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

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**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CA0079235**
**ORDER R5-2021-XXXX**

# WASTE DISCHARGE REQUIREMENTS FOR THE SEWERAGE COMMISSION – OROVILLE REGION, WASTEWATER TREATMENT PLANT, BUTTE COUNTY

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

**Table 1. Discharger Information**

| | |
|---|---|
| Discharger: | Sewerage Commission – Oroville Region |
| Name of Facility: | Sewerage Commission – Oroville Region Wastewater Treatment Plant |
| Facility Street Address: | 2880 South Fifth Avenue |
| Facility City, State, Zip: | Oroville, CA 95965-5851 |
| Facility County: | Butte County |

**Table 2. Discharge Location**

| Discharge Point | Effluent Description | Discharge Point Latitude (North) | Discharge Point Longitude (West) | Receiving Water |
|---|---|---|---|---|
| 001 | Treated Municipal Wastewater | 39.45305° | -121.63694° | Feather River |

**Table 3. Administrative Information**

| | |
|---|---|
| This Order was Adopted on: | **<Enter Adoption Date>** |
| This Order shall become effective on: | **<Enter Effective Date>** |
| This Order shall expire on: | **<Enter Expiration Date>** |
| 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, and an application for reissuance of a NPDES permit no later than: | **<Enter date>** |
| 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: | **Major 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 **[Enter DATE]**.

_____
**PATRICK PULUPA**, Executive Officer

**WASTE DISCHARGE REQUIREMENTS**
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## I. FACILITY INFORMATION

Information describing the Sewerage Commission – Oroville Region 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 (WDR's) 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 WDR's 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.

**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 require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. The Monitoring and Reporting Program is provided in Attachment E.

The technical and monitoring reports in this Order are required in accordance with Water Code section 13267, which states the following in subsection (b)(1), "In

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conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports and shall identify the evidence that supports requiring that person to provide the reports."

The Discharger owns and operates the Facility subject to this Order. The monitoring reports required by this Order are necessary to determine compliance with this Order. The need for the monitoring reports is discussed in the Fact Sheet.

**F. Notification of Interested Persons.** The Central Valley Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDR's 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 R5-2016-0024 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.

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**D**. Discharge of waste classified as 'hazardous', as defined in the California Code of Regulations, title 22, section 66261.1 et seq., is prohibited.

**E**. **Average Dry Weather Flow**. Discharges exceeding an average dry weather flow of 6.5 million gallons per day (MGD) are prohibited.

## IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

### A. Effluent Limitations – Discharge Point No. 001

#### 1. Final Effluent Limitations – Discharge Point No. 001

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 001. Unless otherwise specified compliance shall be measured at Monitoring Location EFF-001, 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 (BOD), 5-day @ 20°Celsius | milligrams per liter (mg/L) | 20 | 25 | -- |
| BOD | pounds per day (lbs/day) | 1,100 | 1,400 | -- |
| Total Suspended Solids (TSS) | mg/L | 20 | 25 | -- |
| TSS | lbs/day | 1,100 | 1,400 | -- |
| Ammonia Nitrogen, Total (as N) | mg/L | 33 | 58 | -- |
| Ammonia Nitrogen, Total (as N) | lbs/day | 1,800 | 3,100 | -- |
| Copper, Total Recoverable | micrograms per liter (µg/L) | 23 | -- | 30 |
| Dichlorobromomethane | µg/L | 9.6 | -- | 27 |
| Nitrate + Nitrite, Total (as N) | mg/L | 40 | 79 | -- |
| Zinc, Total Recoverable | µg/L | 110 | -- | 170 |

b. **pH**:

i. 6.0 Standard Units (SU) as an instantaneous minimum.

ii. 8.5 SU as an instantaneous maximum.

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c. **Percent Removal:** The average monthly percent removal of 5-day biochemical oxygen demand ($BOD_5$) and total suspended solids (TSS) shall not be less than 85 percent.

d. **Acute Whole Effluent Toxicity.** Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

i. 70%, minimum for any one bioassay; and

ii. 90%, median for any three consecutive bioassays.

e. **Total Residual Chlorine.** Effluent total residual chlorine shall not exceed:

i. 0.011 mg/L, as a 4-day average; and

ii. 0.019 mg/L, as a 1-hour average.

f. **Total Coliform Organisms.** Effluent total coliform organisms shall not exceed the following:

i. 23 most probable number per 100 milliliter (MPN/100 mL, as a 7-day median, and

ii. 240 MPN/100mL, more than once in any 30-day period.

g. **Electrical Conductivity @ 25°C.** The annual average effluent electrical conductivity @ 25°C shall not exceed 506 µmhos/cm for the calendar year.

h. **Diazinon and Chlorpyrifos.** Effluent diazinon and chlorpyrifos concentrations shall not exceed the sum of one (1.0) as defined below:

i. **Average Monthly Effluent Limitation (AMEL)**

SAMEL = CD M-avg/0.079 + CC M-avg/0.012 ≤ 1.0

CD M-AVG = average monthly diazinon effluent concentration in µg/L.

CC M-AVG = average monthly chlorpyrifos effluent concentration in µg/L.

ii. **Average Weekly Effluent Limitation (AWEL)**

SAWEL = CD W-avg/0.14 + CC W-avg/0.021 ≤ 1.0

CD W-AVG = average weekly diazinon effluent concentration in µg/L.

CC W-AVG = average weekly chlorpyrifos effluent concentration in µg/L.

**2. Interim Effluent Limitations – Not Applicable**

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**B. Land Discharge Specifications – Not Applicable**

**C. Recycling Specifications – Not Applicable**

## V. RECEIVING WATER LIMITATIONS

### A. Surface Water Limitations

The discharge shall not cause the following in the Feather River.

1. **Bacteria**. 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.

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.

   d. From 1 September to 31 May, dissolved oxygen concentration to fall below 8.0 mg/L.

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**.**

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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 (MCL's) 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.

   b. Radionuclides to be present in excess of the MCL's specified in Table 64442 of section 64442 and Table 64443 of section 64443 of Title 22 of the California Code of Regulations.

11. **Salinity**. Electrical conductivity to exceed 150 µmhos/cm (90$^{th}$ percentile) in well-mixed waters of the Feather River.

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.

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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 – Not Applicable

## 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

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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.

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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.

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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

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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. To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer 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. Failure to submit the request shall be considered a discharge without requirements, a violation of the Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

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

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compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

r. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, maximum daily effluent limitation, hourly average effluent limitation, or receiving water limitation of this Order, the Discharger shall notify the Central Valley Water Board by telephone (916) 464-3291 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Central Valley Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.

## 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.

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c. **Whole Effluent Toxicity.** As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a revised chronic toxicity effluent limitation, a revised acute toxicity effluent limitation, and/or an effluent limitation for a specific toxicant identified in a TRE. Additionally, if the State Water Board revises the SIP's toxicity control provisions, this Order may be reopened to implement the new provisions.

d. **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 and zinc. 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.

e. **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/)

**2. Special Studies, Technical Reports and Additional Monitoring Requirements**

a. **Toxicity Reduction Evaluation Requirements.** This Provision requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate, effluent toxicity. If the discharge exceeds the chronic toxicity thresholds defined in this Provision, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE) in accordance with an approved TRE Work Plan and take actions to mitigate the impact of the discharge and prevent recurrence of toxicity. A TRE is a site-specific study conducted in a stepwise process to identify the source(s) of toxicity and the effective control measures for effluent toxicity. TREs are designed to identify the causative agents and sources of whole effluent toxicity, evaluate the effectiveness of the toxicity control options, and confirm the reduction in effluent toxicity.

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i. **Numeric Toxicity Monitoring Trigger.** The numeric Toxicity Unit (TUc) monitoring trigger is 10 TUc (where TUc = 100/NOEC). The monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Discharger is required to initiate additional actions to evaluate effluent toxicity as specified in subsection iii, below.

ii. **Chronic Toxicity Monitoring Trigger Exceeded**. When a chronic whole effluent toxicity result during routine monitoring exceeds the chronic toxicity monitoring trigger, the Discharger shall proceed as follows:

(a) **Initial Toxicity Check**. If the percent effect is less than 25 percent at 10 percent effluent, check for any operation or sample collection issues and return to routine chronic toxicity monitoring. Otherwise, proceed to step (b).

(b) **Evaluate 6-week Median**. The Discharger may take two additional samples within 6 weeks of the initial routine sampling event exceeding the chronic toxicity monitoring trigger to evaluate compliance using a 6-week median. If the 6-week median is greater than 10 TUc (as $100/EC_{25}$) and the percent effect is greater than 25 percent at 10 percent effluent, proceed with subsection (c). Otherwise, the Discharger shall check for any operation or sample collection issues and return to routine chronic toxicity monitoring. See Compliance Determination Section VII.J for procedures for calculating 6-week median.

(c) **Toxicity Source Easily Identified.** If the source(s) of the toxicity is easily identified (e.g., temporary plant upset), the Discharger shall make necessary corrections to the facility and shall resume routine chronic toxicity monitoring; If the source of toxicity is not easily identified the Discharger shall conduct a site-specific TRE described in the following subsections.

(d) **Toxicity Reduction Evaluation.** The Discharger shall initiate a TRE as follows:

(i) **Within thirty (30) days** of exceeding the chronic toxicity monitoring trigger, the Discharger shall submit a TRE Action Plan to the Central Valley Water Board including, at minimum:

- Specific actions the Discharger will take to investigate and identify the cause(s) of toxicity, including a TRE WET monitoring schedule;
- Specific actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and
- A schedule for these actions.

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

a. **Salinity Evaluation and Minimization Plan.** The Discharger shall prepare a salinity evaluation and minimization plan to identify and address sources of salinity discharged from the Facility. The plan shall update the 2012 "Salinity/EC Site-Specific Study" submitted by the Discharger and address any control measures planned for salinity reduction. The plan shall be completed and submitted to the Central Valley Water Board by the due date in the Technical Reports Table of this Order.

The Discharger shall evaluate the effectiveness of the salinity evaluation and minimization plan and provide a summary with the Report of Waste Discharge.

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

a. **Emergency Storage & Solids Stabilization Pond Operating Requirements.**

i. The treatment facilities shall be designed, constructed, operated, and maintained to prevent inundation of 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 should assure that small coves and irregularities are not created around the perimeter of the water surface.

(b) Weeds shall be minimized.

(c) Dead algae, vegetation, and debris shall not accumulate on the water surface.

iv. Freeboard shall never be less than 2 feet, as measured vertically to the lowest point of overflow, except if lesser freeboard in the emergency storage pond does not threaten the integrity of the pond, no overflow of the pond occurs, and lesser freeboard is due to direct precipitation or stormwater runoff occurring as a result of annual precipitation with a greater than a 100 year return frequency, or a storm event with an intensity greater than a 25 year, 24 hour storm event.

v. Ponds shall have sufficient capacity to accommodate allowable wastewater flow, 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

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years, distributed monthly in accordance with historical precipitation patterns.

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 CWC, to the storage ponds is prohibited.

vii. Objectionable odors originating at the Facility shall not be perceivable beyond property owned by the Discharger.

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

a. **Pretreatment Requirements**

i. The Discharger shall be responsible and liable for the performance of all Control Authority pretreatment requirements contained in 40 C.F.R. Part 403, including any subsequent regulatory revisions to 40 C.F.R. Part 403. Where 40 C.F.R. Part 403 or subsequent revision places mandatory actions upon the Discharger as Control Authority but does not specify a timetable for completion of the actions, the Discharger shall complete the required actions within 6 months from the issuance date of this permit or the effective date of the 40 CFR Part 403 revisions, whichever comes later. For violations of pretreatment requirements, the Discharger shall be subject to enforcement actions, penalties, fines, and other remedies by U.S. EPA or other appropriate parties, as provided in the CWA. U.S. EPA may initiate enforcement action against a nondomestic user for noncompliance with applicable standards and requirements as provided in the CWA.

ii. The Discharger shall enforce the requirements promulgated under sections 307(b), 307(c), 307(d), and 402(b) of the CWA with timely, appropriate and effective enforcement actions. The Discharger shall cause all nondomestic users subject to federal categorical standards to achieve compliance no later than the date specified in those requirements or, in the case of a new nondomestic user, upon commencement of the discharge.

iii. The Discharger shall perform the pretreatment functions as required in 40 C.F.R. Part 403 including, but not limited to:

(a) Implement the necessary legal authorities as provided in 40 CFR Part 403.8(f)(1);

(b) Enforce the pretreatment requirements under 40 C.F.R. sections 403.5 and 403.6;

(c) Implement the programmatic functions as provided in 40 C.F.R. section 403.8(f)(2); and

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(d) Provide the requisite funding and personnel to implement the pretreatment program as provided in 40 C.F.R. section 403.8(f)(3).

iv. **Pretreatment Reporting Requirements.** Pretreatment reporting requirements are included in the Monitoring and Reporting Program, section X.D.6 of Attachment E.

v. **Local Limits Evaluation**. In accordance with 40 C.F.R. section 122.44(j)(2)(ii)) the Discharger shall provide a written technical evaluation of the need to revise local limits under 40 C.F.R. section 403.5(c)(1), by the due date in the Technical Reports Table of this Order.

b. **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 approved by the Executive Officer, and 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

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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 onsite sludge/biosolids treatment, processing, and storage for the Facility is described in the Fact Sheet (Attachment F, section II.A). Any proposed change in the onsite treatment, processing, or storage of sludge/biosolids shall be reported to the Executive Officer at least 90 days in advance of the change and shall not be implemented until written approval by the Executive Officer.

c. **Collection System.** Portions of the wastewater collection system are outside the service area of the Discharger. In order to assure compliance with the Discharge Prohibitions and to assure protection of the entire collection system and treatment works from industrial discharges, it is necessary that the Discharger control discharges into the system. To control discharges into the entire collection system, the Discharger shall maintain interagency agreements with the collection system owners. The interagency agreements shall contain, at a minimum, requirements for implementation of an industrial pretreatment program that meets the minimum requirements of this permit.

The Discharger shall submit current interagency agreements with wastewater collection system owners by the due date in the Technical Reports Table of this Order.

**6. Other Special Provisions – Not Applicable**

**7. Compliance Schedules – Not Applicable**

## VII. COMPLIANCE DETERMINATION

**A. BOD and TSS Effluent Limitations (Section IV.A.1.a).** Compliance with the final effluent limitations for BOD 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 BOD 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.

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**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 (e.g., July, August, and September).

**C. Total Coliform Organisms Effluent Limitations (Section IV.A.1.h.).** 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. Total Residual Chlorine Effluent Limitations (Section IV.A.1.e).** 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).

**E. Mass Effluent Limitations.** The mass effluent limitations contained in the Final Effluent Limitations IV.A.1.a are based on the permitted average dry weather flow and calculated as follows:

Mass (lbs/day) = Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor)

If the effluent flow exceeds the permitted average dry weather flow during wet-weather seasons, the effluent mass limitations contained in Final Effluent Limitations IV.A.1.a shall not apply.

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**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-d).** Monthly 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. Monthly receiving water monitoring data, measured at

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monitoring locations RSW-001 and RSW-002, will be used to determine compliance with parts “c” and “d” of the dissolved oxygen receiving water limitation to ensure the discharge does not cause the dissolved oxygen concentrations in the Feather River 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. Diazinon and Chlorpyrifos Effluent Limitations (Section IV.A.1.j).** Compliance shall be determined by calculating the sum, as provided in this Order, with analytical results that are reported as ND concentrations to be considered to be zero.

**I. Electrical Conductivity Calendar Year Annual Average Effluent Limitation (Section IV.A.1.i).** Compliance shall be determined by calculating the sum of all daily discharges measured during a calendar year divided by the number of daily discharges measured during that year,

**J. Chronic Whole Effluent Toxicity Effluent Trigger (Section VI.C.2.a).** To evaluate compliance with the chronic whole effluent toxicity effluent trigger, the median chronic toxicity units (TUc) shall be the median of up to three consecutive chronic toxicity bioassays during a six- week period. This includes a routine chronic toxicity monitoring event and two subsequent optional compliance monitoring events. If additional compliance monitoring events are not conducted, the median is equal to the result for routine chronic toxicity monitoring event. If only one additional compliance monitoring event is conducted, the median will be established as the arithmetic mean of the routine monitoring event and compliance monitoring event.

Where the median chronic toxicity units exceed **10** TUc (as 100/NOEC) for any endpoint, the Discharger will be deemed out of compliance with the chronic toxicity effluent trigger if the median percent effect at **10** percent effluent for the same endpoint also exceeds 25 percent. The percent effect used to evaluate compliance with the chronic toxicity effluent limitation shall be based on the chronic toxicity bioassay result(s) from the sample(s) used to establish the median TUc result. If the median TUc is based on two equal chronic toxicity bioassay results, the percent effect of the sample with the greatest percent effect shall be used to evaluate compliance with the chronic toxicity effluent limitation.

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## 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

**Arithmetic Mean ($\mu$)**
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:

Arithmetic mean = $\mu = \Sigma x / n$

where: $\Sigma x$ 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.

**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

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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.

**Effect Concentration (EC)**
A point estimate of the toxicant concentration that would cause an observable adverse effect (e.g. death, immobilization, or serious incapacitation) in a given percent of the test organisms, calculated from a continuous model (e.g. Probit Model). $EC_{25}$ is a point estimate of the toxicant concentration that would cause an observable adverse effect in 25 percent of the test organisms.

**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.

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

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**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.

**Inhibition Concentration**
Inhibition Concentration (IC) is a point estimate of the toxicant concentration that would cause a given percent reduction in a non-lethal biological measurement (e.g., reproduction or growth), calculated from a continuous model (i.e., Interpolation Method). IC25 is a point estimate of the toxic concentration that would cause a 25-percent reduction in a non-lethal biological measurement.

**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).

**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.

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**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.

**No-Observed-Effect-Concentration (NOEC)**
The highest concentration of toxicant to which organisms are exposed in a full life-cycle or partial life-cycle (short-term) test, that causes no observable adverse effects on the test organisms (i.e., the highest concentration of toxicant in which the values for the observed responses are not statistically significantly different from the controls).

**Not Detected (ND)**
Sample results which are less than the laboratory's MDL.

**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

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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.

**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.

**Standard Deviation (σ)**
Standard Deviation is a measure of variability that is calculated as follows:

$$\sigma = (\sum [(x - \mu)^2] / (n - 1))^{0.5}$$

where:

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

**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

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procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

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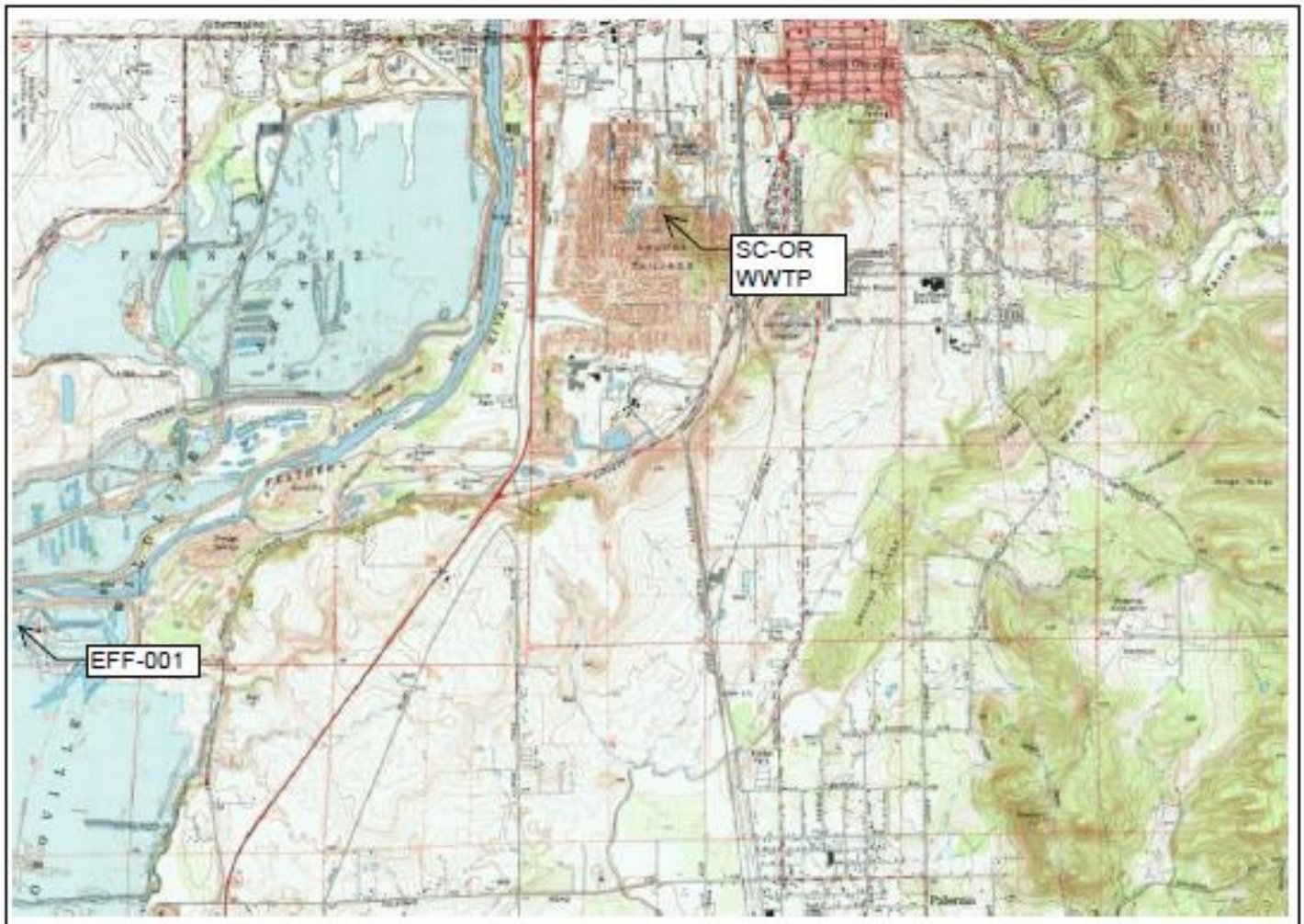
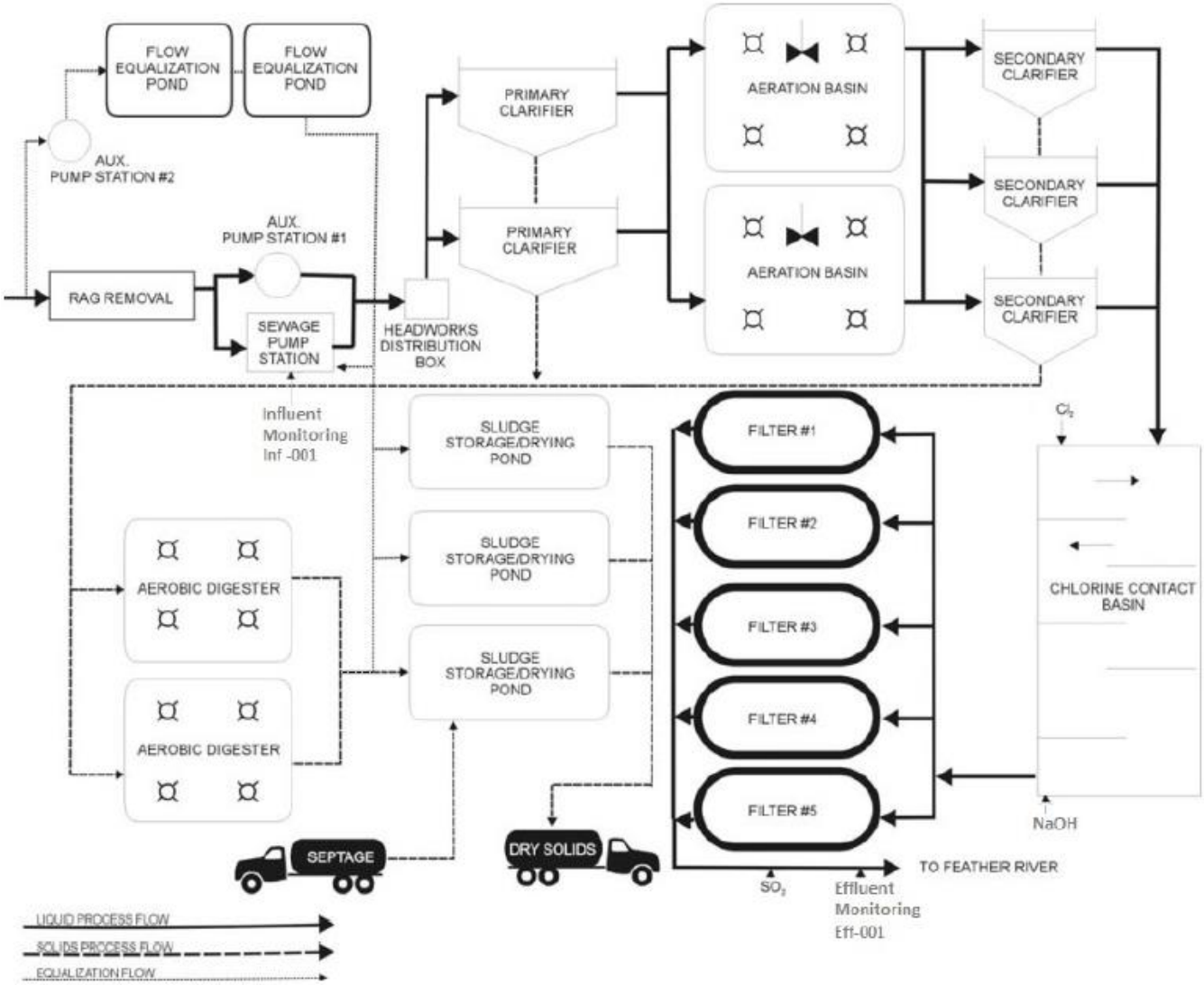
## ATTACHMENT B – MAP




