Receiving is removed from this Order because the Discharger does not accept any septage at the Facility.

B. Effluent Monitoring

1. Pursuant to the requirements of 40 C.F.R. section 122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations, assess the effectiveness of the treatment process, and to assess the impacts of the discharge on the receiving stream and groundwater.
2. Filtered monitoring for aluminum, iron, and manganese is required to compare to the secondary MCL for each parameter to determine if there is reasonable potential in the discharge to exceed the Secondary MCL.
3. Chlorine, total residual monitoring location was changed from EFF-002 to EFF-001 to better demonstrate that the effluent is dechlorinated immediately after the chlorine contact basin, prior to flowing to the river through the six-acre pond and wetland.
4. Effluent monitoring frequencies and sample types have been retained from Order R5-2018-0088, except as noted in Table F-17, below.

C. Land Discharge Monitoring

1. Land discharge monitoring is required to ensure that the discharge to land complies with the Land Discharge Specifications in section IV.B of this Order. All monitoring frequencies have been added since the monitoring location is new.

D. Receiving Water Monitoring

1. Surface Water

- a. Receiving water monitoring is necessary to assess compliance with receiving water limitations and to assess the impacts of the discharge on the receiving stream. Receiving water samples at RSW-001 are only

required during the allowable discharge period from 1 November through 30 April, instead of year-round as noted in Order R5-2018-0088.

The RSW-001 monitoring location has been specified as “within 100 feet upstream from the point of discharge on the west bank of the river.” The location description has been updated from the previous Order, which did not prescribe the side of the river for sample collection. Sample collection on the higher west bank of the river is preferred to reduce any potential of overland flow that may be experienced on the lower east side of the river and to provide reliable access at all river conditions. The RSW-001 monitoring location is expected to provide more representative data in the receiving water at all river conditions.

Receiving surface water monitoring frequencies and sample types have been retained from Order R5-2018-0088, except as noted in Table F-17, below.

2. Groundwater

- a. Water Code section 13267 states, in part, “(a) A Regional Water Board, in establishing waste discharge requirements may investigate the quality of any waters of the state within its region” and “(b)(1) In conducting an investigation, the Regional Water Board may require that any person who discharges waste that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the Regional Water 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.” 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, a Regional Water 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. The Monitoring and Reporting Program is issued pursuant to Water Code section 13267. The groundwater monitoring and reporting program required by this Order and the Monitoring and Reporting Program are necessary to assure compliance with these waste discharge requirements. The Discharger is responsible for the discharges of waste at the facility subject to this Order.
- b. Monitoring of the groundwater must be conducted to determine if the discharge has caused an increase in constituent concentrations, when compared to background. The monitoring must, at a minimum, require a complete assessment of groundwater impacts including the vertical and lateral extent of degradation, an assessment of all wastewater-related constituents which may have migrated to groundwater, an analysis of whether additional or different methods of treatment or control of the

discharge are necessary to provide BPTC to comply with the State Anti-Degradation Policy. Economic analysis is only one of many factors considered in determining BPTC. If monitoring indicates that the discharge has incrementally increased constituent concentrations in groundwater above background, this permit may be reopened and modified. Until groundwater monitoring is sufficient, this Order contains Groundwater Limitations that allow groundwater quality to be degraded for certain constituents when compared to background groundwater quality, but not to exceed water quality objectives. If groundwater quality has been degraded by the discharge, the incremental change in pollutant concentration (when compared with background) may not be increased. If groundwater quality has been or may be degraded by the discharge, this Order may be reopened, and specific numeric limitations established consistent with the State Anti-Degradation Policy and the Basin Plan.

- c. This Order requires the Discharger to continue groundwater monitoring and includes a regular schedule of groundwater monitoring in the attached Monitoring and Reporting Program. The groundwater monitoring reports are necessary to evaluate impacts to waters of the State to assure protection of beneficial uses and compliance with Central Valley Water Board plans and policies, including the State Anti-Degradation Policy. Evidence in the record includes effluent monitoring data that indicates the presence of constituents that may degrade groundwater and surface water.
- d. Groundwater monitoring frequencies and parameters have been retained from Order R5-2018-0088, except as noted in Table F-17, below.

