CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CA0079260 TENTATIVE ORDER R5-2024-XXXX WASTE DISCHARGE REQUIREMENTS FOR THE CITY OF YUBA CITY WASTEWATER TREATMENT FACILITY SUTTER COUNTY

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

Table 1. Discharger Information

Discharger:	City of Yuba City
Name of Facility:	Wastewater Treatment Facility
Facility Street Address:	302 Burns Drive
Facility City, Zip:	Yuba City, CA 95991
Facility County:	Sutter

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Secondary Treated	39º 05’ 29”	121° 35’ 53”	Feather River via diffuser
002	Secondary Treated	39º 04’ 53”	121° 35’ 56”	Feather River via disposal ponds
003	Secondary Treated	39º 05’ 27”	121° 35’ 51”	Feather River via direct discharge
004	Secondary Treated	39° 04' 12"	121° 36' 21"	Feather River via diffuser

Table 3. Administrative Information

This Order was Adopted on:	**18 October 2024**
This Order shall become effective on:	**1 January 2025**
This Order shall expire on:	**31 December 2029**
The Discharger shall file a Report of Waste Discharge (ROWD) as an application for reissuance of WDRs in accordance with title 23, California Code of Regulations, and an application for reissuance of a NPDES permit no later than:	**31 December 2028**
The United States Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, Central Valley Region have classified this discharge as follows:	**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 **18 October 2024**.

_____

PATRICK PULUPA, Executive Officer

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I. FACILITY INFORMATION

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

II. FINDINGS

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

A. Legal Authorities. This Order serves as waste discharge requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as a National Pollutant Discharge Elimination System (NPDES) permit authorizing the Discharger to discharge into waters of the United States at the discharge location described in Table 2 subject to the WDRs in this Order.

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

C. Background and Rationale for Requirements. The Central Valley Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for the requirements in this Order, is hereby incorporated into and constitutes Findings for this Order. Attachments A through E and G through H are also incorporated into this Order.

D. Provisions and Requirements Implementing State Law. The provisions/requirements in subsections **IV.B, IV.C, and V.B** are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

E. Monitoring and Reporting. 40 C.F.R. section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Central Valley Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. This Order and the Monitoring and Reporting Program, provided in Attachment E, establish monitoring and reporting requirements to implement federal and State requirements. The burden, including costs, of these monitoring and reporting requirements bears a reasonable relationship to the need for these reports and the benefits to be obtained therefrom. The Discharger, as owner and operator of the Facility, is responsible for these requirements, which are necessary to determine compliance with this Order. The need for these requirements is further discussed in the Fact Sheet, Attachment F.

F. Notification of Interested Persons. The Central Valley Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet.

G. Consideration of Public Comment. The Central Valley Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet.

THEREFORE, IT IS HEREBY ORDERED that Order R5-2019-0017-01 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the Central Valley Water Board from taking enforcement action for violations of the previous Order.

III. DISCHARGE PROHIBITIONS

A. Discharge of wastewater from the Facility, as the Facility is specifically described in the Fact Sheet in section II.B, in a manner different from that described in this Order is prohibited.

B. The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Federal Standard Provisions I.G. and I.H. (Attachment D).

C. Neither the discharge nor its treatment shall create a nuisance as defined in section 13050 of the Water Code.

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

E. **Average Dry Weather Flow.** Total combined discharges from Discharge Points 001, 002, 003, and 004 exceeding an average dry weather flow of 10.5 million gallons per day (MGD) are prohibited.

F. Discharge to the Feather River at Discharge Point 001 when the depth of water over the diffuser is below an average of 0.8 feet is prohibited.

G. Discharge to the Feather River at Discharge Point 001 or Discharge Point 003 is prohibited when Discharge Point 004 is installed and fully operational, with the exception of Discharge Point 004 becoming non-functional or during periods of maintenance.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Points 001, 002, 003, and 004

1. Final Effluent Limitations – Discharge Points 001, 002, 003, and 004

The Discharger shall maintain compliance with the following effluent limitations at Discharge Points 001, 002, 003, and 004. Unless otherwise specified compliance shall be measured at Monitoring Location EFF-001 for Discharge Points 001, 002, 003, and 004 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 for Discharge Points 001, 002, 003, and 004

Parameters	Units	Average Monthly	Average Weekly	Maximum Daily
Biochemical Oxygen Demand, 5-day @ 20°Celcius (BOD_5)	milligrams per liter (mg/L)	30	45	--
Total Suspended Solids (TSS)	mg/L	30	45	--
Copper, total	micrograms per liter (µg/L)	11	--	18
Dichlorobromomethane	µg/L	10	--	16
Ammonia, total as Nitrogen	mg/L	31	51	--
Nitrate plus Nitrite, total as Nitrogen	mg/L	10	20	--
Cyanide, total	µg/L	10	--	20
Bis(2-ethylhexyl) phthalate	µg/L	27	--	86

b. **pH:**
   i. 6.0 Standard Units (SU) as an instantaneous minimum for discharges to Discharge Point 002
   ii. 6.5 SU as an instantaneous minimum.
   iii. 8.5 SU as an instantaneous maximum.

c. **Percent Removal.** The average monthly percent removal of BOD_5 and TSS shall not be less than 85 percent.

d. **Acute Whole Effluent Toxicity MDEL.** No acute aquatic toxicity test shall result in a "Fail" at the Instream Waste Concentration (IWC) AND a percent effect greater than or equal to 50 percent when discharging to Discharge Points 001, 003, or 004.

e. **Acute Whole Effluent Toxicity MMEL.** No more than one acute aquatic toxicity test initiated in a toxicity calendar month shall result in a "Fail" at the IWC when discharging to Discharge Points 001, 003, or 004.

f. **Chronic Whole Effluent Toxicity MDEL.** Effective **1 January 2030**, no chronic aquatic toxicity test shall result in a "Fail" at the Instream Waste Concentration (IWC) for the sub-lethal endpoint measured in the test AND a percent effect for the survival endpoint greater than or equal to 50 percent when discharging to Discharge Points 001, 003, or 004.

g. **Chronic Whole Effluent Toxicity MMEL.** Effective **1 January 2030**, no more than one chronic aquatic toxicity test initiated in a toxicity calendar month shall result in a "Fail" at the IWC for any endpoint when discharging to Discharge Points 001, 003, or 004.

h. **Total Residual Chlorine.** Effluent total residual chlorine when discharging to Discharge Points 001, 003, and 004 shall not exceed:
   i. 0.011 mg/L, as a 4-day average; and

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

i. **Total Coliform Organisms.** Effluent total coliform organisms shall not exceed the following with compliance measured immediately after disinfection:

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

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

j. **Mercury, Total.** For a calendar year, the total annual mass discharge of total mercury shall not exceed **0.67** pounds/year.

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

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

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

$C_{D\ M\text{-}AVG}$ = average monthly diazinon effluent concentration (µg/L).

$C_{C\ M\text{-}AVG}$ = average monthly chlorpyrifos effluent concentration (µg/L)

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

$S_{AWEL} = C_{D\ W\text{-}avg}/0.14 + C_{C\ W\text{-}avg}/0.021 \leq 1.0$

$C_{D\ W\text{-}AVG}$ = average weekly diazinon effluent concentration (µg/L).

$C_{C\ W\text{-}AVG}$ = average weekly chlorpyrifos effluent concentration (µg/L).

l. **Settleable Solids.** Effluent limitations are applicable when discharging to Discharge Points 001, 003, or 004, as follows:

i. 0.1 milliliter per liter (ml/L) as the AMEL

ii. 0.2 ml/L as the MDEL

2. Interim Effluent Limitations – Discharge Points 001, 003, and 004

The Discharger shall maintain compliance with the following interim effluent limitation at Discharge Points 001, 003, and 004, with compliance measured at Monitoring Location EFF-001 as described in the MRP, Attachment E.

a. **Chronic Whole Effluent Toxicity.** Effective immediately and until **1 January 2030**, the effluent chronic toxicity shall not exceed 50 TUc (as 100/NOEC) **AND** a percent effect of 25 percent at 2 percent effluent, for any end point as the median of up to three consecutive chronic toxicity tests within a 6-week period. This interim effluent limitation shall apply in lieu of the corresponding final effluent limitation for chronic whole effluent toxicity as specified in section IV.A.1.f until **31 December 2029**.

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) to exceed 100 colony forming units (cfu) per 100 milliliters (mL), calculated weekly, and a statistical threshold value (STV) of 320 cfu/100 mL to be exceeded by more than 10 percent of the samples collected in a calendar month, calculated in a static manner.
2. **Biostimulatory Substances.** Water to contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.
3. **Chemical Constituents.** Chemical constituents to be present in concentrations that adversely affect beneficial uses.
4. **Color.** Discoloration that causes nuisance or adversely affects beneficial uses.
5. **Dissolved Oxygen:**
   a. The monthly median of the mean daily dissolved oxygen concentration to fall below 85 percent of saturation in the main water mass**;**
   b. The 95-percentile dissolved oxygen concentration to fall below 75 percent of saturation; nor
   c. The dissolved oxygen concentration to be reduced below 7.0 mg/L at any time.
6. **Floating Material.** Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.
7. **Oil and Grease.** Oils, greases, waxes, or other materials to be present in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.
8. **pH.** The pH to be depressed below 6.5 nor raised above 8.5.
9. **Pesticides:**
   a. Pesticides to be present, individually or in combination, in concentrations that adversely affect beneficial uses;
   b. Pesticides to be present in bottom sediments or aquatic life in concentrations that adversely affect beneficial uses;
   c. Total identifiable persistent chlorinated hydrocarbon pesticides to be present in the water column at concentrations detectable within the accuracy of analytical methods approved by U.S. EPA or the Executive Officer;
   d. Pesticide concentrations to exceed those allowable by applicable antidegradation policies (see State Water Resources Control Board Resolution No. 68-16 and 40 CFR section 131.12.);

e. Pesticide concentrations to exceed the lowest levels technically and economically achievable;

f. Pesticides to be present in concentration in excess of the maximum contaminant levels (MCLs) set forth in CCR, Title 22, division 4, chapter 15; nor

g. Thiobencarb to be present in excess of 1.0 µg/L.

10. **Radioactivity:**
    a. Radionuclides to be present in concentrations that are harmful to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life; nor
    b. Radionuclides to be present in excess of the MCLs specified in Table 64442 of section 64442 and Table 64443 of section 64443 of Title 22 of the CCR.
11. **Salinity.** Electrical conductivity, downstream of the discharge, to exceed 150 µmhos/cm as a 90th percentile over a 10-year running average.
12. **Suspended Sediments.** The suspended sediment load and suspended sediment discharge rate of surface waters to be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
13. **Settleable Substances.** Substances to be present in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.
14. **Suspended Material.** Suspended material to be present in concentrations that cause nuisance or adversely affect beneficial uses.
15. **Taste and Odors.** Taste- or odor-producing substances to be present in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.
16. **Temperature.** The natural temperature to be increased by more than 5° Fahrenheit. Compliance to be determined based on the difference in temperature at:
    a. Monitoring Locations RSW-001 and RSW-002, if discharging to Discharge Points 001 or 003,
    b. Monitoring Locations RSW-003 and RSW-004, if discharging to Discharge Point 004.
17. **Toxicity.**
    a. 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

Release of waste constituents from any storage, treatment, or disposal component associated with the facility, in combination with other sources, shall not cause the underlying groundwater to contain waste constituents greater than background quality or water quality objectives, whichever is greater.

VI. PROVISIONS

A. Standard Provisions

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

      The causes for modification include:

      i. <u>New regulations.</u> 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. <u>Land application plans.</u> When required by a permit condition to incorporate a land application plan for beneficial reuse of sewage sludge, to revise an existing land application plan, or to add a land application plan.

iii. Change in sludge use or disposal practice. Under 40 CFR section 122.62(a)(1), a change in the Discharger's sludge use or disposal practice is a cause for modification of the permit. It is cause for revocation and reissuance if the Discharger requests or agrees.

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

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

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

d. This Order shall be modified, or alternately revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the CWA, if the effluent standard or limitation so issued or approved:

i. Contains different conditions or is otherwise more stringent than any effluent limitation in the Order; or

ii. Controls any pollutant limited in the Order.

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

e. The provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.

f. The Discharger shall take all reasonable steps to minimize any adverse effects to waters of the State or users of those waters resulting from any discharge or sludge use or disposal in violation of this Order. Reasonable steps shall include such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge or sludge use or disposal.

g. The Discharger shall ensure compliance with any existing or future pretreatment standard promulgated by U.S. EPA under section 307 of the CWA, or amendment thereto, for any discharge to the municipal system.

h. A copy of this Order shall be maintained at the discharge facility and be available at all times to operating personnel. Key operating personnel shall be familiar with its content.

i. Safeguard to electric power failure:

i. The Discharger shall provide safeguards to assure that, should there be reduction, loss, or failure of electric power, the discharge shall comply with the terms and conditions of this Order.

ii. Upon written request by the Central Valley Water Board, the Discharger shall submit a written description of safeguards. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means. A description of the safeguards provided shall include an analysis of the frequency, duration, and impact of power failures experienced over the past 5 years on effluent quality and on the capability of the Discharger to comply with the terms and conditions of the Order. The adequacy of the safeguards is subject to the approval of the Central Valley Water Board.

iii. Should the treatment works not include safeguards against reduction, loss, or failure of electric power, or should the Central Valley Water Board not approve the existing safeguards, the Discharger shall, within 90 days of having been advised in writing by the Central Valley Water Board that the existing safeguards are inadequate, provide to the Central Valley Water Board and U.S. EPA a schedule of compliance for providing safeguards such that in the event of reduction, loss, or failure of electric power, the Discharger shall comply with the terms and conditions of this Order. The schedule of compliance shall, upon approval of the Central Valley Water Board, become a condition of this Order.

j. The Discharger, upon written request of the Central Valley Water Board, shall file with the Board a technical report on its preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. This report may be combined with that required under the Central Valley Water Board Standard Provision contained in section VI.A.2.i of this Order.

The technical report shall:

i. Identify the possible sources of spills, leaks, untreated waste by-pass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.

ii. Evaluate the effectiveness of present facilities and procedures and state when they became operational.

iii. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

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

k. A publicly owned treatment works whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and

treatment capacities of its treatment and disposal facilities. The projections shall be made in January, based on the last 3 years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in 4 years, the Discharger shall notify the Central Valley Water Board by 31 January. A copy of the notification shall be sent to appropriate local elected officials, local permitting agencies and the press. Within 120 days of the notification, the Discharger shall submit a technical report showing how it will prevent flow volumes from exceeding capacity or how it will increase capacity to handle the larger flows. The Central Valley Water Board may extend the time for submitting the report.

l. The Discharger shall submit technical reports as directed by the Executive Officer. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code, sections 6735, 7835, and 7835.1. To demonstrate compliance with Title 16, CCR, sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.

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

n. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.

o. This Order may be reopened to transfer ownership of control of this Order. The succeeding owner or operator must apply in writing requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Central Valley Water Board, and a statement. The statement shall comply with the signatory and certification requirements in the federal Standard Provisions (Attachment D, section V.B) and state that the new owner or operator assumes full responsibility for compliance with this Order.

p. If the Discharger submits a timely and complete Report of Waste Discharge for permit reissuance, this permit shall continue in force and effect until the permit is reissued or the Regional Water Board rescinds the permit.

q. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this facility,

may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

r. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, 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. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.

c. **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.

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. 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. **Mixing Zone Verification Study Results.** The Discharger plans to discharge from Discharge Point 004 when the diffuser to replace the diffuser at Discharge Point 001 is installed and operational. This Order prescribes effluent monitoring and requires effluent monitoring, for the same parameters required at Discharge Points 001, 002, and 003, at Discharge Point 004. This Order may be reopened, at the request of the Discharger, when a Mixing Zone Verification Study has been performed at Discharge Point 004, after the new, relocated diffuser is fully operational.

f. **Ammonia Assessment.** Section VI.C.2.e requires the Discharger to complete an assessment of the Facility's ammonia discharge. If information provided by the Discharger demonstrates that less stringent ammonia effluent limitations are protective of beneficial uses, satisfy federal antibacksliding regulations, and comply with state and federal antidegradation requirements, this Order may be reopened to amend the ammonia effluent limitations.

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

a. **Hydrogeologic Assessment.** The Discharger shall complete a hydrogeologic investigation within the area affected and potentially affected by previous discharge to Discharge Point 002 (Disposal Ponds) using at minimum 10 years of groundwater data. The hydrogeologic investigation shall:

i. Describe the underlying geology, existing wells (active and otherwise) (including at minimum, construction year, reference elevation, depth, and screened interval), local well construction practices and standards, well restrictions, regional and site hydrogeology, Feather River conditions (including elevations), direction and gradient of groundwater flow (including elevations), and past and present designated land use of the surrounding area (ag, commercial, etc.).

ii. Evaluate the relation of Feather River elevation to groundwater well elevations, each Disposal Pond's hydraulic loading impact, compliance with this Order's groundwater limitations, all impacts of the wastewater discharge on groundwater water quality, if the discharge to the ponds are responsible for the nutrients in the groundwater, and compliance with the Basin Plan which requires that constituent concentrations in the groundwater not exceed either the Basin Plan's groundwater water quality objectives or background groundwater concentrations, whichever is greater.

(a) If constituent concentrations in any downgradient well are increased above background water quality, the technical report shall evaluate the discharge to the disposal ponds and minimizing the discharge's impact on groundwater quality.

(b) Where treatment system deficiencies are documented, the technical report shall provide recommendations for necessary modifications (e.g., Facility component upgrade and retrofit).

The Hydrogeologic Assessment shall be signed by a California certified hydrogeologist and submitted by the date in the Technical Reports table in Attachment E, Monitoring and Reporting Program (MRP), Table E-12.

b. **Low Dissolved Oxygen Assessment.** To further determine the effects of the ammonia discharged and potential low dissolving oxygen levels in the receiving water, the Central Valley Water Board is requiring a Low Dissolved Oxygen Assessment to be completed after the Discharger installs the proposed diffuser in its new location. The Low Dissolved Oxygen Assessment shall include, at a minimum, modeling of a dissolved oxygen sag curve possibly created by the discharge and a comparison of varied ammonia concentrations effect on the dissolved oxygen sag curve.

c. **Annual Discharge Point 003 Mixing Zone Verification Report.** The Discharger shall submit annual reports confirming that the mixing zone study provided as part of the Discharger's March 2023 Report of Waste Discharge remains applicable for Discharge Point 003 due to the potential for the Feather River geology to rapidly change in and around the mixing zone. The Discharge Point 003 Mixing Zone Verification Report shall be submitted annually to validate that the mixing zone and dilution credits allowed in this Order remain consistent with section 1.4.2.2 of the State Implementation Policy (SIP).

d. **Discharge Points 001 and 004 Mixing Zone Verification Study.** The Discharger shall conduct a mixing zone verification study to validate that the mixing zone and dilution credits allowed in this Order are consistent with section 1.4.2.2 of the SIP. The mixing zone verification study shall be submitted with the Report of Waste Discharge for Discharge Points 001 and/or 004 for discharges of more than 24 hours to the respective discharge point during the term of this Order.

e. **Ammonia Assessment.** This Order requires the Discharger to complete an assessment of the Facility's increased discharge of ammonia, total as nitrogen resulting in recent violations of the ammonia effluent limits established in 2007. The Ammonia Assessment shall evaluate, at minimum, the ammonia treatment at the Facility, factors affecting ammonia effluent concentrations at the Facility, and the Facility's compliance with the ammonia, total as nitrogen effluent limitations.

i. The evaluation of the ammonia treatment shall include, at a minimum:

(a) Detailed description of the pure oxygen treatment system at the Facility and a comparison of the pure oxygen treatment system's design and working/current ammonia treatment capabilities.