| | | |
|---|---|---|
| Drawing Reference:<br>**PALERMO**<br>U.S.G.S TOPOGRAPHIC MAP<br>7.5 MINUTE QUADRANGLES | SITE LOCATION MAP<br><br>**SEWERAGE COMMISSION – OROVILLE REGION**<br>**WASTEWATER TREATMENT PLANT**<br>**BUTTE COUNTY** | N<br>W E<br>S |

## ATTACHMENT C – FLOW SCHEMATIC



# 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 and 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).)

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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).)

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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 (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 (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).)

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### 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, thorough 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

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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

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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

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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

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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

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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**

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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 13385, 13386, and 13387.

## VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

### A. Publicly-Owned Treatment Works (POTW's)

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

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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).).

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## ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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## 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 also authorize the Central Valley Water Board to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement federal and California regulations.

### 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.

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**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 ensure that the results of the Discharge Monitoring Report-Quality Assurance (DMR-QA) Study or the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Resources Control Board at the following address or electronically via email to the DMR-QA Coordinator:

State Water Resources Control Board
Quality Assurance Program Officer
Office of Information Management and Analysis
1001 I Street, Sacramento, CA 95814

**H**. 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.

**I**. The results of all monitoring required by this Order shall be reported to the Central Valley Water Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order. Unless otherwise specified, discharge flows shall be reported in terms of the monthly average and the daily maximum discharge flows.

## 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:

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**Table E-1. Monitoring Station Locations**

| Discharge Point Name | Monitoring Location Name | Monitoring Location Description |
|---|---|---|
| -- | INF-001 | Point at which raw sewage enters the Facility prior to entering treatment processes<br>Latitude: 39.48725° - Longitude: -121.56424° |
| 001 | EFF-001 | A representative sample of the effluent downstream from the last connection through which waste can be added<br>Latitude: 39.487169° - Longitude: -121.565155° |
| -- | RSW-001 | In the Feather River, 500 feet upstream from Discharge Point 001<br>Latitude: 39.45355° - Longitude: -121.63766° |
| -- | RSW-002 | In the Feather River, ¼ mile downstream from Discharge Point 001<br>Latitude: 39.44984° - Longitude: -121.63584° |
| -- | BIO-001 | A location where a representative sample of biosolids /sludge can be obtained |

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°Celcius) | mg/L | 24-hour Composite | 1/Week |
| Total Suspended Solids | mg/L | 24-hour Composite | 1/Week |
| Electrical Conductivity @ 25°Celcius | µmhos/cm | Grab | 1/Quarter |

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.

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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. The Discharger shall monitor treated effluent at 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 |
|---|---|---|---|
| Flow | MGD | Meter | Continuous |
| Biochemical Oxygen Demand (BOD) 5-day @ 20°Celcius | mg/L | 24-hour Composite | 1/Week |
| BOD | lbs/day | Calculate | 1/Week |
| BOD | % removal | Calculate | 1/Month |
| Total Suspended Solids (TSS) | mg/L | 24-hour Composite | 1/Week |
| TSS | lbs/day | Calculate | 1/Week |
| TSS | % removal | Calculate | 1/Month |
| pH | standard units | Grab | 3/Week |
| Copper, Total Recoverable | µg/L | Grab | 1/Month |
| Dichlorobromomethane | µg/L | Grab | 1/Month |
| Zinc, Total Recoverable | µg/L | Grab | 1/Month |
| Priority Pollutants and Other Constituents of Concern | see Section IX.D | see Section IX.D | (see Section IX.D) |
| Aluminum, Total Recoverable | µg/L | 24-hour Composite | 1/Year |
| Ammonia Nitrogen, Total (as N) | mg/L | Grab | 1/Week |
| Ammonia Nitrogen, Total (as N) | lbs/day | Calculate | 1/Week |
| Chlorine, Total Residual | mg/L | Meter | Continuous |
| Chlorpyrifos | µg/L | Grab | 1/Year |
| Diazinon | µg/L | Grab | 1/Year |
| Dissolved Organic Carbon | mg/L | Grab | 1/Quarter |
| Electrical Conductivity @ 25°Celcius | µmhos/cm | Grab | 1/Month |
| Hardness, Total (as CaCO3) | mg/L | Grab | 1/Month |
| Nitrate plus Nitrite, Total (as N) | mg/L | Grab | 1/Month |

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| Parameter | Units | Sample Type | Minimum Sampling Frequency |
|---|---|---|---|
| Temperature | °C | Grab | 1/Week |
| Total Coliform Organisms | MPN/100 mL | Grab | 1/Week |
| Turbidity | NTU | Grab | 1/Month |
| Whole Effluent Toxicity | see Section V | see Section V | see Section V |

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. **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 hand-held 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. **Whole Effluent Toxicity.** Ammonia samples shall be collected concurrently with whole effluent toxicity monitoring.

f. **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.

g. **Hardness** samples shall be collected concurrently with metals samples.

h. **Total Coliform Organisms.** Samples for total coliform organisms may be collected at any point following disinfection.

i. **Priority Pollutants**. For all priority pollutant constituents listed in Table E-3 (copper, dichlorobromomethane, zinc, and Priority Pollutants and Other Constituents of Concern) the reporting level (RL) shall be consistent with sections 2.4.2 and 2.4.3 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP) and the SSM Rule specified under 40 C.F.R. sections 122.21€(3) and 122.44(i)(1)(iv).

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j. **Chlorpyrifos and Diazinon** shall be sampled using U.S. EPA Method 625M, Method 8141, or equivalent GC/MS method with a lower Reporting Limit than the Basin Plan Water Quality Objectives of 0.015 µg/L and 0.1 µg/L for chlorpyrifos and diazinon, respectively.

k. **Whole Effluent Toxicity.** See section V for requirements of whole effluent toxicity testing.

l. **Dissolved Organic Carbon** monitoring shall be conducted concurrently with pH and hardness sampling.

## V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

**A. Acute Toxicity Testing.** The Discharger shall conduct acute toxicity testing to determine whether the effluent is contributing acute toxicity to the receiving water. The Discharger shall meet the acute toxicity testing requirement:

1. **Monitoring Frequency** – The Discharger shall perform **quarterly** acute toxicity testing, concurrent with effluent ammonia sampling.

2. **Sample Types** – The Discharger may use flow-through or static renewal testing. For static renewal testing, the samples shall be flow proportional 24-hour composites and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at Monitoring Location EFF-001.

3. **Test Species** – Test species shall be Rainbow Trout (Oncorhynchus mykiss).

4. **Methods** – The acute toxicity testing samples shall be analyzed using EPA-821-R-02-012, Fifth Edition. 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.

5. **Test Failure** – If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger must re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.

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

1. **Monitoring Frequency** – The Discharger shall perform routine **annual** chronic toxicity testing. If the result of the routine chronic toxicity testing event exhibits toxicity, demonstrated by a result greater than 10 TUc (as $100/EC_{25}$) AND a percent effect greater than 25 percent at 10 percent effluent, the Discharger has the option of conducting two additional compliance monitoring events and perform chronic toxicity testing using the species that exhibited toxicity in order to calculate a median. The optional compliance monitoring events shall occur at least one week apart, and the final monitoring event shall be initiated no later than 6 weeks from the routine monitoring event that exhibited toxicity. See Compliance Determination section VII.J for procedures for calculating 6-week median.

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2. **Sample Types** – Effluent samples shall be flow proportional 24-hour composites and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at Monitoring Location EFF-001. The receiving water control shall be a grab sample obtained from Monitoring Location RSW-001, as identified in this Monitoring and Reporting Program.

3. **Sample Volumes** – Adequate sample volumes shall be collected to provide renewal water to complete the test in the event that the discharge is intermittent.

4. **Test Species** – The testing shall be conducted using the following:

a. The cladoceran, water flea, Ceriodaphnia dubia (survival and reproduction test);

b. The fathead minnow, Pimephales promelas (larval survival and growth test); and

c. The green alga, Pseudokirchneriella subcapitata (growth test).

5. **Methods** – The presence of chronic toxicity shall be estimated as specified in 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.

6. **Reference Toxicant** – As required by the SIP, all chronic toxicity tests shall be conducted with concurrent testing with a reference toxicant and shall be reported with the chronic toxicity test results.

7. **Dilutions** – For routine and compliance chronic toxicity monitoring, the chronic toxicity testing shall be performed using the dilution series identified in Table E-4, below. For TRE monitoring, the chronic toxicity testing shall be performed using the dilution series identified in Table E-4, below, unless an alternative dilution series is detailed in the submitted TRE Action Plan. A receiving water control or laboratory water control may be used as the diluent.

**Table E-4. Chronic Toxicity Testing Dilution Series**

| Samples | Dilution% | Dilution% | Dilution% | Dilution% | Dilution% | Controls |
|---|---|---|---|---|---|---|
| % Effluent | 100 | 25 | 10 | 6.25 | 5 | 0 |
| % Control Water | 0 | 75 | 90 | 93.75 | 95 | 100 |

8. **Test Failure** – The Discharger must re-sample and re-test as soon as possible, but no later than fourteen (14) days after receiving notification of a test failure. A test failure is defined as follows:

a. The reference toxicant test or the effluent test does not meet all test acceptability criteria as specified in the Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater

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Organisms, Fourth Edition, EPA/821-R-02-013, October 2002 (Method Manual), and its subsequent amendments or revisions; or

b. The percent minimum significant difference (PMSD) measured for the test exceeds the upper PMSD bound variability criterion in the Method Manual.

**C. WET Testing Notification Requirements.** The Discharger shall notify the Central Valley Water Board within 24-hours after the receipt of test results exceeding the chronic toxicity monitoring trigger, or an exceedance of the acute toxicity effluent limitation.

**D. WET Testing Reporting Requirements.** All toxicity test reports shall include the contracting laboratory's complete report provided to the Discharger and shall be in accordance with the appropriate "Report Preparation and Test Review" sections of the method manuals. At a minimum, whole effluent toxicity monitoring shall be reported as follows:

1. **Chronic WET Reporting.** Routing and compliance chronic toxicity monitoring results shall be reported to the Central Valley Water Board with the monthly self-monitoring report, and shall contain, at minimum:

a. The results expressed in TUc, measured as 100/NOEC, and also measured as 100/LC50, 100/EC25, 100/IC25, and 100/IC50, as appropriate.

b. The percent effect for each endpoint at the IWC;

c. The statistical methods used to calculate endpoints;

d. The statistical output page, which includes the calculation of the percent minimum significant difference (PMSD);

e. The dates of sample collection and initiation of each toxicity test; and

f. The results compared to the numeric toxicity monitoring trigger.

g. The valid toxicity test results using the Test of Significant Toxicity (TST) statistical t-test approach, reported as "Pass" of "Fail" and "Percent Effect" at **10%** effluent (Instream Waste Concentration or IWC). The following is required for each TST:

i. The TST test must follow the 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.

ii. The null hypotheses (Ho) for the TST statistical approach is:

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Mean discharge IWC response ≤ RMD x Mean control response, where the chronic RMD = 0.75.

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."

iii. 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.

iv. Statistical program (e.g., TST calculator, CETIC, etc.) output results, including graphical plots.

Additionally, the monthly self-monitoring reports shall contain an updated chronology of chronic toxicity test results expressed in TUc, and organized by test species, type of test (survival, growth or reproduction), and monitoring type, i.e., routine, compliance, or TRE monitoring.

2. **Acute WET Reporting.** Acute toxicity test results shall be submitted with the monthly discharger self-monitoring reports and reported as percent survival.

3. **TRE Reporting**. Reports for TREs shall be submitted in accordance with the schedule contained in the Discharger's approved TRE Workplan, or as amended by the Discharger's TRE Action Plan.

4. **Quality Assurance (QA)**. The Discharger must provide the following information for QA purposes:

a. Results of the applicable reference toxicant data with the statistical output page giving the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD, and dates tested.

b. The reference toxicant control charts for each endpoint, which include summaries of reference toxicant tests performed by the contracting laboratory.

c. Any information on deviations or problems encountered and how they were dealt with.

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## VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

## VII. RECYCLING MONITORING REQUIREMENTS – NOT APPLICABLE

## VIII. RECEIVING WATER MONITORING REQUIREMENTS

### A. Monitoring Location RSW-001

1. The Discharger shall monitor the Feather River at RSW-001 in accordance with Table E-5 and the testing requirements described in section A.2 below:

**Table E-5. Receiving Water Monitoring Requirements**

| Parameter | Units | Sample Type | Minimum Sampling Frequency |
|---|---|---|---|
| Flow | MGD | Gauge | 1/week |
| pH | standard units | Grab | 2/Month |
| Copper, Total Recoverable | µg/L | Grab | 1/Month |
| Dichlorobromomethane | µg/L | Grab | 1/Quarter |
| Zinc, Total Recoverable | µg/L | Grab | 1/Month |
| Ammonia Nitrogen, Total (as N) | mg/L | Grab | 1/Quarter |
| Dissolved Oxygen | mg/L | Grab | 1/Month |
| Dissolved Organic Carbon | mg/L | Grab | 1/Month |
| Electrical Conductivity @ 25°Celcius | µmhos/cm | Grab | 1/Month |
| Hardness, Total (as CaCO3) | mg/L | Grab | 1/Month |
| Nitrate Nitrogen, Total (as N) | mg/L | Grab | 1/Quarter |
| Temperature | °C | Grab | 2/Month |
| Turbidity | NTU | Grab | 1/Month |
| E. Coli Organisms | CFU/100 mL or MPN/100 mL | Grab | 1/Quarter |
| Priority Pollutants and Other Constituents of Concern | see Section IX.D | see Section IX.D | see Section IX.D |

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.** Pollutants 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. A hand-held 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

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c. **Copper and Zinc.** 1/Month samples are required for first year of permit. 1/Quarter samples after first year.

d. **Temperature** and **pH** shall be recorded at the time of ammonia sample collection.

e. **Hardness** samples shall be collected concurrently with metals samples.

f. **Priority Pollutants.** For all priority pollutant constituents listed in Table E-5 the reporting level shall be consistent with sections 2.4.2 and 2.4.3 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California and the SSM Rule specified under 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv).

g. **Dissolved Organic Carbon** monitoring shall be conducted concurrently with pH and hardness sampling.

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 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. The Discharger shall monitor the Feather River at RSW-002 in accordance with Table E-6 and the testing requirements described in section B.2 below as follows:

**Table E-6. Receiving Water Monitoring Requirements**

| Parameter | Units | Sample Type | Minimum Sampling Frequency |
|---|---|---|---|
| pH | standard units | Grab | 2/Month |

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| Parameter | Units | Sample Type | Minimum Sampling Frequency |
|---|---|---|---|
| Dissolved Oxygen | mg/L | Grab | 1/Month |
| Electrical Conductivity @ 25°Celcius | µmhos/cm | Grab | 1/Month |
| E. Coli Organisms | CFU/100 mL or MPN/100 mL | Grab | 1/Quarter |
| Hardness, Total (as $CaCO_3$) | mg/L | Grab | 1/Month |
| Temperature | °C | Grab | 2/Month |
| Turbidity | NTU | Grab | 1/Month |

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.** Pollutants 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. A hand-held 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

## IX. OTHER MONITORING REQUIREMENTS

### A. Biosolids

1. Monitoring Location BIO-001

a. A **composite** sample of sludge shall be collected **annually** at Monitoring Location BIO-001 in accordance with EPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989, and tested for priority pollutants (excluding asbestos).

b. Biosolids monitoring shall be conducted using the methods in Test Methods for Evaluating Solid Waste, Physical/Chemical methods (EPA publication SW-846), as required in 40 C.F.R. section 503.8(b)(4). All results must be reported on a 100% dry weight basis. Records of all analyses must state on each page of the laboratory report whether the results are expressed in “100% dry weight” or “as is.”

### B. Pyrethroid Pesticides Monitoring

1. **Water Column Chemistry Monitoring Requirements**. The Discharger shall conduct effluent and receiving water (Feather River) baseline monitoring in accordance with Table E-7. **Quarterly monitoring shall be conducted for one**

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**year beginning with the fourth quarter of 2022** concurrent with the Effluent and Receiving Water Characterization Monitoring. The discharger shall also submit a minimum of one quality assurance/quality control (QA/QC) sample during the year to be analyzed for the constituents listed in Table E-7.

The monitoring shall be conducted in the effluent at monitoring location EFF-001 and downstream receiving water at monitoring location RSW-002 and the results of such monitoring be submitted to the Central Valley Water Board with the quarterly self-monitoring reports. The Discharger shall use Environmental Laboratory Accreditation Program (ELAP)-accredited laboratories and methods for pyrethroid pesticides water column chemistry monitoring. ELAP-accredited methods are acceptable for pyrethroid chemical analysis provided that the method meets the analytical capability described in Table E-7. A current list of ELAP approved laboratories and points of contact can be found on the Central Valley Water Board's Pyrethroid Pesticides TMDL and Basin Plan Amendment Webpage, https://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/central_valley_projects/central_valley_pesticides/pyrethroid_tmdl_bpa/index.html.

Monitoring can either be conducted by the Discharger or can be done as part of a group monitoring effort. If the Discharger chooses to participate in a group monitoring effort, the timing and the other study requirements of the monitoring can be modified by the Executive Officer.

**Table E-7. Pyrethroid Pesticides Monitoring**

| Parameter | CAS Number | Sample Units | Sample Type | Analytical Method | Reporting Level |
|---|---|---|---|---|---|
| Total Bifenthrin | 82657-04-3 | ng/L | Grab | To be determined | 1.3 |
| Total Cyfluthrin | 68359-37-5 | ng/L | Grab | To be determined | 1.3 |
| Total Cypermethrin | 52315-07-8 | ng/L | Grab | To be determined | 1.7 |
| Total Esfenvalerate | 51630-58-1 | ng/L | Grab | To be determined | 3.3 |
| Total Lambda-cyhalothrin | 91465-08-6 | ng/L | Grab | To be determined | 1.2 |
| Total Permethrin | 52645-53-1 | ng/L | Grab | To be determined | 10 |
| Freely Dissolved Bifenthrin | 82657-04-3 | ng/L | Calculated | Calculated from total concentration | |
| Freely Dissolved Cyfluthrin | 68359-37-5 | ng/L | Calculated | Calculated from total concentration | |
| Freely Dissolved Cypermethrin | 52315-07-8 | ng/L | Calculated | Calculated from total concentration | |

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| Parameter | CAS Number | Sample Units | Sample Type | Analytical Method | Reporting Level |
|---|---|---|---|---|---|
| Freely Dissolved Esfenvalerate | 51630-58-1 | ng/L | Calculated | Calculated from total concentration | |
| Freely Dissolved Lambda-cyhalothrin | 91465-08-6 | ng/L | Calculated | Calculated from total concentration | |
| Freely Dissolved Permethrin | 52645-53-1 | ng/L | Calculated | Calculated from total concentration | |
| Dissolved Organic Carbon (DOC) | | mg/L | Grab | | |
| Total Organic Carbon (TOC) | | mg/L | Grab | | |

The freely dissolved concentration of each quantified pyrethroid pesticide in a sample may be directly measured or estimated using partition coefficients. Methods for direct measurement must be approved by the Executive Officer before they are used to determine the freely dissolved pyrethroid concentrations that are used for determining exceedances of the pyrethroid pesticides numeric triggers.