Table F-17 Summary of Monitoring Changes

Parameter, Units	Type of Monitoring	Prior Sample Frequency	Revised Sample Frequency	Reason for Change
Hardness, Total (as CaCO ₃)	Influent	1/Quarter	--	Not required
Total Dissolved Solids	Influent	1/Quarter	--	Not required
Temperature	Effluent	1/Day	3/Week	1/day monitoring is not required. Minimum frequency of 3/week is adequate
Electrical Conductivity @ 25°C	Effluent	3/Week	1/Week	3/week monitoring is not required. Minimum frequency of 1/week is adequate to determine annual average

Parameter, Units	Type of Monitoring	Prior Sample Frequency	Revised Sample Frequency	Reason for Change
Nitrate plus Nitrite, Total (as N)	Effluent	--	1/Month	Monitoring required to determine compliance with new effluent limitation
Total Dissolved Solids	Effluent	1/Month	--	EC monitoring included for effluent. TDS data no longer needed.
Aluminum, filtered	Effluent	--	1/Month	Filtered samples required to determine reasonable potential to exceed Secondary MCL
Iron, filtered	Effluent	--	1/Month	Filtered samples required to determine reasonable potential to exceed Secondary MCL
Iron, dissolved	Effluent	1/Month	--	Dissolved samples no longer required since filtered samples are being gathered
Manganese, filtered	Effluent	--	1/Month	Filtered samples required to determine reasonable potential to exceed Secondary MCL
Manganese, dissolved	Effluent	1/Month	--	Dissolved samples no longer required since filtered samples are being gathered
Sulfate	Effluent	1/Year	--	EC monitoring included for effluent. Sulfate data no longer needed.
Dissolved Organic Carbon	Effluent	--	1/Month	Required to determine criteria for aluminum in receiving water
Ammonia (as N)	Receiving Water (RSW-001)	1/Week	--	Water Characterization Monitoring includes ammonia monitoring at RSW-001
Copper, dissolved	Receiving Water (RSW-001 and RSW-002)	--	1/Month	Required to determine criteria in river
Dissolved Organic Carbon	Receiving Water	--	1/Month	Required to determine criteria for aluminum in receiving water
Fecal Coliform	Receiving Water (RSW-001 and RSW-002)	1/Month	--	Escherichia coli (E.coli) monitoring required instead of fecal coliform

Parameter, Units	Type of Monitoring	Prior Sample Frequency	Revised Sample Frequency	Reason for Change
Aluminum, filtered	Receiving Water	--	2/discharge period	Filtered samples required to determine reasonable potential to exceed Secondary MCL
Aluminum	Receiving Water	1/Quarter	--	Total recoverable samples not necessary to determine reasonable potential
Escherichia coli (E.coli)	Receiving Water (RSW-001 and RSW-002)	--	1/Month	Escherichia coli (E.coli) replaces fecal coliform in previous permit to determine presence of pathogens in receiving water
Iron, filtered	Receiving Water	--	2/discharge period	Filtered samples required to determine reasonable potential to exceed Secondary MCL
Iron	Receiving Water	1/Quarter	--	Total recoverable samples not necessary to determine reasonable potential
Manganese, filtered	Receiving Water	--	2/discharge period	Filtered samples required to determine reasonable potential to exceed Secondary MCL
Manganese	Receiving Water	1/Quarter	--	Total recoverable samples not necessary to determine reasonable potential
Chloride	Receiving Water	1/Year	--	EC monitoring included. Chloride data no longer needed.
Sulfate	Receiving Water	1/Year	--	EC monitoring included. Sulfate data no longer needed.
Total Dissolved Solids	Receiving Water	1/Year	--	EC monitoring included. TDS data no longer needed.
Ammonia (as N)	Receiving Water (RSW-002)	1/Week	--	Not required when discharging
Fixed Dissolved Solids	Groundwater	1/Quarter	--	Data not required
Total Kjeldhal Nitrogen	Groundwater	1/Quarter	--	Data not required
Fecal Coliform Organisms	Groundwater	--	1/Quarter	Help determine if any total coliform found in well (including upgradient well) is from fecal coliform, rather than just total coliform