(b) The age and description of each treatment and dewatering/thickening process.

(c) Evaluation of the Mean Cell Residence Time (MCRT), which shall include:

(1) The design, past (start and end dates) and current MCRT, units in days.

(2) For each MCRT previously used, evaluation shall provide ammonia concentrations and a summary of any other treatment process affected by the change in MCRT.

(d) Forecasted changes to the concentration of the ammonia in the effluent.

ii. The evaluation of factors affecting ammonia effluent concentrations at the Facility shall include, at minimum:

(a) The current flows (units in MGD) and ammonia concentrations (units in mg/L) from the influent, each treatment process, and dewatering process. This shall include a process flow diagram illustrating the flows and concentrations.

(b) Forecasted changes to the concentration of the ammonia in the collection system/influent.

(c) An evaluation of sources in the collection system that contribute to the Facility's ability to treat ammonia shall include, at minimum:

(1) The current sources/measures to the collection system that contribute to the Facility's ability to treat ammonia and how these sources/measures affect the ability to treat ammonia. This shall include, but are not limited to, users who's discharge severely impact normal operations at the Facility, seasonal users of the collection system and water conservation efforts.

(2) A forecast of potential future sources or measures that may impact the ability to treat for ammonia, these may include, but are not limited to, potential new development, population growth, new industrial discharges to the collection system, upcoming efforts or measures that can potentially impact the collection system.

iii. The evaluation of the current and future compliance with the current ammonia effluent limitation shall include, at minimum:

(a) An analysis of the Facility's past and current ability to regularly comply with the current average monthly effluent limitations of 31 mg/L, without the use of additional dilution, at the current and future outfalls.

(b) A forecast of the Facility's future ability to regularly comply with the current average monthly effluent limitations of 31 mg/L, without the use of additional dilution, at the current and future outfalls and rationale for potential forecast changes in compliance.

If necessary, the Discharger may request updated ammonia, total as nitrogen effluent limitations. If the Discharger requests updated ammonia effluent limitations, the request shall include, at minimum, rationale for the need for

updated ammonia effluent limitations and the demonstration that less stringent ammonia effluent limitations are protective of beneficial uses, satisfy federal antibacksliding regulations, the mixing zone allows fish passage, and comply with state and federal antidegradation requirements.

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

   a. **Salinity Evaluation and Minimization Plan (SEMP).** The Discharger shall continue to implement a SEMP to identify and address sources of salinity discharged from the Facility. The Discharger has been paying towards the CV-SALTS Prioritization and Optimization (P&O) Study, which is seen as active participation, but has not submitted a Notice of Intent to comply with the Salt Control Program. Therefore, the Discharger has selected the Alternative Permitting Approach and shall accordingly participate in the CV-SALTS P&O Study. An evaluation of the effectiveness of the SEMP shall be submitted with the ROWD. The evaluation shall include, at minimum, the calendar annual average concentrations of effluent electrical conductivity during the term of the Order. If the average electrical conductivity concentration for any calendar year exceeds a performance-based **trigger of 870 µmhos/cm** at EFF-001, the Discharger shall evaluate possible sources of salinity contributing to the exceedance of the trigger and update the SEMP to include a plan of action to control salinity.

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

   a. **Treatment Pond Operating Requirements.** With the exception of the disposal ponds located within the Feather River levees, the treatment, storage, and disposal facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

   b. **Diffuser Maintenance Requirements.** To ensure the proper operation of the diffuser, after 1 January of each year, and as soon as the Feather River flow is 1 foot above the diffuser or less at its deepest location in the Feather River, the Discharger shall assess the Discharge Point 001 effluent multi-port diffuser located in the Feather River with regards to the operational condition of the diffuser. Maintenance measures must be implemented to clear all 40 ports from blockage on an annual basis. If the assessment shows that the diffuser is not achieving the operational condition, the Discharger shall immediately implement corrective actions to ensure that the operational condition is achieved by no later than 1 July of each year.

      The discharger shall submit technical reports as specified in the Technical Reports Table describing the results of the diffuser assessment and any maintenance or corrective actions that have taken place to assure proper operation. If, at any time during the term of this Order, the Central Valley Water Board determines that the operational condition of the diffuser will significantly affect the mixing zone conditions in the Feather River in the vicinity of the diffuser, the Central Valley Water Board may reopen the Order to incorporate changes to applicable effluent limitations that reflect the changes in diffuser operation.

c. **Pond Operating Requirements**

i. The average dry weather discharge flow to the disposal ponds, measured at EFF-001, shall not exceed 10.5 MGD.

ii. The discharge of waste classified as “hazardous” as defined in section 2521(a) of Title 23, CCR to the disposal ponds is prohibited.

iii. Objectionable odors originating at the Facility shall not be perceivable beyond the limits of the wastewater treatment and disposal areas.

(a) As a means of discerning compliance with Disposal Pond Operating Requirement VI.C.4.c.iii, the dissolved oxygen content in the upper zone (1 foot) of wastewater in ponds shall not be less than 1.0 mg/L for three consecutive sampling events.

iv. Public contact with wastewater shall be precluded through such means as fences, signs, and other acceptable alternatives.

v. Disposal and storm water detention 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.

vi. During non-flood conditions, pond freeboard shall never be less than 2 feet (measured vertically to the lowest, non-spillway point of overflow from the perimeter berm) of the pond system.

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

(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.5 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 the local limits under 40 C.F.R. section 403.5(c)(1).

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 consistent with Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste, as set forth in Title 27, CCR, division 2, subdivision 1, section 20005, et seq. Removal for further treatment, storage, disposal, or reuse at sites (e.g., landfill, composting sites, soil amendment sites) that are operated in accordance with valid waste discharge requirements issued by a Regional Water Board will satisfy these specifications. Sludge and solid waste shall be removed from screens, sumps, ponds, clarifiers, etc. as needed to ensure optimal plant performance. The treatment of sludge generated at the Facility shall be confined to the Facility property and conducted in a manner that precludes infiltration of waste constituents into soils in a mass or concentration that will violate groundwater limitations in section V.B. of this Order. In addition, the storage of residual sludge, solid waste, and biosolids on Facility property shall be temporary and controlled, and contained in a manner that minimizes leachate

formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate groundwater limitations included in section V.B. of this Order.

ii. The use, disposal, storage, and transportation of biosolids shall comply with existing federal and state laws and regulations, including permitting requirements and technical standards included in 40 C.F.R. Part 503. If the State Water Board and the Central Valley Water Board are given the authority to implement regulations contained in 40 C.F.R. Part 503, this Order may be reopened to incorporate appropriate time schedules and technical standards. The Discharger must comply with the standards and time schedules contained in 40 C.F.R. Part 503 whether or not they have been incorporated into this Order.

iii. The Discharger shall comply with section IX.A. Biosolids of the Monitoring and Reporting Program, Attachment E.

iv. The Discharger shall implement onsite sludge/biosolids treatment, processing, and storage for the Facility as described in the Fact Sheet (Attachment F, section II.A). This Order may be reopened to address any proposed change in the onsite treatment, processing, or storage of sludge/biosolids.

6. Other Special Provisions – Not Applicable

7. Compliance Schedules

a. **Compliance Schedules for Final Effluent Limitations for Chronic Whole Effluent Toxicity (WET).** This Order requires compliance with the final effluent limitations for chronic WET specified in section IV.A.1.f of this Order by **1 January 2030**. The Discharger submitted a Chronic Toxicity Infeasibility Analysis in January 2024 (2024 Infeasibility Analysis) and a revision to 2024 Infeasibility Analysis in May 2024. Per the 2024 Infeasibility Analysis, the Discharger shall coordinate with laboratories to implement quality assurance guidance, conduct split sampling, and submit the Tasks in Table 5 below by the compliance dates to ensure compliance with the final effluent limitation for chronic toxicity.

Per the Workplan in Task i of Table 5 below, the Discharger shall coordinate with laboratories to implement quality assurance guidance per the "*Ceriodaphnia dubia* Quality Assurance Guidance Recommendations" (Southern California Coastal Water Research Project (SCCWRP), September 2023), from **1 December 2024 through 30 November 2027**.

The Discharger shall conduct **split sampling from 1 December 2025 through 30 November 2026** per the Workplan in Task i of Table 5 below and shall request the performance metrics per Appendix E of the "*Ceriodaphnia dubia* Quality Assurance Guidance Recommendations" for each participating laboratory. The Discharger shall monitor the laboratory's long-term performance and evaluate how they meet expectations. The long-term laboratory performance shall provide a measure of the expected consistency of correct identifications of toxicity. In effect, the Discharger will double the

chronic toxicity testing for two years, substantially increasing the effort to identify toxicity.

Per the 2024 Infeasibility Analysis, the Discharger shall also continue to routinely test the effluent for chronic toxicity, assess toxicity test results and TRE investigations and implementing TRE findings as necessary.

Table 5. Compliance Schedule Tasks and Due Dates

Task Number	Task	Compliance Date
i	**Submit Workplan for Split Sampling and Coordination with Laboratories**. The Discharger shall develop a workplan for coordinating split samples with several accredited laboratories. The objective of split sampling is to assess laboratory performance and establish if potential toxicity determinations are correct and not due to laboratory performance, i.e. operating below Expert Panel expectations.	1 October 2025
ii	**Submit Laboratory Assessment Final Report.** The Discharger shall compile the information gained through implementation of the enhanced sampling and collection of performance metrics into a study final report.	1 January 2028
iii	**Submit Implementation Workplan.** The Discharger shall provide a workplan and schedule to implement the recommendations of the Laboratory Assessment Final Report. The report will contain the recommended course of action, potentially including switching laboratories, conducting outreach/education for residential source control, modification to the local limits/pretreatment program, and/or optimization or modification of the treatment processes.	1 March 2028
iv	**Compliance with the Final Chronic Toxicity Effluent Limitations.** The Discharger shall submit a report demonstrating if compliance with the final chronic toxicity effluent limitations will be achieved by **1 January 2030**. If compliance is not expected to be met by **1 January 2030**, an update to the Implementation Workplan from Task iii shall be submitted.	1 October 2029
v	**Submit Annual Progress Reports.** Shall provide progress updates for the tasks i-iii in this Table as well as progress updates to the split sampling and coordination with laboratories for implementing quality assurance guidance.	1 February of every year

VII. COMPLIANCE DETERMINATION

A. BOD_5 and TSS Effluent Limitations (Sections IV.A.1.a and IV.A.1.c). Compliance with the final effluent limitations for BOD_5 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_5 and TSS in effluent samples collected over a monthly period as a percentage of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period.

B. Average Dry Weather Flow Prohibition (Section III.E). The average dry weather discharge flow represents the daily average flow when groundwater is at or near normal and runoff is not occurring. Compliance with the average dry weather flow discharge prohibition will be determined annually based on the average daily flow over three consecutive dry weather months (e.g., July, August, and September).

C. Total Coliform Organisms Effluent Limitations (Section IV.A.1.i). For each day that an effluent sample is collected and analyzed for total coliform organisms, the 7-day median shall be determined by calculating the median concentration of total coliform bacteria in the effluent utilizing the bacteriological results of the last 7 days. For example, if a sample is collected on a Wednesday, the result from that sampling event and all results from the previous 6 days (i.e., Tuesday, Monday, Sunday, Saturday, Friday, and Thursday) are used to calculate the 7-day median. If the 7-day median of total coliform organisms exceeds a most probable number (MPN) of 23 per 100 milliliters, the Discharger will be considered out of compliance.

D. Total Residual Chlorine Effluent Limitations (Discharge Points 001, 003, and 004) (Section IV.A.1.h). Continuous monitoring analyzers for chlorine residual or for dechlorination agent residual in the effluent are appropriate methods for compliance determination. A positive residual dechlorination agent in the effluent indicates that chlorine is not present in the discharge, which demonstrates compliance with the effluent limitations. This type of monitoring can also be used to prove that some chlorine residual exceedances are false positives. Continuous monitoring data showing either a positive dechlorination agent residual or a chlorine residual at or below the prescribed limit are sufficient to show compliance with the total residual chlorine effluent limitations, as long as the instruments are maintained and calibrated in accordance with the manufacturer's recommendations.

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

E. Effluent Limitations. Compliance with effluent limitations 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 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 AMEL, MDEL, AWEL and more than one sample result is available in a month or week, respectively, 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, the discharger shall **not** be deemed out of compliance.

F. Dissolved Oxygen Receiving Water Limitation (Section V.A.5.a-c). Weekly Dissolved Oxygen 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. Weekly Dissolved Oxygen receiving water monitoring data, measured at monitoring locations RSW-001 and RSW-002 or RSW-003 and RSW-004, will be used to determine compliance with part “c” of the dissolved oxygen receiving water limitation to ensure the discharge does not cause the dissolved oxygen concentrations in the 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”.

G. Whole Effluent Toxicity Effluent Limitations. The discharge is subject to determination of “Pass” or “Fail” from acute (Effective 1 January 2025) and chronic (Effective 1 January 2030) whole effluent toxicity tests using the Test of Significant Toxicity (TST) statistical t-test approach described in *National Pollutant Discharge*

Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, 2010), Appendix A, Figure A-1 and Table A-1 (Chronic Freshwater and East Coast Methods) and Appendix B, Table B-1.

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

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

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

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

> ***Percent Effect*** = [(Mean control response – Mean discharge IWC response) / Mean control response] x 100.

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

1. **Acute and Chronic Whole Effluent Toxicity MDEL (Sections IV.A.1.d and IV.A.1.f).** If the result of a routine acute or chronic whole effluent toxicity test, using the TST statistical approach, is a "Fail" at the IWC for the survival endpoint measured in the test and the percent effect for the survival endpoint is greater than or equal to 50 percent, the Discharger will be deemed out of compliance with the MDEL.

2. **Acute and Chronic Whole Effluent Toxicity MMEL (Sections IV.A.1.e and IV.A.1.g).** If the result of a routine acute or chronic whole effluent toxicity test, using the TST statistical approach, is a "Fail" at the IWC, the Discharger shall conduct a maximum of two additional MMEL compliance tests during the toxicity calendar month. If one of the additional MMEL compliance test results in a "Fail" at the IWC, the Discharger will be deemed out of compliance with the MMEL.

In determining compliance with the interim chronic whole effluent toxicity effluent limitation in section IV.A.2.a (**effective immediately through 31 December 2029**), where the median chronic toxicity units exceed **50 TUc** (as 100/NOEC) for any endpoint, the Discharger will be deemed out of compliance with the interim chronic toxicity effluent limitation if the median chronic toxicity units for any endpoint also exceed a reporting level of 50 TUc (as 100/NOEC) **AND** the percent effect at 2 percent effluent for the same endpoint also exceeds 25 percent. The percent effect used to evaluate compliance with the interim 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, as described above. 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 interim chronic toxicity effluent limitation.

H. Total Mercury Mass Loading Effluent Limitations (Section IV.A.1.j). The procedures for calculating mass loadings are as follows:

1. The total pollutant mass load for each individual calendar month shall be determined using an average of all concentration data collected that month and the corresponding total monthly flow. All effluent monitoring data collected under the monitoring and reporting program, pretreatment program, and any special studies shall be used for these calculations. The total annual mass loading shall be the sum of the individual calendar months.
2. In calculating compliance, the Discharger shall count all non-detect measures at one-half of the detection level. If compliance with the effluent limitation is not attained due to the non-detect contribution, the Discharger shall improve and implement available analytical capabilities and compliance shall be evaluated with consideration of the detection limits.

A

ATTACHMENT A – DEFINITIONS

1Q10
The lowest one-day flow with an average reoccurrence frequency of once in ten years.

7Q10
The lowest average seven consecutive day flow with an average reoccurrence frequency of once in ten years.

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

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

Arithmetic Mean (μ)
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: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

Average Monthly Effluent Limitation (AMEL)
The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

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

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

Calendar Month
A period of time from of the first of a month to the last day of the month (e.g., from January 1 to January 31, from April 1 to April 30, or from December 1 to December 31).

Calendar Quarter
A period of time defined as three consecutive calendar months (e.g., from January 1 to March 31, from April 1 to June 30, or from October 1 to December 31).

Calendar Year
A period of time defined as twelve consecutive calendar months (e.g., from January 1 to December 31).

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

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

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

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

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

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

Detected, but Not Quantified (DNQ)
DNQ are those sample results less than the RL, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

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

Effluent Concentration Allowance (ECA)
ECA is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the

effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in U.S. EPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

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

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

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

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

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

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

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

Instream Waste Concentration (IWC)
The concentration of effluent in the receiving water after mixing as determined by the Central Valley Water Board. For purposes of aquatic toxicity testing, the IWC shall be determined as described in Section III.C.1. of the Statewide Toxicity Provisions. For assessing whether

receiving waters meet the numeric water quality objectives, the undiluted ambient water shall be used as the IWC in the Test of Significant Toxicity (TST) as indicated in Section III.B.3 of the Statewide Toxicity Provisions.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Standard Deviation (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.

Statewide Toxicity Provisions
Refers to the State Policy for Water Quality Control: Toxicity Provisions (as amended by the State Water Board on Oct. 5, 2021, or as subsequently amended).

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 Section IV.B.1.c of the Statewide Toxicity Provisions.

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

WET Maximum Daily Effluent Limitation (MDEL)
For the purposes of chronic and acute aquatic toxicity, an MDEL is an effluent limitation based on the outcome of the TST approach and the resulting percent effect at the IWC.

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

WET Maximum Daily Effluent Target (MDET)
For the purposes of chronic aquatic toxicity, an MDET is a target used to determine whether a Toxicity Reduction Evaluation (TRE) should be conducted. Not meeting the MDET is not a violation of an effluent limitation.

WET Median Monthly Effluent Target (MMET)
For the purposes of chronic aquatic toxicity, an MMET is a target based on a maximum of three independent toxicity tests used to determine whether a TRE should be conducted. Not meeting the MMET is not a violation of an effluent limitation.

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

WET MMET Tests
For the purposes of chronic aquatic toxicity, for dischargers not required to comply with numeric chronic toxicity effluent limitations, MMET Tests are a maximum of two tests that are used in addition to the routine monitoring test to determine whether a TRE should be conducted.