To estimate the freely dissolved concentration of a pyrethroid pesticide with partition coefficients, the following equation shall be used:

$$C_{dissolved} = C_{total} \div [1 + (K_{OC} \times [POC]) + (K_{DOC} \times [DOC])]$$

Where:

C dissolved = concentration of a an individual pyrethroid pesticide that is in the freely dissolved phase (ng/L),

C total = total concentration of an individual pyrethroid pesticide in water (ng/L),

KOC = organic carbon-water partition coefficient for the individual pyrethroid pesticide (L/kg),

[POC] = concentration of particulate organic carbon in the water sample (kg/L), which can be calculated as [POC]=[TOC]-[DOC],

[TOC] = total organic carbon in the sample (kg/L)

KDOC = dissolved organic carbon-water partition coefficient (L/kg),

[DOC] = concentration of dissolved organic carbon in the sample (kg/L).

Site-specific or alternative study-based partition coefficients approved by the Executive Officer may be used for KOC and KDOC in the above equation. If site-specific or alternative study-based partition coefficients are not available or have not been approved, the following partition coefficients shall be used for KOC and KDOC in the above equation:

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**Table E-8. Pyrethroid Pesticide Partition Coefficients**

| Pyrethroid Pesticide | Receiving water KOC (L/kg) | Receiving water KDOC (L/kg) | Effluent KOC (L/kg) | Effluent KDOC (L/kg) |
|---|---|---|---|---|
| Bifenthrin | 4,228,000 | 1,737,127 | 15,848,932 | 800,000 |
| Cyfluthrin | 3,870,000 | 2,432,071 | 3,870,000 | 2,432,071 |
| Cypermethrin | 3,105,000 | 762,765 | 6,309,573 | 200,000 |
| Esfenvalerate | 7,220,000 | 1,733,158 | 7,220,000 | 1,733,158 |
| Lambda-cyhalothrin | 2,056,000 | 952,809 | 7,126,428 | 200,000 |
| Permethrin | 6,074,000 | 957,703 | 10,000,000 | 200,000 |

2. **Water Column Toxicity Monitoring Requirements**. When discharging to the Feather River, the Discharger shall monitor the toxicity of the downstream receiving water using EPA method EPA-821-R-02-012 (Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, USEPA, October 2002, or most recent edition) Except as specified in this order, water column toxicity testing shall follow the measurement quality objectives provided in the Surface Water Ambient Monitoring Program (SWAMP) Quality Assurance Program Plan (SWRCB, 2018). When feasible, the Discharger shall use the Southern California Coastal Water Research Project (SCCWRP) guidance (Schiff and Greenstein, 2016) on test organism age and size for Hyalella azteca.

For consistency with EPA Method EPA-821-R-02-012 and ELAP accreditation, *Hyalella Azteca* water column toxicity testing for baseline monitoring must be performed at 20 degrees Celsius.

**Quarterly monitoring shall be conducted for one year** concurrent with the Pyrethroid Pesticides Water Column Chemistry Monitoring during Effluent and Receiving Water Characterization Monitoring (see section IX.E of this MRP for specific dates). Downstream receiving water monitoring shall be conducted at monitoring location RSW-002 when discharging to the Feather River and the results of such monitoring be submitted to the Central Valley Water Board with the quarterly self-monitoring reports. Monitoring can either be conducted by the Discharger or can be done as part of a group monitoring effort. If the Discharger chooses to participate in a group monitoring effort, the timing of the monitoring can be modified by the Executive Officer.

## C. Effluent and Receiving Water Characterization

1. Monitoring Frequency

a. **Effluent Sampling.** Samples shall be collected from the effluent (Monitoring Location EFF-001) **quarterly between October 2022 and October 2023**.

b. **Receiving Water Sampling.** Samples shall be collected from the upstream receiving water (Monitoring Location RSW-001) **quarterly between October 2022 and October 2023.**

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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.

2. **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.

3. The Discharger shall conduct effluent and receiving water characterization monitoring in accordance with Table E-9 and the testing requirements described in section IX.E.4 below.

**Table E-9. 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 |
| 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 |

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| CTR Number | Volatile Organic Parameters | CAS Number | Units | Effluent Sample Type |
|---|---|---|---|---|
| 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 |
| 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 |

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| CTR Number | Semi-Organic Volatile Parameters | CAS Number | Units | Effluent Sample Type |
|---|---|---|---|---|
| 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 |
| 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 (III) | Chromium, Total | 7440-47-3 | 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 |

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| CTR Number | Inorganic Parameters | CAS Number | Units | Effluent Sample Type |
|---|---|---|---|---|
| 11 | Silver, Total | 7440-22-4 | µg/L | 24-hour Composite |
| 12 | Thallium, Total | 7440-28-0 | 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 | Phosphorus, Total (as P) | 7723-14-0 | mg/L | 24-hour Composite |
| 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 |
| 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 |

**CONVENTIONAL PARAMETERS**

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| CTR Number | Conventional Parameters | CAS Number | Units | Effluent Sample Type |
|---|---|---|---|---|
| NL | pH | -- | SU | Grab |
| NL | Temperature | -- | ºC | Grab |

**NON-CONVENTIONAL PARAMETERS**

| CTR Number | Nonconventional Parameters | CAS Number | Units | Effluent Sample Type |
|---|---|---|---|---|
| NL | Foaming Agents (MBAS) | MBAS | mg/L | 24-hour Composite |
| NL | Dissolved Organic Carbon (DOC) | DOC | 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 | ug/L | Grab |
| NL | Trichlorofluoromethane | 75-69-4 | µg/L | Grab |
| NL | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | µg/L | Grab |
| NL | Styrene | 100-42-5 | µg/L | Grab |
| NL | Xylenes | 1330-20-7 | µg/L | Grab |
| NL | Barium | 7440-39-3 | µg/L | 24-hour Composite |
| NL | Fluoride | 16984-48-8 | mg/L | 24-hour Composite |
| NL | Molybdenum | 7439-98-7 | µg/L | 24-hour Composite |
| NL | Tributyltin | 688-73-3 | µg/L | 24-hour Composite |
| NL | Alachlor | 15972-60-8 | µg/L | 24-hour Composite |
| NL | Atrazine | 1912-24-9 | µg/L | 24-hour Composite |
| NL | Bentazon | 25057-89-0 | µg/L | 24-hour Composite |
| NL | Carbofuran | 1563-66-2 | µg/L | 24-hour Composite |
| NL | 2,4-D | 94-75-7 | µg/L | 24-hour Composite |
| NL | Dalapon | 75-99-0 | µg/L | 24-hour Composite |
| NL | 1,2-Dibromo-3-chloropropane (DBCP) | 96-12-8 | µg/L | 24-hour Composite |
| NL | Di(2-ethylhexyl)adipate | 103-23-1 | µg/L | 24-hour Composite |
| NL | Dinoseb | 88-85-7 | µg/L | 24-hour Composite |
| NL | Diquat | 85-00-7 | µg/L | 24-hour Composite |
| NL | Endothal | 145-73-3 | µg/L | 24-hour Composite |
| NL | Ethylene Dibromide (EDB) | 106-93-4 | µg/L | 24-hour Composite |
| NL | Methoxychlor | 72-43-5 | µg/L | 24-hour Composite |
| NL | Molinate (Ordram) | 2212-67-1 | µg/L | 24-hour Composite |
| NL | Oxamyl | 23135-22-0 | µg/L | 24-hour Composite |
| NL | Picloram | 1918-02-1 | µg/L | 24-hour Composite |
| NL | Simazine (Princep) | 122-34-9 | µg/L | 24-hour Composite |
| NL | Thiobencarb | 28249-77-6 | µg/L | 24-hour Composite |
| NL | 2,4,5-TP (Silvex) | 93-72-1 | µg/L | 24-hour Composite |
| NL | Chlorpyrifos | 2921-88-2 | µg/L | 24-hour Composite |
| NL | Diazinon | 333-41-5 | µg/L | 24-hour Composite |

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

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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-3.

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-3.

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.

## 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. 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 (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 SMRs including the results of all required monitoring using U.S. EPA-approved

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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-10. 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/Hour | Permit effective date | Hourly | 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<br>1 April through 30 June<br>1 July through 30 September<br>1 October through 31 December | 1 May<br>1 August<br>1 November<br>1 February of following year |
| 1/Year | Permit effective date | 1 January through 31 December | 1 February of following year |

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).

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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 (± 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 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

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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. **Mass Loading Limitations**. For $BOD_5$, TSS, and ammonia, the Discharger shall calculate and report the average weekly and average monthly mass loading (lbs/day) in the SMRs. The mass loading shall be calculated as follows:

Mass Loading (lbs/day) = Total Flow (million gallons) x Concentration (mg/L) x 8.34 divided by Period Length (days)

The weekly average constituent concentration and total weekly flow shall be used for average weekly mass loading. The monthly average constituent concentration and total monthly flow shall be used for average monthly mass loading.

c. **Removal Efficiency ($BOD_5$ and TSS).** The Discharger shall calculate and report the percent removal of $BOD_5$ and TSS in the SMRs. The percent removal shall be calculated as specified in section VII.A. of the Limitations and Discharge Requirements.

d. **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.

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e. **Dissolved Oxygen Receiving Water Limitations**. The Discharger shall report monthly in the self-monitoring report the dissolved oxygen concentrations in the effluent (EFF-001) and the receiving water (RSW-001 and RSW-002).

f. **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.18.a-e. of the Waste Discharge Requirements.

g. **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 (DMR's)

1. DMRs are U.S. EPA reporting requirements. The Discharger shall electronically certify and submit DMR's together with SMR's 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/) 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. The Discharger shall maintain and make available to the Central Valley Water Board upon request a log of inspection for requested parameters. The Discharger shall certify within the report that the log has been maintained.

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. 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

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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:

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. 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 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).

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). 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-11, 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,

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electronically via CIWQS submittal, containing, at minimum, the following by the due date in the Technical Reports Table:

a. Report of Waste Discharge (Form 200);

b. NPDES Form 1 (not needed if submitting Form 2A);

c. NPDES Form 2S

d. **Salinity Evaluation and Minimization Plan.** The Discharger shall evaluate the effectiveness of the salinity evaluation and minimization plan and provide a summary with the Report of Waste Discharge; and

e. **Mixing Zone Requests.** A mixing zone analysis for constituents the Discharger is requesting the continuation of dilution credits and mixing zones in the calculation of water quality-based effluent limits (e.g., ammonia, copper, dichlorobromomethane, nitrate plus nitrite, and zinc).

6. **Annual Pretreatment Reporting Requirements**. The Discharger shall submit annually a report to the Central Valley Water Board, with copies to U.S. EPA Region 9 and the State Water Board, describing the Discharger's pretreatment activities over the previous 12 months (1 January through 31 December). In the event that the Discharger is not in compliance with any conditions or requirements of this Order, including noncompliance with pretreatment audit/compliance inspection requirements, then the Discharger shall also include the reasons for noncompliance and state how and when the Discharger shall comply with such conditions and requirements.

An annual report shall be submitted by the due date shown in the Technical Reports Table and include at least the following items:

a. A summary of analytical results from representative sampling of the POTW's influent and effluent for those pollutants U.S. EPA has identified under section 307(a) of the CWA which are known or suspected to be discharged by nondomestic users. This will consist of an annual full priority pollutant scan. The sample types for each priority pollutant constituent shall be consistent with the sample types specified in Table E-9 (Effluent and Receiving Water Characterization Monitoring). The Discharger is not required to sample and analyze for asbestos. The Discharger shall submit the results of the annual priority pollutant scan electronically to the Central Valley Water Board using the State Water Board's CIWQS Program Website.

   Sludge shall be sampled during the same 24-hour period and analyzed for the same pollutants as the influent and effluent sampling and analysis. The sludge analyzed shall be a composite sample of a minimum of 12 discrete samples taken at equal time intervals over the 24-hour period. Wastewater and sludge sampling and analysis shall be performed at least annually. The Discharger shall also provide any influent, effluent or sludge

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monitoring data for nonpriority pollutants which may be causing or contributing to Interference, Pass-Through or adversely impacting sludge quality. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 C.F.R. part 136 and amendments thereto.

b. A discussion of Upset, Interference, or Pass-Through incidents, if any, at the treatment plant, which the Discharger knows, or suspects were caused by nondomestic users of the POTW. The discussion shall include the reasons why the incidents occurred, the corrective actions taken and, if known, the name and address of, the nondomestic user(s) responsible. The discussion shall also include a review of the applicable pollutant limitations to determine whether any additional limitations, or changes to existing requirements, may be necessary to prevent Pass-Through, Interference, or noncompliance with sludge disposal requirements.

c. The cumulative number of nondomestic users that the Discharger has notified regarding Baseline Monitoring Reports and the cumulative number of nondomestic user responses.

d. An updated list of the Discharger's significant industrial users (SIUs) including their names and addresses, or a list of deletions, additions and SIU name changes keyed to a previously submitted list. The Discharger shall provide a brief explanation for each change. The list shall identify the SIUs subject to federal categorical standards by specifying which set(s) of standards are applicable to each SIU. The list shall indicate which SIUs, or specific pollutants from each industry, are subject to local limitations. Local limitations that are more stringent than the federal categorical standards shall also be identified.

e. The Discharger shall characterize the compliance status through the year of record of each SIU by employing the following descriptions:

   i. complied with baseline monitoring report requirements (where applicable);

   ii. consistently achieved compliance;

   iii. inconsistently achieved compliance;

   iv. significantly violated applicable pretreatment requirements as defined by 40 C.F.R. section 403.8(f)(2)(vii);

   v. complied with schedule to achieve compliance (include the date final compliance is required);

   vi. did not achieve compliance and not on a compliance schedule; and

   vii. compliance status unknown.

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f. A summary of the inspection and sampling activities conducted by the Discharger during the past year to gather information and data regarding the SIUs. The summary shall include:

i. The names and addresses of the SIUs subjected to surveillance and an explanation of whether they were inspected, sampled, or both and the frequency of these activities at each user; and

ii. The conclusions or results from the inspection or sampling of each industrial user.

g. The Discharger shall characterize the compliance status of each SIU by providing a list or table which includes the following information:

i. Name of SIU;

ii. Category, if subject to federal categorical standards;

iii. The type of wastewater treatment or control processes in place;

iv. The number of samples taken by the POTW during the year;

v. The number of samples taken by the SIU during the year;

vi. For a SIU subject to discharge requirements for total toxic organics, whether all required certifications were provided;

vii. A list of the standards violated during the year. Identify whether the violations were for categorical standards or local limits.

viii. Whether the facility is in significant noncompliance (SNC) as defined at 40 C.F.R. section 403.8(f)(2)(viii) at any time during the year; and

ix. A summary of enforcement or other actions taken during the year to return the SIU to compliance. Describe the type of action (e.g., warning letters or notices of violation, administrative orders, civil actions, and criminal actions), final compliance date, and the amount of fines and penalties collected, if any. Describe any proposed actions for bringing the SIU into compliance;

x. Restriction of flow to the POTW.

xi. Disconnection from discharge to the POTW.

h. A brief description of any programs the POTW implements to reduce pollutants from nondomestic users that are not classified as SIUs;

i. A brief description of any significant changes in operating the pretreatment program which differ from the previous year including, but not limited to, changes concerning: the program's administrative structure, local limits,

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monitoring program or monitoring frequencies, legal-authority, enforcement policy, funding levels, or staffing levels;

j. A summary of the annual pretreatment budget, including the cost of pretreatment program functions and equipment purchases; and

k. A summary of activities to involve and inform the public of the program including a copy of the newspaper notice, if any, required under 40 C.F.R. section 403.8(f)(2)(viii).

Pretreatment Program reports shall be submitted electronically to the Central Valley Water Board via CIWQS submittal and the:

State Water Resources Control Board
NPDES Wastewater@waterboards.ca.gov
and the
U.S. EPA Region 9 Pretreatment Coordinator
R9Pretreatment@epa.gov

7. **Technical Report Submittals**. This Order includes requirements to submit a Report of Waste Discharge (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 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-11. 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 | 1 Year prior to permit expiration date | ROWD |
| 2 | Analytical Methods Report | Within 60 days of permit adoption date | MRP X.D.2 |
| 3 | Analytical Methods Report Certification | 3 months prior to start of characterization monitoring | MRP IX.C.2 |
| 4 | Annual Operations Report | 1 February 2022 | MRP X.D.3 |
| 5 | Annual Operations Report | 1 February 2023 | MRP X.D.3 |
| 6 | Annual Operations Report | 1 February 2024 | MRP X.D.3 |
| 7 | Annual Operations Report | 1 February 2025 | MRP X.D.3 |
| 8 | Annual Operations Report | 1 February 2026 | MRP X.D.3 |
| 9 | Recycled Water Policy Annual Report Submittal Confirmation | 30 April 2022 | MRP X.D.4 |

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| Report # | Technical Report | Due Date | CIWQS Report Name |
|---|---|---|---|
| 10 | Recycled Water Policy Annual Report Submittal Confirmation | 30 April 2023 | MRP X.D.4 |
| 11 | Recycled Water Policy Annual Report Submittal Confirmation | 30 April 2024 | MRP X.D.4 |
| 12 | Recycled Water Policy Annual Report Submittal Confirmation | 30 April 2025 | MRP X.D.4 |
| 13 | Recycled Water Policy Annual Report Submittal Confirmation | 30 April 2026 | MRP X.D.4 |
| Intentionally left blank | **Other Reports** | Intentionally left blank | Intentionally left blank |
| 14 | Salinity Evaluation and Minimization Plan | With ROWD - 1 Year prior to permit expiration date | WDR VI.C.3.a |
| 15 | Current Interagency Agreements for wastewater collection system | Within 90 days of permit effective date | WDR VI.C.5.c |
| 16 | Annual Pretreatment Report | 28 February 2022 | MRP X.D.6 |
| 17 | Annual Pretreatment Report | 28 February 2023 | MRP X.D.6 |
| 18 | Annual Pretreatment Report | 28 February 2024 | MRP X.D.6 |
| 19 | Annual Pretreatment Report | 28 February 2025 | MRP X.D.6 |
| 20 | Annual Pretreatment Report | 28 February 2026 | MRP X.D.6 |
| 21 | Pretreatment Program Local Limits Evaluation | 1 October 2022 | WDR VI.C.5.a.v |

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## ATTACHMENT F – FACT SHEET

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## 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:** | 5A040106001 |
| **CIWQS Facility Place ID:** | 246251 |
| **Discharger:** | Sewerage Commission – Oroville Region |
| **Name of Facility:** | Sewerage Commission – Oroville Region Wastewater Treatment Plant |
| **Facility Address:** | 2880 South Fifth Avenue |
| **Facility City, State Zip:** | Oroville, CA 95965 |
| **Facility County:** | Butte County |
| **Facility Contact, Title and Phone Number:** | Glen Sturdevant, Manager 530-534-0353 |
| **Authorized Person to Sign and Submit Reports:** | Glen Sturdevant, Manager 530-534-0353 |
| **Mailing Address:** | PO Box 1350 Oroville, CA 95965 |
| **Billing Address:** | same as above |
| **Type of Facility:** | POTW |
| **Major or Minor Facility:** | Major |
| **Threat to Water Quality:** | 1 |
| **Complexity:** | A |
| **Pretreatment Program:** | Yes |
| **Recycling Requirements:** | Not Applicable |
| **Facility Permitted Flow:** | 6.5 MGD |
| **Facility Design Flow:** | 6.5 MGD |
| **Watershed:** | Lower Feather River Hydrologic Unit |
| **Receiving Water:** | Feather River |
| **Receiving Water Type:** | Inland surface water |

**A**. Sewerage Commission – Oroville Region (hereinafter Discharger) is the owner and operator of the Sewerage Commission – Oroville Region Wastewater Treatment Plant (hereinafter Facility), a Publicly-Owned Treatment Works (POTW).

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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 Feather River, a water of the United States, within the Lower Feather River Hydrologic Unit. The Discharger was previously regulated by Order R5-2016-0024 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0079235 adopted on 21 April 2016 and expired on 31 May 2021. 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 (WDR's) and NPDES permit on 5 November 2020. Information was requested on 3 December 2020 and received on 21 December 2020. The application was deemed complete on 11 January 2021.

**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, 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 City of Oroville, Lake Oroville Area Public Utility District, and Thermalito Water and Sewer District, serving a population of approximately 40,855**.** The design average dry weather flow capacity of the Facility is 6.5 million gallons per day (MGD). The Discharger also accepts hauled septic waste.

The Discharger has an approved U.S. EPA pretreatment program that includes two categorical significant industrial users (SIUs) and one non-categorical SIU.

### A. Description of Wastewater and Biosolids Treatment and Controls

The treatment system at the Facility consists of influent screening, grit removal, primary clarification, biological treatment by activated sludge, secondary clarification, disinfection, filtration, and dechlorination. Hauled septic and high influent flows that

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exceed treatment design capacity are attenuated with lined emergency storage basins located onsite and returned to the treatment system when flows decrease. Primary and secondary solids are aerobically digested and then dewatered using storage basins. Dried biosolids are hauled to a landfill. In 2020, the Facility generated 415 dry metric tons of biosolids.

## B. Discharge Points and Receiving Waters

1. The Facility is located in section 19, T19N R4E, MDB&M, as shown in Attachment B, a part of this Order.

2. Treated municipal wastewater is discharged at Discharge Point No. 001 to the Feather River, a water of the United States at a point latitude 39° 27' 11" N and longitude 121° 38'13" W.