Parameter, Units	Type of Monitoring	Prior Sample Frequency	Revised Sample Frequency	Reason for Change
Total Trihalomethanes	Groundwater	--	1/Quarter	Determine if chlorinating effluent has any effect on TTHMs in groundwater
Metals, dissolved	Groundwater	--	1/Quarter	Arsenic, lead, and nickel may be present in groundwater due to influence from unlined treatment ponds
Metals, filtered	Groundwater	--	1/Quarter	Copper, iron, manganese, and zinc may be present in groundwater due to influence from unlined treatment ponds. Filtered samples required to determine reasonable potential to exceed Secondary MCL
Standard Minerals	Groundwater	1/Year	1/Quarter	Groundwater characterization
Total Kjeldhal Nitrogen	Groundwater	--	1/Quarter	Groundwater characterization
Total Organic Carbon	Groundwater	--	1/Quarter	Groundwater characterization
Fixed Dissolved Solids	Groundwater	--	1/Quarter	Groundwater characterization
Bicarbonate alkalinity	Groundwater	1/Year	1/Quarter	Identify seasonal changes
Chloride	Groundwater	1/Year	1/Quarter	Identify seasonal changes
Hardness, Total (as CaCO ₃)	Groundwater	1/Year	1/Quarter	Identify seasonal changes

E. Whole Effluent Toxicity Testing Requirements

Aquatic toxicity testing is necessary to evaluate the aggregate toxic effect of a mixture of toxicants in the effluent on the receiving water. Acute toxicity testing is conducted over a short time period and measures mortality, while chronic toxicity testing is conducted over a short or longer period and may measure mortality, reproduction, and growth. For this permit, aquatic toxicity testing is to be performed following methods identified in the Code of Federal Regulations, title 40, part 136, or other U.S. EPA-approved methods, or included in the following U.S. EPA method manuals: Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition (EPA-821-R-02-013), and Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition (EPA-821-R-02-012).

Yearly acute whole effluent toxicity testing is required to demonstrate compliance with the toxicity receiving water limitation and acute toxicity effluent limitation. Twice

a year chronic whole effluent toxicity testing is required to demonstrate compliance with the toxicity receiving water limitation and chronic toxicity effluent limitations.

1. The discharge is subject to determination of “Pass” or “Fail” from an acute toxicity test and a chronic toxicity test using the Test of Significant Toxicity (TST) statistical t-test approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010), Appendix A, Figure A-1 and Table A-1 (Chronic Freshwater and East Coast Methods) and Appendix B, Table B-1.

2. The null hypothesis (Ho) for the TST statistical approach is:

Mean discharge IWC response \leq RMD x Mean control response, where the chronic RMD = 0.75 and the acute RMD = 0.80.

A test result that rejects this null hypothesis is reported as “Pass.” A test result that does not reject this null hypothesis is reported as “Fail.”

3. The relative “Percent Effect” at the discharge IWC is defined and reported as:

Percent Effect = ((Mean control response – Mean discharge IWC response) / Mean control response) x 100.

This is a t-test (formally Student’s t-Test), a statistical analysis comparing two sets of replicate observations, i.e., a control and IWC. The purpose of this statistical test is to determine if the means of the two sets of observations are different (i.e., if the IWC or receiving water concentration differs from the control, the test result is “Pass” or “Fail”). The Welch’s t-test employed by the TST statistical approach is an adaptation of Student’s t-test and is used with two samples having unequal variances.

4. **Sensitive Species Screening.** The Discharger shall perform rescreening to re-evaluate the most sensitive species if there is a significant change in the nature of the discharge. If there are no significant changes during the permit term, a rescreening must be performed prior to permit reissuance and results submitted with the Report of Waste Discharge. Species sensitivity screening for chronic toxicity shall include, at a minimum, chronic WET testing four consecutive calendar quarters using the water flea (*Ceriodaphnia dubia*), fathead minnow (*Pimephales promelas*), and green alga (*Pseudokirchneriella subcapitata*). The tests shall be performed at an IWC of no less than 10 percent effluent and one control. For rescreening, if the first two species sensitivity re-screening events result in no change in the most sensitive species, the Discharger may cease the species sensitive re-screening testing and the most sensitive species will remain unchanged.