ATTACHMENT B – MAPS
Figure B-1: Location Map

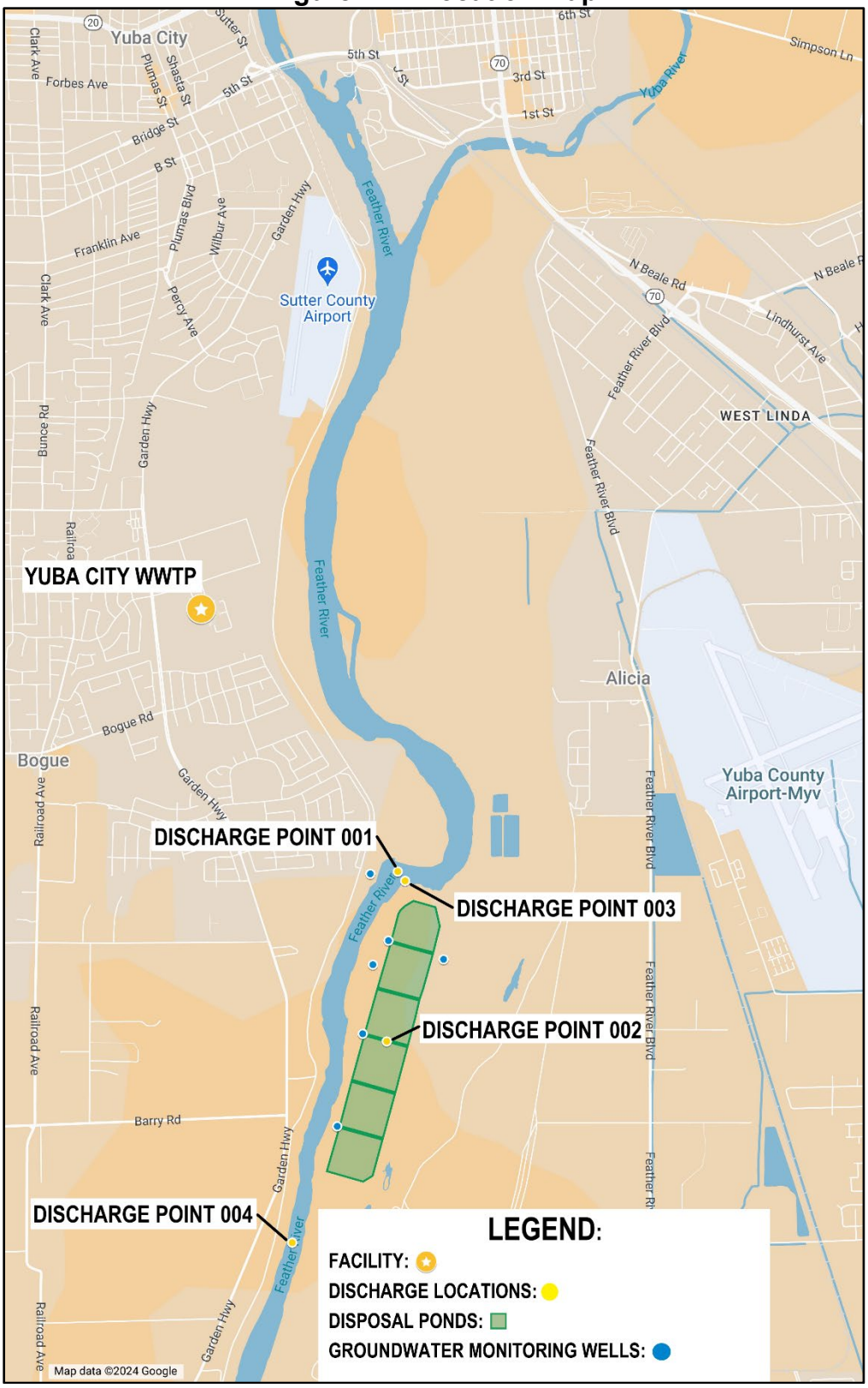
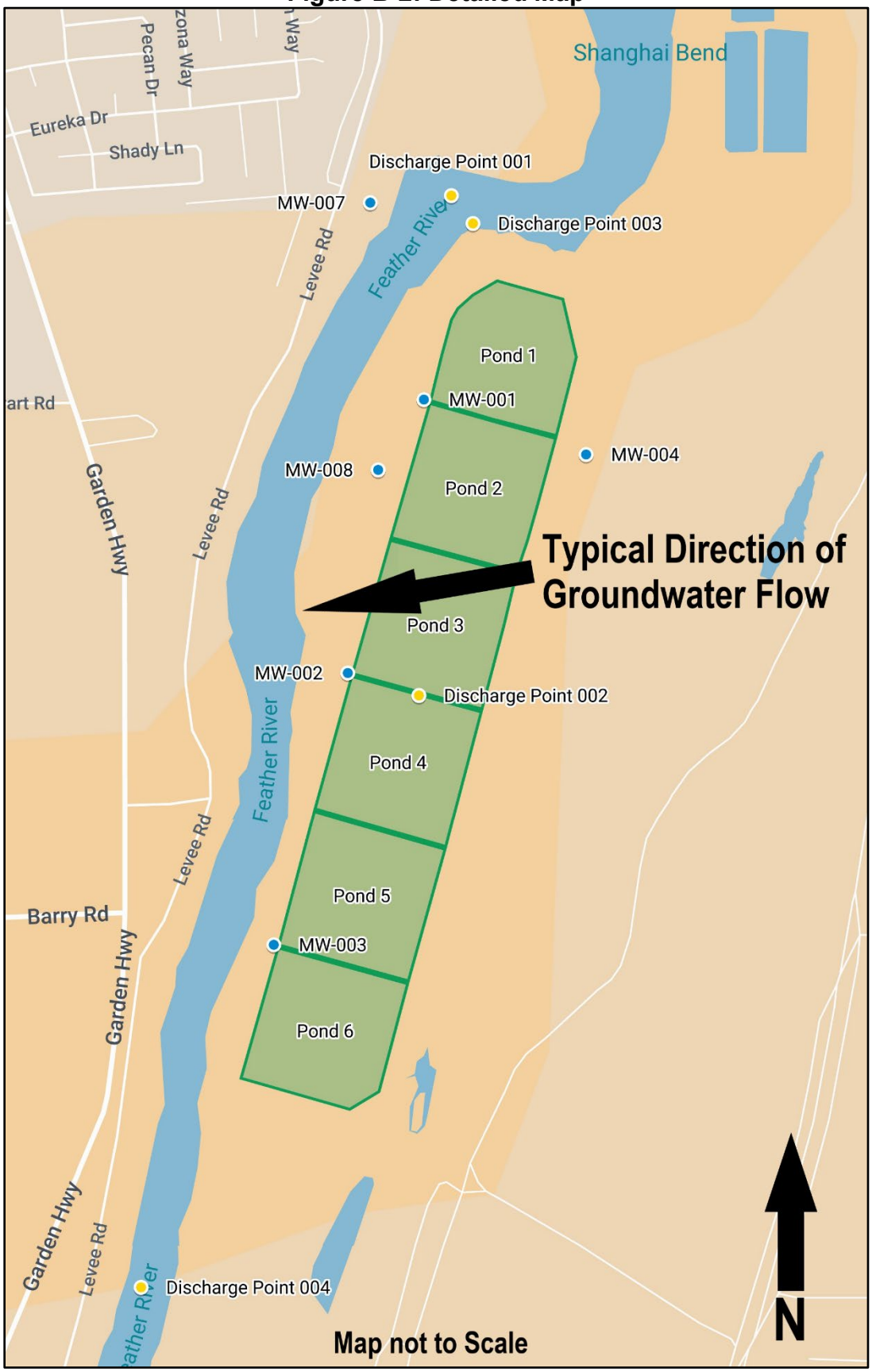
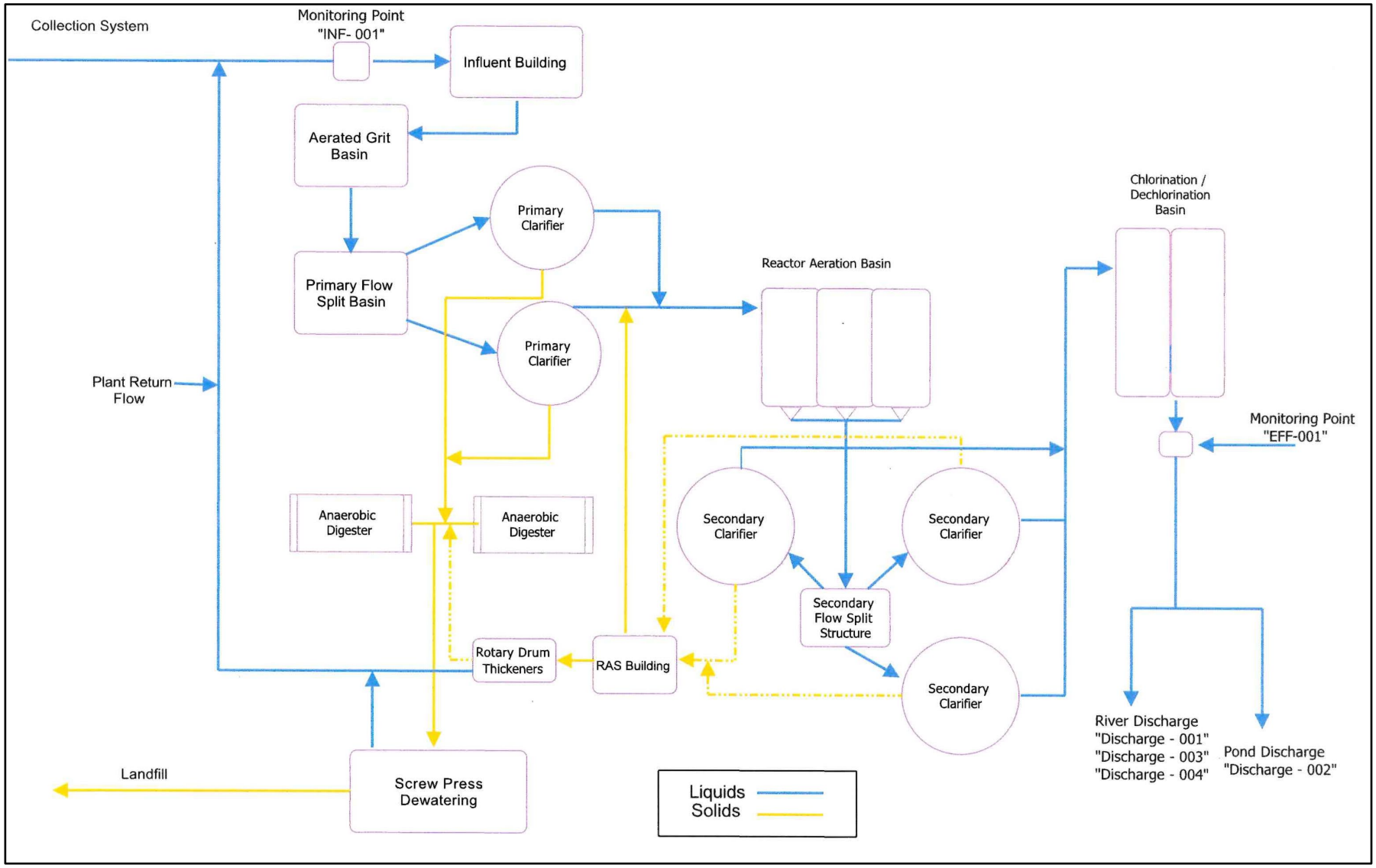


Figure B-2: Detailed Map



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

F. Inspection and Entry

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

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

G. Bypass

1. Definitions
   a. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. section 122.41(m)(1)(i).)
   b. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. section 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. section 122.41(m)(2).)
3. Prohibition of bypass. Bypass is prohibited, and the Central Valley Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. section 122.41(m)(4)(i)):
   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. section 122.41(m)(4)(i)(A));

b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. section 122.41(m)(4)(i)(B)); and

c. The Discharger submitted notice to the Central Valley Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. section 122.41(m)(4)(i)(C).)

4. The Central Valley Water Board may approve an anticipated bypass, after considering its adverse effects, if the Central Valley Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. section 122.41(m)(4)(ii).)

5. **Notice**

a. **Anticipated bypass.** If the Discharger knows in advance of the need for a bypass, it shall submit prior notice if possible, at least 10 days before the date of the bypass. The notice shall be sent to the Central Valley Water Board. As of 21 December 2023, all notices shall be submitted electronically to the initial recipient (State Water Board's California Integrated Water Quality System (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).)

H. Upset

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

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations

if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. section 122.41(n)(2).)

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. section 122.41(n)(3)):

   a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. section 122.41(n)(3)(i));

   b. The permitted facility was, at the time, being properly operated (40 C.F.R. section 122.41(n)(3)(ii));

   c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. section 122.41(n)(3)(iii)); and

   d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. section 122.41(n)(3)(iv).)

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. section 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

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

III. STANDARD PROVISIONS – MONITORING

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

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

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

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

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 C.F.R. part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Central Valley Water Board Executive Officer at any time. (40 C.F.R. section 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. section 122.41(j)(3)(i));

2. The individual(s) who performed the sampling or measurements (40 C.F.R. section 122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 C.F.R. section 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 C.F.R. section 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 C.F.R. section 122.41(j)(3)(v)); and
6. The results of such analyses. (40 C.F.R. section 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 C.F.R. section 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 C.F.R. section 122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. (40 C.F.R. section 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

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

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Central Valley Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, V.B.5, and V.B.6 below. (40 C.F.R. section 122.41(k).)
2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA). (40 C.F.R. section 122.22(a)(3).)
3. All reports required by this Order and other information requested by the Central Valley Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. section 122.22(b)(1));

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. section 122.22(b)(2)); and

c. The written authorization is submitted to the Central Valley Water Board and State Water Board. (40 C.F.R. section 122.22(b)(3).)

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

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

   "*I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*" (40 C.F.R. section 122.22(d).)

6. Any person providing the electronic signature for such documents described in Standard Provision – V.B.1, V.B.2, or V.B.3 that are submitted electronically shall meet all relevant requirements of Standard Provisions – Reporting V.B, and shall ensure that all of the relevant requirements of 40 C.F.R. part 3 (Cross-Media Electronic Reporting) and 40 C.F.R. part 127 (NPDES Electronic Reporting Requirements) are met for that submission. (40 C.F.R section 122.22(e).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. section 122.41(l)(4).)

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Central Valley Water Board or State Water Board for reporting the results of monitoring, sludge use, or disposal

practices. As of 21 December 2016, all reports and forms must be submitted electronically to the initial recipient, defined in Standard Provisions – Reporting V.J, and comply with 40 C.F.R. part 3, section 122.22, and 40 C.F.R. part 127. (40 C.F.R. section 122.41(l)(4)(i).)

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Central Valley Water Board. (40 C.F.R. section 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. section 122.41(l)(4)(iii).)

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

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

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

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

sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. section 122.41(l)(6)(i).).

F. Planned Changes

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

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

G. Anticipated Noncompliance

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

H. Other Noncompliance

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

I. Other Information

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

J. Initial Recipient for Electronic Reporting Data

The owner, operator, or the duly authorized representative is required to electronically submit NPDES information specified in appendix A to 40 C.F.R. part

127 to the appropriate initial recipient, as determined by U.S. EPA, and as defined in 40 C.F.R. section 127.2(b). U.S. EPA will identify and publish the list of initial recipients on its website and in the Federal Register, by state and by NPDES data group [see 40 C.F.R. section 127.2(c)]. U.S. EPA will update and maintain this listing. (40 C.F.R. section 122.41(l)(9).)

VI. STANDARD PROVISIONS – ENFORCEMENT

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

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly Owned Treatment Works (POTWs)

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

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

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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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 authorize the Central Valley Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. This MRP establishes monitoring and reporting requirements that implement federal and California requirements.

I. GENERAL MONITORING PROVISIONS

A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and the approval of the Central Valley Water Board.

B. Final effluent samples shall be taken downstream of the last addition of wastes to the treatment or discharge works where a representative sample may be obtained prior to mixing with the receiving waters. Samples shall be collected at such a point and in such a manner to ensure a representative sample of the discharge.

C. Chemical, bacteriological, and bioassay analyses of any material required by this Order shall be conducted by a laboratory accredited for such analyses by the State Water Resources Control Board (State Water Board), Division of Drinking Water (DDW; formerly the Department of Public Health), in accordance with the provision of Water Code section 13176. Laboratories that perform sample analyses must be identified in all monitoring reports submitted to the Central Valley Water Board. In the event an accredited laboratory is not available to the Discharger for any onsite field measurements such as pH, dissolved oxygen (DO), turbidity, temperature, and residual chlorine, such analyses performed by a non-accredited laboratory will be accepted provided a Quality Assurance-Quality Control Program is instituted by the laboratory. A manual containing the steps followed in this program for any onsite field measurements such as pH, DO, turbidity, temperature, and residual chlorine must be kept onsite in the treatment facility laboratory and shall be available for inspection by Central Valley Water Board staff. The Discharger must demonstrate sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform these field measurements. The Quality Assurance-Quality Control Program must conform to U.S. EPA guidelines or to procedures approved by the Central Valley Water Board.

D. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary, at least yearly, to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.

E. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this Monitoring and Reporting Program.

F. Laboratory analytical methods shall be sufficiently sensitive in accordance with the Sufficiently Sensitive Methods Rule (SSM Rule) specified under 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv). A U.S. EPA-approved analytical method is sufficiently sensitive for a pollutant/parameter where:

1. The method minimum level (ML) is at or below the applicable water quality objective for the receiving water, or;
2. The method ML is above the applicable water quality objective for the receiving water but the amount of the pollutant/parameter in the discharge is high enough that the method detects and quantifies the level of the pollutant/parameter, or;
3. the method ML is above the applicable water quality objective for the receiving water, but the ML is the lowest of the 40 C.F.R. 136 U.S. EPA-approved analytical methods for the pollutant/parameter.

G. The Discharger shall 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.

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Station Locations

Discharge Point	Monitoring Location	Monitoring Location Description
--	INF-001	A location where a representative sample of the influent into the Facility can be collected prior to entering the treatment process.
001, 002, 003, and 004	EFF-001	Downstream from the last connection through which effluent can be piped to the valve directing flow to either Discharge Point 001 (current Feather River diffuser), Discharge Point 002 (ponds within the Feather River floodplain), Discharge Point 003 (Feather River side-bank discharge), or Discharge Point 004 (future Feather River diffuser) before discharge to the Feather River. Discharge Point 001: Latitude 39° 05’ 29”, Longitude 121° 35’ 53” Discharge Point 002: Latitude 39° 04’ 53”, Longitude 121° 35’ 56” Discharge Point 003: Latitude 39° 05’ 27”, Longitude 121° 35’ 51” Discharge Point 004: Latitude 39° 04' 12", Longitude 121° 36' 21"

Discharge Point	Monitoring Location	Monitoring Location Description
--	LND-001	Monitoring within Disposal Pond 1
--	LND-002	Monitoring within Disposal Pond 2
--	LND-003	Monitoring within Disposal Pond 3
--	LND-004	Monitoring within Disposal Pond 4
--	LND-005	Monitoring within Disposal Pond 5
--	LND-006	Monitoring within Disposal Pond 6
--	RSW-001	Approximately 500 feet upstream of Discharge Point 001 and Discharge Point 003, in the middle of the Feather River, upstream of the disposal ponds.
--	RSW-002	Approximately 1,200 feet downstream of Discharge Point 001 and Discharge Point 003, in the middle of the Feather River.
--	RSW-003	Approximately 500 feet upstream of the diffuser outfall at Discharge Point 004, in the middle of the Feather River.
--	RSW-004	Approximately 1,200 feet downstream of the diffuser outfall at Discharge Point 004, in the middle of the Feather River.
--	GW-001	Groundwater monitoring well (identified as MW-01 in the Discharger's Hydrogeologic Assessment Workplan). Latitude 39° 05' 14", Longitude 121° 35' 56"
--	GW-002	Groundwater monitoring well (identified as MW-02 in the Discharger's Hydrogeologic Assessment Workplan). Latitude 39° 04' 55", Longitude 121° 36' 03"
--	GW-003	Groundwater monitoring well (identified as MW-03 in the Discharger's Hydrogeologic Assessment Workplan). Latitude 39° 04' 35", Longitude 121° 36' 10"
--	GW-004	Groundwater monitoring well (identified as MW-04 in the Discharger's Hydrogeologic Assessment Workplan). Latitude 39° 5' 10", Longitude 121° 35' 40"
--	GW-007	Groundwater monitoring well (identified as MW-07 in the Discharger's Hydrogeologic Assessment Workplan). Latitude 39° 05' 29", Longitude 121° 36' 01"
--	GW-008	Groundwater monitoring well (identified as MW-08 in the Discharger's Hydrogeologic Assessment Workplan). Latitude 39° 05' 09", Longitude 121° 35' 60"
--	BIO-001	A location where a representative sample of the residual sludge or biosolids can be obtained.