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

Effluent limitations contained in Order R5-2016-0024 for discharges from Discharge Point 001 (Monitoring Location EFF-001) and representative monitoring data from the term of Order R5-2016-0024 are as follows:

**Table F-2. Historic Effluent Limitations**

| Parameter | Units | Historic Effluent Limitations | Highest Average Monthly Discharge | Highest Average Weekly Discharge | Highest Daily Discharge |
|---|---|---|---|---|---|
| Flow | MGD | Average Annual: 6.5 | 5.1 | 6.8 | 8.9 |
| Biochemical Oxygen Demand (5-day @ 20°C) | mg/L | AMEL 20<br>AWEL 25<br>MDEL40 | 7 | 14.8 | 14.8 |
| Biochemical Oxygen Demand (5-day @ 20°C) | lbs/day | AMEL 1,100<br>AWEL 1,400<br>MDEL 2,200 | 310 | 515 | 515 |
| Total Suspended Solids | mg/L | AMEL 20<br>AWEL 25<br>MDEL40 | 6.4 | 11.3 | 11.3 |
| Total Suspended Solids | lbs/day | AMEL 1,100<br>AWEL 1,400<br>MDEL 2,200 | 134 | 249 | 249 |
| pH | Standard units | Inst. Max 8.5<br>Inst. Min 6.0 | -- | -- | Max: 7.58<br>Min: 6.02 |
| Copper, Total Recoverable | µg/L | AMEL 23<br>MDEL 35 | 22.4 | -- | 22.4 |
| Dichlorobromo-methane | µg/L | AMEL 9.8<br>MDEL 20 | 4.18 | -- | 4.18 |
| Ammonia, Total (as N) | mg/L | AMEL 33<br>AWEL 56 | 22.2 | 22.2 | -- |
| Nitrate + Nitrite, Total (as N) | mg/L | AMEL 40<br>AWEL 69 | 23 | 23 | -- |

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| Parameter | Units | Historic Effluent Limitations | Highest Average Monthly Discharge | Highest Average Weekly Discharge | Highest Daily Discharge |
|---|---|---|---|---|---|
| Acute Whole Effluent Toxicity | % Survival | Any one test: 70<br>Three consecutive tests: 90 | 95<br>95 | -- | -- |
| Total Residual Chlorine | mg/L | 1-hour average 0.019<br>4-day average 0.011 | ND | ND | -- |
| Total Coliform Organisms | MPN/100mL | 7-day median: 23<br>30-day period: 240 | 30-day: 80 | 7-day: 80 | -- |
| Electrical Conductivity | µmhos/cm | Annual Average: 700 | 760 | -- | 760 |
| Diazinon and Chlorpyrifos | µg/L | AMEL ≤1.0<br>MDEL ≤1.0 | ND | -- | ND |

### D. Compliance Summary

The Discharger committed 5 violations of effluent limitations for total coliform during the permit term. No formal enforcement action was taken by the Central Valley Water Board and no specific cause for the violations was identified.

### E. Planned Changes

The Discharger is planning multiple projects during the permit term. One project is to replace the current influent pump station for larger capacity during wet weather flows. The second project consists of upgrades to the existing grit removal system, retrofitting the existing aeration basins to provide nitrification and denitrification, replacing the chlorine disinfection with UV disinfection, and adding capacity to the existing secondary clarifiers and filters.

## 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 WDR's 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.

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## 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 Feather River are as follows:

**Table F-3 Basin Plan Beneficial Uses**

| Discharge Point | Receiving Water Name | Beneficial Use(s) |
|---|---|---|
| 001 | Feather River | Existing:<br>Municipal and domestic water supply (MUN), Agricultural irrigation (AGR), Water contact recreation including canoeing and rafting (REC-1), other noncontact recreation (REC-2),Warm freshwater habitat (WARM), Cold freshwater habitat (COLD), Warm and cold spawning (SPWN), wildlife habitat (WILD). |

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

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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 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

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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 Discharger has submitted a Notice of Intent (NOI) and been approved for coverage under the State Water Board's 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 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 (SSMP's) and report all sanitary sewer overflows (SSO's), 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 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

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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

1. 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 16 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 (Lake Oroville Dam to the Confluence with Sacramento River) includes: chlorpyrifos, group A pesticides, mercury, polychlorinated biphenyls (PCBs), and toxicity**.**

2. **Total Maximum Daily Loads (TMDL's).** Table F-4, below, identifies the 303(d) listings and any applicable TMDLs for the Feather River from Lake Oroville Dam to Sacramento River. This permit includes WQBELs that are consistent with the assumptions and considerations of the applicable WLAs in the chlorpyrifos and diazinon TMDL.

**Table F-4. 303 (d) List for Feather River from Lake Oroville Dam to Sacramento River**

| Pollutant | Potential Sources | TMDL Status |
|---|---|---|
| Chlorpyrifos | Agriculture | Adopted and effective 2016 |
| Group A Pesticides | Unknown | Not Completed |
| Mercury | Resource Extraction | Not Completed |
| PCBs | Unknown | Not Completed |
| Toxicity | Unknown | Not Completed |

3. The 303(d) listings and TMDL's have been considered in the development of the Order. A pollutant-by-pollutant evaluation of each pollutant of concern is described in section VI.C.3 of this Fact Sheet.

## E. Other Plans, Polices and Regulations

1. **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, California Code of Regulations (CCR), section 20005 et seq (hereafter Title 27). The exemption, pursuant to Title 27 CCR section 20090(a), is based on the following:

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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

Effluent limitations and toxic and pretreatment effluent standards established pursuant to sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and Guidelines), and 307 (Toxic and Pretreatment Effluent Standards) of the CWA and amendments thereto are applicable to the discharge.

The CWA mandates the implementation of effluent limitations that are as stringent as necessary to meet water quality standards established pursuant to state or federal law [33 U.S.C., section 1311(b)(1)(C); 40 C.F.R. section 122.44(d)(1)]. NPDES permits must incorporate discharge limits necessary to ensure that water quality standards are met. This requirement applies to narrative criteria as well as to criteria specifying maximum amounts of particular pollutants. Pursuant to federal regulations, 40 C.F.R. section 122.44(d)(1)(i), NPDES permits must contain limits that control all pollutants that "are or may be discharged at a level which 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." Federal regulations, 40 C.F.R. section 122.44(d)(1)(vi), further provide that "[w]here a state has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits."

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 WQBEL's to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where numeric water quality objectives have not been established. The Basin Plan at page 4-27 contains an implementation policy, "Policy for Application of Water Quality Objectives", that specifies that the Central Valley Water Board "will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives." This Policy complies with 40 C.F.R. section 122.44(d)(1). With respect to narrative objectives, the Central Valley Water Board must establish effluent limitations using one or more of three specified sources, including: (1) U.S. EPA's published water quality criteria, (2) a proposed state criterion (i.e., water quality objective) or an explicit state policy interpreting its narrative water quality criteria (i.e., the Central Valley Water Board's "Policy for Application of Water Quality Objectives")(40 C.F.R. section 122.44(d)(1)(vi)(A), (B) or (C)), or (3) an indicator parameter.

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The Basin Plan includes numeric site-specific water quality objectives and narrative objectives for toxicity, chemical constituents, discoloration, radionuclides, and tastes and odors. The narrative toxicity objective 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 section 3.1.20) The Basin Plan states that material and relevant information, including numeric criteria, and recommendations from other agencies and scientific literature will be utilized in evaluating compliance with the narrative toxicity objective. The narrative chemical constituents' objective states that waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. At minimum, "…water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs)" in Title 22 of CCR. The Basin Plan further states that, to protect all beneficial uses, the Central Valley Water Board may apply limits more stringent than MCLs. The narrative tastes and odors objective states: "Water shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to domestic or municipal water supplies or to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses."

## 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 section122.41(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 California Code of Regulations, title 22, section 66261.1 et seq, that prohibits discharge of hazardous waste.

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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. Previous Order R5-2016-0024 included flow as an effluent limit based on the Facility design flow. Flow is not a pollutant and therefore has been changed from an effluent limit to a discharge prohibition in this Order, which is an equivalent level of regulation. This Order is not less stringent because compliance with flow as a discharge prohibition will be calculated the same way as the previous Order.

## 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 POTW's [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 biochemical oxygen demand ($BOD_5$), total suspended solids (TSS), and pH.

### 2. Applicable Technology-Based Effluent Limitations

a. **BOD 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 BOD and TSS. In addition, 40 C.F.R. section 133.102, in describing the minimum level of effluent quality attainable by secondary treatment, states that the 30-day average percent removal shall not be less than 85 percent. This Order contains a limitation requiring an average of 85 percent removal of BOD and TSS over each calendar month. This Order requires Water Quality Based Effluent Limitations (WQBEL's) that are equal to or more stringent than the secondary technology-based treatment described in 40 CFR part 133 (See section

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IV.C.3.b of the Fact Sheet for a discussion on WQBEL's for BOD and TSS.)

b. **Flow.** The Facility was designed to provide a secondary level of treatment for up to a design flow of 6.5 mgd. Therefore, this Order contains an average dry weather discharge flow effluent limit of 6.5 mgd.

c. **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. This Order, however, requires more stringent WQBEL's for pH to comply with the Basin Plan's water quality objectives for pH.

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

**Table F-5. Summary of Technology-based Effluent Limitations**

| Parameter | Units | Effluent Limitations |
|---|---|---|
| Biochemical Oxygen Demand (BOD), 5-day @ 20° Celsius | mg/L | AMEL 30<br>AWEL 45 |
| TSS | mg/L | AMEL 30<br>AWEL 45 |
| Flow | MGD | 6.5 |
| pH | Standard Units | Instantaneous Max 9.0<br>Instantaneous Min 6.0 |

**Table F-5 Notes:**

1. Note that more stringent WQBEL's for BOD, pH, and TSS are applicable and are established as final effluent limitations in this Order (see sections IV.C.3.b and IV.C.3.d of this Fact Sheet).

### C. Water Quality-Based Effluent Limitations (WQBEL's)

#### 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, WQBEL's 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

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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 WQBEL's when necessary is intended to protect the designated 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 waste load allocations 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.

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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 from 1 January 2018 through 31 December 2020, which includes effluent and ambient background data submitted in SMRs.

c. **Assimilative Capacity/Mixing Zone.**

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 parts 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 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 TMDL's, 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

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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

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(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.**"

Description of Diffuser and Proposed Mixing Zone

The Discharger owns and maintains the outfall diffuser, which is a 27 inch steel pipe with 21 ports over a length of 200 feet. The diffuser is oriented perpendicular to the river flow and spans approximately half the river width. The river water depth ranges from approximately 10 to 20 feet depending on the river flows. The outfall is located approximately 1,000 feet downstream of the Thermalito Afterbay discharge into the Feather River.

The Discharger submitted an *Outfall Mixing Zone Study* (Mixing Zone Study) in January 2015 that included results from a dye tracer study, bathymetric survey, and dilution modeling. The Mixing Zone Study used effluent flows and receiving water conditions through 2014 (per requirements of the SIP) to evaluate potential impacts of the discharge on the receiving water and demonstrate mixing zone sizes for various aquatic and human health criteria. Based on conservative models in the Mixing Zone Study, the acute aquatic life mixing zone boundary extends 25 feet downstream at a dilution factor of 38, the chronic aquatic life mixing zone boundary extends 200 feet downstream at a dilution factor of 76, and the human health mixing zone extends 200 feet downstream at a dilution factor of 322.

Evaluation of Available Dilution for Acute and Chronic Aquatic Life Criteria

U.S. EPA Region VIII, it it's "EPA Region VIII Mixing Zones and Dilution Policy", recommends no dilution for acute aquatic life criteria, stating the following, "In incomplete mix situations, discharge limitations to implement acute chemical-specific aquatic life criteria and narrative (no acute toxicity) criteria shall be based on achieving such acute criteria at the end-of-pipe (i.e., without an allowance for dilution). This approach is intended to implement the narrative requirement prohibiting acutely toxic conditions in the mixing zone."

The Discharger previously requested acute and chronic aquatic life mixing zones for compliance with acute and chronic water quality criteria. Based on the Mixing Zone Study, the maximum requested acute and chronic aquatic life mixing zones extend up to 200 feet downstream.

The acute and chronic aquatic life mixing zones extending up to 200 feet downstream of the outfall meet the requirements of the SIP as follows:

(a) 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

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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 width of the Feather River at the outfall is approximately 400 feet and the mixing zone extends the length of the diffuser, approximately 200 feet into the Feather River. Additionally, the Feather River is a large river spanning over 50 miles in length downstream of the outfall. The mixing zones are small relative to the large size of the receiving water; therefore, the aquatic life mixing zones do not compromise the integrity of the entire water body.

(b) 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. This Order includes acute toxicity effluent limitations that require compliance to be determined based on acute bioassays using 100 percent effluent. Compliance with these requirements ensures that acutely toxic conditions to aquatic life passing through the acute and chronic mixing zones do not occur.

(c) Shall not restrict the passage of aquatic life – The acute and chronic mixing zones are small relative to the large size of the receiving water; therefore, there is an adequate zone of passage for aquatic life in the Feather River.

(d) 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, will allow adequate zones of passage, and are sized appropriately to ensure that there will be no adverse impacts to biologically sensitive or critical habitats.

(e) 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 acute and chronic aquatic life mixing zones will not produce undesirable or nuisance aquatic life, result in floating debris, oil, or scum; produce objectionable color during daylight hours, odor, taste, or turbidity; cause objectionable bottom deposits, or cause nuisance.

(f) Shall not dominate the receiving water body or overlap a mixing zone from different outfalls – The acute and chronic aquatic life mixing zones are small relative to the water body, so they will not dominate the water body.

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(g) Shall not be allowed at or near any drinking water intake – The acute and chronic aquatic life mixing zones are not near a drinking water intake.

The acute and chronic aquatic life mixing zones, therefore, comply with the SIP. The mixing zones also comply with the Basin Plan, which requires that the mixing zones not adversely impact beneficial uses. Beneficial uses will not be adversely affected for the same reasons discussed above. In determining the size of the mixing zones, the Central Valley Water Board considered the procedures and guidelines in U.S. EPA's Water Quality Standards Handbook, 2nd Edition (updated July 2007), section 5.1, and section 2.2.2 of the TSD. The SIP incorporates the same guidelines.

Evaluation of Available Dilution for Human Health Criteria.

U.S. Section 1.4.2.2 of the SIP provides that mixing zones should not be allowed at or near drinking water intakes. Furthermore, regarding the application of a mixing zone for the protection of human health, the TSD states that, "…the presence of mixing zones should not result in significant health risks, when evaluated using reasonable assumptions about exposure pathways. Thus, where drinking water contaminants are a concern, mixing zones should not encroach on drinking water intakes." There are no drinking water intakes in the human health mixing zone.

The Discharger previously requested mixing zones for compliance with human health water quality criteria. Based on the Mixing Zone Study, the maximum requested human health mixing zone extends up to 200 feet downstream. The human health mixing zone meets the requirements of the SIP as follows:

(a) 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 does not impinge on unique or critical habitats." The width of the Feather River at the outfall is approximately 400 feet and the mixing zone extends the length of the diffuser, approximately 200 feet into the Feather River. Additionally, the Feather River is a large river spanning over 50 miles in length downstream of the outfall. The mixing zones are small relative to the large size of the receiving water; therefore, the human health mixing zones do not compromise the integrity of the entire water body.

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(b) Shall not cause acutely toxic conditions to aquatic life passing through the mixing zone – The human health mixing zone is not applicable to aquatic life criteria. Therefore, acutely toxic conditions will not occur in the mixing zone.

(c) Shall not restrict the passage of aquatic life – The human health mixing zone is not applicable to aquatic life criteria. Therefore, acutely toxic conditions will not occur in the mixing zone.

(d) 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 human health mixing zone is not applicable to aquatic life criteria. Therefore, acutely toxic conditions will not occur in the mixing zone.

(e) 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 human health mixing zones will not produce undesirable or nuisance aquatic life, result in floating debris, oil, or scum; produce objectionable color during daylight hours, odor, taste, or turbidity; cause objectionable bottom deposits, or cause nuisance.

(f) Shall not dominate the receiving water body or overlap a mixing zone from different outfalls – The human health mixing zones are small relative to the water body, so they will not dominate the water body.

(g) Shall not be allowed at or near any drinking water intake – The human health mixing zones are not near a drinking water intake.

<u>Evaluation of Available Dilution for Chronic Whole Effluent Toxicity (WET)</u>

The chronic WET mixing zone is sized to protect the water body as a whole. Order R5-2016-0024 included a chronic WET monitoring trigger of 10 TUc, which allows for a dilution credit of 10:1. Based on the Mixing Zone Study, the chronic aquatic life mixing zone boundary extends 200 feet downstream at a dilution factor of 76. Therefore, retaining a dilution credit of 10:1 for the chronic WET monitoring trigger of 10 TUc results in a mixing zone far less than 200 feet downstream.

The mixing zone complies with the Basin Plan, which requires that the mixing zone not adversely impact beneficial uses. Beneficial uses will not be adversely affected for the same reasons discussed above. In determining the size of the mixing zones, the Central Valley Water Board considered the procedures and guidelines in U.S. EPA's Water Quality

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Standards Handbook, 2nd Edition (updated July 2007), section 5.1, and section 2.2.2 of the TSD. The SIP incorporates the same guidelines.

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

Dilution credits allowed for in this Order are in accordance with section 1.4.2.2 of the SIP. The allowance of a mixing zone and dilution credits are a discretionary act by the Central Valley Water Board. The Central Valley Water Board has determined that the maximum dilution credit on a constituent-by-constituent basis needed for this discharge are shown in the following table (also discussed further in section IV.C.3.c).

In the table below the dilution credits are calculated using the steady-state mass balance equation rearranged to solve for the dilution credit, as follows:

D = (ECA – C) / (C – B).

The ECA is equivalent to the performance-based AMEL or annual average effluent limitation.

**Table F-6. Dilution Credits Associated with Performance-based Effluent Limitations**

| Pollutant | Units | ECA | Criterion | Background | Dilution Credit |
|---|---|---|---|---|---|
| Ammonia, Total (as N) | mg/L | 68.2 acute<br>35.9 chronic | 14.3 acute<br>1.26 chronic | 0.10 | 3.8 acute<br>30 chronic |
| Copper, Total Recoverable | µg/L | 31.6 acute<br>24.7 chronic | 4.5 acute<br>3.3 chronic | 2.04 | 11 acute<br>17 chronic |
| Dichlorobromomethane | µg/L | 9.6 | 0.56 | 0.15 | 22 |
| Nitrate plus Nitrite, Total (as N) | mg/L | 39.8 | 10 | 0.08 | 3 |
| Zinc, Total Recoverable | µg/L | 174 acute<br>153 chronic | 46 acute<br>46 chronic | 24.7 | 6 acute<br>5 chronic |

Regulatory Compliance for Dilution Credits and Mixing Zones

To fully comply with all applicable laws, regulations and policies of the State, Central Valley Water Board approved a mixing zone and the associated dilution credits shown in Table F-6 based on the following:

i. Mixing zones are allowed under the SIP provided all elements contained in section 1.4.2.2 are met. Based on the mixing zone study conducted by the Discharger the Central Valley Water Board has determined that these factors are met.

ii. section 1.4.2.2. of the SIP requires mixing zones to be as small as practicable. Based on the mixing zone study conducted by the Discharger

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the Central Valley Water Board has determined the mixing zone is as small as practicable.

iii. In accordance with section 1.4.2.2 of the SIP, the Board has determined the mixing zone is as small as practicable, will not compromise the integrity of the entire water body, restrict the passage of aquatic life, dominate the water body or overlap existing mixing zones from different outfalls. The mixing zone is small (less than 50 feet downstream of the discharge) relative to the large size of the receiving water (greater than 50 miles), is not at or near a drinking water intake, and does not overlap a mixing zone from a different outfall.

iv. The Central Valley Water Board is allowing mixing zones for acute aquatic life, chronic aquatic life, and human health constituents and has determined allowing such mixing zones will not cause acutely toxic conditions to aquatic life passing through the mixing zone.

v. The Central Valley Water Board has determined the discharge will not adversely impact biologically sensitive or critical habitats, including, but not limited to, habitat of species listed under the federal or State endangered species laws, because the mixing zones are relatively small, and acutely toxic conditions will not occur in the mixing zone. The discharge will not produce undesirable or nuisance aquatic life, result in floating debris, oil, or scum, produce objectionable odor, taste, or turbidity, cause objectionable bottom deposits, or cause nuisance, because the proposed Order establishes end-of-pipe effluent limitations (e.g., for $BOD_5$ and TSS) and discharge prohibitions to prevent these conditions from occurring.

vi. As required by the SIP, in determining the extent of or whether to allow a mixing zone and dilution credit, the Central Valley Water Board has considered the presence of pollutants in the discharge that are carcinogenic, mutagenic, teratogenic, persistent, bioaccumulative, or attractive to aquatic organisms, and concluded that the allowance of the mixing zone and dilution credits is adequately protective of the beneficial uses of the receiving water.

vii. The Central Valley Water Board has determined the mixing zones comply with the SIP for priority pollutants.

viii. Section 1.4.2.2B of the SIP, in part states, “The 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 Central Valley Water Board has determined full allowance of dilution is not needed or necessary for the Discharger to achieve compliance with this Order.

ix. The Central Valley Water Board has determined the mixing zone complies with the Basin Plan for non-priority pollutants. The Basin Plan requires a

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mixing zone not adversely impact beneficial uses. Beneficial uses will not be adversely affected for the same reasons discussed above. In determining the size of the mixing zone, the Central Valley Water Board has considered the procedures and guidelines in section 5.1 of U.S. EPA's Water Quality Standards Handbook, 2nd Edition (updated July 2007) and section 2.2.2 of the TSD. The SIP incorporates the same guidelines.

x. The Central Valley Water Board has determined that allowing dilution factors that exceed those proposed by this Order would not comply with the State Anti-degradation Policy for receiving waters outside the allowable mixing zones. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16 (State Anti-Degradation Policy). The State Anti-Degradation Policy incorporates the federal antidegradation policy and 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 dischargers or proposed 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 effluent limitations established in the Order for ammonia, copper, dichlorobromomethane, nitrate plus nitrite, and zinc that have been adjusted for dilution credits provided in Table F-6 were developed based on performance of the Discharger's current wastewater treatment capabilities. Therefore, the Central Valley Water Board determined the effluent limitations required by this Order 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. The Central Valley Water Board also determined the Discharger will be in immediate compliance with the effluent limitations.

The Central Valley Water Board also determined establishing effluent limitations for ammonia, copper, dichlorobromomethane, nitrate plus nitrite, and zinc that have been adjusted for dilution credits provided in Table F-6 is consistent with section 1.4.2.2B of the SIP that requires the Central Valley Water Board to deny or significantly limit a mixing zone and dilution credits as necessary to comply with other regulatory requirements.

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xi. Therefore, the Central Valley Water Board has determined the effluent limitations established in the Order for ammonia, copper, dichlorobromomethane, nitrate plus nitrite, and zinc that have been adjusted for dilution credits provided in Table F-6 are appropriate and necessary to comply with the Basin Plan, SIP, Federal anti-degradation regulations and the State Anti-Degradation Policy.

d. **Conversion Factors.** The CTR contains aquatic life criteria for arsenic, cadmium, chromium III, chromium VI, copper, lead, nickel, silver, and zinc which are presented in dissolved concentrations. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. 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.