The most sensitive species to be used for chronic toxicity testing was determined in accordance with the process outlined in the MRP section V.F. Based on the Discharger’s last 5 years of chronic toxicity data, there were one or more results

of “Fail” at concentrations above the IWC for the fathead minnow (*Pimephales promelas*) using the TST statistical approach. The species that also exhibited the highest percent effect was the fathead minnow, with a percent effect of 78 percent at an IWC of 100%. Consequently, the fathead minnow has been established as the most sensitive species for chronic WET testing.

5. **Toxicity Reduction Evaluation (TRE).** The Monitoring and Reporting Program of this Order requires WET testing to demonstrate compliance with the numeric toxicity effluent limitation or Basin Plan’s narrative toxicity objective. The Discharger is required to initiate a TRE when there is any combination of two or more chronic toxicity MDEL or MMEL violations are not met within a single calendar month or within two successive calendar months has occurred. In addition, if other information indicates toxicity (e.g., results of additional monitoring, results of monitoring at a higher concentration than the IWC, fish kills, intermittent recurring toxicity), the Central Valley Water Board may require a TRE. A TRE may also be required when there is no effluent available to complete a routine monitoring test, MMET test, or MMEL compliance test.

A Toxicity Evaluation Study (TES) may be conducted in lieu of a TRE if the percent effect at IWC is less than or equal to 50 percent. Determining the cause of toxicity can be challenging when the toxicity signal is low. Several Central Valley facilities with similar treatment systems have been experiencing intermittent low-level toxicity. The dischargers have not been successful identifying the cause of the toxicity because of the low toxicity signal and the intermittent nature of the toxicity. Due to these challenges, the CVCWA, in collaboration with staff from the Central Valley Water Board, has initiated a Special Study to Investigate Low Level Toxicity Indications (Group Toxicity Study). This Order allows the Discharger to participate in an approved TES, which may be conducted individually or as part of a coordinated group effort with other similar dischargers that are exhibiting toxicity. Although the current CVCWA Group Toxicity Study is related to low-level toxicity, participation in an approved TES is not limited to only low-level toxicity issues.

E. Other Monitoring Requirements

1. Municipal Water Supply Monitoring

Municipal water supply monitoring, which includes EC, total dissolved solids, and standard minerals, is no longer required because EC samples are required at the influent.

2. Pond Monitoring

Treatment pond monitoring at monitoring location PND-001 through PND-008 is required to ensure proper operation of the treatment ponds. Monthly monitoring for dissolved oxygen, pH, electrical conductivity, total nitrogen, and physical characteristics has been retained from Order R5-2018-0088.

Additionally, daily monitoring of physical characteristics at monitoring location PND-009 has been retained from Order R5-2018-0088.

3. Effluent and Receiving Water Characterization Monitoring

Monitoring for priority pollutants and other constituents of concern is required to collect data necessary to determine reasonable potential, as required in section 1.2 of the SIP.

VIII. PUBLIC PARTICIPATION

The Central Valley Water Board has considered the issuance of WDRs that will serve as an NPDES permit for the Portola Wastewater Treatment Plant. As a step in the WDR adoption process, the Central Valley Water Board staff has developed tentative WDRs and has encouraged public participation in the WDR adoption process.

A. Notification of Interested Persons

The Central Valley Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through the following: internet posting to the Central Valley Water Board's Website, and direct email to identified interested parties, and posting at the Facility and Portola City Hall.

The public had access to the agenda and any changes in dates and locations through the [Central Valley Water Board's](http://www.waterboards.ca.gov/centralvalley/board_info/meetings/) website (http://www.waterboards.ca.gov/centralvalley/board_info/meetings/)

B. Written Comments

Interested persons were invited to submit written comments concerning tentative WDRs as provided through the notification process. Comments were due either in person or by mail to the Executive Office at the Central Valley Water Board at the address on the cover page of this Order.

To be fully responded to by staff and considered by the Central Valley Water Board, the written comments were due at the Central Valley Water Board office by 5:00 p.m. on 29 February 2024.