Table E-1 Note:

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

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

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

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	Million Gallons Per Day (MGD)	Meter	Continuous
Biochemical Oxygen Demand, 5-day @ 20°Celcius (BOD_5)	mg/L	24-hour Composite	3/Week
Total Suspended Solids (TSS)	mg/L	24-hour Composite	3/Week
pH	Standard Units	Grab	1/Day
Ammonia Nitrogen, Total (as Nitrogen)	mg/L	24-Hour Composite	1/Week
Electrical Conductivity @ 25°C (Electrical Conductivity)	µmhos/cm	Grab	1/Quarter
Phosphorus (Total as P)	mg/L	24-Hour Composite	1/Month

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

   a. **Applicable to all parameters.** Parameters shall be analyzed using the analytical methods described in 40 CFR part 136; or by methods approved by the Central Valley Water Board or the State Water Board. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 CFR part 136 allowed sample type.

   b. **Grab Samples.** All grab samples shall not be collected at the same time each day to get a complete representation of variations in the influent.

   c. **24-Hour Composite Samples.** All composite samples shall be collected from a 24-hour flow proportional composite.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The EFF-001 location is the same monitoring location for Discharge Points 001, 002, 003, and 004.
2. When discharging at Discharge Points 001, 002, 003, or 004 the Discharger shall monitor treated wastewater at Monitoring Location EFF-001, as follows in accordance with Table E-3 and the testing requirements described in section IV.A.3 below.

Table E-3. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Discharge Location	Discharge Point 001, 002, 003, or 004 (see table note below)	Observation	1/Day
Average Depth of Water Over Diffuser at Discharge Point 001	Feet	Measure	1/Week
Flow	Million Gallons Per Day (MGD)	Meter	Continuous
BOD_5	mg/L	24-hour Composite	3/Week
BOD_5	% removal	Calculate	1/Month
TSS	mg/L	24-hour Composite	3/Week
TSS	% removal	Calculate	1/Month
pH	Standard Units	Grab	1/Day
Copper, total	µg/L	24-Hour Composite	1/Month
Dichlorobromomethane	µg/L	Grab	1/Month
Mercury, total	µg/L	Grab	1/Month
Ammonia, Total (as Nitrogen)	mg/L	24-Hour Composite	2/Week
Chlorine, Total Residual	mg/L	Meter	Continuous
Chlorpyrifos	µg/L	24-Hour Composite	1/Year
Diazinon	µg/L	24-Hour Composite	1/Year
Dissolved Organic Carbon	mg/L	Grab	1/Quarter
Dissolved Oxygen	mg/L	Grab	3/Week
Electrical Conductivity	µmhos/cm	Grab	1/Month
Hardness, Total (as CaCO3)	mg/L	Grab	1/Month
Nitrate, Total (as Nitrogen)	mg/L	Grab	1/Month
Nitrite, Total (as Nitrogen)	mg/L	Grab	1/Month
Nitrate Plus Nitrite, Total (as Nitrogen)	mg/L	Calculate	1/Month
Phosphorus, Total (as P)	mg/L	24-Hour Composite	1/Month
Settleable Solids	ml/L	Grab	5/Week
Dechlorination Agent	mg/L	Grab	Continuous
Temperature	°F	Grab	2/Week
Total Coliform Organisms	MPN/100mL	Grab	3/Week

Parameter	Units	Sample Type	Minimum Sampling Frequency
Total Organic Carbon	mg/L	Grab	1/Month
Total Cyanide	µg/L	Grab	1/Month
Bis(2-ethylhexyl) phthalate	µg/L	Grab	1/Month

3. **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. **Discharge Location** in addition to daily reporting of discharge point, the Discharger shall report if the discharge point has been switched and the time of day when a discharge point switch is completed.

   c. **Average Depth of Water Over Diffuser at Discharge Point 001.** Only measured when directing effluent to Discharge Point 001.

   d. **24-hour composite samples** shall be collected from a 24-hour flow proportional composite.

   e. **Handheld Field Meter.** A handheld field meter may be used for **temperature, dissolved oxygen, electrical conductivity,** and **pH**, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

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

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

   h. **Total Residual Chlorine (For discharges to Discharge Points 001, 003, and 004).** Must be monitored using an analytical method that is sufficiently sensitive to measure at the permitted level of 0.01 mg/L.

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

   j. **Total Mercury.** Unfiltered total mercury samples shall be taken using **clean hands/dirty hands procedures**, as described in U.S. EPA method 1669: Sampling Ambient Water for Trace Metals at U.S. EPA Water Quality Criteria Levels, for collection of equipment blanks (section 9.4.4.2). The analysis of total mercury shall be by U.S. EPA method 1630 and1631 (Revision E), respectively, with a **reporting limit of 0.5 ng/L for total mercury.**

k. **Total Coliform Organisms.** When discharging to Discharge Point 002, the minimum sampling frequency shall be once per week. Samples for total coliform organisms may be collected at any point following disinfection.

l. **Priority Pollutants.** For all priority pollutant constituents listed in Table E-3 (Bis(2-ethylhexyl) phthalate, Persistent Chlorinated Hydrocarbon Pesticides and Priority Pollutants and Other Constituents of Concern) the 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(e)(3)and 122.44(i)(1)(iv).

m. **Bis (2-ethylhexl) phthalate.** In order to verify if bis(2-ethylhexyl) phthalate is truly present in the effluent discharge, the Discharger shall take steps to assure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected contaminant.

n. **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.

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

p. **Dechlorination Agent**. If chorine disinfection is utilized at the Facility, the chemical used to dechlorinate the effluent (e.g., sodium bisulfate) shall be monitored only when discharging to Discharge Points 001, 003, and 004.

q. **Settleable Solids**. Monitoring only required during effluent discharge to Discharge Points 001, 003, or 004.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Toxicity Calendar Month, Quarter and Year. (Effective 1 January 2025 for Acute Toxicity and Effective 1 January 2030 for Chronic Toxicity).

1. **Toxicity Calendar Month.** For acute toxicity, the toxicity calendar month begins from the initiation of the routine toxicity test (e.g., from January 1 to January 31, from June 15 to July 14, or from January 31 to February 27). For chronic toxicity, the toxicity calendar month **begins on 3rd of the month** (i.e., from 3 January to 2 February, from 3 February to 2 March, from 3 March to 2 April, etc.).

2. **Toxicity Calendar Quarter.** The toxicity calendar quarters **begin on 1 January, 1 April, 1 July, and 1 October** (i.e., from 1 January to 31 March, from 1 April to 30 June, from 1 July to 30 September, and 1 October to 31 December).

3. **Toxicity Calendar Year.** The toxicity calendar year **begins on 1 January** (1 January to 31 December), in years in which there are at least 15 days of discharge in at least one calendar quarter.

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

1. **Instream Waste Concentration (IWC) for Acute Toxicity.** The acute toxicity IWC is 8.3 percent effluent.
2. **Routine Monitoring Frequency.** The Discharger shall perform routine acute toxicity testing **once per toxicity calendar quarter** in quarters in which there are at least 15 days of discharge through Discharge Point 001, Discharge Point 003, and/or Discharge Point 004, concurrent with effluent ammonia sampling.
3. **Toxicity Calendar Quarter.** See section V.A.2. above.
4. **Acute Toxicity MMEL Compliance Testing.** If a routine acute toxicity monitoring test results in a "fail" at the IWC, then a maximum of two acute toxicity MMEL compliance tests shall be completed. The acute toxicity MMEL compliance tests shall be initiated within the same toxicity calendar month that the routine monitoring acute toxicity test was initiated that resulted in the "fail" at the IWC. If the first acute toxicity MMEL compliance test results in a "fail" at the IWC, then the second acute toxicity MMEL compliance test is unnecessary and is waived.
5. **Sample Types.** The Discharger may use flow-through or static renewal testing. For static renewal testing, the samples shall be 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.
6. **Test Species.** Test species shall be the Fathead Minnow (*Pimephales promelas*).
7. **Methods.** The acute toxicity testing samples shall be analyzed using EPA-821-R-02-012, Fifth Edition or methods identified in the Code of Federal Regulations, title 40, part 136, or other U.S. EPA-approved methods. Temperature, total residual chlorine, and pH shall be recorded at the time of sample collection.
8. **Test Failure.** If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger must conduct a replacement test as soon as possible, as specified in subsection A.9, below.
9. **Replacement Test.** When a required toxicity test for routine monitoring or MMEL compliance test is not completed, a new toxicity test to replace the toxicity test that was not completed shall be initiated as soon as possible. The new toxicity test shall replace the routine monitoring or MMEL compliance test, as applicable, for the toxicity calendar quarter in which the toxicity test that was not completed was required to be initiated, even if the new toxicity test is initiated in a subsequent toxicity calendar quarter. The new toxicity test for routine monitoring or MMEL compliance tests, as applicable, and any MMEL compliance tests required to be conducted due to the results of the new toxicity test shall be used to determine compliance with the effluent limitations for the toxicity calendar quarter in which the toxicity test that was not completed was required to be initiated. The new toxicity test and any MMEL compliance tests required to be conducted due to the results of the new toxicity test shall not be used to substitute for any other required toxicity tests.

   Any specific monitoring event is not required to be initiated in the required time

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

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

1. **Instream Waste Concentration (IWC) for Chronic Toxicity.** The chronic toxicity IWC is 7.7 percent effluent.
2. **Routine Monitoring Frequency.** The Discharger shall perform routine chronic toxicity testing **once per toxicity calendar month** in months in which there are at least 15 days of discharge through Discharge Point 001, Discharge Point 003, and/or Discharge Point 004, concurrent with effluent ammonia sampling. While the Discharger is conducting a Toxicity Reduction Evaluation the routine monitoring may be reduced to two (2) tests per toxicity calendar year.
   a. **Requirements for Interim Effluent Limitation Testing.**
   During the routine monthly testing, if the result of the routine chronic toxicity testing event exhibits a result greater than 50 TUc (as 100/NOEC) **AND** a percent effect greater than 25 percent at 2 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. Optional compliance testing initiation dates shall be at least seven calendar days 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.F for procedures for calculating 6-week median.
3. **Toxicity Calendar Month and Year.** See sections V.A.1. and V.A.3. above.
4. **Chronic Toxicity MMEL Compliance Testing.** If a routine chronic toxicity monitoring test results in a "fail" at the IWC, then a maximum of two chronic toxicity MMEL compliance tests shall be completed. The chronic toxicity MMEL compliance tests shall be initiated within the same toxicity calendar month that the routine monitoring chronic toxicity test was initiated that resulted in the "fail" at the IWC. If the first chronic toxicity MMEL compliance test results in a "fail" at the IWC, then the second chronic toxicity MMEL compliance test is unnecessary and is waived.
5. **Sample Volumes.** Adequate sample volumes shall be collected to provide renewal water to complete the test in the event that the discharge is intermittent.
6. **Test Species.** The Discharger shall conduct chronic toxicity tests with the water flea (*Ceriodaphnia dubia*), unless otherwise specified in writing by the Executive Officer.
7. **Test Methods.** Discharger shall conduct the chronic toxicity tests on effluent samples at the instream waste concentration for the discharge in accordance with species and test methods in Short-term Methods for Estimating the Chronic

Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA/821/R02/013, 2002; Table IA, 40 C.F.R. part 136). The test method may be modified to reduce suspected pathogen interference. Modifications may include freeze treating or other future identified modification method specified in section 11.3.4.4 of Short-term Methods for Estimating Chronic Toxicity to reduce or remove suspected pathogen interference.

8. **Dilution and Control Water.** Dilution water and control water shall be laboratory water prepared and used as specified in the test methods manual. If dilution water and control water is different from test organism culture water, then a second control using culture water shall also be used. A receiving water control or laboratory water control may be used as the diluent.

   For routine and compliance chronic toxicity monitoring, the chronic toxicity testing shall be performed using the dilution series identified in Table E-4, below.

Table E-4. Chronic Toxicity Testing Dilution Series

Sample	15.4% Dilution	7.7% Dilution	3.8% Dilution	2% Dilution	1% Dilution	Control
% Effluent	15.4	7.7	3.8	2	1	0
% Control Water	84.6	92.3	96.2	98	99	100

9. **Test Failure.** If the effluent chronic toxicity test does not meet all test acceptability criteria (TAC) specified in the referenced test method in EPA/821-R-02-013, the Discharger must conduct a Replacement Test as soon as possible, as specified in subsection B.10, below.

10. **Replacement Test.** When a required toxicity test for routine monitoring or MMEL compliance tests is not completed, a new toxicity test to replace the toxicity test that was not completed shall be initiated as soon as possible. The new toxicity test shall replace the routine monitoring or MMEL compliance tests, as applicable, for the toxicity calendar month in which the toxicity test that was not completed was required to be initiated, even if the new toxicity test is initiated in a subsequent toxicity calendar month. The new toxicity test for routine monitoring or MMEL compliance tests, as applicable, and any MMEL compliance tests required to be conducted due to the results of the new toxicity test shall be used to determine compliance with the effluent limitations for the toxicity calendar month in which the toxicity test that was not completed was required to be initiated. The new toxicity test and any MMEL compliance tests required to be conducted due to the results of the new toxicity test shall not be used to substitute for any other required toxicity tests. Any specific monitoring event is not required to be initiated in the required time period when the Central Valley Water Board staff determines that the test was not initiated in the required time period due to circumstances outside of the Discharger's control that were not preventable with the reasonable exercise of care, and the Discharger promptly initiates, and ultimately completes, a replacement test.

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

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

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

   A test result that rejects this null hypothesis is reported as "Pass." A test result that does not reject this null hypothesis is reported as "Fail."
3. The relative "Percent Effect" at the discharge IWC is defined and reported as:

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

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

E. WET Testing Notification Requirements. The Discharger shall notify the Central Valley Water Board of test results exceeding the acute and/or chronic toxicity effluent limitation (final and/or interim) within 2 business days after receipt of final laboratory report.

F. WET Testing Reporting Requirements. The Discharger shall submit the full laboratory report for all toxicity testing as an attachment to CIWQS for the reporting period (e.g., monthly, quarterly, semi-annually or annually) and provide the data (i.e., Pass/Fail) in the PET tool for uploading into CIWQS. Laboratory report shall include:

1. The valid toxicity test results for the TST statistical approach, reported as "Pass" or "Fail" and "Percent Effect" at the IWC for the discharge, the dates of sample collection and initiation of each toxicity test, all results for effluent parameters monitored concurrently with the toxicity test(s); and progress reports on TRE investigations.
2. The statistical analysis used in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010) Appendix A, Figure A-1 and Table A-1, and Appendix B, Table B-1.
3. Statistical program (e.g., TST calculator, CETIS, etc.) output results, including graphical plots, for each toxicity test.

G. Most Sensitive Species Screening. The Discharger shall perform subsequent species sensitivity screening to re-evaluate the most sensitive species if the effluent samples used in the last Species Sensitivity Screening is no longer representative of the effluent. The species sensitivity screening shall be conducted as follows and the results submitted with the Report of Waste Discharge.

1. **Frequency of Testing for Species Sensitivity Screening.** Species sensitivity screening for chronic toxicity shall include, at a minimum, chronic WET testing four consecutive calendar quarters using the water flea (*Ceriodaphnia dubia*), fathead minnow (*Pimephales promelas*), and green alga (*Pseudokirchneriella subcapitata*). The tests shall be performed at an IWC of no less than 7.7 percent effluent.

2. **Determination of Most Sensitive Species.** If a single test in the species sensitivity screening testing results in a "Fail" using the TST statistical approach, then the species used in that test shall be established as the most sensitive species. If there is more than a single test that results in a "Fail", then of the species with results of a "Fail", the species that exhibits the highest percent effect shall be established as the most sensitive species. If none of the tests in the species sensitivity screening results in a "Fail", but at least one of the species exhibits a percent effect greater than **10 percent**, then the single species that exhibits the highest percent effect shall be established as the most sensitive species. In all other circumstances, the Executive Officer shall have discretion to determine which single species is the most sensitive considering the test results from the species sensitivity screening. For subsequent species sensitivity screening, if the first two subsequent screening events result in no change in the most sensitive species, the Discharger may cease the subsequent species sensitive screening testing and the most sensitive species will remain unchanged.

H. Toxicity Reduction Evaluations (TRE)

1. **TRE Implementation.** The Discharger is required to initiate a TRE when there is any combination of two or more chronic toxicity MDEL or MMEL violations within a single toxicity calendar month or within two successive toxicity calendar months has occurred. In addition, if other information indicates toxicity (e.g., results of additional monitoring, results of monitoring at a higher concentration than the IWC, fish kills, intermittent recurring toxicity), the Central Valley Water Board may require a TRE. A TRE may also be required when there is no effluent available to complete a routine monitoring test or MMEL compliance test.

   a. **Preparation and Implementation of Detailed TRE Action Plan.** The Discharger shall conduct TREs in accordance with an approved TRE Work Plan per the section below, MRP section V.H.2.

      Within 30 days of receiving the final laboratory report that triggered the TRE, the Discharger shall submit to the Executive Officer a TRE Action Plan, prepared per the Discharger's approved TRE Work Plan. The TRE Action Plan shall include the following information, and comply with additional conditions set by the Executive Officer:

i. Specific actions the Discharger will take to investigate and identify the cause(s) of toxicity, including a TRE WET monitoring schedule;

ii. Specific actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and

iii. A schedule for these actions, progress reports, and the final report.

b. The Central Valley Water Board recognizes that toxicity may be episodic and identification of causes and reduction of sources of toxicity may not be successful in all cases. The TRE may be ended at any stage if monitoring finds there is no longer toxicity.