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 SIP does not address how to determine the hardness for application to the equations for the protection of aquatic life when using hardness-dependent metals criteria. It simply states, in section 1.2, that the criteria shall be properly adjusted for hardness using the hardness of the receiving water. The CTR requires that, for waters with a hardness of 400 mg/L (as $CaCO_3$), or less, the actual ambient hardness of the surface water must be used (40 C.F.R. section 131.38(c)(4)). The CTR requires that the hardness values used shall be consistent with the design discharge conditions for design flows and mixing zones (40 C.F.R. section 131.3(c)(4)(ii)). Where design flows for aquatic life criteria include the lowest one-day flow with an average reoccurrence frequency of once in ten years (1Q10) and the lowest average seven consecutive day flow with an average reoccurrence frequency of once in ten years (7Q10) (40 C.F.R. section 131.38(c)(2)(iii) Table 4). This section of the CTR also indicates that the design conditions should be established such that the appropriate criteria are not exceeded more than once in a three year period on average (40 C.F.R. section 131.38(c)(2)(iii) Table 4, notes 1 and 2). The CTR requires that when mixing zones are allowed the CTR criteria apply at the edge of the mixing zone, otherwise the criteria apply throughout the water body including at the point of discharge (40 C.F.R. section 131.38(c)(2)(i)). The CTR does not define the term “ambient,” as applied in the regulations. Therefore, the Central Valley Water Board has considerable discretion to consider upstream and downstream ambient conditions when establishing the appropriate water quality criteria that fully complies with the CTR and SIP.

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**Summary findings**

The ambient hardness for the Feather River is represented by the data in Figure F-1, below, which shows ambient hardness ranging from 30 mg/L to 43 mg/L based on collected ambient data from January 2018 through December 2020. 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 30 mg/L (minimum) up to 43 mg/L (maximum). Staff recommends that the Board use the ambient hardness values shown in Table F-7 for the following reasons.

i. Using the ambient receiving water hardness values shown in Table F-7 will result in criteria and effluent limitations that ensure protection of beneficial uses under all ambient receiving water conditions.

ii. The Water Code mandates that the Central Valley Water Board establish permit terms that will ensure the reasonable protection of beneficial uses. In this case, using the lowest measured ambient hardness to calculate effluent limitations is not required to protect beneficial uses. Calculating effluent limitations based on the lowest measured ambient hardness is not required by the CTR or SIP and is not reasonable as it would result in overly conservative limits that will impart substantial costs to the Discharger and ratepayers without providing any additional protection of beneficial uses. In compliance with applicable state and federal regulatory requirements, after considering the entire range of ambient hardness values, Board staff has used the ambient hardness values shown in Table F-7 to calculate the proposed effluent limitations for hardness-dependent metals. The proposed effluent limitations are protective of beneficial uses under all flow conditions.

iii. Using an ambient hardness that is higher than the minimum of 30 mg/L will result in limits that may allow increased metals to be discharged to the river, but such discharge is allowed under the State Antidegradation Policy (State Water Board Resolution 68-16). The Central Valley Water Board finds that this degradation is consistent with the antidegradation policy (see antidegradation findings in section IV.D.4 of the Fact Sheet). The Antidegradation policy requires the Discharger 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.

iv. Using the ambient hardness values shown in Table F-7 is consistent with the CTR and SIP's requirements for developing metals criteria.

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**Table F-7. Summary of CTR Criteria for Hardness-dependent Metals**

| CTR Metals | Ambient Hardness (mg/L) | CTR Criteria (µg/L, total) (Acute) | CTR Criteria (µg/L, total) (Chronic) |
|---|---|---|---|
| Copper | 30 | 4.5 | 3.3 |
| Chromium III | 43 | 870 | 100 |
| Cadmium | 43 (acute)<br>43 (chronic) | 1.7 | 1.3 |
| Lead | 43 | 28 | 1.1 |
| Nickel | 43 | 230 | 26 |
| Silver | 43 | 2.3 | -- |
| Zinc | 32 | 46 | 46 |

**Table F-7 Notes:**

1. **CTR Criteria (ug/L total)**. Acute and chronic numbers 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-7 represent actual observed receiving water hardness measurements from the dataset shown in Figure F-1.
3. **The CTR's hardness dependent metals criteria** equations vary differently depending on the metal, which results in differences in the range of ambient hardness values that may be used to develop effluent limitations that are protective of beneficial uses and comply with CTR criteria for all ambient flow conditions.

**Background**

The State Water Board provided direction regarding the selection of hardness in two precedential water quality orders; WQO 2008-0008 for the City of Davis Wastewater Treatment Plant (Davis Order) and WQO 2004-0013 for the Yuba City Wastewater Treatment Plant (Yuba City Order). The State Water Board recognized that the SIP and the CTR do not discuss the manner in which hardness is to be ascertained, thus regional water boards have considerable discretion in determining ambient hardness so long as the selected value is protective of water quality criteria under the given flow conditions. (Davis Order, p.10). The State Water Board explained that it is necessary that, "The [hardness] value selected should provide protection for all times of discharge under varying hardness conditions." (Yuba City Order, p. 8). The Davis Order also provides that, "Regardless of the hardness used, the resulting limits must always be protective of water quality criteria under all flow conditions." (Davis Order, p. 11)

For this discussion, all hardness values are expressed in mg/L as CaCO3. The equation describing the total regulatory criterion, as established in the CTR, is as follows:

CTR Criterion = WER x ($e^{m[\ln(H)]+b}$) (Equation 1)

Where:

H = ambient hardness (mg/L as $CaCO_3$)

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WER = water-effect ratio

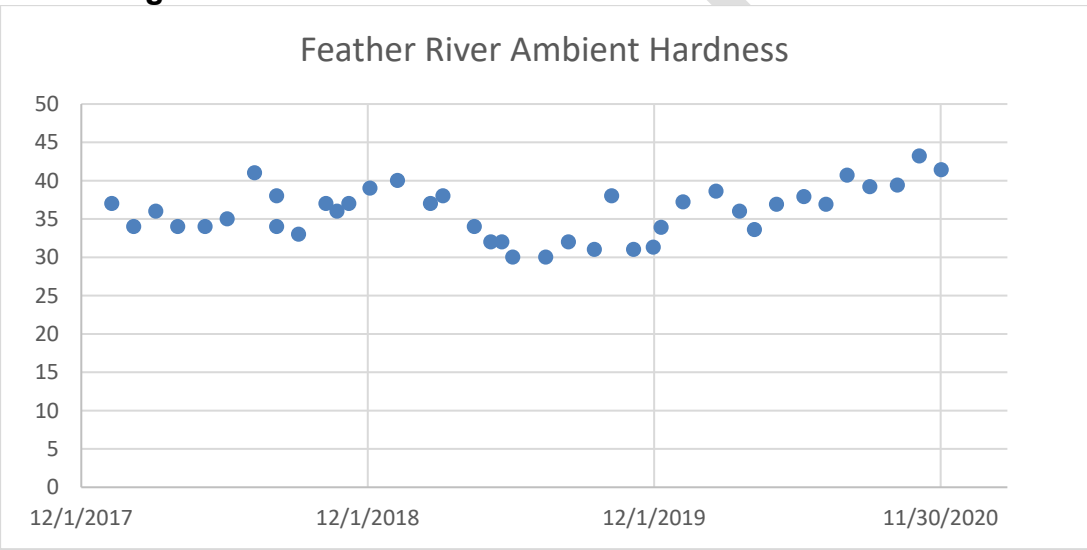
m, b = metal- and criterion-specific constants

The direction in the CTR regarding hardness selection is that it must be based on ambient hardness and consistent with design discharge conditions for design flows and mixing zones. Consistent with design discharge conditions and design flows means that the selected "design" hardness must result in effluent limitations under design discharge conditions that do not result in more than one exceedance of the applicable criteria in a three year period (40 C.F.R. section 131.38(c)(2)(iii) Table 4, notes 1 and 2). Where design flows for aquatic life criteria include the lowest one-day flow with an average reoccurrence frequency of once in ten years (1Q10) and the lowest average seven consecutive day flow with an average reoccurrence frequency of once in ten years (7Q10). The 1Q10 and 7Q10 Feather River flows are 421 cfs and 472 cfs, respectively.

**Ambient conditions**

The ambient receiving water hardness varied from 30 mg/L to 43 mg/L, based on 40 samples from January 2018 through December 2020 (see Figure F-1).

**Figure F-1. Observed Ambient Hardness Concentrations**




In this analysis, the entire range of ambient hardness concentrations shown in Figure F-1 were considered to determine the appropriate ambient hardness to calculate the CTR criteria and effluent limitations that are protective under all discharge conditions.

**Approach to derivation of criteria**

As shown above, ambient hardness varies substantially. Because of the variation, there is no single hardness value that describes the ambient receiving water for all possible scenarios (e.g., minimum, maximum, mid-point). While the hardness selected must be hardness of the ambient receiving water, selection of an ambient receiving water hardness that is too high would result in effluent limitations that do not protect beneficial uses. Also, the use of minimum ambient hardness would result in criteria that are protective of beneficial uses,

but such criteria may not be representative considering the wide range of ambient conditions.

**Reasonable worst-case ambient conditions**. To determine whether a selected ambient hardness value results in effluent limitations that are fully protective while complying with federal regulations and state policy, staff have conducted an analysis considering varying ambient hardness and flow conditions. To do this, the Central Valley Water Board has ensured that the receiving water hardness and criteria selected for effluent limitations are protective under "reasonable-worst case ambient conditions." These conditions represent the receiving water conditions under which derived effluent limitations would ensure protection of beneficial uses under all ambient flow and hardness conditions.

Reasonable worst-case ambient conditions:

- "Low receiving water flow." CTR design discharge conditions (1Q10 and 7Q10) have been selected to represent reasonable worst-case receiving water flow conditions.
- "High receiving water flow (maximum receiving water flow)." This additional flow condition has been selected consistent with the Davis Order, which required that the hardness selected be protective of water quality criteria under all flow conditions.
- "Low receiving water hardness." The minimum receiving water hardness condition of 30 mg/L was selected to represent the reasonable worst-case receiving water hardness.
- "Background ambient metal concentration at criteria." This condition assumes that the metal concentration in the background receiving water is equal to CTR criteria (upstream of the facility's discharge). Based on data in the record, this is a design condition that has not occurred in the receiving water and is used in this analysis to ensure that limits are protective of beneficial uses even in the situation where there is no assimilative capacity.

**Iterative approach.**
An iterative analysis has been used to select the ambient hardness to calculate the criteria that will result in effluent limitations that protect beneficial uses under all flow conditions.

The iterative approach is summarized in the following algorithm and described below in more detail.

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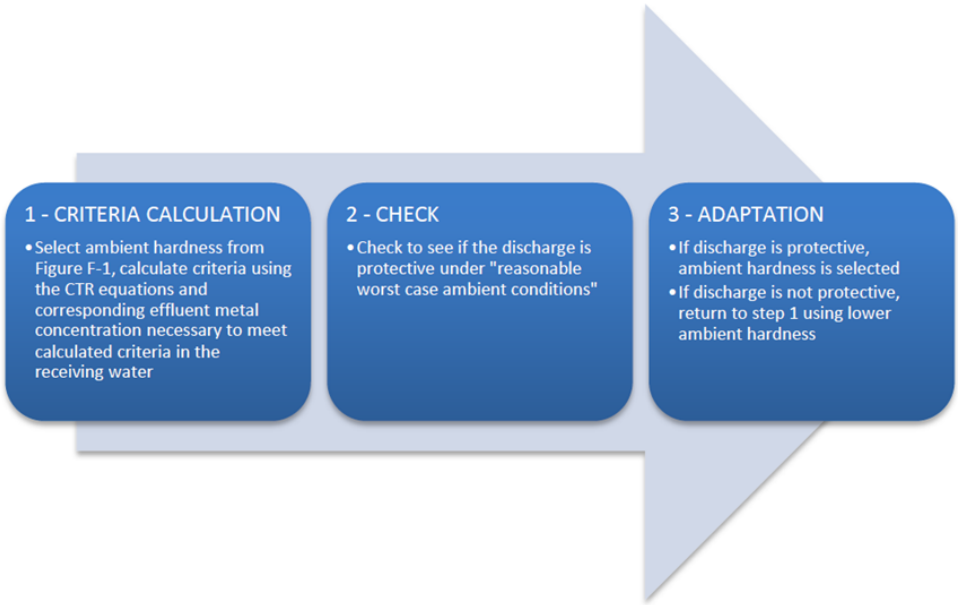
**Figure F-2. Criteria Calculation CTR**




1. CRITERIA CALCULATION. CTR criteria are calculated using the CTR equations based on actual measured ambient hardness sample results, starting with the maximum observed ambient hardness of 43 mg/L. Effluent metal concentrations necessary to meet the above calculated CTR criteria in the receiving water are calculated in accordance with section 1.4.B, Step 2, of the SIP. This should not be confused with an effluent limit. Rather, it is the Effluent Concentration Allowance (ECA), which is synonymous with the wasteload allocation defined by U.S. EPA on page 96 of the TSD as "a definition of effluent water quality that is necessary to meet the water quality standards in the receiving water." If effluent limits are found to be needed, the limits are calculated to enforce the ECA considering effluent variability and the probability basis of the limit.

2. CHECK. U.S. EPA's simple mass balance equation, as found in the "U.S. EPA NPDES Permit Writer' Handbook" (EPA 833-K-10-001 September 2010, pg.6-24), is used to evaluate if discharge at the computed ECA is protective. Resultant downstream metal concentrations are compared with downstream calculated CTR criteria under reasonable worst-case ambient conditions.

3. ADAPT. If step 2 results in:

   (A) receiving water metal concentration that complies with CTR criteria under reasonable worst-case ambient conditions, then the hardness value is selected.

   (B) receiving water metal concentration greater than CTR criteria, then return to bullet 1, selecting a lower ambient hardness value.

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The CTR's hardness dependent metals criteria equations contain metal-specific constants, so the criteria vary depending on the metal. Therefore, steps 1 through 3 above must be repeated separately for each metal until ambient hardness values are determined that will result in criteria and effluent limitations that comply with the CTR and protect beneficial uses for all metals.

**Results of Iterative Analysis Where No Dilution Allowed**
The above iterative analysis for each CTR hardness-dependent metal results in the selected ambient hardness values are shown in Table F-7, above. Using these actual receiving water sample hardness values to calculate criteria will result in effluent limitations that are protective under all ambient flow conditions. Ambient hardness values are used in the CTR equations to derive criteria and effluent limitations. As an example of the three-step iterative process, Table F-8 below summarizes the numeric results for nickel based on an ambient hardness of 43 mg/L and a calculated ECA of 25.5 µg/L. Table F-9 below summarizes the numeric results for silver based on an ambient hardness of 43 mg/L and a calculated ECA of 0.95 µg/L. The analysis evaluated all flow conditions, and the numeric values for the critical flow conditions are summarized in Tables F-8 and F-9, below. Ambient concentrations for nickel and silver are calculated using the worst-case downstream ambient conditions, which allows for a conservative assumption that will ensure the receiving water complies with CTR criteria. Under the "check" step, worst-case ambient receiving water conditions are used to test whether the effluent discharge results in compliance with CTR criteria and protection of beneficial uses.

The results of the above iterative analysis, summarized in the tables below, show that the ambient hardness values selected using the three-step iterative process results in protective effluent limitations that achieve CTR criteria under all flow conditions. Tables F-8 and F-9 below, summarize the critical flow conditions. There is no effluent limitation for nickel or silver as they demonstrate no reasonable potential.

**Table F-8. Verification of CTR Compliance for Nickel**
**Downstream Worst-Case Ambient Receiving Water Conditions**

| Critical Flow Conditions | Hardness (mg/L) | CTR Criteria (µg/L) | Ambient Nickel Concentration (µg/L) | Complies with CTR? |
|---|---|---|---|---|
| 1Q10 | 30.15 | 18.92 | 18.90 | Yes |
| 7Q10 | 30.15 | 18.82 | 18.90 | Yes |
| Max receiving water flow | 30.05 | 18.845 | 18.843 | Yes |

**Table F-9. Verification of CTR Compliance for Silver**
**Downstream Worst-Case Ambient Receiving Water Conditions**

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| Critical Flow Conditions | Hardness | CTR Criteria (µg/L) | Ambient Silver Concentration (µg/L) | Complies with CTR? |
|---|---|---|---|---|
| 1Q10 | 30.4 | 0.523 | 0.522 | Yes |
| 7Q10 | 30.3 | 0.522 | 0.521 | Yes |
| Max receiving water flow | 30.0 | 0.51218 | 0.51215 | Yes |

**Approach to derivation of criteria Where Dilution Allowed**
As discussed in Section IV.C.2 c, above, dilution credits for copper and zinc have been allowed in the calculation of WQBELs for these hardness-dependent criteria parameters. The allowed copper dilution credit for chronic aquatic life criteria is 17:1, which represents an effluent fraction of 5.6%, and the allowed acute aquatic life dilution credit is 11:1, which represents an effluent fraction of 8.3%. The allowed zinc dilution credit for chronic aquatic life criteria is 5:1, which represents an effluent fraction of 16.7%, and the allowed acute aquatic life dilution credit is 6:1, which represents an effluent fraction of 14.3%. These values define the points in the receiving water (i.e., edge of mixing zone) that must be in compliance with aquatic life criteria. When the effluent and receiving water are at their respective minimum observed hardness values (i.e., 46 mg/L and 30 mg/L as CaCO3, respectively), and the effluent fraction is 5.6% and 14.3%, the mixed hardness is 30.9 mg/L and 32.3 mg/L (as CaCO3), respectively. Therefore, an actual observed ambient hardness of 30 mg/L (as CaCO3) has been used in this Order for calculating hardness-dependent copper criteria and an actual observed ambient hardness of 32 mg/L (as CaCO3) for calculating hardness-dependent zinc criteria. Using the ambient hardness to calculate the hardness-dependent metals criteria is consistent with the CTR and the SIP.

Tables F-10 and F-11, below, demonstrate that protective effluent limitations result when using this approach for determining the appropriate hardness. In this example the mixed receiving water copper and zinc concentrations do not exceed the mixed CTR criteria for copper and zinc at the edge of the mixing zone.

**Table F-10. Verification of CTR Compliance for Copper**

| | | |
|---|---|---|
| **Receiving Water Hardness Used to Compute Effluent Limitations** | | **30 mg/L** |
| **Chronic Aquatic Life Dilution Credit** | | **17:1** |
| **Maximum Applicable Ambient Background Copper Concentration** | | **2.04 µg/L** |
| **Effluent Concentration Allowance, chronic (ECAc) for Copper** | | **25.3 µg/L** |
| **Effluent Fraction** | **Downstream Ambient Concentrations Under Worst-Case Ambient Receiving Water Conditions** | **Complies with CTR Criteria?** |

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| | Hardness (mg/L) | CTR Criteria (µg/L) | Ambient Copper Concentration (µg/L) | |
|---|---|---|---|---|
| 1% | 30.2 | 3.3 | 2.3 | **Yes** |
| 3% | 30.5 | 3.4 | 2.7 | **Yes** |
| 5.6% | 30.9 | 3.4 | 3.3 | **Yes** |

**Table F-10 Notes:**

1. **Effluent Concentration Allowance, chronic (ECAc) for Copper.** ECA calculated per section 1.4 of the SIP.
2. **Effluent Fraction.** Table shows effluent fractions ranging from 1% to 5.6% to show conditions outside the allowable mixing zone for copper.
3. **Ambient Copper Concentration (µg/L).** Derived using worst-case ambient conditions. These conservative assumptions will ensure that the receiving water always complies with CTR criteria.

**Table F-11. Verification of CTR and Basin Plan objective Compliance for Zinc**

| | | | | |
|---|---|---|---|---|
| **Receiving Water Hardness Used to Compute Effluent Limitations** | | | | **32 mg/L** |
| **Acute Aquatic Life Dilution Credit** | | | | **6:1** |
| **Maximum Applicable Ambient Background Zinc Concentration** | | | | **24.7 µg/L** |
| **Effluent Concentration Allowance, acute (ECAa) for Zinc** | | | | **171 µg/L** |
| **Effluent Fraction** | **Downstream Ambient Concentrations Under Worst-Case Ambient Receiving Water Conditions** | | | **Complies with CTR Criteria?** |
| | **Hardness (mg/L)** | **CTR Criteria (µg/L)** | **Ambient Zinc Concentration (µg/L)** | |
| 3% | 30.5 | 43.8 | 29.1 | **Yes** |
| 10% | 31.6 | 45.1 | 39.3 | **Yes** |
| 14.3% | 32.3 | 46.0 | 45.6 | **Yes** |

**Table F-11 Notes:**

1. **Effluent Concentration Allowance, acute (ECAa) for Zinc.** ECA calculated per section 1.4 of the SIP.
2. **Effluent Fraction.** Table shows effluent fractions ranging from 3% to 14.3% to show conditions outside the allowable mixing zone for zinc.
3. **Ambient Zinc Concentration (µg/L).** Derived using worst-case ambient conditions. These conservative assumptions will ensure that the receiving water always complies with CTR criteria.

### 3. Determining the Need for WQBEL's

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

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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 wasteload allocations 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 RPA's for nearly 200 constituents, including the 126 U.S. EPA priority toxic pollutants. This section includes details of the RPA's 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 RPA's have been conducted based on EPA guidance considering multiple lines of evidence and the site-specific conditions of the discharge.

a. **Constituents with Total Maximum Daily Load (TMDL).**
40 C.F.R. section 122.44(d)(1)(vii) provides: "When developing water quality-based effluent limits under [section 122.44(d)(1)], the permitting authority shall ensure that: (A) The level of water quality to be achieved by limits on point sources established under this paragraph is derived from, and complies with all applicable water quality standards; and (B) Effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to [Total Maximum Daily Loads regulations]." U.S. EPA construes 40 C.F.R. section 122.44(d)(1)(vii)(B) to mean that "when WLAs are available, they must be used to translate water quality standards into NPDES permit limits." 54 Fed. Reg. 23868, 23879 (June 2, 1989).