C. Public Hearing

The Central Valley Water Board held a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: **19 April 2024**
Time: **8:30 a.m.**

Location: Online
and
Regional Water Quality Control Board, Central Valley Region
1685 E Street
Fresno, CA 93706

Interested persons were invited to attend. At the public hearing, the Central Valley Water Board heard testimony pertinent to the discharge, WDRs, and permit. For accuracy of the record, important testimony was requested in writing.

D. Reconsideration of Waste Discharge Requirements

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water board to review the action in accordance with Water Code section 13320 and CCR, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., within 30 calendar days of the date of adoption of this Order at the following address, 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 Board by 5:00 p.m. on the next business day:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

Or by email at waterqualitypetitions@waterboards.ca.gov

Instructions on how to file a [petition for review](#) (http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instructions.shtml) are available on the Internet.

E. Information and Copying

The Report of Waste Discharge, other supporting documents, and comments received are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Central Valley Water Board by calling (530) 224-4845.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Central Valley Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Mike Nilsen at 530-224-4853, or Michael.Nilsen@waterboards.ca.gov.

ATTACHMENT G – SUMMARY OF REASONABLE POTENTIAL ANALYSIS

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential
Aluminum, total	µg/L	260 (note 2)	228 (note 2)	200	808	396	NA	NA	NA	200	No and Insufficient data
Ammonia (as N)	mg/L	13	0.5	0.88	0.88 (note 6)	2.6 (note 7)	NA	NA	NA	NA	Yes
Copper, total	µg/L	12	4.0 (note 10)	5.9	8.5	5.9	1300	NA	NA	1000	Yes
Chloride	mg/L	44	5.7	250	860	230	N/A	N/A	N/A	250	No
Electrical Conductivity	µmhos/cm	629	318	150	NA	NA	NA	NA	150	900	Insufficient data
Iron, total	µg/L	1,170 (note 2)	515 (note 2)	300	NA	1000	NA	NA	NA	300	Insufficient data
Manganese, total	µg/L	265 (note 2)	107 (note 2)	50	NA	NA	NA	100	NA	50	Insufficient data
Mercury	ng/L	100 (ND)	100 (ND)	12 (note 3)	1400	770	50	51	NA	NA	Insufficient data
Nitrate and Nitrite	mg/L	0.6	0.05 (ND)	10	NA	NA	10	NA	NA	10	Yes, POTW
Sulfate	mg/L	41	18	250	--	--	--	--	--	250	No
Total dissolved solids	mg/L	300 (note 2)	290	500	N/A	N/A	N/A	N/A	N/A	500	No

Attachment G Table Notes:

Data date range: February 2019 – May 2023, unless noted otherwise for hardness data below. Data collected during allowable discharge period of November 1 through April 30.

1. All inorganic concentrations are given as a total concentration.

2. Represents the maximum observed annual average concentration for comparison with the Secondary MCL
3. State Water Board Sport Fish Water Quality Objective for mercury
4. An ambient hardness value of 59 mg/L of CaCO₃ was used to calculate the hardness-dependent metals criteria for copper. Date range for ambient hardness values was from January 2020 through April 2023.
5. The CCC and CMC for aluminum were calculated using the site-specific 2018 USEPA National Ambient Water Quality Criteria.
6. Ammonia CMC calculated from paired effluent temperature and pH (lower of observed or permitted pH). On 4/14/2020, effluent pH was 9 and temperature was reported at 21.8 degrees Celsius.
7. Ammonia CCC calculated using 30-day paired downstream receiving water pH (8.1) and temperature (13.17 degrees Celsius) (4/21/2020).
8. The maximum observed aluminum (total) effluent concentration was 360 µg/L.
9. The CCC and CMC for total mercury are based on the USEPA National Recommended Water Quality Criteria.
10. Copper value is the maximum background copper concentration measured immediately downstream of the discharge (RSW-002). Maximum upstream (RSW-001) copper concentration was reported as 30 ug/L, however, as discussed in the Fact Sheet section IV.C.3.c.ii, the upstream copper data was deemed insufficient for use in the RPA and the development of WQBELs.