2. **TRE Work Plan.** The Discharger shall submit to the Central Valley Water Board a TRE Work Plan for approval by the Executive Officer by the due date in the Technical Reports Table E-12. If the Executive Officer does not disapprove the work plan within 60 days, the work plan shall become effective. The TRE Work Plan shall outline the procedures for identifying the source(s) of and reducing or eliminating effluent toxicity. The TRE Work Plan must be of adequate detail to allow the Discharger to immediately initiate a TRE and shall be developed in accordance with U.S. EPA guidance as discussed below.

a. Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants, EPA/833-B-99/002, August 1999.

b. Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TREs), EPA/600/2-88/070, April 1989.

c. Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures, Second Edition, EPA 600/6-91/003, February 1991.

d. Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I, EPA/600/6-91/005F, May 1992.

e. Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity, Second Edition, EPA/600/R-92/080, September 1993.

f. Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity, Second Edition, EPA 600/R-92/081, September 1993.

g. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, EPA-821-R-02-012, October 2002.

h. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA-821-R-02-013, October 2002.

i. Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, March 1991.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECYCLING MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Monitoring Locations RSW-001 and RSW-002

1. When discharging to the Feather River from Discharge Points 001 and 003, receiving water monitoring shall be conducted at Monitoring locations RSW-001 and RSW-002. When discharging to the Feather River from Discharge Point 004, receiving water monitoring shall be conducted at Monitoring locations RSW-003 and RSW-004. Feather River monitoring at Monitoring Locations RSW-001, RSW-002, RSW-003, and RSW-004 shall be conducted when the Feather River is flowing within its normal channel at a flow less than approximately 25,000 cfs during the weekly monitoring period Sunday through Saturday. When high flowrates preclude sampling, documentation must be included in the respective eSMR.
2. When discharging to Discharge Point 002, receiving water monitoring is not required but must be documented in each respective eSMR. The Discharger shall monitor the Feather River at RSW-001, RSW-002, RSW-003, and RSW-004 in accordance with Table E-5 and the testing requirements described in section VIII.A.3 below:

Table E-5. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Feather River Flow	Cubic Feet per Second (CFS)	Flow Gage	1/Day
Fecal Coliform Organisms	MPN/100 mL	Grab	1/Quarter
pH	Standard Units	Grab	1/Week
Dissolved Oxygen	mg/L	Grab	1/Week
Dissolved Organic Carbon	mg/L	Grab	1/Quarter
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Week
Hardness, Total (as $CaCO_3$)	mg/L	Grab	1/Month
Temperature	°F(°C)	Grab	1/Week
Ammonia, Total (as Nitrogen)	mg/L	Grab	1/Month
Nitrate, Total (as Nitrogen)	mg/L	Grab	1/Month
Turbidity	NTU	Grab	1/Week

3. **Table E-5 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-5:
   a. **Applicable to all parameters.** Parameters shall be analyzed using the analytical methods described in 40 CFR part 136 or by methods approved by the Central Valley Water Board or the State Water Board. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 CFR part 136 allowed sample type.

b. **Handheld Field Meter.** A handheld field meter may be used for **temperature, dissolved oxygen, electrical conductivity,** and **pH**, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

c. **Feather River Flow.** When discharging to the Feather River through Discharge Points 001, 003, or 004, daily average river flow shall be reported using California Data Exchange Center (CDEC) data from the Feather River at Gridley (GRL) and/or Yuba River at Marysville (MRY) or flow and stage at Feather River at Boyd's Landing (FBL) or Feather River at Star Bend (FSB).

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

4. 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 from Discharge Points 001 and 003 and of the receiving water conditions throughout the reach bounded by RSW-003 and RSW-004 when discharging to the Feather River from Discharge Point 004. 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 Locations GW-001, GW-002, GW-003, GW-004, GW-007, GW-008

1. The Discharger shall conduct groundwater monitoring at GW-001, GW-002, GW-003, GW-004, GW-007, and GW-008, and any new groundwater monitoring wells in accordance with Table E-6 and the testing requirements described in section VIII.B.2 below. If the well is inaccessible during the sampling period due to conditions out of the Discharger's control (e.g., flooding, damage to the well, etc.), then well monitoring is not required but the reason for not sampling the well shall be documented in the Discharger's eSMR for the respective sampling period.

Table E-6. Groundwater Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Depth to Groundwater	±0.01 feet	Measurement	1/Quarter
Groundwater Elevation	±0.01 feet	Calculate	1/Quarter

Parameter	Units	Sample Type	Minimum Sampling Frequency
Gradient	Feet/feet	Calculate	1/Quarter
Gradient Direction	degrees	Calculate	1/Quarter
Electrical Conductivity	µmhos/cm	Grab	1/Quarter
pH	standard units	Grab	1/Quarter
Total Coliform Organisms	MPN/100 mL	Grab	2/Year
Ammonia, Total (as Nitrogen)	mg/L	Grab	1/Quarter
Nitrate, Total (as Nitrogen)	mg/L	Grab	1/Quarter
Nitrite, Total (as Nitrogen)	mg/L	Grab	1/Quarter
Dissolved Oxygen	mg/L	Grab	1/Quarter
Total Organic Carbon	mg/L	Grab	1/Quarter
Arsenic, Dissolved	µg/L	Grab	1/Quarter
Hardness, Total (as $CaCO_3$)	mg/L	Grab	1/Quarter
Standard Minerals	µg/L	Grab	1/Quarter
Total Trihalomethanes	µg/L	Grab	1/Quarter

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. **Prior to construction and/or beginning a sampling program** of any new groundwater monitoring wells, the Discharger shall submit plans and specifications to the Central Valley Water Board for approval. Once installed, all new wells shall be added to the monitoring network (which currently consists of Monitoring Wells GW-001, GW-002, GW-003, GW-004, GW-007, and GW-008) and shall be sampled and analyzed according to the schedule above. All samples shall be collected using approved U.S. EPA methods.

   b. **Prior to sampling**, the groundwater elevations shall be measured, and the wells shall be purged of at least three well volumes or until temperature, pH, and electrical conductivity have stabilized. A sample is not required if 3 well volumes cannot be purged due to the potential risk of depleting the well, provided that this circumstance and the field record for the sample event for temperature, pH, and electrical conductivity concentrations is documented in the SMR. Depth to groundwater shall be measured to the nearest 0.01 feet.

   c. **Groundwater elevation** shall be determined based on depth-to-water measurements from a surveyed measuring point elevation on the well. The groundwater elevation shall be used to calculate the direction and gradient of groundwater flow, which must be reported.

   d. **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.

e. **Standard minerals** shall include the following: boron, calcium, iron (dissolved), magnesium, potassium, sodium, chloride, manganese (dissolved), phosphorus, total alkalinity (including alkalinity series), and hardness, and include verification that the analysis is complete (i.e., cation/anion balance).

f. **Minimum Sampling Frequency.** For each constituent with a 1/Quarter minimum sampling frequency, if the Discharger can demonstrate, after two years of quarterly monitoring, that the data ranges, averages, and standard deviations are similar for quarterly versus twice a year, the minimum sample frequency can be reduced from quarterly (1/Quarter) to twice a year (2/Year).

g. **Total Trihalomethanes** shall include the following: chloroform, bromoform, chlorodibromomethane, and dichlorobromomethane.

h. **Duration Between Routine Monitoring.** For quarterly (1/Quarter) routine monitoring, samples shall not be conducted within 45 days from the previous sampling event for the same parameter at the same monitoring location. For twice a year (2/Year) routine monitoring, samples shall not be conducted within 120 days from the previous sampling event for the same parameter at the same monitoring location.

IX. OTHER MONITORING REQUIREMENTS

A. Biosolids

1. Monitoring Location BIO-001

a. A grab 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 baseline monitoring in accordance with Table E-7. **Quarterly monitoring shall be conducted for one year beginning 1 January 2026 through 31 December 2026,** 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.

   Monitoring shall be conducted at effluent monitoring location EFF-001 and in the **downstream receiving water**. *If discharging from Discharge Points 001 or 003 at the time of characterization, the downstream monitoring location shall be*

RSW-002. If discharging from Discharge Point 004 at the time of characterization, the downstream monitoring location shall be RSW-004.

The results of the effluent and downstream receiving water monitoring, in accordance with Table E-7, shall 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 with analytical methods that have been approved by the Central Valley Water Board's Executive Officer for use in assessing compliance with the Basin Plan. 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	Units	Sample Type	Analytical Method	Reporting Level
Total Bifenthrin	82657-04-3	ng/L	Grab	See Table Note 1	1.3
Total Cyfluthrin	68359-37-5	ng/L	Grab	See Table Note 1	1.3
Total Cypermethrin	52315-07-8	ng/L	Grab	See Table Note 1	1.7
Total Esfenvalerate	51630-58-1	ng/L	Grab	See Table Note 1	3.3
Total Lambda-cyhalothrin	91465-08-6	ng/L	Grab	See Table Note 1	1.2
Total Permethrin	52645-53-1	ng/L	Grab	See Table Note 1	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	--
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	--	--

Table E-7 Notes:

1. The Discharger shall use ELAP-accredited laboratories and methods validated by Central Valley Water Board staff for pyrethroid pesticides water column chemistry monitoring. 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.

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 in Table 4-2 of the Basin Plan.

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

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

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),

K_{OC} = 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)

K_{DOC} = 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 K_{OC} and K_{DOC} 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 K_{OC} and K_{DOC} in the above equation:

Table E-8. Pyrethroid Pesticide Partition Coefficients

Pyrethroid Pesticide	Receiving water K_{OC}, (L/kg)	Receiving water K_{DOC}, (L/kg)	Effluent K_{OC}, (L/kg)	Effluent K_{DOC}, (L/kg)
Bifenthrin	4,228,000	1,737,127	15,848,932	800,000

Pyrethroid Pesticide	Receiving water K_{OC}, (L/kg)	Receiving water K_{DOC}, (L/kg)	Effluent K_{OC}, (L/kg)	Effluent K_{DOC}, (L/kg)
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	6,075,000	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 U.S. 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 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*. Consistent with U.S. EPA Method EPA-821-R-02-012 and ELAP accreditation, *Hyalella azteca* water column toxicity testing for baseline monitoring shall be performed at 20 degrees Celsius.

   Water Column Toxicity Monitoring shall be conducted quarterly for one year beginning 1 January 2026 through 31 December 2026, concurrent with the Effluent and Receiving Water Characterization Monitoring and the Pyrethroid Pesticides Water Column Chemistry Monitoring. *Downstream receiving water monitoring shall be conducted at monitoring location RSW-002 (if the Facility is discharging from Discharge Point 001 or 003) or RSW-004 (if the Facility is discharging from Discharge Point 004),* 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.

3. **Exceedance of Numeric Triggers.** If the Pyrethroid Pesticides Water Column Chemistry Monitoring identifies an exceedance of any pyrethroid pesticides numeric trigger, the Discharger shall notify the Central Valley Water Board in writing of the exceedance and the Discharger's intent to submit a Pyrethroid Management Plan. Monitoring results should be reviewed quarterly, and the Discharger shall notify the Central Valley Water Board of any exceedances of the Pyrethroid numeric triggers as soon as possible. The Pyrethroid Management Plan, as outlined in section VI.C.3 of this Order, shall be submitted to the Central Valley Water Board within one year from the date that an exceedance is identified by either the Discharger or Central Valley Water Board staff. Pyrethroid concentrations that exceed the acute and/or chronic pyrethroid numeric triggers, as outlined in Table 4-2 of the Basin Plan, constitute an exceedance of a numeric

trigger. In the absence of a pyrethroid numeric trigger exceedance, observed toxicity in the water column does not constitute a violation of the pyrethroid conditional prohibition.

Identification of an exceedance provides the information that the Pyrethroid Pesticides Water Column Chemistry Monitoring was designed to collect, per Chapter V of the Basin Plan; therefore, once an exceedance is identified, the Discharger may cease conducting subsequent Pesticides Water Column Chemistry Monitoring.

C. Disposal Ponds. LND-001, LND-002, LND-003, LND-004, LND-005, LND-006

1. The Discharger shall monitor the disposal ponds when effluent is present for seven (7) or more days in a calendar quarter in one or more of the disposal ponds at Monitoring Locations LND-001, LND-002, LND-003, LND-004, LND-005, and/or LND-006 in accordance with Table E-9 and the testing requirements described in section VIII.C.2:

Table E-9. Disposal Pond Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Water Present	Yes/No and Pond Number(s) for Yes	Observation	1/Week
Discharge to Pond	Yes/No and Pond Number(s) for Yes	Observation	1/Week
Freeboard	Feet	Measure	1/Week
Odors	--	Observation	1/Week
Dissolved Oxygen	mg/L	Grab	1/Week
Electrical Conductivity	µmhos/cm	Grab	1/Quarter
pH	standard units	Grab	1/Quarter
Ammonia, Total (as Nitrogen)	mg/L	Grab	1/Quarter
Nitrate, Total (as Nitrogen)	mg/L	Grab	1/Quarter
Hardness, Total (as CaCO3)	mg/L	Grab	1/Quarter
Alkalinity, Total (as CaCO3)	mg/L	Grab	1/Quarter
Standard Minerals	µg/L	Grab	1/Quarter
Total Trihalomethanes	µg/L	Grab	1/Quarter

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

   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. **Dissolved Oxygen.** Samples shall be collected at a depth of one foot from each pond in use, between 6:00 a.m. and 11:00 a.m. (when dissolved oxygen concentrations are typically lowest). If there is insufficient pond depth to accurately measure the dissolved oxygen concentration, the Discharger shall include in its eSMR the pond depth and an explanation why dissolved oxygen monitoring was not performed.

c. **Freeboard.** Freeboard, as defined in Provision VI.C.4.c.v, shall be monitored to the nearest tenth of a foot.

d. **Handheld Field Meter.** A handheld field meter may be used for **dissolved oxygen, electrical conductivity,** 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.

e. **Standard minerals** shall include the following: boron, calcium, iron (total and dissolved), magnesium, potassium, sodium, chloride, manganese (total and dissolved), phosphorus, total alkalinity (including alkalinity series), and hardness, and include verification that the analysis is complete (i.e., cation/anion balance).

f. **Monitoring Frequency.** Monitoring of individual disposal ponds shall only occur when there is more than 1 foot of effluent present in the lowest point of the disposal pond.

D. Effluent and Receiving Water Characterization

1. **Monitoring Frequency**

   a. **Effluent Sampling.** Samples shall be collected from the effluent (Monitoring Location EFF-001) **quarterly beginning 1 January 2026 through 31 December 2026**.

   b. **Receiving Water Sampling.** Samples shall be collected from the upstream receiving water **quarterly beginning 1 January 2026 through 31 December 2026**. Depending on the location at which the Facility is discharging from at the time of the characterization sampling, upstream receiving water monitoring shall be conducted at monitoring location RSW-001 (if the Facility is discharging from Discharge Point 001 or 003) or Monitoring Location RSW-003 (if the Facility is discharging from Discharge Point 004).

2. **Analytical Methods.** Constituents shall be collected and analyzed consistent with the Discharger's Analytical Methods Report (MRP, X.D.2) using sufficiently sensitive analytical methods and Reporting Levels (RLs) per the SSM Rule specified in 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv). The "Reporting Level" is synonymous with the "Method Minimum Level" described in the SSM Rule. The results of the monitoring shall be submitted to the Central Valley Water Board with the quarterly self-monitoring reports. Each individual monitoring event shall provide representative sample results for the effluent and upstream receiving water.

3. **Analytical Methods Report Certification.** Prior to beginning the Effluent and Receiving Water Characterization monitoring, the Discharger shall provide a certification acknowledging the scheduled start date of the Effluent and Receiving Water Characterization monitoring and confirming that samples will be collected and analyzed as described in the previously submitted Analytical Methods Report. If there are changes to the previously submitted Analytical Methods Report, the Discharger shall outline those changes. A one-page certification form will be provided by Central Valley Water Board staff with the permit's Notice of Adoption that the Discharger can use to satisfy this requirement. The certification form shall be submitted electronically via CIWQS submittal by the due date in the Technical Reports Table E-12.
4. The Discharger shall conduct effluent and receiving water characterization monitoring in accordance with Table E-10 and the testing requirements described in section IX.D.5 below.

Table E-10. Effluent and Receiving Water Characterization Monitoring

CTR Number	Parameter	CAS Number	Units	Effluent Sample Type	Parameter Type
25	2-Chloroethyl vinyl Ether	110-75-8	µg/L	Grab	Volatile Organics
17	Acrolein	107-02-8	µg/L	Grab	Volatile Organics
18	Acrylonitrile	107-13-1	µg/L	Grab	Volatile Organics
19	Benzene	71-43-2	µg/L	Grab	Volatile Organics
20	Bromoform	75-25-2	µg/L	Grab	Volatile Organics
21	Carbon Tetrachloride	56-23-5	µg/L	Grab	Volatile Organics
22	Chlorobenzene	108-90-7	µg/L	Grab	Volatile Organics
24	Chloroethane	75-00-3	µg/L	Grab	Volatile Organics
26	Chloroform	67-66-3	µg/L	Grab	Volatile Organics
35	Methyl Chloride	74-87-3	µg/L	Grab	Volatile Organics
23	Dibromochloromethane	124-48-1	µg/L	Grab	Volatile Organics
27	Dichlorobromomethane	75-27-4	µg/L	Grab	Volatile Organics
36	Methylene Chloride	75-09-2	µg/L	Grab	Volatile Organics
33	Ethylbenzene	100-41-4	µg/L	Grab	Volatile Organics
89	Hexachlorobutadiene	87-68-3	µg/L	Grab	Volatile Organics
34	Methyl Bromide (Bromomethane)	74-83-9	µg/L	Grab	Volatile Organics
94	Naphthalene	91-20-3	µg/L	Grab	Volatile Organics
38	Tetrachloroethylene (PCE)	127-18-4	µg/L	Grab	Volatile Organics
39	Toluene	108-88-3	µg/L	Grab	Volatile Organics
40	trans-1,2-Dichloroethylene	156-60-5	µg/L	Grab	Volatile Organics
43	Trichloroethylene (TCE)	79-01-6	µg/L	Grab	Volatile Organics
44	Vinyl Chloride	75-01-4	µg/L	Grab	Volatile Organics

CTR Number	Parameter	CAS Number	Units	Effluent Sample Type	Parameter Type
21	Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	Grab	Volatile Organics
41	1,1,1-Trichloroethane	71-55-6	µg/L	Grab	Volatile Organics
42	1,1,2-Trichloroethane	79-00-5	µg/L	Grab	Volatile Organics
28	1,1-Dichloroethane	75-34-3	µg/L	Grab	Volatile Organics
30	1,1-Dichloroethylene (DCE)	75-35-4	µg/L	Grab	Volatile Organics
31	1,2-Dichloropropane	78-87-5	µg/L	Grab	Volatile Organics
32	1,3-Dichloropropylene	542-75-6	µg/L	Grab	Volatile Organics
37	1,1,2,2-Tetrachloroethane	79-34-5	µg/L	Grab	Volatile Organics
101	1,2,4-Trichlorobenzene	120-82-1	µg/L	Grab	Volatile Organics
29	1,2-Dichloroethane	107-06-2	µg/L	Grab	Volatile Organics
75	1,2-Dichlorobenzene	95-50-1	µg/L	Grab	Volatile Organics
76	1,3-Dichlorobenzene	541-73-1	µg/L	Grab	Volatile Organics
77	1,4-Dichlorobenzene	106-46-7	µg/L	Grab	Volatile Organics
60	Benzo(a)Anthracene	56-55-3	µg/L	Grab	Semi-Volatile Organics
85	1,2-Diphenylhydrazine	122-66-7	µg/L	Grab	Semi-Volatile Organics
45	2-Chlorophenol	95-57-8	µg/L	Grab	Semi-Volatile Organics
46	2,4-Dichlorophenol	120-83-2	µg/L	Grab	Semi-Volatile Organics
47	2,4-Dimethylphenol	105-67-9	µg/L	Grab	Semi-Volatile Organics
49	2,4-Dinitrophenol	51-28-5	µg/L	Grab	Semi-Volatile Organics
82	2,4-Dinitrotoluene	121-14-2	µg/L	Grab	Semi-Volatile Organics
55	2,4,6-Trichlorophenol	88-06-2	µg/L	Grab	Semi-Volatile Organics
83	2,6-Dinitrotoluene	606-20-2	µg/L	Grab	Semi-Volatile Organics
50	2-Nitrophenol	88-75-5	µg/L	Grab	Semi-Volatile Organics
71	2-Chloronaphthalene	91-58-7	µg/L	Grab	Semi-Volatile Organics
78	3,3-Dichlorobenzidine	91-94-1	µg/L	Grab	Semi-Volatile Organics
62	Benzo(b)Fluoranthene	205-99-2	µg/L	Grab	Semi-Volatile Organics
52	4-Chloro-3-methylphenol	59-50-7	µg/L	Grab	Semi-Volatile Organics
48	2-Methyl-4,6-Dinitrophenol	534-52-1	µg/L	Grab	Semi-Volatile Organics
51	4-Nitrophenol	100-02-7	µg/L	Grab	Semi-Volatile Organics
69	4-Bromophenyl Phenyl Ether	101-55-3	µg/L	Grab	Semi-Volatile Organics
72	4-Chlorophenyl Phenyl Ether	7005-72-3	µg/L	Grab	Semi-Volatile Organics
56	Acenaphthene	83-32-9	µg/L	Grab	Semi-Volatile Organics
57	Acenaphthylene	208-96-8	µg/L	Grab	Semi-Volatile Organics
58	Anthracene	120-12-7	µg/L	Grab	Semi-Volatile Organics