The Feather River is subject to TMDLs for diazinon and chlorpyrifos and wasteload allocations under those TMDLs are available. The Central Valley Water Board developed WQBEL's for these pollutants pursuant to 40 C.F.R. section 122.44(d)(1)(vii), which does not require or contemplate a reasonable potential analysis.

i. **Diazinon and Chlorpyrifos.**

(a) **WQO.** The Central Valley Water Board completed a TMDL for diazinon and chlorpyrifos in the Sacramento – San Joaquin Delta Waterways and amended the Basin Plan to include

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diazinon and chlorpyrifos waste load allocations and water quality objectives. The Basin Plan Amendment for the Control of Diazinon and Chlorpyrifos Runoff into the Sacramento – San Joaquin Delta was adopted by the Central Valley Water Board on 23 June 2006 and became effective on 10 October 2007.

The amendment modified Basin Plan Chapter III (Water Quality Objectives) to establish site-specific numeric objectives for diazinon and chlorpyrifos in the Delta waterways and identified the requirements to meet the additive formula already in Basin Plan Chapter IV (Implementation) for the additive toxicity of diazinon and chlorpyrifos.

The amendment states that "The waste load allocations for all NPDES-permitted dischargers…shall not exceed the sum (S) of one (1) as defined below.

$S = Cd/WQOd + Cc/WQOc \leq 1.0$

Where:

Cd = diazinon concentration in µg/L of point source discharge

Cc = chlorpyrifos concentration in µg/L of point source discharge

WQOd = acute or chronic diazinon water quality objective in µg/L

WQOc = acute or chronic chlorpyrifos water quality objective in µg/L

Available samples collected within the applicable averaging period for the water quality objective will be used to determine compliance with the allocations and loading capacity. For purposes of calculating the sum (S) above, analytical results that are reported as 'non-detectable' concentrations are considered to be zero."

Appendix A of the Diazinon and Chlorpyrifos TMDL lists waterways subject to the TMDL and includes the Feather River.

(b) **RPA Results.** Chlorpyrifos and diazinon were not detected in the effluent during 4 sampling events conducted between January 2018 through December 2020. However, since these pesticides have been banned for public use, they are not expected to be present in the effluent. The discharge does not have reasonable potential, but due to the TMDL for diazinon and chlorpyrifos in the Watershed, WQBELs for these constituents are required.

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(c) **WQBELs.** WQBELs for diazinon and chlorpyrifos are required based on the TMDL for diazinon and chlorpyrifos in the Feather River. Therefore, this Order includes effluent limits calculated based on the waste load allocations contained in the TMDL, as follows:

Average Monthly Effluent Limitation (AMEL)

$$S(AMEL) = Cd\ (M\text{-}avg)/0.079 + Cc\ (M\text{-}avg)/0.012 \leq 1.0$$

Where:
Cd(M-avg) = average monthly diazinon effluent concentration in µg/L
Cc (M-avg) = average monthly chlorpyrifos effluent concentration in µg/L

Average Weekly Effluent Limitation (AWEL)

$$S(AWEL) = Cd\ (W\text{-}avg)/0.14 + Cc\ (W\text{-}avg)/0.021 \leq 1.0$$

Where:
Cd(W-avg) = average weekly diazinon effluent concentration in µg/L
Cc (W-avg) = average weekly chlorpyrifos effluent concentration in µg/L

(d) **Plant Performance and Attainability.** Chlorpyrifos and diazinon were not detected in the 4 effluent sampling events conducted between January 2018 through December 2020. Furthermore, since these pesticides have been banned for public use, they are not expected to be present in the influent to the Facility. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

b. **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. WQBEL's 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. **BOD and TSS**

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(a) **WQO.** There are no applicable water quality objectives for BOD and TSS for the receiving water. However, BOD is an oxygen-demanding substance that can reduce dissolved oxygen concentrations in the receiving water. The Basin Plan contains a water quality objective for the Feather River from Fish Barrier Dam at Oroville to Honcut Creek for dissolved oxygen of 8.0 mg/L from 1 September to 31 May, and 7.0 mg/L at all other times. Furthermore, the Basin Plan contains a water quality objective for suspended material that states, "*Water shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses*." Both water quality objectives are established for the reasonable protection of beneficial uses of the Feather River.

(b) **RPA Results**. For priority pollutants, the SIP dictates the procedures for conducting the RPA. BOD and TSS are not priority pollutants. 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 judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent.

A review of the Discharger's monitoring reports shows a minimum dissolved oxygen upstream receiving water concentration of 8.95 mg/L and minimum downstream concentration of 9.14 mg/L. Additionally, there has been no sign of suspended material in the Feather River that cause nuisance or adversely affect beneficial uses.

Therefore, the discharge does not have reasonable potential to cause or contribute to an exceedance of Basin Plan objectives for dissolved oxygen or suspended material.

(c) **WQBELs.** As described in the RPA section above, the discharge does not have reasonable to cause or contribute to an exceedance of Basin Plan objectives for dissolved oxygen or suspended material. However, the previous permit R5-2016-0024 had final effluent limits for BOD and TSS of 20 mg/L (AMEL), 25 mg/L (AWEL), and 40 mg/L (MDEL). These limits were retained from previous permits based on Facility performance and to satisfy anti-backsliding requirements.

Antidegradation provisions of 40 C.F.R. section 131.12 and the State Anti-Degradation Policy (Resolution No. 68-16) require that "waters of the State shall be so regulated as to achieve highest water quality consistent with maximum benefit to the people of the State…" and ensure the use of best practicable treatment or control of the discharge.

Also, in order to satisfy anti-backsliding requirements, a revised permit may not include effluent limitations that are less stringent

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than the previous permit unless a less stringent limitation is justified based on exceptions to the anti-backsliding provisions contained in the Clean Water Act (CWA).

Therefore, this Order maintains AMELs and AWELs for BOD and TSS from the previous order. The AMEL and AWEL for BOD and TSS are 20 mg/L and 25 mg/L. As explained in Att. F section IV.D.4, the MDELs for BOD and TSS are removed.

(d) **Plant Performance and Attainability**. Analysis of the effluent data shows that the maximum monthly effluent concentrations for BOD of 14.8 mg/L and TSS of 11.3 mg/L is less than the AMEL. Therefore, the Central Valley Water Board concludes that immediate compliance with these effluent limitations is feasible.

ii. **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. Title 22 requires compliance with Secondary MCLs on an annual average basis.

Aluminum is the third most abundant element in the earth's crust and is ubiquitous in both soils and aquatic sediments. When mobilized in surface waters, aluminum has been shown to be toxic to various fish species. However, the potential for aluminum toxicity in surface waters is directly related to the chemical form of aluminum present, and the chemical form is highly dependent on water quality characteristics that ultimately determine the mechanism of aluminum toxicity. Surface water characteristics, including pH, temperature, colloidal material, fluoride and sulfate concentrations, and dissolved organic carbon, all influence aluminum speciation and its subsequent bioavailability to aquatic life.

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 2018 Aluminum NAWQC document provides look up tables or a Microsoft Excel spreadsheet to calculate the criteria based on

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pH, DOC, and total hardness. The U.S. EPA aluminum criteria have been used to implement the Basin Plan's narrative toxicity objective.

A site-specific CMC of 630 µg/L and CCC of 340 µg/L were calculated considering pH, hardness, and DOC representative of the receiving water and effluent conditions. Effluent and receiving water sampling results for pH and hardness from January 2018 through December 2020 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 MCL's are drinking water standards contained in Title 22 of the California Code of Regulations and requires compliance with these standards on an annual average basis, when sampling at least quarterly. 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 aluminum was 20 µg/L based on 4 samples collected between January 2018 through December 2020. Effluent aluminum is consistently less than the concentrations in the receiving water and below the Secondary MCL. Therefore, the Central Valley Water Board finds the discharge does not have reasonable potential to cause or contribute to an exceedance in the receiving water and the Facility is adequately controlling the discharge of aluminum.

For the 2018 U.S. EPA NAWQC the RPA was conducted considering the maximum effluent concentration (MEC) for aluminum, which was 23 µg/L based on 4 samples collected between January 2018 through December 2020. Effluent aluminum is consistently less than the concentrations in the receiving water and below the NAWQC. Therefore, the Central Valley Water Board finds the discharge does not have

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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.

iii. **Mercury**

(a) **WQO**. The current NAWQC for protection of freshwater aquatic life, continuous concentration, for mercury is 0.77 µg/L (30-day average, chronic criteria). The CTR contains a human health criterion (based on a threshold dose level causing neurological effects in infants) of 0.050 µg/L for waters from which both water and aquatic organisms are consumed. Both values are controversial and subject to change. In 40 C.F.R. part 131, U.S. EPA acknowledges that the human health criteria may not be protective of some aquatic or endangered species and that "…more stringent mercury limits may be determined and implemented through use of the State's narrative criterion." In the CTR, U.S. EPA reserved the mercury criteria for freshwater and aquatic life and may adopt new criteria at a later date.

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 (e.g., rivers, creeks, streams, and waters with tidal mixing. As shown in Table F-3, the beneficial uses of the Sacramento 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 3.43 ng/L, with a maximum annual average of 2.84 ng/L, based on 4 samples collected from January 2018 through December 2020. The maximum annual average background concentration for mercury was 2.6 ng/L based on 4 samples collected from January 2018 through December 2020.

Therefore, the discharge does not exhibit reasonable potential

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to cause or contribute to an exceedance of the Sport Fish Water Quality Objective in the receiving water.

iv. **Salinity**

(a) **WQO.** The Basin Plan 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-12, below, contains various recommended levels for EC or TDS, sulfate, and chloride.

**Table F-12. 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 460<br>TDS 275 | EC 760<br>TDS 350 |
| Sulfate (mg/L) | 250 | 500 | 600 | N/A | 51 | 110 |
| Chloride (mg/L) | 250 | 500 | 600 | 860 1-hour<br>230 4-day | 66 | 110 |

**Table F-12 Notes:**

1. **Agricultural Water Quality Objectives**. Applicable agricultural water quality objectives vary. Narrative chemical constituent objective of the Basin Plan. Procedures for establishing the applicable numeric limitation to implement the narrative 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

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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 for the Feather River from the Fish Barrier Dam at Oroville to Sacramento 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 36 mg/L to 110 mg/L, with an average of 55 mg/L. These levels do not exceed the Secondary MCL. Background concentrations in the Feather River ranged from 0.8 mg/L to 12 mg/L, with an average of 3.8 mg/L, for 4 samples collected by the Discharger from January 2018 through December 2020.

(2) **Electrical Conductivity or Total Dissolved Solids.** A review of the Discharger's monitoring reports shows an annual average effluent EC of 448 µmhos/cm, with a range from 431 µmhos/cm to 540 µmhos/cm. These levels do not exceed the Secondary MCL but do exceed the Basin Plan site-specific EC limit of 150. The background annual average receiving water EC was 88 µmhos/cm. The average TDS effluent concentration was 256 mg/L with concentrations ranging from 160 mg/L to 350 mg/L. These levels do not exceed the Secondary MCL. The background receiving water TDS ranged from 46 mg/L to 140 mg/L, with an average of 66 mg/L.

(3) **Sulfate.** Sulfate concentrations in the effluent ranged from 22 mg/L to 110 mg/L, with an average of 47 mg/L. These levels do not exceed the Secondary MCL. Background concentrations in the Feather River ranged from 1.4 mg/L to 2.4 mg/L, with an average of 2.0 mg/L.

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(c) **WQBELs.** The discharge does not have reasonable potential to cause or contribute to an instream excursion of water quality objectives for salinity. However, allowing the Discharger to increase its current salt loading may be contrary to the Region-wide effort to address salinity in the Central Valley. Therefore, this Order includes a performance-based effluent limitation of 506 µmhos/cm for EC to be applied as a calendar annual average effluent limitation (AAEL) to limit the discharge to current levels.

The performance-based AAEL is based on the maximum annual average effluent EC concentration for a calendar year using data from January 2018 through December 2020, adjusted to account for possible drought, water conservation, and water recycling efforts.

Furthermore, in order to ensure that the Discharger will continue to control the discharge of salinity, this Order requires continued implementation of its Salinity Evaluation and Minimization Plan.

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 performance-based AAEL for EC in this Order is consistent with the Alternative Salinity Permitting Approach and compliance with the effluent limit does not ensure the Facility can participate in the Conservative Salinity Permitting Approach. If the Discharger is authorized to participate in the Conservative Salinity Permitting Approach the conservative salinity limits required by the Salinity Control Program will be applied, which may result in more stringent effluent limits.

(d) **Plant Performance and Attainability.** Analysis of the effluent data shows that the maximum average annual effluent

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concentration of 460 µmhos/cm is less than the performance-based AAEL of 506 µmhos/cm. Therefore, the Central Valley Water Board concludes that immediate compliance with this effluent limitation is feasible.

c. **Constituents with No Data or Insufficient Data** – Not Applicable

d. **Constituents with Reasonable Potential.** The Central Valley Water Board finds that the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for ammonia, copper, dichlorobromomethane, nitrate plus nitrite, pH, and zinc. WQBEL's 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 inclusion of new toxicity data for unionid mussels resulted in substantially more stringent criteria. In many cases, current wastewater treatment technologies are not capable of complying with effluent limitations based on the more stringent criteria.

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. Phase I, completed in June 2015, included a State of Knowledge Report developed by a consultant team consisting of Robertson-Bryan, Inc., Larry Walker Associates, and Pacific EcoRisk. The collaborative study involved policy and permitting discussions among representatives from the Central Valley Water Board, U.S. EPA, United States Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), and regional mussel experts regarding the implementation of

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the 2013 Criteria in POTW NPDES permits. The discussions evaluated permitting approaches that provide reasonable protection of aquatic life beneficial uses, including protection of freshwater mussels.

The State of Knowledge Report explained that the species of freshwater mussels in waters within the Central Valley Region are different than what U.S. EPA used in the toxicity dataset for development of the2013 Criteria. The State of Knowledge Report indicated that one resident freshwater mussel species was shown to not be as sensitive as the eastern mussel species used to derive the 2013 Criteria. However, the sensitivity of the other Central Valley Region mussel species was unknown.

Initial work under this project indicated the need to understand whether freshwater mussels are present or absent in POTW receiving waters in order to properly permit the discharge of ammonia in NPDES permits. Hence, a Phase II of the CVCWA study was conducted that developed and validated an effective environmental DNA (eDNA) method for determining the presence/absence of the three freshwater mussel genera in water bodies of the Central Valley. A Phase IIb of the study involved further study and application of the eDNA methodology.

CVCWA submitted the Phase IIc Freshwater Mussel Collaborative Study for Wastewater Treatment Plants: Ammonia Criteria Recalculation Final Report, dated January 2020 (Criteria Recalculation Report) developed by the same consultant team. The Criteria Recalculation Report provides toxicity studies demonstrating all freshwater mussel species present in Central Valley Region waters are less sensitive than the eastern species used to develop the 2013 Criteria.

U.S. EPA developed the Guidelines for Deriving Numerical Aquatic Site-Specific Water Quality Criteria by Modifying National Criteria (EPA-600/S3-84-099 December 1984) that provides a Recalculation Procedure. U.S. EPA also developed the Revised Deletion Process for the Site-Specific Recalculation Procedure for Aquatic Life Criteria (EPA-823-R-13-001, April 2013) to guide the development of a site-specific toxicity dataset that is appropriate for deriving a site-specific aquatic life criterion, by modifying the national toxicity dataset for the pollutant of concern through correcting, adding, and/or deleting test results.

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

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Region, including all surface waters in the Sacramento River, San Joaquin River, and Tulare Lake Basin Plans.

A draft Criteria Recalculation Report was provided to the Central Valley Water Board, U.S. EPA Region 9, U.S. EPA Office of Science and Technology, USFWS, and the Nature Conservancy. Comments were provided by Central Valley Water Board staff and U.S. EPA Office of Science and Technology. U.S. EPA agreed with the recalculation procedure for developing site-specific acute criterion. However, U.S. EPA recommended a more conservative approach for utilizing the acute-to-chronic ratio procedure for developing the site-specific chronic criterion. The final Criteria Recalculation Report addressed the comments and provided revised equations for the chronic criterion in Appendix D.

The Basin Plans' Policy for Application of Water Quality Objectives requires the Central Valley Water Board to consider, "…on a case-by-case basis, direct evidence of beneficial use impacts, all material and relevant information submitted by the discharger and other interested parties, and relevant numerical criteria and guidelines developed and/or published by other agencies and organizations…In considering such criteria, the Board evaluates whether the specific numerical criteria which are available through these sources and through other information supplied to the Board, are relevant and appropriate to the situation at hand and, therefore, should be used in determining compliance with the narrative objective."

The Central Valley Water Board finds that the site-specific ammonia criteria provided in the January 2020 Criteria Recalculation Report implement the Basin Plan's narrative toxicity objective to protect aquatic life beneficial uses of the receiving water. This Order implements the site-specific acute and chronic criteria for ammonia provided by the January 2020 Criteria Recalculation Report, with the adjustments to the chronic criteria recommended by U.S. EPA.

**Site-specific Criteria for the Feather River.** Similar to the U.S. EPA 2013 Criteria, 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. The pH and temperature speciation relationships developed by U.S. EPA were utilized without modification. Equations were developed for situations where freshwater mussels are present and where they are absent. In this case, for 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

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species are present. Because the Feather River has a beneficial use of cold freshwater habitat and the presence of salmonids in the Feather River 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 1 January 2018 and 31 December 2020. The most stringent CMC of 14.3 mg/L (ammonia as N) calculated using the paired effluent pH and temperature data 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 period from 1 January 2018 and 31 December 2020. The most stringent 30-day rolling average CCC of 1.26 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 1.26 mg/L (ammonia as N), the 4-day average concentration that should not be exceeded is 3.14 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. Federal regulations at 40 C.F.R. section122.44(d)(1)(i) requires that, "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 which 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." For priority pollutants, the SIP dictates the procedures for conducting the RPA. Ammonia 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 for this non-priority pollutant constituent.

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

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such data are not available…A permitting authority might also determine that WQBEL's are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBEL's for pathogens in all permits for POTW's 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 POTW's, U.S. EPA recommends that, "POTW's should also be characterized for the possibility of chlorine and ammonia problems." (TSD, p. 50)

Nitrification is a biological process that converts ammonia to nitrite and nitrite to nitrate. Denitrification is a process that converts nitrate to nitrite or nitric oxide and then to nitrous oxide or nitrogen gas, which is then released to the atmosphere. The Discharger currently uses nitrification to remove ammonia from the waste stream. Inadequate or incomplete nitrification may result in the discharge of ammonia to the receiving stream. Ammonia is known to cause toxicity to aquatic organisms in surface waters. Discharges of ammonia in concentrations that produce detrimental physiological responses to human, plant, animal, or aquatic life would violate the Basin Plan's narrative toxicity objective. Although the Discharger nitrifies the discharge, inadequate or incomplete nitrification creates the potential for ammonia to be discharged and provides the basis for the discharge to have a reasonable potential to cause or contribute to an in-stream excursion above the site-specific acute and chronic criteria for ammonia provided by the January 2020 Criteria Recalculation Report. Therefore, the Central Valley Water Board finds the discharge has reasonable potential for ammonia and WQBEL's are required.

(c) **WQBEL's.** The Central Valley Water Board calculates WQBEL's 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,

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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 the average weekly effluent limitation (AWEL). The remainder of the WQBEL calculation for ammonia was performed according to the SIP procedures.

The receiving water contains assimilative capacity for ammonia, therefore, an acute dilution credit of 3.8 and a chronic dilution credit of 30 were allowed in the development of the WQBEL's for ammonia. This Order contains a final average monthly effluent limitation (AMEL) and average weekly effluent limitation (AWEL) for ammonia (as N) of 33 mg/L and 58 mg/L, respectively, based on the site specific criteria.

(d) **Plant Performance and Attainability.** Analysis of the effluent data shows that the MEC of 22.2 mg/L is less than the applicable WQBEL's. Therefore, the Central Valley Water Board concludes that immediate compliance with these effluent limitations is feasible.

ii. **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.

Federal regulations at 40 C.F.R. section 122.44(d)(1)(i) requires that, "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 which 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." For priority pollutants, the SIP dictates the procedures for conducting the RPA. Chlorine 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 its judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent.

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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 WQBEL's are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBEL's for pathogens in all permits for POTW's 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 POTW's, U.S. EPA recommends that, "POTW's should also be characterized for the possibility of chlorine and ammonia problems." (TSD, p. 50)

The Discharger uses chlorine for disinfection, which is extremely toxic to aquatic organisms. Although the Discharger uses a sulfur dioxide process to dechlorinate the effluent prior to discharge to 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 in-stream excursion above the NAWQC.

(c) **WQBEL's.** 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.** Chlorine residual was not detected in the effluent during the previous term. Therefore,

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the Central Valley Water Board concludes that immediate compliance with these effluent limitations is feasible.

iii. **Copper**

(a) **WQO.** The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for copper. These criteria for copper are presented in dissolved concentrations, as 1-hour acute criteria and 4-day chronic criteria. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. Default U.S. EPA translators were used for the receiving water and effluent.

(b) **RPA Results.** Section IV.C.2 of this Fact Sheet includes procedures for conducting the RPA for hardness-dependent CTR metals, such as copper. The CTR includes hardness-dependent criteria for copper for the receiving water. The maximum applicable observed upstream receiving water copper concentration was 2.04 µg/L, based on 15 samples collected from January 2018 through and December 2020. The RPA was conducted using the upstream receiving water hardness to calculate the criteria for comparison to the maximum applicable ambient background concentration, and likewise using the reasonable worst-case downstream hardness to compare the maximum effluent concentration. The table below shows the specific criteria used for the RPA:

| Water Type | CTR Chronic Criterion (Total) | Maximum Concentration (Total) | Reasonable Potential? |
|---|---|---|---|
| Receiving Water | 3.3 µg/L | 2.04 µg/L | No |
| Effluent | 3.3 µg/L | 22.4 µg/L | Yes |

**Table Notes:**

1. **Receiving Water.** The CTR Chronic Criterion (Total) for the receiving water is based on lowest observed upstream hardness of 30 mg/L (as CaCO3). Reasonable potential for the receiving water is per section 1.3, step 4 of the SIP.

2. **Effluent.** The CTR Chronic Criterion (Total) for the effluent is based on reasonable worst-case downstream hardness of 30 mg/L (as CaCO3). Reasonable potential for the Effluent is per section 1.3, step 6 of the SIP.

   Based on the available data, copper in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for the protection of freshwater aquatic life.

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(c) **WQBEL's**. The receiving water contains assimilative capacity for copper, therefore, an acute dilution credit of 11:1 and a chronic dilution credit of 17:1 was allowed in the development of the WQBEL's. This Order contains an AMEL and MDEL for copper, total recoverable of 23 µg/L and 30 µg/L, respectively, based on the CTR criterion for the protection of freshwater aquatic life.