Abbreviations used in this table:

MEC =	Maximum Effluent Concentration
B =	Maximum Receiving Water Concentration or lowest detection level, if non-detect
C =	Criterion used for Reasonable Potential Analysis
CMC =	Criterion Maximum Concentration (CTR or NTR)
CCC =	Criterion Continuous Concentration (CTR or NTR)
Water & Org =	Human Health Criterion for Consumption of Water & Organisms (CTR or NTR)
Org Only =	Human Health Criterion for Consumption of Organisms Only (CTR or NTR)
Basin Plan =	Numeric Site-Specific Basin Plan Water Quality Objective
MCL =	Drinking Water Standards Maximum Contaminant Level
NA =	Not Available
ND =	Non-detect

ATTACHMENT H-1 – CALCULATION OF WQBELS

HUMAN HEALTH WQBELS CALCULATIONS

Parameter	Units	Criteria	Mean Background Concentration	Effluent CV	Dilution Factor	AWEL/AMEL Multiplier	AMEL Multiplier	AMEL	MDEL	AWEL
Nitrate plus Nitrite, Total (as N)	mg/L	10	0.05	0.78	1	1.9	1.7	20	--	37

Attachment H-1 Table Notes:

- CV was established according to section 1.4 of the SIP.

Abbreviations used in this table:

CV = Coefficient of Variation
 MDEL = Maximum Daily Effluent Limitation
 AMEL = Average Monthly Effluent Limitation
 MDEL = Maximum Daily Effluent Limitation
 AWEL = Average Weekly Effluent Limitation

ATTACHMENT H-2 – CALCULATION OF WQBELS

AQUATIC LIFE WQBELS CALCULATIONS

Parameter	Units	CMC Criteria	CCC Criteria	B	Effluent CV	CMC Dilution Factor	CCC Dilution Factor	ECA Multiplier ^{acute}	LTA ^{acute}	ECA Multiplier ^{chronic}	LTA ^{chronic}	AMEL Multiplier ⁹⁵	AWEL Multiplier	MDEL Multiplier ⁹⁹	AMEL	AWEL	MDEL
Ammonia Nitrogen, Total (as N)	mg/L	2.14	1.44	0.5	0.54	20	14	0.35	12	0.8	13	1.5	2.5	--	18	29	--
Copper, Total Recoverable	µg/L	7.1	5.1	4.0	0.56	12	20	0.34	15	0.6	15	1.5	--	2.9	22	--	44

Attachment H-2 Table Notes:

1. AMEL calculated according to section 1.4 of the SIP using a 95th percentile occurrence probability.
2. AWEL calculated according to section 1.4 of the SIP using a 98th percentile occurrence probability.
3. MDEL calculated according to section 1.4 of the SIP using a 99th percentile occurrence probability.
4. Ammonia CMC and CCC calculations used upstream receiving water pH and temperature due to use of a mixing zone in the development of ammonia effluent limitations (because assimilative capacity is considered in the WQBEL calculations). Ammonia CMC calculated from paired upstream receiving water pH (8.5, lower of observed or permitted pH) and temperature (2.3 degrees Celsius) (1/7/2020). Ammonia CCC calculated using 30-day paired upstream receiving water pH (8.3) and temperature (2.09 degrees Celsius) (1/14/2020). See section IV.C.3.c.i (c) for ammonia WQBEL calculations.
5. An ambient hardness value of 49 mg/L of CaCO₃ was used to calculate the hardness-dependent metals criteria for copper in developing effluent limits.
6. Copper background value (4.0 µg/L) measured at RSW-002.

Abbreviations used in this table:

B = Maximum Receiving Water Concentration or lowest detection level, if non-detect
CMC = Criterion Maximum Concentration (CTR or NTR)
CCC = Criterion Continuous Concentration (CTR or NTR)
CV = Coefficient of Variation (established in accordance with section 1.4 of the SIP)
ECA Effluent Concentration Allowance
LTA Aquatic Life Calculations – Long-Term Average
MDEL = Maximum Daily Effluent Limitation
AMEL = Average Monthly Effluent Limitation
MDEL = Maximum Daily Effluent Limitation
AWEL = Average Weekly Effluent Limitation