CTR Number	Parameter	CAS Number	Units	Effluent Sample Type	Parameter Type
59	Benzidine	92-87-5	µg/L	Grab	Semi-Volatile Organics
61	Benzo(a)Pyrene	50-32-8	µg/L	Grab	Semi-Volatile Organics
63	Benzo(ghi)Perylene	191-24-2	µg/L	Grab	Semi-Volatile Organics
64	Benzo(k)Fluoranthene	207-08-9	µg/L	Grab	Semi-Volatile Organics
65	Bis (2-Chloroethoxy) Methane	111-91-1	µg/L	Grab	Semi-Volatile Organics
66	Bis (2-Chloroethyl) Ether	111-44-4	µg/L	Grab	Semi-Volatile Organics
67	Bis (2-Chloroisopropyl) Ether	108-60-1	µg/L	Grab	Semi-Volatile Organics
68	Bis(2-Ethylhexyl) Phthalate	117-81-7	µg/L	Grab	Semi-Volatile Organics
70	Butylbenzyl Phthalate	85-68-7	µg/L	Grab	Semi-Volatile Organics
73	Chrysene	218-01-9	µg/L	Grab	Semi-Volatile Organics
81	Di-n-butyl Phthalate	84-74-2	µg/L	Grab	Semi-Volatile Organics
84	Di-n-Octyl Phthalate	117-84-0	µg/L	Grab	Semi-Volatile Organics
74	Dibenzo(a,h)anthracene	53-70-3	µg/L	Grab	Semi-Volatile Organics
79	Diethyl Phthalate	84-66-2	µg/L	Grab	Semi-Volatile Organics
80	Dimethyl Phthalate	131-11-3	µg/L	Grab	Semi-Volatile Organics
86	Fluoranthene	206-44-0	µg/L	Grab	Semi-Volatile Organics
87	Fluorene	86-73-7	µg/L	Grab	Semi-Volatile Organics
88	Hexachlorobenzene	118-74-1	µg/L	Grab	Semi-Volatile Organics
90	Hexachlorocyclopentadiene	77-47-4	µg/L	Grab	Semi-Volatile Organics
91	Hexachloroethane	67-72-1	µg/L	Grab	Semi-Volatile Organics
92	Indeno(1,2,3-cd) Pyrene	193-39-5	µg/L	Grab	Semi-Volatile Organics
93	Isophorone	78-59-1	µg/L	Grab	Semi-Volatile Organics
98	N-Nitrosodiphenylamine	86-30-6	µg/L	Grab	Semi-Volatile Organics
96	N-Nitrosodimethylamine	62-75-9	µg/L	Grab	Semi-Volatile Organics
97	N-Nitrosodi-n-Propylamine	621-64-7	µg/L	Grab	Semi-Volatile Organics
95	Nitrobenzene	98-95-3	µg/L	Grab	Semi-Volatile Organics
53	Pentachlorophenol (PCP)	87-86-5	µg/L	Grab	Semi-Volatile Organics
99	Phenanthrene	85-01-8	µg/L	Grab	Semi-Volatile Organics
54	Phenol	108-95-2	µg/L	Grab	Semi-Volatile Organics
100	Pyrene	129-00-0	µg/L	Grab	Semi-Volatile Organics
NL	Aluminum	7429-90-5	µg/L	24-hour Composite	Inorganics
1	Antimony, Total	7440-36-0	µg/L	24-hour Composite	Inorganics

CTR Number	Parameter	CAS Number	Units	Effluent Sample Type	Parameter Type
2	Arsenic, Total	7440-38-2	µg/L	24-hour Composite	Inorganics
15	Asbestos	1332-21-4	µg/L	24-hour Composite	Inorganics
3	Beryllium, Total	7440-41-7	µg/L	24-hour Composite	Inorganics
4	Cadmium, Total	7440-43-9	µg/L	24-hour Composite	Inorganics
5a	Chromium, Total	7440-47-3	µg/L	24-hour Composite	Inorganics
6	Copper, Total	7440-50-8	µg/L	24-hour Composite	Inorganics
14	Iron, Total	7439-89-6	µg/L	24-hour Composite	Inorganics
7	Lead, Total	7439-92-1	µg/L	24-hour Composite	Inorganics
8	Mercury, Total	7439-97-6	µg/L	Grab	Inorganics
NL	Mercury, Methyl	22967-92-6	µg/L	Grab	Inorganics
NL	Manganese, Total	7439-96-5	µg/L	24-hour Composite	Inorganics
9	Nickel, Total	7440-02-0	µg/L	24-hour Composite	Inorganics
10	Selenium, Total	7782-49-2	µg/L	24-hour Composite	Inorganics
11	Silver, Total	7440-22-4	µg/L	24-hour Composite	Inorganics
12	Thallium, Total	7440-28-0	µg/L	24-hour Composite	Inorganics
13	Zinc, Total	7440-66-6	µg/L	24-hour Composite	Inorganics
NL	Boron	7440-42-8	µg/L	24-hour Composite	Non-Metal/Minerals
NL	Chloride	16887-00-6	mg/L	24-hour Composite	Non-Metal/Minerals
14	Cyanide, Total (as CN)	57-12-5	µg/L	Grab	Non-Metal/Minerals
NL	Sulfate	14808-79-8	mg/L	24-hour Composite	Non-Metal/Minerals
NL	Sulfide (as S)	5651-88-7	mg/L	24-hour Composite	Non-Metal/Minerals
110	4,4-DDD	72-54-8	µg/L	24-hour Composite	Pesticide/PCB/Dioxins

CTR Number	Parameter	CAS Number	Units	Effluent Sample Type	Parameter Type
109	4,4-DDE	72-55-9	µg/L	24-hour Composite	Pesticide/PCB/Dioxins
108	4,4-DDT	50-29-3	µg/L	24-hour Composite	Pesticide/PCB/Dioxins
112	alpha-Endosulfan	959-98-8	µg/L	24-hour Composite	Pesticide/PCB/Dioxins
103	alpha-BHC (Benzene hexachloride)	319-84-6	µg/L	24-hour Composite	Pesticide/PCB/Dioxins
102	Aldrin	309-00-2	µg/L	24-hour Composite	Pesticide/PCB/Dioxins
113	beta-Endosulfan	33213-65-9	µg/L	24-hour Composite	Pesticide/PCB/Dioxins
104	beta-BHC (Benzene hexachloride)	319-85-7	µg/L	24-hour Composite	Pesticide/PCB/Dioxins
107	Chlordane	57-74-9	µg/L	24-hour Composite	Pesticide/PCB/Dioxins
106	delta-BHC (Benzene hexachloride)	319-86-8	µg/L	24-hour Composite	Pesticide/PCB/Dioxins
111	Dieldrin	60-57-1	µg/L	24-hour Composite	Pesticide/PCB/Dioxins
114	Endosulfan Sulfate	1031-07-8	µg/L	24-hour Composite	Pesticide/PCB/Dioxins
115	Endrin	72-20-8	µg/L	24-hour Composite	Pesticide/PCB/Dioxins
116	Endrin Aldehyde	7421-93-4	µg/L	24-hour Composite	Pesticide/PCB/Dioxins
117	Heptachlor	76-44-8	µg/L	24-hour Composite	Pesticide/PCB/Dioxins
118	Heptachlor Epoxide	1024-57-3	µg/L	24-hour Composite	Pesticide/PCB/Dioxins
105	gamma-BHC (Benzene hexachloride or Lindane)	58-89-9	µg/L	24-hour Composite	Pesticide/PCB/Dioxins
119	Polychlorinated Biphenyl (PCB) 1016	12674-11-2	µg/L	24-hour Composite	Pesticide/PCB/Dioxins
120	PCB 1221	11104-28-2	µg/L	24-hour Composite	Pesticide/PCB/Dioxins
121	PCB 1232	11141-16-5	µg/L	24-hour Composite	Pesticide/PCB/Dioxins
122	PCB 1242	53469-21-9	µg/L	24-hour Composite	Pesticide/PCB/Dioxins
123	PCB 1248	12672-29-6	µg/L	24-hour Composite	Pesticide/PCB/Dioxins

CTR Number	Parameter	CAS Number	Units	Effluent Sample Type	Parameter Type
124	PCB 1254	11097-69-1	µg/L	24-hour Composite	Pesticide/PCB/Dioxins
125	PCB 1260	11096-82-5	µg/L	24-hour Composite	Pesticide/PCB/Dioxins
126	Toxaphene	8001-35-2	µg/L	24-hour Composite	Pesticide/PCB/Dioxins
16	2,3,7,8-TCDD (Dioxin)	1746-01-6	mg/L	24-hour Composite	Pesticide/PCB/Dioxins
NL	pH	--	SU	Grab	Conventional Parameters
NL	Temperature	--	ºC	Grab	Conventional Parameters
NL	Foaming Agents (MBAS)	MBAS	mg/L	24-hour Composite	Nonconventional Parameters
NL	Hardness (as CaCO3)	471-34-1	mg/L	Grab	Nonconventional Parameters
NL	Specific Conductance (Electrical Conductivity or EC)	EC	µmhos /cm	24-hour Composite	Nonconventional Parameters
NL	Total Dissolved Solids (TDS)	TDS	mg/L	24-hour Composite	Nonconventional Parameters
NL	Dissolved Organic Carbon (DOC)	DOC	mg/L	Grab	Nonconventional Parameters
NL	Ammonia (as Nitrogen)	7664-41-7	mg/L	24-hour Composite	Nutrients
NL	Nitrate, Total (as Nitrogen)	14797-55-8	mg/L	24-hour Composite	Nutrients
NL	Nitrite, Total (as Nitrogen)	14797-65-0	mg/L	24-hour Composite	Nutrients
NL	Phosphorus, Total (as P)	7723-14-0	mg/L	24-hour Composite	Nutrients
NL	1,2,3-Trichloropropane (TCP)	96-18-4	µg/L	Grab	Other Constituents of Concern
NL	Trichlorofluoromethane	75-69-4	µg/L	Grab	Other Constituents of Concern
NL	1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	µg/L	Grab	Other Constituents of Concern
NL	Styrene	100-42-5	µg/L	Grab	Other Constituents of Concern
NL	Xylenes	1330-20-7	µg/L	Grab	Other Constituents of Concern
NL	Barium	7440-39-3	µg/L	24-hour Composite	Other Constituents of Concern

CTR Number	Parameter	CAS Number	Units	Effluent Sample Type	Parameter Type
NL	Fluoride	16984-48-8	mg/L	24-hour Composite	Other Constituents of Concern
NL	Molybdenum	7439-98-7	µg/L	24-hour Composite	Other Constituents of Concern
NL	Tributyltin	688-73-3	µg/L	24-hour Composite	Other Constituents of Concern
NL	Alachlor	15972-60-8	µg/L	24-hour Composite	Other Constituents of Concern
NL	Atrazine	1912-24-9	µg/L	24-hour Composite	Other Constituents of Concern
NL	Bentazon	25057-89-0	µg/L	24-hour Composite	Other Constituents of Concern
NL	Carbofuran	1563-66-2	µg/L	24-hour Composite	Other Constituents of Concern
NL	2,4-D	94-75-7	µg/L	24-hour Composite	Other Constituents of Concern
NL	Dalapon	75-99-0	µg/L	24-hour Composite	Other Constituents of Concern
NL	1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	µg/L	24-hour Composite	Other Constituents of Concern
NL	Di(2-ethylhexyl)adipate	103-23-1	µg/L	24-hour Composite	Other Constituents of Concern
NL	Dinoseb	88-85-7	µg/L	24-hour Composite	Other Constituents of Concern
NL	Diquat	85-00-7	µg/L	24-hour Composite	Other Constituents of Concern
NL	Endothal	145-73-3	µg/L	24-hour Composite	Other Constituents of Concern
NL	Ethylene Dibromide (EDB)	106-93-4	µg/L	24-hour Composite	Other Constituents of Concern
NL	Methoxychlor	72-43-5	µg/L	24-hour Composite	Other Constituents of Concern
NL	Molinate (Ordram)	2212-67-1	µg/L	24-hour Composite	Other Constituents of Concern
NL	Oxamyl	23135-22-0	µg/L	24-hour Composite	Other Constituents of Concern
NL	Picloram	2/1/1918	µg/L	24-hour Composite	Other Constituents of Concern
NL	Simazine (Princep)	122-34-9	µg/L	24-hour Composite	Other Constituents of Concern
NL	Thiobencarb	28249-77-6	µg/L	24-hour Composite	Other Constituents of Concern
NL	2,4,5-TP (Silvex)	93-72-1	µg/L	24-hour Composite	Other Constituents of Concern

CTR Number	Parameter	CAS Number	Units	Effluent Sample Type	Parameter Type
NL	Chlorpyrifos	2921-88-2	µg/L	24-hour Composite	Other Constituents of Concern
NL	Diazinon	333-41-5	µg/L	24-hour Composite	Other Constituents of Concern

5. **Table E-10 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-10:
    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 with the exception of hardness which shall be sampled concurrently with the hardness-dependent metals (cadmium, chromium III, lead, nickel, silver, and zinc).
    e. **Concurrent Sampling.** Effluent and receiving water sampling shall be performed at approximately the same time, on the same date.
    f. **Sample Type.** All receiving water samples shall be taken as grab samples. Effluent samples shall be taken as described in Table E-10.
    g. **Bis(2-ethylhexyl) phthalate.** In order to verify if bis(2-ethylhexyl) phthalate is truly present, the Discharger shall take steps to assure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected contaminant.
    h. **Total Mercury and Methyl Mercury.** Unfiltered methyl mercury and total mercury samples shall be taken using clean hands/dirty hands procedures, as described in U.S. EPA method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels, for collection of equipment blanks (section 9.4.4.2). The analysis of methyl mercury and total mercury shall be by U.S. EPA method 1630 and1631 (Revision E), respectively, with a reporting limit of 0.05 ng/L for methyl mercury and 0.5 ng/L for total mercury.
    i. **TCDD-Dioxin Congener Equivalents** shall include all 17 of the 2,3,7,8 TCDD dioxin congeners as listed in section 3 of the SIP.
    j. **Ammonia (as Nitrogen).** Sampling is only required in the upstream receiving water.
    k. **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.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

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

B. Self-Monitoring Reports (SMRs)

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

Table E-11. 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

Sampling Frequency	Monitoring Period Begins On	Monitoring Period	SMR Due Date
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/Toxicity Calendar Month (Chronic Toxicity Only)	Permit effective date	3rd day of calendar month through 2nd day of the following calendar month	First day of second calendar month following month of chronic toxicity testing (*e.g. Testing 3 January through 2 February is due 1 March*)
1/Quarter and 1/Toxicity Calendar Quarter	Permit effective date	1 January through 31 March 1 April through 30 June 1 July through 30 September 1 October through 31 December	1 May 1 August 1 November 1 February of following year
2/Year	Permit effective date	1 January through 30 June 1 July through 31 December	1 August 1 February of following year
1/Year and 1/Toxicity Calendar 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).

   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 or AWEL and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

   a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

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

6. **The Discharger shall submit SMRs** in accordance with the following requirements:

   a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

   b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the waste discharge requirements; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

c. The Discharger shall attach all final laboratory reports from all contracted commercial laboratories, including quality assurance/quality control information, with all its SMRs for which sample analyses were performed.

7. The Discharger shall submit in the SMRs calculations and reports in accordance with the following requirements:

   a. **Calendar Annual Average Limitations.** For constituents with effluent limitations specified as "calendar annual average" (mercury) the Discharger shall report the calendar annual average in the December SMR. The annual average shall be calculated as the average of the samples gathered for the calendar year.

   b. **Removal Efficiency (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 Waste Discharge Requirements.

   c. **Total Coliform Organisms Effluent Limitations.** The Discharger shall calculate and report the 7-day median of total coliform organisms for the effluent. The 7-day median of total coliform organisms shall be calculated as specified in section VII.C of the Waste Discharge Requirements.

   d. **Dissolved Oxygen Receiving Water Limitations.** The Discharger shall report monthly in the self-monitoring report the dissolved oxygen concentrations in the effluent, EFF-001, and the receiving water at Monitoring Locations RSW-001 and RSW-002 (When the Facility is discharging from Discharge Points 001 or 003) or Monitoring Locations RSW-003 and RSW-004 (When the Facility is discharging from Discharge Point 004).

   e. **Turbidity Receiving Water Limitations.** The Discharger shall calculate and report the turbidity increase from Monitoring Location RSW-001 to RSW-002 (when the Facility is discharging from Discharge Points 001 or 003) or from Monitoring Location RSW-003 to RSW-004 (when the Facility is discharging from Discharge Points 004) in the receiving water applicable to the natural turbidity condition specified in section V.A.17.a-e. of the Waste Discharge Requirements.

   f. **Temperature Receiving Water Limitations.** The Discharger shall calculate and report the temperature increase in the receiving water based on the difference in temperature at Monitoring Locations RSW-001 and RSW-002 (when the Facility is discharging from Discharge Points 001 or 003) or Monitoring Locations RSW-003 and RSW-004 (when the Facility is discharging from Discharge Point 004).

C. Discharge Monitoring Reports (DMRs)

1. DMRs are U.S. EPA reporting requirements. The Discharger shall electronically certify and submit DMRs together with SMRs using Electronic Self-Monitoring Reports module eSMR 2.5 or any upgraded version. Electronic DMR submittal will be in addition to electronic SMR submittal. Information about electronic DMR submittal

(www.waterboards.ca.gov/water_issues/programs/discharge_monitoring) is available on the Internet.