(d) **Plant Performance and Attainability.** Analysis of the effluent data shows that the MEC of 22.4 µg/L is less than the applicable WQBEL's. Therefore, the Central Valley Water Board concludes that immediate compliance with these effluent limitations is feasible.

iv. **Dichlorobromomethane**

(a) **WQO.** The CTR includes a criterion of 0.56 µg/L for dichlorobromomethane for the protection of human health for waters from which both water and organisms are consumed.

(b) **RPA Results.** The maximum effluent concentration (MEC) for dichlorobromomethane was 4.18 µg/L while the maximum observed upstream receiving water concentration was non-detect with a reporting limit of 0.15 µg/L. Therefore, dichlorobromomethane in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for the protection of human health.

(c) **WQBEL's**. The receiving water contains assimilative capacity for dichlorobromomethane, therefore, a dilution credit of 22:1 was allowed in the development of the WQBEL's. This Order contains a final average monthly effluent limitation (AMEL) and maximum daily effluent limitation (MDEL) of 9.6 µg/L and 27 µg/L, respectively, based on the CTR criterion for the protection of human health.

(d) **Plant Performance and Attainability**. Analysis of the effluent data shows that the MEC of 4.18 is less than the applicable WQBEL's. Therefore, the Central Valley Water Board concludes that immediate compliance with these effluent limitations is feasible.

v. **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

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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 is harmful to aquatic life and exceed the Basin Plan's narrative toxicity objective. This Order, therefore, requires removal of ammonia (i.e., nitrification). Nitrification is a biological process that converts ammonia to nitrate and nitrite, and will result in effluent nitrate concentrations above the Primary MCL for nitrate plus nitrite. Nitrate concentrations in a drinking water supply above the Primary MCL threatens the health of human fetuses and newborn babies by reducing the oxygen-carrying capacity of the blood (methemoglobinemia).

Federal regulations at 40 C.F.R. section 122.44(d)(1)(i) requires that, "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 which 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." For priority pollutants, the SIP dictates the procedures for conducting the RPA. Nitrate and nitrite are not priority pollutants. 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 for this non-priority pollutant constituent.

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 WQBEL's are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBEL's for pathogens in all permits for POTW's 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

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unavailable. These factors also should be considered with available effluent monitoring data." With regard to POTW'S, U.S. EPA recommends that, "POTW's should also be characterized for the possibility of chlorine and ammonia problems." (TSD, p. 50)

The concentration of nitrogen in raw domestic wastewater is sufficiently high that the resultant treated wastewater has a reasonable potential to exceed or threat to exceed the Primary MCL for nitrate plus nitrite unless the wastewater is treated for nitrogen removal, and therefore an effluent limit for nitrate plus nitrite is required. Denitrification is a process that converts nitrate to nitrite or nitric oxide and then to nitrous oxide or nitrogen gas, which is then released to the atmosphere. Inadequate or incomplete denitrification may result in the discharge of nitrate and/or nitrite to the receiving stream. Discharges of nitrate plus nitrite in concentrations that exceed the Primary MCL would violate the Basin Plan's narrative chemical constituents' objective. Inadequate or incomplete denitrification creates the potential for nitrate and nitrite to be discharged and provides the basis for the discharge to have a reasonable potential to cause or contribute to an in-stream excursion above the Primary MCL.

Therefore, the Central Valley Water Board finds the discharge has reasonable potential for nitrate plus nitrite and WQBEL's are required.

(c) **WQBEL's.** The receiving water contains assimilative capacity for nitrate plus nitrite, therefore, a dilution credit of 3:1 was allowed in the development of the WQBEL's for nitrate plus nitrite. This Order contains an AMEL and AWEL for nitrate plus nitrite, as a single parameter, of 40 mg/L and 79 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 assure the treatment process adequately nitrifies and denitrifies the waste stream to protect the beneficial use of municipal and domestic supply.

(d) **Plant Performance and Attainability.** Analysis of the effluent data shows that the MEC of 23 mg/L for nitrate plus nitrite is less than the applicable WQBEL's. Therefore, the Central Valley Water Board concludes that immediate compliance with these effluent limitations is feasible.

vi. **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

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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.

(b) **RPA Results.** Municipal and domestic supply, agricultural irrigation, and body contact water recreation are beneficial uses of the Feather River. Based on a review of data submitted by the Discharger, there has never been less than 20:1 (river flow to effluent flow) dilution. Therefore, the DDW requirements are applicable to the discharge.

(c) **WQBEL's.** 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 coliform 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.** The Facility utilizes a chlorine disinfection system that is designed to meet the applicable WQBEL's. Therefore, the Central Valley Water Board concludes that immediate compliance with these effluent limitations is feasible.

vii. **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. Raw domestic wastewater inherently has variable pH. Additionally, some wastewater treatment processes can increase or decrease wastewater pH which if not properly controlled, would violate the Basin Plan's numeric objective for pH in the receiving water. Therefore, reasonable potential exists for pH and WQBEL's are required.

Federal regulations at 40 C.F.R. section 122.44(d)(1)(i) requires that, "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 which 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." 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

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conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent.

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 WQBEL's are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBEL's for pathogens in all permits for POTW's 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." (TSD, p. 50)

The Facility is a POTW that treats domestic wastewater. Based on 535 effluent samples taken from January 2018 through December 2020, the maximum pH reported was 7.58 and the minimum was 6.02. The upstream receiving water pH ranged between 7.5 and 8.7 based on 39 samples taken during the same timeframe and the downstream receiving water pH ranged between 7.6 and 8.4. The discharge does not decrease receiving water pH below the Basin Plan's numeric objective (6.5 SU). However, there is reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan's numeric objective for pH (8.5 SU) in the receiving water. Therefore, WQBEL's for pH are required in this Order.

(c) **WQBEL's.** A technology-based effluent limitation for pH of 6.0 as an instantaneous minimum and a water quality-based effluent limitation of 8.5 as an instantaneous maximum are included in this Order. Based on analysis of the effluent and receiving water pH data, these effluent limitations result in compliance with Basin Plan objectives for pH while maintaining beneficial uses of the receiving water.

(d) **Plant Performance and Attainability.** Analysis of the effluent data demonstrates that the Facility can immediately comply with the effluent limitations for pH.

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viii. **Zinc**

(a) **WQO.** The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for zinc. These criteria for zinc are presented in dissolved concentrations, as 1-hour acute criteria and 4-day chronic criteria. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. Default U.S. EPA translators were used for the receiving water and effluent.

(b) **RPA Results.** Section IV.C.2 of this Fact Sheet includes procedures for conducting the RPA for hardness-dependent CTR metals, such as zinc. The CTR includes hardness-dependent criteria for zinc for the receiving water. The maximum applicable observed upstream receiving water zinc concentration was 24.7 µg/L, based on 15 samples collected from January 2018 through December 2020. The RPA was conducted using the upstream receiving water hardness to calculate the criteria for comparison to the maximum applicable ambient background concentration, and likewise using the reasonable worst-case downstream hardness to compare the maximum effluent concentration. The table below shows the specific criteria used for the RPA:

| Water Type | CTR Chronic Criterion (Total Recoverable) | Maximum Concentration (Total Recoverable) | Reasonable Potential? (Y/N) |
|---|---|---|---|
| Receiving Water | 43 µg/L | 24.7 µg/L | No |
| Effluent | 46 µg/L | 88.6 µg/L | Yes |

**Table Notes:**

1. **Receiving Water.** The CTR Chronic Criterion (Total Recoverable) for the receiving water is based on lowest observed upstream hardness of 30 mg/L (as CaCO3). Reasonable potential for the receiving water is per section 1.3, step 4 of the SIP.

2. **Effluent.** The CTR Chronic Criterion (Total Recoverable) for the effluent is based on reasonable worst-case downstream hardness of 32 mg/L (as CaCO3). Reasonable potential for the Effluent is per section 1.3, step 6 of the SIP.

   Based on the available data, zinc in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for the protection of freshwater aquatic life.

(c) **WQBEL's**. The receiving water contains assimilative capacity for zinc, therefore, an acute dilution credit of 6:1 and a chronic

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dilution credit of 5:1 was allowed in the development of the WQBEL's. This Order contains an AMEL and MDEL for zinc, total recoverable of 110 µg/L and 170 µg/L, respectively, based on the CTR criterion for the protection of freshwater aquatic life.

(d) **Plant Performance and Attainability.** Analysis of the effluent data shows that the MEC of 88.6 µg/L is less than the applicable WQBEL's. Therefore, the Central Valley Water Board concludes that immediate compliance with these effluent limitations is feasible.

**4. WQBEL Calculations**

a. This Order includes WQBEL's for ammonia, chlorine residual, copper, dichlorobromomethane, nitrate plus nitrite, pathogens, pH, pathogens, electrical conductivity, and zinc. The general methodology for calculating WQBEL's based on the different criteria/objectives is described in subsections IV.C.5.b through e, below. See Attachment H for the applicable 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:

$ECA = C + D(C - B)$ where $C>B$, and
$ECA = C$ where $C \leq B$

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.

c. **Primary and Secondary MCLs.** For non-priority pollutants with primary MCL's 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 98$^{th}$ percentile occurrence probability and the AMEL multiplier is from Table 2 of the SIP.

For non-priority pollutants with secondary MCL's that protect public welfare (e.g., taste, odor, and staining), WQBEL's were calculated by setting the LTA equal to the secondary MCL and using the AMEL

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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 WQBEL's 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, WQBEL's 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 WQBEL's 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, WQBEL's are calculated using similar procedures, except that an AWEL is established using the MDEL/AMEL multiplier from Table 2 of the SIP.

$$AMEL = mult_{AMEL}\left[\min\left(\overbrace{M_A ECA_{acute}}^{LTA_{acute}}, M_C ECA_{chronic}\right)\right]$$

$$MDEL = mult_{MDEL}\left[\min\left(M_A ECA_{acute}, \underbrace{M_C ECA_{chronic}}_{LTA_{chronic}}\right)\right]$$

$$MDEL_{HH} = \left(\frac{mult_{MDEL}}{mult_{AMEL}}\right) AMEL_{HH}$$

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 No. 001**

**Table F-13. Summary of Water Quality-Based Effluent Limitations**

| Parameter | Units | Average Monthly Effluent Limitations | Average Weekly Effluent Limitations | Maximum Daily Effluent Limitations | Average Annual |
|---|---|---|---|---|---|
| Ammonia Nitrogen, Total (as N) | mg/L | 33 | 58 | -- | -- |
| BOD | mg/L | 20 | 25 | -- | -- |
| Chlorine, Total Residual | mg/L | 0.011 | 0.019 | -- | -- |
| Copper, Total Recoverable | µg/L | 23 | -- | 30 | -- |
| Diazinon and Chlorpyrifos | µg/L | See table notes | -- | See table notes | -- |
| Dichlorobromomethane | µg/L | 9.6 | -- | 27 | -- |
| Electrical Conductivity @ 25°C | µmhos/cm | -- | -- | -- | 506 |
| Nitrate plus Nitrite (as N) | mg/L | 40 | 79 | -- | -- |
| pH | Standard Units | -- | -- | -- | 6.0 – 8.5 |
| Total Coliform Organisms | MPN/100mL | 240 | 23 | -- | -- |
| TSS | mg/L | 20 | 25 | -- | -- |
| Zinc, Total Recoverable | µg/L | 110 | -- | 170 | -- |

**Table F-13 Notes:**

1. **Chlorine, Total Residual – Average Monthly Effluent Limitation**. Applied as a 4-day average effluent limitation

2. **Chlorine, Total Residual – Maximum Daily Effluent Limitation**. Applied as a 1-hour average effluent limitation

3. **Diazinon and Chlorpyrifos - Average Monthly Effluent Limitation.**

$$S_{avg} = \frac{C_{D\ avg}}{0.079} + \frac{C_{C\ avg}}{0.012} \leq 1.0$$

4. **Diazinon and Chlorpyrifos - Maximum Daily Effluent Limitation.**

$$S_{avg} = \frac{C_{D\ max}}{0.16} + \frac{C_{C\ max}}{0.025} \leq 1.0$$

5. **pH – Average Annual Limitation.** Applied as a range from instantaneous minimum to instantaneous maximum

6. **Total Coliform Organisms - Average Monthly Effluent Limitation.** Applied as: Not to exceed 240 MPN/100mL more than once in any 30-day period

7. **Total Coliform Organisms - Average Weekly Effluent Limitation.** Applied as a 7-day median

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5. **Whole Effluent Toxicity (WET)**

For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct whole effluent toxicity testing for acute and chronic toxicity, as specified in the Monitoring and Reporting Program (Attachment E section V.). This Order also contains effluent limitations for acute and toxicity, a monitoring trigger for chronic toxicity, and requires the Discharger to implement best management practices to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity.

a. **Acute Aquatic Toxicity.** 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 section 3.1.20). The Basin Plan also states that, "…effluent limits based upon acute biotoxicity tests of effluents will be prescribed where appropriate…".

For priority pollutants, the SIP dictates the procedures for conducting the RPA. Acute toxicity is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Acute whole effluent toxicity is not a priority pollutant. Therefore, 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 WQBEL's are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBEL's for pathogens in all permits for POTW's discharging to contact recreational waters)." Although the discharge has been consistently in compliance with the acute effluent limitations, the Facility is a POTW that treats domestic wastewater containing ammonia and other acutely toxic pollutants. Acute toxicity effluent limits are required to ensure compliance with the Basin Plan's narrative toxicity objective.

U.S. EPA Region 9 provided guidance for the development of acute toxicity effluent limitations in the absence of numeric water quality objectives for toxicity in its document titled "Guidance for NPDES Permit Issuance", dated February 1994. In section B.2. "Toxicity Requirements" (pgs. 14-15) it states that, "In the absence of specific numeric water quality objectives for acute and chronic toxicity, the narrative criterion 'no toxics in toxic amounts' applies. Achievement of the narrative criterion, as applied herein, means that ambient waters shall not demonstrate for acute toxicity: 1) less than 90% survival, 50% of the time, based on the monthly median, or 2) less than 70% survival, 10% of the time, based on any monthly median. For chronic toxicity, ambient waters shall not demonstrate a test

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result of greater than 1 TUc." Accordingly, effluent limitations for acute toxicity have been included in this Order as follows:

**Acute Toxicity.** Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

70%, minimum for any one bioassay; and

90%, median for any three consecutive bioassays.

b. **Chronic Aquatic Toxicity.** 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.) The table below is chronic WET testing performed by the Discharger from August 2015 through August 2020. This data was used to determine if the discharge has reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan’s narrative toxicity objective.

**Table F-14. Whole Effluent Chronic Toxicity Testing Results**

| Date | Fathead Minnow Pimephales promelas Survival (TUc) | Fathead Minnow Pimephales promelas Growth (TUc) | Water Flea Ceriodaphnia dubia Survival (TUc) | Water Flea Ceriodaphnia dubia Growth (TUc) | Green Algae Selenastrum capricornutum Growth (TUc) |
|---|---|---|---|---|---|
| 08/17/2015 | 1 | 1 | 1 | 1 | 1 |
| 08/16/2016 | 1 | 1 | 1 | 1 | 1 |
| 08/14/2017 | 1 | 1 | 1 | 1 | 1 |
| 08/13/2018 | 1 | 1 | 1 | 2 | 1 |
| 09/16/2019 | 1 | 1 | 1 | >16 | 1 |
| 10/07/2019 | -- | -- | 1 | 4 | -- |
| 08/03/2020 | 1 | 1 | 1 | 1 | 1 |

**Table F-14 Notes:**

1. **Water Flea Ceriodaphnia Dubia Growth.** The result of >16 TUc on 09/16/2019 exhibited signs of microbial interference during testing. A retest was conducted on 10/07/2019 that did not show any signs of interference and resulted in a TUc of 4, below the numeric toxicity monitoring trigger of 10 TUc.

   i. **RPA.** A dilution ratio of 10:1 is available for chronic whole effluent toxicity. The Discharger received a maximum chronic toxicity result of >16 TUc for Water Flea Ceriodaphnia dubia Growth during routine monitoring on 9/16/2019. However, the test exhibited patterns of a possible pathogen interference response and a retest accounting for possible pathogen interference response had results less than the 10 TUc monitoring trigger. Based on the remaining chronic toxicity testing conducted from August

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2015 through August 2020, the discharge does not have reasonable potential to cause or contribute to an instream exceedance of the Basin Plan's narrative toxicity objective.

## D. Final Effluent Limitation Considerations

### 1. Mass-based Effluent Limitations

40 C.F.R section 122.45(f)(1) requires effluent limitations be expressed in terms of mass, with some exceptions, and 40 C.F.R. section 122.45(f)(2) allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. This Order includes effluent limitations expressed in terms of mass and concentration. In addition, pursuant to the exceptions to mass limitations provided in 40 CF.R. section 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as pH and temperature, and when the applicable standards are expressed in terms of concentration (e.g., CTR criteria and MCL's) and mass limitations are not necessary to protect the beneficial uses of the receiving water.

Mass-based effluent limitations were calculated based upon the design flow (Average Dry Weather Flow) permitted in section IV.A.1.5 of this Order.

### 2. Averaging Periods for Effluent Limitations

40 C.F.R. section 122.45 (d) requires average weekly and average monthly discharge limitations for POTW's unless impracticable. For copper, dichlorobromomethane, and zinc, average weekly effluent limitations have been replaced with maximum daily effluent limitations in accordance with section 1.4 of the SIP.

### 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 $BOD_5$ and TSS. The maximum daily and mass-based effluent limitations for these pollutants are less stringent than those in Order R5-2016-0024. 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.

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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 TMDL's 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 Feather River is considered an attainment water for $BOD_5$ and TSS because the receiving water is not listed as impaired on the 303(d) list for these constituents. The exceptions in section 303(d)(4) address both waters in attainment with water quality standards and those not in attainment, i.e. waters on the section 303(d) impaired waters list. As discussed in section IV.D.4, below, removal of the effluent limits complies with federal and state antidegradation requirements. Thus, removal of the maximum daily and mass-based effluent limitations for $BOD_5$ and TSS from Order R5-2016-0024 meet the exception in CWA section 303(d)(4)(B).

b. **Flow.** Order R5-2016-0024 included flow as an effluent limitation based on the Facility design flow. Compliance with the effluent limits for flow in Order R5-2016-0024 was calculated annually based on the average daily flow collected over three consecutive dry weather months. Flow is not a pollutant and therefore has been changed from an effluent limit to a discharge prohibition in this order, which is an equivalent level of regulation. This order is not less stringent because compliance with flow as a discharge prohibition will be calculated the same way as the previous Order. Flow as a discharge prohibition adequately regulates the Facility, does not allow for an increase in the discharge of pollutants, and does not constitute backsliding.

**4. Antidegradation Policies**

This Order does not allow for an increase in flow or mass of pollutants to the receiving water. Therefore, a complete antidegradation analysis is not necessary. The Order requires compliance with applicable federal technology-based standards and with WQBEL's where the discharge could have the reasonable potential to cause or contribute to an exceedance of water quality standards. The permitted 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 best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.

This Order also removes maximum daily and mass-based effluent limitations for $BOD_5$ and TSS based on 40 CFR parts 122.45 (d) and (f). The removal of maximum daily and mass-based effluent limits for $BOD_5$ and TSS will not result in a decrease in the level of treatment or control or a reduction in water quality.

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Furthermore, both concentration-based AMEL's and AWEL's remain for $BOD_5$ 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 maximum daily and mass-based effluent limits for $BOD_5$ and TSS does not result in an allowed increase in pollutants or any additional degradation of the receiving water. Thus, the removal of maximum daily and mass-based effluent limits for $BOD_5$ and TSS is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and the State Antidegradation Policy.

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 best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.

**5. Stringency of Requirements for Individual Pollutants**

This Order contains both technology-based effluent limitations and WQBEL's for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD and TSS. Restrictions on BOD and TSS are discussed in section IV.C.3.b of the Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations more stringent than the minimum, federal technology-based requirements that are necessary to meet water quality standards. For BOD and TSS, both technology-based effluent limitations and water quality-based effluent limitations are applicable. The more stringent of these effluent limitations are implemented by this Order. These requirements include some limitations that are more stringent than required by the CWA.

This Order contains pollutant restrictions that are more stringent than applicable federal requirements and standards. Specifically, this Order includes effluent limitations for BOD and TSS that are more stringent than applicable federal standards, but that are nonetheless necessary to meet numeric objectives or protect beneficial uses. The rationale for including these limitations is explained in section IV.C.3.b of the Fact Sheet. In addition, the Central Valley Water Board has considered the factors in Water Code section 13241 in section IV.C.3.b of the Fact Sheet.

**Summary of Final Effluent Limitations**
**Discharge Point No. 001**

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**Table F-15. Summary of Final Effluent Limitations**

| Parameter | Units | Effluent Limitations | Basis[1] |
|---|---|---|---|
| Biochemical Oxygen Demand | mg/L | AMEL 20<br>AWEL 25 | AB |
| Biochemical Oxygen Demand | lbs/day | AMEL 1,100<br>AWEL 1,400 | AB |
| Total Suspended Solids | mg/L | AMEL 20<br>AWEL 25 | AB |
| Total Suspended Solids | lbs/day | AMEL 1,100<br>AWEL 1,400 | AB |
| Ammonia Nitrogen, Total (as N) | mg/L | AMEL 33<br>AWEL 58 | NAWQC |
| Ammonia Nitrogen, Total (as N) | lbs/day | AMEL 1,790<br>AWEL 3,140 | NAWQC |
| Chlorine, Total Residual | mg/L | 0.011<br>0.019 | NAWQC |
| Copper, Total Recoverable | µg/L | AMEL 23<br>MDEL 30 | CTR |
| Diazinon and Chlorpyrifos | µg/L | AMEL<br>MDEL | TMDL |
| Dichlorobromomethane | µg/L | AMEL 9.6<br>MDEL 27 | CTR |
| Electrical Conductivity @ 25°C | µmhos/cm | Average Annual 506 | PER |
| Nitrate plus Nitrite (as N) | mg/L | AMEL 40<br>AWEL 79 | MCL |
| pH | Standard Units | Instantaneous Min 6.0<br>Instantaneous Max 8.5 | BP |
| Total Coliform Organisms | MPN/100mL | AMEL 240<br>AWEL 23 | Title 22 |
| Zinc, Total Recoverable | µg/L | AMEL 110<br>MDEL 170 | CTR |

**Table F-15 Notes:**

1. CFR – Based on secondary treatment standards contained in 40 CFR part 133.
   AB – Based on satisfying anti-backsliding provisions contained in the Clean Water Act
   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.
   TMDL – Based on the TMDL for salinity and boron in the lower San Joaquin River.
   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).

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2. **Chlorine, Total Residual.** 4-day average effluent limitation is 0.011 mg/L and 1-hour average effluent limitation is 0.019 mg/L

3. **Diazinon and Chlorpyrifos Average Monthly Effluent Limitation.**

$$S_{avg} = \frac{C_{D\ avg}}{0.079} + \frac{C_{C\ avg}}{0.012} \leq 1.0$$

4. **Diazinon and Chlorpyrifos Maximum Daily Effluent Limitation.**

$$S_{avg} = \frac{C_{D\ max}}{0.16} + \frac{C_{C\ max}}{0.025} \leq 1.0$$

### E. Interim Effluent Limitations – Not Applicable

### F. Land Discharge Specifications – Not Applicable

### 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.

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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.

### B. Groundwater – Not Applicable

## 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. **Whole Effluent Toxicity.** This Order requires the Discharger to investigate the causes of, and identify corrective actions to reduce or

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eliminate, effluent toxicity through a site-specific Toxicity Reduction Evaluation (TRE). This Order may be reopened to include a new or revised chronic toxicity limitation, a new or revised acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE.

c. **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 and zinc. 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.

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/)

**2. Special Studies and Additional Monitoring Requirements**

a. **Chronic Whole Effluent Toxicity Requirements.** 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 section 3.1.20.) Based on whole effluent chronic toxicity testing performed by the Discharger from August 2015 through August 2020, the discharge does not have reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan’s narrative toxicity objective.

The Monitoring and Reporting Program of this Order requires chronic WET monitoring to demonstrate compliance with the Basin Plan’s narrative toxicity objective. If the discharge exceeds the chronic toxicity monitoring trigger this provision requires the Discharger conduct a site-specific Toxicity Reduction Evaluation (TRE).

See the WET Monitoring Flow Chart (Figure F-3), below, for further clarification of the decision points for determining the need for TRE initiation.

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**Figure F-3. WET Accelerated Monitoring Flow Chart**

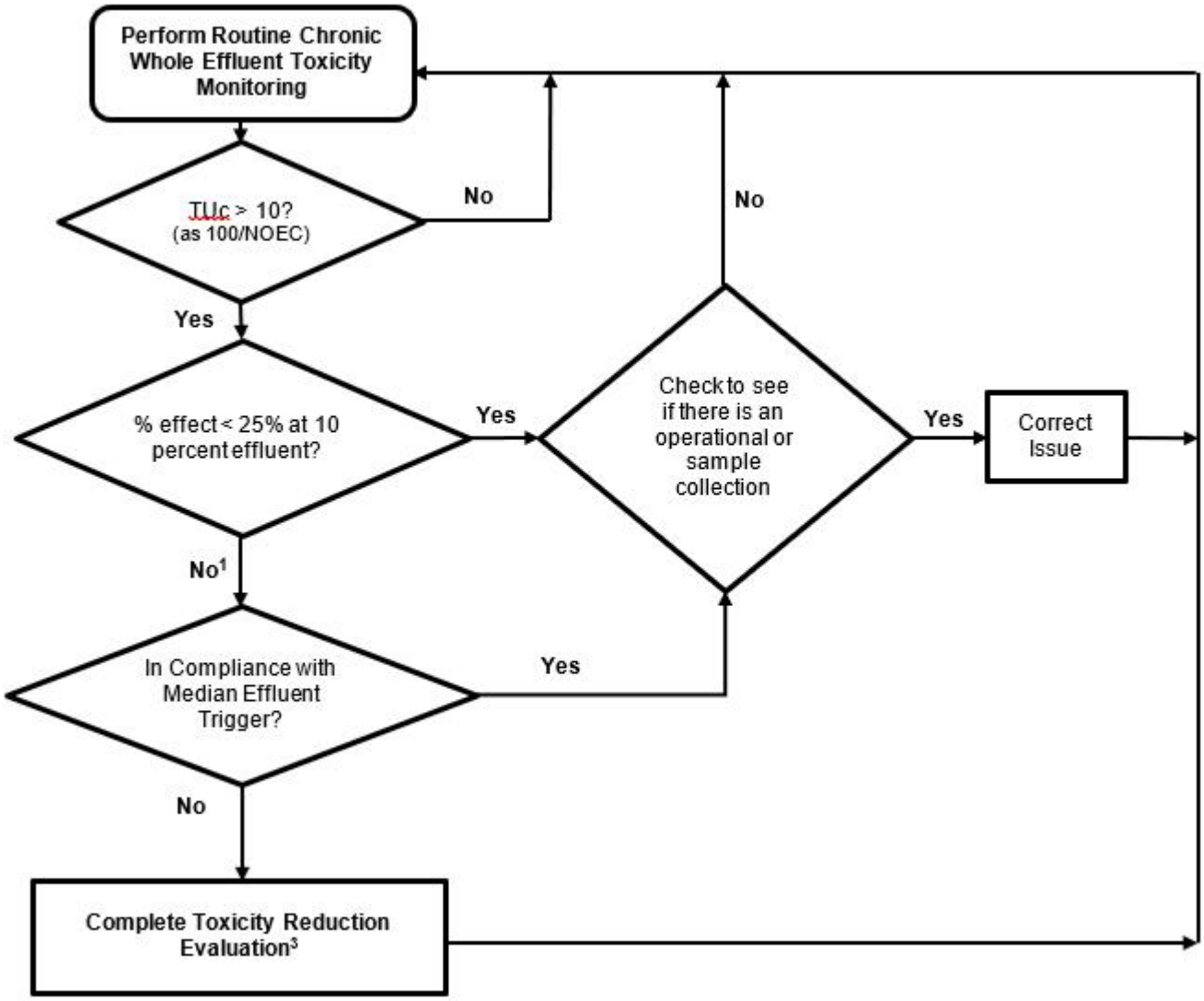


**Figure F-3 Notes:**

1. The Discharger may elect to take additional samples to determine the 3-sample median. The samples shall be collected at least one week apart and the final sample shall be within 6 weeks of the initial sample exhibiting toxicity. See Compliance Determination section VII.J for procedures for calculating 6-week median.

### 3. Best Management Practices and Pollution Prevention

a. **Salinity Evaluation and Minimization Plan**. An Evaluation and Minimization Plan for salinity is required in this Order to ensure adequate measures are developed and implemented by the Discharger to reduce the discharge of salinity to the Feather River.

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

a. **Emergency Storage & Site Stabilization Pond Operating Requirements.** The operation and maintenance specifications for the

emergency storage and solids stabilization ponds are necessary for protection of uncontrolled discharges and to prevent the introduction of pollutants that will interfere with treatment plant operations.

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

a. **Pretreatment Requirements.**

i. The federal CWA section 307(b), and federal regulations, 40 C.F.R. part 403, require publicly owned treatment works to develop an acceptable industrial pretreatment program. A pretreatment program is required to prevent the introduction of pollutants, which will interfere with treatment plant operations or sludge disposal and prevent pass through of pollutants that exceed water quality objectives, standards or permit limitations. Pretreatment requirements are imposed pursuant to 40 C.F.R. part 403.

ii. The Discharger shall implement and enforce its approved pretreatment program and is an enforceable condition of this Order. If the Discharger fails to perform the pretreatment functions, the Central Valley Water Board, the State Water Board or U.S. EPA may take enforcement actions against the Discharger as authorized by the CWA.

b. **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.

c. **Collection System.** On 2 May 2006, the State Water Board adopted State Water Board Order No. 2006-0003-DWQ, Statewide General WDR's for Sanitary Sewer Systems. The Discharger shall be subject to the requirements of Order No. 2006-0003-DWQ and any future revisions thereto. Order No. 2006-0003-DWQ requires that all public agencies that currently own or operate sanitary sewer systems apply for coverage under the general WDR's. The Discharger has applied for and has been approved for coverage under Order 2006-0003-DWQ for operation of its wastewater collection system.

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Portions of the wastewater collection system are outside the service area of the Discharger. In order to assure compliance with the Discharge Prohibitions and to assure protection of the entire collection system and treatment works from industrial discharges, it is necessary that the Discharger control discharges into the system. To control discharges into the entire collection system, the Discharger shall maintain interagency agreements with the collection system owners. The interagency agreements shall contain, at a minimum, requirements for implementation of an industrial pretreatment program that meets the minimum requirements of this permit.

Within 90 days of the permit effective date, the Discharger shall submit current interagency agreements with wastewater collection system owners.

### 6. Compliance Schedules – Not Applicable

## 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 also 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 following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

### 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., $BOD_5$ and TSS reduction requirements). The monitoring frequencies for pH (continuous), BOD5 (weekly), TSS (weekly), and temperature (weekly) have been retained from Order No. R5-2016-0024.

2. Influent monitoring for total dissolved solids (1/quarter) has been replaced by electrical conductivity to gather more information related to effluent limits for electrical conductivity.

### 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. Effluent monitoring frequencies and sample types for BOD5 (weekly), TSS (weekly), pH (3x/week), copper (1/month), chlorine (continuous),

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dichlorobromomethane (1/month), electrical conductivity (1/month), nitrate plus nitrite (1/month), total coliform organisms (weekly), and chlorpyrifos and diazinon (1/year) have been retained from Order R5-2016-0024 to determine compliance with effluent limitations for these parameters.

3. Effluent monitoring frequencies for ammonia (1/week) has been increased from 1/month in Order R5-2016-0024 to determine compliance with AWEL for these parameters.

4. Effluent monitoring frequency for zinc (1/month) has been increased from 1/quarter in Order R5-2016-0024 to determine compliance with new effluent limitations for these parameters.

5. Effluent monitoring frequencies and sample types for hardness (1/month) and temperature (1/week)) have been retained from Order R5-2016-0024.

6. Effluent monitoring for aluminum (1/year) and dissolved organic carbon (1/quarter) have been added to determine appropriate criteria for aluminum in the receiving water.

7. Effluent monitoring for turbidity (1/month) has been added to determine compliance with receiving water turbidity limits.

8. Effluent monitoring for total dissolved solids has been removed since it is redundant with electrical conductivity monitoring. Effluent monitoring for standard minerals has been removed since it is not required to determine compliance with any water quality objectives.

9. 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).

10. 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. The holding time requirements are 15 minutes (40 C.F.R. section 136.3(e), Table II),

11. **Pyrethroid Pesticides Monitoring.** A Basin Plan Amendment and TMDL for the Control of Pyrethroid Pesticide Discharges in the Sacramento and San Joaquin River basins (Resolution R5-2017-0057) was approved by the Central Valley Water Board on 8 June 2017 and is now effective. The Pyrethroids Control Program established by Resolution R5-2017-0057 requires monitoring by domestic and municipal wastewater dischargers discharging at least 1 MGD for

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the concentrations of pyrethroid pesticides, total and dissolved organic carbon in the water column, and water column toxicity testing. Monitoring is required to evaluate the potential impacts of discharges of pyrethroid pesticides to receiving waters.

## C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity**. Quarterly 96-hour bioassay testing is required to demonstrate compliance with the effluent limitation for acute toxicity.

2. **Chronic Toxicity**. Annual chronic whole effluent toxicity testing is required in order to demonstrate compliance with the Basin Plan's narrative toxicity objective.

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

Mean discharge IWC response ≤ RMD x Mean control response, where the chronic RMD = 0.75.

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."

c. 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. 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.

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b. Receiving water monitoring frequencies at monitoring location RSW-001 for ammonia (1/quarter), dichlorobromomethane (1/quarter), dilution factor (1/month), dissolved oxygen (1/month), hardness (1/month), electrical conductivity (1/month), nitrate (1/quarter), pH (1/month), temperature (1/month), and turbidity (1/month) have been retained from Order R5-2016-0024.

c. Receiving water monitoring frequencies at monitoring location RSW-001 for copper (1/month) and zinc (1/month) have been increased for the first year after permit effective date in order to provide information on the variability of the parameters in the receiving water on a monthly basis. After the first year of sampling, the monitoring frequency is reduced to 1/quarter, similar to Order R5-2016-0024.

d. Receiving water monitoring frequency at monitoring location RSW-001 for flow has been increased from 1/month in Order R5-2016-0024 to 1/week to provide more information on fluctuating flows in the receiving water.

e. Receiving water monitoring frequency at monitoring location RSW-001 for dissolved organic carbon (1/quarter) has been added from Order R5-2016-0024 to provide information to determine criteria for aluminum in the receiving water.

f. Receiving water monitoring frequency at monitoring locations RSW-001 and RSW-002 for pH and temperature have been increased from 1/month to 2/month to provide more data to calculate a representative ammonia criteria in the receiving water

g. Receiving water monitoring for total dissolved solids at monitoring locations RSW-001 and RSW-002 has been removed since it is redundant with electrical conductivity monitoring.

h. Receiving water monitoring frequencies at monitoring location RSW-002 for nitrate (1/month), dissolved oxygen (1/month), hardness (1/month), electrical conductivity (1/month), pH (1/month), and turbidity (1/month) have all been retained from Order R5-2016-0024.

i. Receiving water monitoring frequencies at monitoring location RSW-002 for copper, dichlorobromomethane, ammonia, and nitrate, have been removed because they are not required to assess compliance with receiving water criteria.

j. Receiving water monitoring for E. coli organisms (1/quarter) at monitoring locations RSW-001 and RSW-002 has been added from Order R5-2016-0024 to evaluate compliance with Statewide Bacteria Objectives that are implemented in this Order as receiving water limitations. The bacteria receiving water limitations are expressed in units of colony forming units (CFU) per 100 mL, consistent with the Statewide Bacteria Objectives. The receiving water monitoring allows reporting in either CFU/100 mL or most

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probable number (MPN)/100 mL, because current ELAP approved analytical methods require reporting in MPN/100 mL for E. coli organisms. Evaluating compliance with the bacteria receiving water limitations using E. coli organisms results expressed in MPN/100 mL is sufficient, because the units CFU/100 mL and MPN/100 mL for E. coli organisms are comparable units of measurement and may be used interchangeably.

### 2. Groundwater – Not Applicable

## E. Other Monitoring Requirements

### 1. Biosolids Monitoring

Biosolids monitoring is required to ensure compliance with the pretreatment requirements contained in 40 C.F.R. part 403 and implemented in section VI.C.5.a. of this Order. Biosolids monitoring is required per U.S. EPA guidance to evaluate the effectiveness of the pretreatment program. Biosolids monitoring for compliance with 40 C.F.R. part 503 regulations is not included in this Order since it is a program administered by U.S. EPA's part 503 Biosolids Program (https://www.epa.gov/biosolids/compliance-and-annual-reporting-guidance-about-clean-water-act-laws)

### 2. Water Supply Monitoring

Water Supply monitoring location and monitoring requirements have been removed because this information is no longer applicable for purposes of the WDR's.

### 3. Discharge Monitoring Report-Quality Assurance (DMR-QA) Study Program

Under the authority of section 308 of the CWA (33 U.S.C. section 1318), U.S. EPA requires all dischargers under the NPDES Program to participate in the annual DMR-QA Study Program. The DMR-QA Study evaluates the analytical ability of laboratories that routinely perform or support self-monitoring analyses required by NPDES permits. There are two options to satisfy the requirements of the DMR-QA Study Program: (1) The Discharger can obtain and analyze a DMR-QA sample as part of the DMR-QA Study; or (2) Per the waiver issued by U.S.EPA to the State Water Board, the Discharger can submit the results of the most recent Water Pollution Performance Evaluation Study from their own laboratories or their contract laboratories. A Water Pollution Performance Evaluation Study is similar to the DMR-QA Study. Thus, it also evaluates a laboratory's ability to analyze wastewater samples to produce quality data that ensure the integrity of the NPDES Program. The Discharger shall submit annually the results of the DMR-QA Study or the results of the most recent Water Pollution Performance Evaluation Study to the State Water Board. The State Water Board's Quality Assurance Program Officer will send the DMR-QA Study results or the results of the most recent Water Pollution Performance

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Evaluation Study to U.S. EPA's DMR-QA Coordinator and Quality Assurance Manager.

## VIII. PUBLIC PARTICIPATION

The Central Valley Water Board has considered the issuance of WDR's that will serve as an NPDES permit for the Sewerage Commission – Oroville Region Wastewater Treatment Plant. As a step in the WDR adoption process, the Central Valley Water Board staff has developed tentative WDR's 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 WDR's for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through the following **<Describe Notification Process (e.g., newspaper name and date)>**

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

### B. Written Comments

Interested persons were invited to submit written comments concerning tentative WDR's 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 **<Date>**.

### C. Public Hearing

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

Date: **12 August 2021**

Time: **8:30 a.m.**
Location: Regional Water Quality Control Board, Central Valley Region
11020 Sun Center Dr., Suite #200
Rancho Cordova, CA 95670

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

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## 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 California Code of Regulations, 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_instr.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 (916) 464-3291.

## F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDR's 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.

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## ATTACHMENT G – SUMMARY OF REASONABLE POTENTIAL ANALYSIS

| Constituent | Units | MEC | B | C | CMC | CCC | Water & Org | Org. Only | Basin Plan | MCL | Reasonable Potential |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | µg/L | 23 | 88 | 200 | 630 (see table note 1) | 340 (see table note 3) | -- | -- | -- | 200 | No |
| Ammonia, Total (as N) | mg/L | 22.2 | 0.09 | 1.26 | 14.3 (see table note 1) | 1.26 (see table note 2) | -- | -- | -- | -- | Yes |
| Chloride | mg/L | 110 | 12 | 230 | 860 (see table note 1) | 230 (see table note 3) | -- | -- | -- | 250 | No |
| Copper | µg/L | 22.4 | 2.04 | 3.3 | 4.5 | 3.3 | 1300 | -- | -- | 1000 | Yes |
| Dichlorobromomethane | µg/L | 4.18 | 0.15 (ND) | 0.56 | -- | -- | -- | -- | -- | 80 | Yes |
| Electrical Conductivity | µmhos/cm | 448 (see table note 4) | 159 | 900 | -- | -- | -- | -- | 150 | 900 | No |
| Mercury | ng/L | 3.43 | 2.6 | 12 (see table note 5) | 1400 | 770 | 50 | 51 | -- | -- | No |
| Nitrate plus Nitrite, Total (as N) | mg/L | 23 | 0.65 | 10 | -- | -- | -- | -- | -- | 10 | Yes (see table note 6) |
| pH | SU | 6.02 7.58 | 8.7 | 6.0 – 8.5 | -- | -- | -- | -- | 6.0 – 9.0 | -- | Yes |
| Sulfate | mg/L | 110 | 2.4 | 250 | -- | -- | -- | -- | -- | 250 | No |

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| Constituent | Units | MEC | B | C | CMC | CCC | Water & Org | Org. Only | Basin Plan | MCL | Reasonable Potential |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 350 | 140 | 500 | -- | -- | -- | -- | -- | 500 | No |
| Zinc | µg/L | 88.6 | 24.7 | 43 | 43 | 43 | 7400 | 26000 | -- | 5000 | Yes |

General Note: All inorganic concentrations are given as a total concentration.

**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
ND = Non-detect

**Table Notes:**

(1) U.S. EPA National Recommended Ambient Water Quality Criteria, Freshwater Aquatic Life Protection, 1 hour average
(2) U.S. EPA National Recommended Ambient Water Quality Criteria, Freshwater Aquatic Life Protection, 30 day average
(3) U.S. EPA National Recommended Ambient Water Quality Criteria, Freshwater Aquatic Life Protection, 4 day average
(4) Represents the maximum observed annual average concentration for comparison with the Secondary MCL
(5) State Water Board Sport Fish Water Quality Objective for mercury
(6) See section IV.C.3 of the Fact Sheet for a discussion of the RPA results.

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## ATTACHMENT H – CALCULATION OF WQBEL'S

HUMAN HEALTH WQBEL'S CALCULATIONS

| Parameter | Units | Criteria | Mean Background Concentration | Effluent CV | Dilution Factor | MDEL/AMEL Multiplier | AMEL Multiplier | AMEL | MDEL | AWEL |
|---|---|---|---|---|---|---|---|---|---|---|
| Dichlorobromomethane | µg/L | 0.56 | 0.15 | 1.44 | 22 | 2.85 | 2.35 | 9.6 | 27 | -- |
| Nitrate plus Nitrite, Total (as N) | mg/L | 10 | 0.08 | 0.95 | 3 | 1.99 | 1.9 | 40 | -- | 79 |

**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

**Table Notes:**

(1) Coefficient of Variation (CV) was established in accordance with section 1.4 of the SIP.
(2) AWEL/AMEL multiplier used to calculate the AWEL for nitrate plus nitrite.

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## ATTACHMENT H – CALCULATION OF WQBEL'S

AQUATIC LIFE WQBEL'S CALCULATIONS

| Parameter | Units | CMC | CCC | B | Eff CV | CMC DF | CCC DF | ECA $Mult_{acute}$ | $LTA_{acute}$ | ECA $Mult_{chronic}$ | $LTA_{chronic}$ | AMEL $Mult_{95}$ | AWEL Mult | MDEL $Mult_{99}$ | AMEL | AWEL | MDEL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ammonia Nitrogen, Total (as N) | mg/L | 14.3 | 1.26 | 0.10 | 0.65 | 3.8 | 30 | 0.30 | 20.6 | 0.77 | 27.5 | 1.6 | 2.8 | -- | 33 | 58 | -- |
| Copper, Total Recoverable | µg/L | 4.5 | 3.3 | 2.04 | 0.19 | 11 | 17 | 0.66 | 20.8 | 0.81 | 20.0 | 1.16 | -- | 1.52 | 23 | -- | 30 |
| Zinc, Total Recoverable | µg/L | 46 | 46 | 24.7 | 0.34 | 6 | 5 | 0.49 | 85.6 | 0.69 | 105 | 1.3 | -- | 2.0 | 110 | -- | 170 |

**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
Eff = Effluent
DF = Dilution Factor
Mult = Multiplier

**Table Notes:**

(1) Coefficient of Variation (CV) was established in accordance with section 1.4 of the SIP.

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(2) Average Monthly Effluent Limitations are calculated according to section 1.4 of the SIP using a 95th percentile occurrence probability.
(3) Average Weekly Effluent Limitations are calculated according to section 1.4 of the SIP using a 98th percentile occurrence probability.
(4) Maximum Daily Effluent Limitations are calculated according to section 1.4 of the SIP using a 99th percentile occurrence probability.

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