D. Other Reports

1. **Analytical Methods Report.** The Discharger shall complete and submit an Analytical Methods Report, electronically via CIWQS submittal, by the due date shown in the Technical Reports Table E-12. The Analytical Methods Report shall include the following for each constituent to be monitored in accordance with this Order: 1) applicable water quality objective, 2) reporting level (RL), 3) method detection limit (MDL), and 4) analytical method. The analytical methods shall be sufficiently sensitive with RLs consistent with the SSM Rule per 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv), and with the Minimum Levels (MLs) in the SIP, Appendix 4. The "Reporting Level or RL" is synonymous with the "Method Minimum Level" described in the SSM Rule. If an RL is not less than or equal to the applicable water quality objective for a constituent, the Discharger shall explain how the proposed analytical method complies with the SSM Rule as outlined above in Attachment E, Section I.F. Central Valley Water Board staff will provide a tool with the permit's Notice of Adoption to assist the Discharger in completing this requirement. The tool will include the constituents and associated applicable water quality objectives to be included in the Analytical Methods Report.
2. **Annual Operations Report.** The Discharger shall submit a written report to the Central Valley Water Board, electronically via CIWQS submittal, containing the following by the due date in the Technical Reports Table E-12:
   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.
3. **Recycled Water Policy Annual Reports Confirmation.** 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-12, to demonstrate compliance with this reporting requirement.

4. **Report of Waste Discharge (ROWD).** For the 5-year permit renewal, the Discharger shall submit a written report to the Central Valley Water Board, electronically via CIWQS submittal, containing, at minimum, the following by the due date in the Technical Reports Table E-12:

   a. Report of Waste Discharge (Form 200)

   b. NPDES Form 2A;

   c. NPDES Form 2S;

   d. **Salinity Evaluation and Minimization Plan (SEMP).** The Discharger shall evaluate the effectiveness of the SEMP and provide a summary with the Report of Waste Discharge.

   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., chlorodibromomethane and dichlorobromomethane).

   f. **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 the local limits under 40 C.F.R. section 403.5(c)(1).

5. **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 E-12 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-10 (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 at BIO-001 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 grab sample**. Wastewater and sludge sampling and analysis shall be performed at least annually. The Discharger shall also provide any influent, effluent or sludge 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.

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;

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; and

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, 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 ROWD, special study technical reports, progress reports, and other reports identified in the MRP (hereafter referred to collectively as “technical reports”). The Technical Reports Table E-12 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-12. Technical Reports

Report #	Technical Report	Due Date	CIWQS Report Name
1	Report of Waste Discharge	31 December 2028	ROWD
2	Analytical Methods Report	1 March 2025	MRP X.D.2
3	Analytical Methods Report Certification	1 October 2025	MRP IX.E.2.
4	Hydrogeologic Assessment	1 January 2028	WDR VI.C.2.a
5	Low Dissolved Oxygen Assessment Report	No later than one year from startup of discharge at Discharge Point 004	WDR VI.C.2.b
6	Discharge Point 003 Mixing Zone Validation Report	1 July 2025	WDR VI.C.2.c
7	Discharge Point 003 Mixing Zone Validation Report	1 July 2026	WDR VI.C.2.c

Report #	Technical Report	Due Date	CIWQS Report Name
8	Discharge Point 003 Mixing Zone Validation Report	1 July 2027	WDR VI.C.2.c
9	Discharge Point 003 Mixing Zone Validation Report	1 July 2028	WDR VI.C.2.c
10	Discharge Point 003 Mixing Zone Validation Report	1 July 2029	WDR VI.C.2.c
11	Discharge Points 001 and 004 Mixing Zone Verification Study	30 June 2028	WDR VI.C.2.d
12	Ammonia Assessment	1 August 2025	WDR VI.C.2.e
13	Diffuser Maintenance Technical Report	1 July 2025	WDR VI.C.4.b
14	Diffuser Maintenance Technical Report	1 July 2026	WDR VI.C.4.b
15	Diffuser Maintenance Technical Report	1 July 2027	WDR VI.C.4.b
16	Diffuser Maintenance Technical Report	1 July 2028	WDR VI.C.4.b
17	Diffuser Maintenance Technical Report	1 July 2029	WDR VI.C.4.b
18	Workplan for Split Sampling and Coordination with Laboratories	1 July 2025	WDR VI.C.7.a.i
19	Laboratory Assessment Final Report	1 January 2028	WDR VI.C.7.a.ii
20	Implementation Workplan	1 January 2028	WDR VI.C.7.a.iii
21	Report Demonstrating Compliance with the Final Chronic Toxicity Effluent Limitations	1 October 2029	WDR VI.C.7.a.iv
22	Compliance Schedule Annual Progress Report	1 February 2025	WDR VI.C.7.a.v
23	Compliance Schedule Annual Progress Report	1 February 2026	WDR VI.C.7.a.v
24	Compliance Schedule Annual Progress Report	1 February 2027	WDR VI.C.7.a.v
25	Compliance Schedule Annual Progress Report	1 February 2028	WDR VI.C.7.a.v
26	Compliance Schedule Annual Progress Report	1 February 2029	WDR VI.C.7.a.v
27	TRE Work Plan	15 March 2025	MRP.V.G.2
28	Annual Operations Report	1 February 2025	MRP X.D.2
29	Annual Operations Report	1 February 2026	MRP X.D.2
30	Annual Operations Report	1 February 2027	MRP X.D.2
31	Annual Operations Report	1 February 2028	MRP X.D.2

Report #	Technical Report	Due Date	CIWQS Report Name
32	Annual Operations Report	1 February 2029	MRP X.D.2
33	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2025	MRP X.D.3
34	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2026	MRP X.D.3
35	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2027	MRP X.D.3
36	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2028	MRP X.D.3
37	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2029	MRP X.D.3
38	Annual Pretreatment Reports	28 February 2025	MRP X.D.5
39	Annual Pretreatment Reports	28 February 2026	MRP X.D.5
40	Annual Pretreatment Reports	28 February 2027	MRP X.D.5
41	Annual Pretreatment Reports	29 February 2028	MRP X.D.5
42	Annual Pretreatment Reports	28 February 2029	MRP X.D.5

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in section II.C 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 (WDID):	5A510101001
CIWQS Facility Place ID:	274556
Discharger:	City of Yuba City
Name of Facility:	Wastewater Treatment Facility
Facility Address:	302 Burns Drive, Yuba City, CA 95991
Facility County:	Sutter
Facility Contact, Title and Phone Number:	Michael Finnigan, Wastewater Treatment Facility Supervisor, (530) 822-7696
Authorized Person to Sign and Submit Reports:	Same as Above
Mailing Address	Same as Facility Address
Billing Address:	Same as Facility Address
Type of Facility:	Publicly Owned Treatment Works (POTW)
Major or Minor Facility:	Major
Threat to Water Quality:	1
Complexity:	A
Pretreatment Program:	Yes
Recycling Requirements:	Not Applicable
Facility Permitted Flow:	10.5 Million Gallons Per Day (MGD) Average Dry Weather Flow
Facility Design Flow:	10.5 MGD
Watershed:	Lower Feather
Receiving Water:	Feather River
Receiving Water Type:	Inland Surface Water

A. The City of Yuba City (Discharger) is the owner and operator of the Wastewater Treatment Facility (Facility), a Publicly Owned Treatment Works (POTW). For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. The Facility discharges wastewater to the Feather River, a water of the United States, within the Lower Feather River watershed. The Discharger was previously regulated by Order R5-2019-0017-01 and National Pollutant Discharge Elimination System (NPDES) Permit CA0079260 adopted on 8 February 2019, amended on 7 June 2019. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

C. When applicable, state law requires dischargers to file a petition with the State Water Board, Division of Water Rights and receive approval for any change in the point of discharge, place of use, or purpose of use of treated wastewater that decreases the flow in any portion of a watercourse. The State Water Board retains separate jurisdictional authority to enforce any applicable requirements under Water Code section 1211. This is not an NPDES permit requirement.

D. The Discharger filed a report of waste discharge (ROWD) and submitted an application for reissuance of its waste discharge requirements (WDRs) and NPDES permit on 31 March 2023.

E. Regulations at 40 C.F.R. section 122.46 limit the duration of NPDES permits to a fixed term not to exceed five years. Accordingly, Table 3 of this Order limits the duration of the discharge authorization. Under 40 C.F.R. section 122.6(d), States authorized to administer the NPDES program may administratively continue State-issued permits beyond their expiration dates until the effective date of the new permits if State law allows it. Pursuant to California Code of Regulations (CCR), title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Discharger complies with all federal NPDES requirements for continuation of expired permits.

II. FACILITY DESCRIPTION

The Discharger provides sewerage service for the City of Yuba City and serves a population of approximately 65,000. In addition, the Facility accepts septage from unsewered portions of Sutter and Yuba Counties. The design average dry weather flow capacity of the Facility is 10.5 MGD.

Municipal and industrial wastewater treated at the Facility is either discharged to the Feather River or to disposal ponds within the Feather River levee system on the eastern side of the Feather River. The Facility also uses treated wastewater for multiple processes including the spray system on primary and secondary clarifiers and screw presses, makeup water for polymers, reheating oxygen, and hosing down facilities in addition to landscape irrigation of 3.5 acres at the Facility. The ROWD estimates the seasonal dependent annual average daily volume used for reuse is 0.5 MGD.

A. Description of Wastewater and Biosolids Treatment and Controls

Secondary-level treated effluent from the Facility may be discharged to the Feather River via a multiport diffuser at Discharge Point 001, a direct discharge at Discharge Point 003, or via a multiport diffuser at Discharge Point 004. Treated effluent may also be directed to Discharge Point 002, a series of six disposal ponds located within the Feather River levee.

1. **Treatment System.** The treatment system at the Facility consists of the following:

- Bar screening;
- Aerated grit removal;
- Primary clarification;
- Pure oxygen aeration;
- Secondary clarification;
- Chlorine gas disinfection; and,
- Dechlorination (using sodium bisulfite prior to discharge to the Feather River at Discharge Points 001, 003, and 004).

The aeration process at the Facility was designed to handle high and variable biochemical oxygen demand (BOD) loadings from local food processing facilities, commercial facilities, and residential areas. Additionally, approximately 30 percent of the BOD loading to the Facility is from one significant industrial user (Sunsweet Growers) that discharges a nutritionally dilute industrial discharge.

a. **Polyammonium Phosphate.** A polyammonium phosphate dosing program was put in place to help balance the influent wastewater nutrient ratio. This was intended to help control filamentous growth outbreaks that led to high sludge volume indexes and poor settling in the secondary clarifiers. The polyammonium phosphate dosing program did not work as intended due to the lack of the process analyzers and automation systems needed to accurately track influent nutrients and dose accordingly. As of adoption of this Order, polyammonium phosphate was last used in October 2022.

2. **Stormwater.** Section I.B.20 of the General Permit for Storm Water Discharges Associated with Industrial Activities, Order 2014-0057-DWQ, states "*Discharges of storm water regulated under another individual or general NPDES permit adopted by the State Water Board or Regional Water Board are not covered under this General Permit, including the State Water Board NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities.*". This Order regulates discharges of storm water. All storm water is maintained on-site and is directed to an on-site storm, unlined water basin, maintained per section VI.C.4 of this Order, where it can be directed to the headworks.

3. **Biosolids.** Biosolids are thickened using rotary drum thickeners and then anaerobically digested in two digesters. Digested biosolids are dewatered by 3 screw presses and disposed of off-site as landfill cover material. The Facility produces approximately 1,200 dry metric tons of dried biosolids annually. Transportation and disposal/reuse of the biosolids is regulated by U.S. EPA under 40 C.F.R. part 503. Anaerobic digesters are cleaned approximately every five years, and biosolids residue scraped from the inside of the digesters is stored in one of the former drying beds, which has a honeycomb type of underdrain directed back to the headworks, until disposal. The drying beds are not used except to dry residue from the digesters when they are cleaned every 5 years. The former drying beds were not in use during the 9 September 2022 compliance inspection.

4. **Auxiliary Processes**.

   a. **Odors.** The Facility is equipped with three composite bed biofilters that are used to control odors from headworks, primary clarification, and dewatering building operations.

   b. **Disposal Ponds.** Each disposal pond size is shown in Table F-2; the total capacity of the six disposal ponds is approximately 179 million gallons. The Facility can discharge to any pond at any time. There is no operational plan on which disposal pond to use and when. The Facility's historical goal is to have all disposal ponds dry by 1 November of each year. The six disposal ponds are at varying elevations such that the flow will cascade from the first pond to the last pond depending on the water level of the pond (Pond 1 is the highest elevation and Pond 6 is the lowest elevation). When flooding occurs Pond 6 will receive flood water first, then Pond 5, etc. The following table includes specific information about each pond and the separation between each pond bottom and groundwater elevation.

Table F-2. Pond Information

Pond #	Acres	Pond Bottom Elevation	Top of Berm Elevation	Liquid Depth	Minimum Vertical Separation	Average Vertical Separation
Pond 1	19.7	55.1	62.7	7.6	0.5	20.3
Pond 2	21.5	52.6	59.7	7.1	-2.0	17.8
Pond 3	21.6	49.4	55.7	6.3	3.6	16.0
Pond 4	21.6	47.7	53.7	6.0	1.9	14.3
Pond 5	21.5	46.2	52.7	6.5	4.4	17.8
Pond 6	21.6	46.1	52.7	6.6	4.3	17.7

Table F-2 Notes:

1. **Pond Bottom and Top of Berm Elevation.** Units are in feet, above mean sea level.
2. **Liquid Depth.** Depth (feet) from the bottom of the pond to the berm invert, assumes no freeboard. With freeboard, working liquid depth will be the liquid depth, minus 2 feet.
3. **Nearest Wells.** Well 1 is closest to Ponds 1 and 2 with average and maximum groundwater elevations of 54.56 feet and 34.8 feet respectively. Well 2 is closest to Ponds 3 and 4 with average and maximum groundwater elevations of 45.79 feet and 33.4 feet respectively. Well 3 is closest to Ponds 5 and 6 with average and maximum groundwater elevations of 41.85 feet and 28.4 feet respectively. The highest groundwater elevation for all wells was in November 2023.
4. **Vertical Separation.** Minimum vertical separation distance (feet) between pond bottom elevation and highest anticipated (maximum) groundwater elevation of the nearest well. Average vertical separation distance (feet) between pond bottom elevation and average groundwater elevation of the nearest well.

B. Discharge Points and Receiving Waters

1. **Facility Location.** The Facility is located in Section 7-010-001, T15N, R3E, MDB&M, as shown in Attachment B, a part of this Order.
2. **Discharge Point 001.** Secondary-Treated municipal wastewater is discharged at Discharge Point 001 to the Feather River, a water of the United States at a point latitude 39° 05’ 29” N and longitude 121° 35’ 53” W via the diffuser on the west side of the Feather River. According to the mixing zone analysis provided as part of Order R5-2007-0134, the multi-port diffuser is located above the normal bank of the Feather River. The diffuser consists of 40 ports each of 3 inches in diameter, located 4 feet on center. The total diffuser length is 156 feet.
3. **Discharge Point 002.** Secondary-Treated municipal wastewater (chlorinated) is discharged at Discharge Point 002 to the Feather River, via six disposal ponds located within the floodplain of the Feather River to the Feather River (hydraulically connected) at a point latitude 39º 04’ 53” N and longitude 121º 35’ 56” W.
4. **Discharge Point 003.** Secondary-Treated municipal wastewater may also be discharged at Discharge Point 003 to the Feather River, a water of the United States at a point latitude 39° 05’ 27” N and longitude 121° 35’ 51” W via direct discharge pipe on the east bank of the Feather River, north of Pond 1.
5. **Discharge Point 004.** Secondary-Treated municipal wastewater may also be discharged at Discharge Point 004 to the Feather River, a water of the United States at a point latitude 39° 04' 12"N, longitude 121° 36' 21" W, via a diffuser on the west side of the Feather River. The planned 16-port, 180 foot long (12-foot port spacing), diffuser would include a fanned port configuration that gradually rotates the horizontal port discharge angle from 250 to 290 degrees along the length of the diffuser so that the diffuser port jets are fanned in the downstream direction.

   The design and permitting for a new multi-port diffuser (Discharge Point 004) at River Mile 22.5 (Relocated Diffuser) of the Feather River is nearly complete. On 31 March 2023, the Discharger submitted the *City of Yuba City Wastewater Treatment Facility Outfall and Diffuser Project Antidegradation Analysis Report* (2023 Antidegradation Analysis Report) and a complete antidegradation analysis (March 2023 Antidegradation Analysis) for the Relocated Diffuser to demonstrate consistency with federal and State antidegradation policies. The March 2023 Antidegradation Analysis concluded that the Relocated Diffuser would maintain existing water quality in the Feather River and was considered to provide the greatest benefit to the Discharger and Feather River, for the cost of implementation, over alternative projects such as advanced treatment and construction of a side back outfall, reclamation, and regionalization. Funding is a major factor since the communities that the Discharger provides service to are disadvantaged and some, severely disadvantaged. Central Valley Board staff determined that the March 2023 Antidegradation Analysis complied with federal and state antidegradation policies.
6. **Discharge Point Hierarchy.** The Discharger plans to discharge from Discharge Point 004 once the Relocated Diffuser is operational. Once this occurs,

Discharge Point 003 would become the main backup discharge option for Discharge Point 004 maintenance or repairs, as Discharge Point 001 is expected to be decommissioned and Discharge Point 002 is limited by evaporation and percolation rates and the need for seasonal maintenance. Until the diffuser at Discharge Point 004 is operational, the Discharger plans to continue to discharge from Discharge Point 003 year-round since they were able to demonstrate that there is adequate mixing to maintain the required dilution below 2000 cfs. Discharge Points 002 and 001 are the current backup discharge options for Discharge Point 003 maintenance or repairs since Discharge Point 002 is limited by evaporation and percolation rates along with the need for seasonal maintenance and Discharge Point 001 is limited by the Feather River 0.8 feet depth discharge prohibition.

7. **Discharge Point Background.** In October 2011, the Feather River at Shanghai Falls eroded to form a new path for Feather River flow. Subsequently, the high water from storms in 2016 and 2017 and the Oroville Dam spillway incident increased the erosion significantly. In order to ensure that discharges to the Feather River via the diffuser at Discharge Point 001 receive adequate dilution, this Order prohibits discharges at Discharge Point 001 when the depth of water over the diffuser is less than an average of 0.8 feet, which corresponds to a receiving water flow of approximately 10,000 cubic feet per second (cfs).

   Due to the Oroville Dam spillway incident and storms in 2016 and 2017, sediment was deposited into the disposal ponds, and the disposal pond berms were damaged. Repairs to the ponds included adding rip rap to the disposal pond berm slopes, removal of sediment in the disposal ponds, and repairing the disposal ponds' bottoms for improved percolation in ponds 3 through 6. During the repairs, four of the six disposal ponds were dried to allow heavy equipment to enter the ponds. The disposal ponds were not in service during the repairs.

   The Discharger conducted maintenance (deep ripping/disking) of the disposal ponds in October 2022. During this time, the Facility discharged to an unsubmerged diffuser at Discharge Point 001, allowed per a 22 November 2019 waiver provided by the NPDES Compliance and Enforcement Unit.

   Order R5-2019-0017-01 established temporary Discharge Point 003 to the Feather River via direct discharge on the east bank, which allowed the Discharger to empty and dry the disposal ponds for repairs and maintenance until the proposed Discharge Point 004 is constructed.

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

Effluent limitations contained in Order R5-2019-0017-01 for discharges from Discharge Point 001, 002, and 003 (Monitoring Locations EFF-001, EFF-002, and EFF-003, respectively) and representative monitoring data from the term of Order R5-2019-0017-001 are as follows:

Table F-3. Historic Effluent Limitations

Parameter	Units	Historic Effluent Limitations	Highest Discharge
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	AMEL 30 AWEL 45	Monthly Average: 20 Weekly Average: 39
Total Suspended Solids`	mg/L	AMEL 30 AWEL 45	Monthly Average: 22 Weekly Average: 27
pH	Standard Units	Instantaneous Max 8.5 Instantaneous Min 6.5	Instantaneous Max: 8.6 Instantaneous Min: 6.5
Copper, Total	µg/L	AMEL: 50 MDEL: 85	Monthly Average: 5.6 Daily Maximum: 6.6
Dichlorobromomethane	µg/L	AMEL: 10 MDEL: 30	Monthly Average: 1.6 Daily Maximum: 1.6
Ammonia Nitrogen, Total (as Nitrogen)	mg/L	AMEL: 31 AWEL: 51	Monthly Average: 36 Weekly Average: 45
Nitrate plus Nitrite, Total (as Nitrogen)	mg/L	AMEL: 10 AWEL: 21	Monthly Average: 0.33 Weekly Average: 0.33
Settleable Solids	ml/L	AMEL: 0.1 MDEL: 0.2	Monthly Average: 2.9 Daily Maximum: 6.5

D. Compliance Summary

1. The Central Valley Water Board issued Expedited Payment Program Letters (EPLs) on 30 October 2019 for $9,000, 3 September 2020 for $12,000, 10 May 2021 for $15,000, 1 November 2021 for $9,000, and 25 May 2023 for $18,000. These 5 EPLs total $65,000 paid as Mandatory Minimum Penalties.

2. A compliance inspection of the Facility was conducted on 6 October 2022. Central Valley Board Staff recommended that the Discharger conduct annual visual assessments of the operational condition of the diffuser, as required in section VI.C.4.b of Order R5-2019-0017-01 and those observations made during annual assessments, and any results of each assessment, be recorded in a log for the future reference of the Discharger and Central Valley Water Board staff.

E. Planned Changes

The Feather River channel has shifted in the vicinity of Discharge Point 001 and 003 such that, at normal non-storm event flows, the diffuser at Discharge Point 001 is no longer submerged. In order to ensure that discharges to the Feather River via the diffuser at Discharge Point 001 receive adequate dilution, this Order prohibits discharges at Discharge Point 001 when the depth of water over the diffuser is less than average of 0.8 feet, which corresponds to a receiving water flow of 10,000 cfs.

To regain the ability to discharge to the river under all river flows, the Discharger is proposing to locate and install the relocated diffuser in the deeper, more stable stretch of the river. If adequate funding to cover the loan and interest payments is available, the Discharger estimates construction of the relocated diffuser be begin around 2026 and would require approximately a year and a half to two years to complete.

The Discharger conducted a predesign study to determine improvements and costs associated with the addition of a side-stream treatment system. The side-stream treatment system would provide ammonia treatment to return water from the dewatering equipment before returning to the influent.

As of adoption of this Order, the Discharger is committed to constructing and operating the relocated diffuser over the installation of the side-stream treatment system. The Discharger has completed the 100% design of the relocated diffuser as well as most of the required permitting.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

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

B. California Environmental Quality Act (CEQA)

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

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

1. **Water Quality Control Plan.** Requirements of this Order specifically implement the applicable Water Quality Control Plans.
    a. **Basin Plan.** The Central Valley Water Board adopted a Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fifth Edition, February 2019 (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-4. Basin Plan Beneficial Uses

Discharge Point	Receiving Water	Existing Beneficial Use
001, 002, 003, and 004	Feather River	Municipal and domestic supply (MUN); Agricultural supply, including irrigation (AGR); Water contact recreation, incl. canoeing and rafting (REC 1); Non-contact water recreation (REC-2); warm freshwater habitat (WARM); Cold freshwater habitat (COLD); Warm and cold migration of aquatic organisms (MIGR); Warm and cold spawning, reproduction, and/or early development (SPWN); and Wildlife habitat (WILD).
002	Groundwater	Municipal and domestic supply (MUN); Agricultural supply (AGR); Industrial service supply (IND); and Industrial process supply (PROC).

b. **Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California.** The Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (ISWEBE Plan) was adopted by the State Water Resources Control Board (State Water Board) on 1 December 2020, under authority provided by Water Code sections 13140 and 13170. Except as otherwise indicated, this ISWEBE Plan establishes provisions for toxicity, water quality and sediment quality that apply to all inland surface waters, enclosed bays, and estuaries and coastal lagoons of the state, including both waters of the United States and surface waters of the state. The State Water Board rescinded the action to establish the ISWEBE Plan on 5 October 2021 in Resolution No. 2021-0044. The portions of the ISWEBE Plan, including the Toxicity Provisions, remain in effect.

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** U.S. EPA adopted the NTR on 22 December 1992, and later amended it on 4 May 1995 and 9 November 1999. About forty criteria in the NTR applied in California. On 18 May 2000, U.S. EPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on 13 February 2001. These rules contain federal water quality criteria for priority pollutants.
3. **State Implementation Policy.** On 2 March 2000, the State Water Board adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). The SIP became effective on 28 April 2000, with respect to the priority pollutant criteria promulgated for California by the U.S. EPA through the NTR and to the priority pollutant objectives established by the Central Valley Water Board in the Basin Plan. The SIP became effective on 18 May 2000, with respect to the priority pollutant criteria promulgated by the U.S. EPA through the CTR. The

State Water Board adopted amendments to the SIP on 24 February 2005, that became effective on 13 July 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

4. **Antidegradation Policy.** Federal regulation 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16 ("Statement of Policy with Respect to Maintaining High Quality of Waters in California") (State Anti-Degradation Policy). The State Anti-Degradation Policy is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. The State Anti-Degradation Policy requires that existing water quality be maintained unless degradation is justified based on specific findings. The Central Valley Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 C.F.R. section 131.12 and the State Anti-Degradation Policy. The Board finds this order is consistent with the Federal and State Water Board antidegradation regulations and policy.

5. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

6. **Domestic Water Quality.** In compliance with Water Code section 106.3, it is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order promotes that policy by requiring discharges to meet maximum contaminant levels (MCLs) designed to protect human health and ensure that water is safe for domestic use.

7. **Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

8. **Emergency Planning and Community Right to Know Act.** Section 13263.6(a) of the Water Code, requires that "*the Regional Water Board shall prescribe effluent limitations as part of the waste discharge requirements of a POTW for all substances that the most recent toxic chemical release data reported to the state emergency response commission pursuant to section 313 of the Emergency*

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

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

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

9. **Storm Water Requirements.** U.S. EPA promulgated federal regulations for storm water on 16 November 1990 in 40 C.F.R. parts 122, 123, and 124. The NPDES Industrial Storm Water Program regulates storm water discharges from wastewater treatment facilities. Wastewater treatment plants are applicable industries under the storm water program and are obligated to comply with the federal regulations. This Order regulates discharges of storm water. All storm water is maintained on-site, directed to an on-site storm water basin (maintained per section VI.C.4 of this Order) where it may be directed to the headworks.
10. **Statewide General WDR for Sanitary Sewer Systems.** The State Water Board adopted the General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order (WQ 2022-0103-DWQ) on 6 December 2022. The General Order requires public agencies that own or operate sanitary sewer systems with greater than 1 mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all sanitary sewer overflows (SSOs), among other requirements and prohibitions.

    The Discharger is subject to the requirements of, and must comply with, State Water Board Order WQ 2022-0103-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems and any subsequent order.
11. **Sewage Sludge and Biosolids.** This Order does not authorize any act that results in violation of requirements administered by U.S. EPA to implement 40 C.F.R. Part 503, Standards for the Use or Disposal of Sewage Sludge. These standards regulate the final use or disposal of sewage sludge that is generated during the treatment of domestic sewage in a municipal wastewater treatment facility. The Discharger is responsible for meeting all applicable requirements of 40 C.F.R. Part 503 that are under U.S. EPA's enforcement authority.

12. **Water Quality Impacts in Disadvantaged or Tribal Communities and Environmental Justice Concerns.** When issuing or reissuing individual waste discharge requirements or waivers of waste discharge requirements that regulate activity or a facility that may impact a disadvantaged or tribal community, and that includes a time schedule in accordance with subdivision (c) of Section 13263 for achieving an applicable water quality objective, an alternative compliance path that allows time to come into compliance with water quality objectives, or a water quality variance, the state board or a regional board shall make a finding on potential environmental justice, tribal impact, and racial equity considerations. For reissuances, the finding may be limited to considerations related to any changes to the requirements of the prior waste discharge requirements or waivers of waste discharge requirements. (Wat. Code, § 13149.2.).

    Consistent with Water Code section 13149.2, the Central Valley Water Board has taken into account environmental justice, tribal impact, and racial equity considerations in issuing this Order. The discharges regulated by this Order may impact one or more disadvantaged communities or tribal communities. The Facility regulated by this Order discharges treated municipal wastewater to the Feather River and is subject to discharge limitations given potential to cause or contribute to exceedances of water quality objectives for ammonia, dichlorobromomethane, cyanide, and bis(2-ethylhexyl) phthalate. This Order addresses potential adverse impacts to water quality from the Facility's discharge by setting prohibitions and limits on the discharge of wastewater, requiring ongoing monitoring and reporting of the discharged wastewater and receiving water, and imposing other specifications on the facility's wastewater treatment operations.

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 6 April 2018 U.S. EPA gave final approval to California's 2014 – 2016 section 303(d) List of Water Quality Limited Segments. The Basin Plan references this list of Water Quality Limited Segments (WQLSs), which are defined as "*…those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate limitations for point sources* (40 C.F.R. part 130, et seq.)." The Basin Plan also states, "*Additional treatment beyond minimum federal standards will be imposed on dischargers to [WQLSs]. Dischargers will be assigned or allocated a maximum allowable load of critical pollutants so that water quality objectives can be met in the segment*." The listing for the Lower Feather River (Lake Oroville Dam to the confluence with the Sacramento River) includes: chlorpyrifos, Group A pesticides, mercury, polychlorinated biphenyls (PCBs), and toxicity.
2. **Total Maximum Daily Loads (TMDLs).** Table F-5, below, identifies the 303(d) listings and any applicable TMDLs. This permit includes WQBELs that are

consistent with the assumptions and considerations of the applicable WLAs in the Basin Plan Amendment for the *Control of Diazinon and Chlorpyrifos Runoff into the Sacramento and Feather Rivers* (see this Fact Sheet section IV.C.3)

Table F-5. 303 (d) List for the Lower Feather River

Pollutant	Potential Sources	TMDL Status
Chlorpyrifos	Source Unknown	Not yet completed
Group A Pesticides	Source Unknown	Not yet completed
Mercury	Source Unknown	Not yet completed
PCBs	Source Unknown	Not yet completed
Toxicity	Source Unknown	Not yet completed

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

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, CCR, section 20005 et seq (hereafter Title 27). The exemption, pursuant to Title 27 CCR section 20090(a), is based on the following:
   a. The waste consists primarily of domestic sewage and treated effluent;
   b. The waste discharge requirements are consistent with water quality objectives; and
   c. The treatment and storage facilities described herein are associated with a municipal wastewater treatment plant.

   The Facility receives wastewater from domestic sources and 13 permitted nondomestic dischargers, 6 if which are classified as significant industrial users (SIUs), as defined at Title 40 of the Code of Federal Regulations (CFR) 403.3(v), and none of the SIUs are categorical industrial users (CIUs) subject to federal pretreatment requirements. The Discharger is currently permitted to discharge up to 10.5 MGD of treated wastewater to a series of six unlined disposal ponds within the Feather River floodplain. Chlorinated wastewater is left in the ponds to evaporate/percolate.

   In order to qualify for an exemption from Title 27 under section 20090(b), the Discharger must demonstrate compliance with the Basin Plan, which requires that constituent concentrations in the groundwater do not exceed either the Basin Plan's groundwater water quality objectives or background groundwater concentrations, whichever is greater.

   The groundwater monitoring network consists of eight monitoring wells (GW-001 through GW-008). According to the Discharger's 24 October 2008 *Hydrogeologic Assessment Report (2008 Hydrogeologic Assessment Report), Yuba City Wastewater Treatment Facility* (Kennedy/Jenks Consultants), monitoring wells GW-004, GW-005, and GW-006 were installed east of the disposal ponds to allow for a more accurate assessment of the groundwater gradient and water

quality to the east of the disposal ponds. Order R5-2013-0094 did not include monitoring requirements for GW-005 and GW-006, per the request of the Discharger stating that the wells can be inaccessible and that GW-004 can serve as the lone upgradient well to compare background values and develop groundwater gradients with the downstream wells. Order R5-2019-0017-01 did not include monitoring requirements for GW-005 or GW-006.

Well GW-007 was originally sited to assess background groundwater quality and was intended to compliment the upgradient wells and serve as a background well on the west side of the river. The 2008 Hydrogeologic Assessment Report concluded that groundwater elevation data indicated that the Feather River was a losing stream in the area and most likely diluting constituents in groundwater in its vicinity (indicated by similarity of TDS levels in the well and the Feather River). Therefore GW-007 was not considered as the background or upgradient well at the time. Well GW-008 is located between Pond 2 and the Feather River and was intended to provide information on groundwater quality and gradient between the ponds and the river. The 2008 Hydrogeologic Assessment provided the following information.

Table F-6. Monitoring Well Information

Monitoring Well	Construction Date	Borehole Depth, feet bgs	Depth of Screened Interval, feet bgs	Top of Casing Elevation, feet AMSL
GW-001	--		-	60.66
GW-002	--	-	-	52.19
GW-003	--	-	-	50.15
GW-004	November 2004	20	8.2 – 18.2	49.18
GW-005	November 2004	30	5.1 – 25.1	42.65
GW-006	November 2004	30	5.1 – 25.1	47.58
GW-007	November 2004	46.5	24.9 - 44.9	61.01
GW-008	November 2004	45	22.7 – 42.7	62.19

Table F-6 Notes:

1. **Units:** bgs =Below Ground Surface.
   AMSL= Above Mean Sea Level

The Facility provides secondary level treatment to the municipal wastewater. The Secondary treatment at the Facility is designed to remove solids and oxygen demanding substances. The rate and extent of nitrification is primarily a function of the degree of aerobic treatment and the sludge age. Nitrification at the Facility is extremely limited due to the low sludge age in the pure oxygen activated sludge process, as is common with a pure oxygen treatment facility.

High BOD_5 concentrations can produce anoxic conditions, which can cause the dissolution of metals (commonly iron and manganese), resulting in groundwater degradation. Surface water discharge effluent limitations for BOD_5 are technology based (based on level of treatment) with monthly average limitations of 30 mg/L, per 40 C.F.R. section 133.102(a). Central Valley Board Staff analyzed BOD_5 to the ponds and determined that the average BOD_5 to the

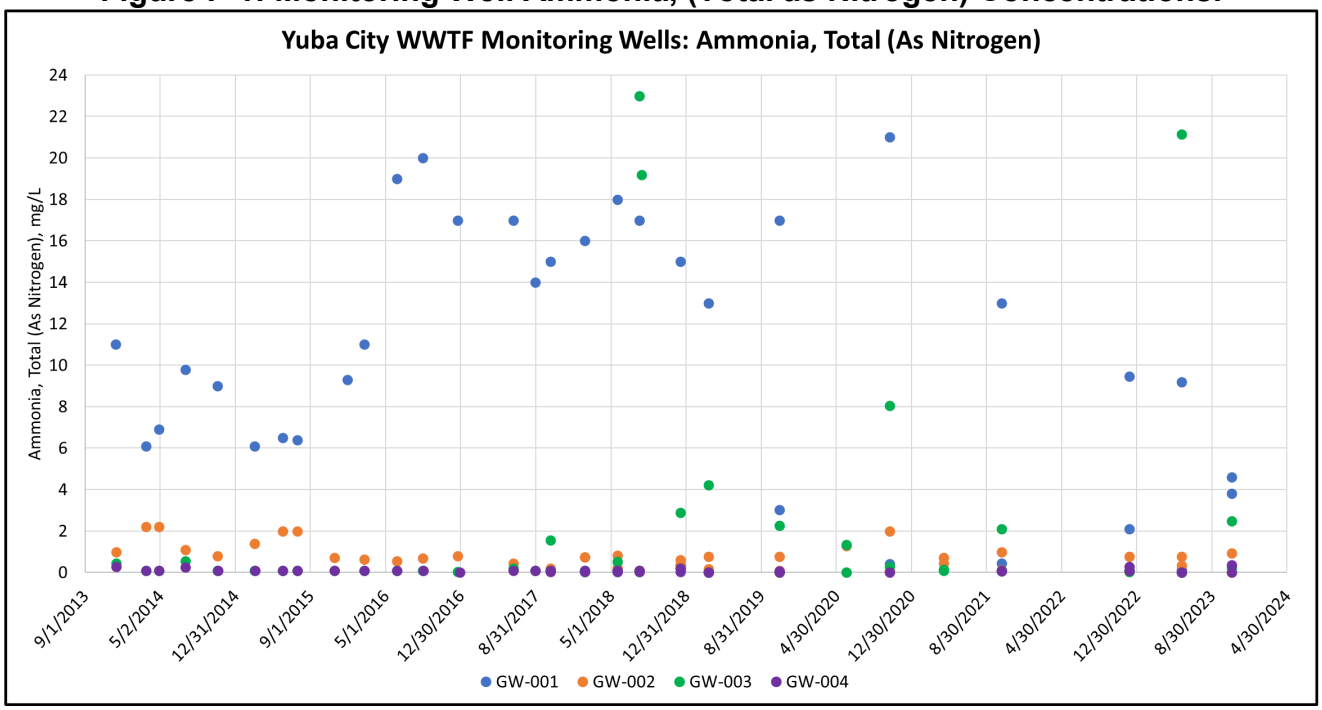
ponds was 8.6 mg/L, maximum monthly average to be 19.3 mg/L, and the maximum annual average to the Ponds was 10 mg/L.

Order R5-2013-0094 determined that the discharges from the disposal ponds to groundwater were in compliance with the Basin Plan since monthly sampling in 2004 resulted in a maximum concentration of 16.5 mg/L but the average nitrate, total as nitrogen concentration of 2.9 mg/L was not above the MCL of 10 mg/L. Groundwater monitoring conducted during the term of Orders R5-2013-0094-01 and Order R5-2019-0017-01 reaffirmed that discharges from the ponds to groundwater were in compliance with the Basin Plan since the average nitrate, total as nitrogen in the monitoring wells did not exceed the MCL of 10 mg/L.

Groundwater monitoring data are provided in the figures below for ammonia, nitrate, and electrical conductivity. The Basin Plan does not include numeric groundwater water quality objectives for ammonia. Nitrate and electrical conductivity include water quality objectives to protect MUN beneficial uses.

a. **Ammonia, Total as Nitrogen.** Upgradient well GW-004 ammonia, total as nitrogen samples were non-detect for 27 out of 28 samples and one sample resulted in a detection of 0.2 mg/L. The comparison of effluent to groundwater ammonia, total as nitrogen concentrations demonstrates that concentrations are very similar in GW-001 as compared to the effluent. In 249 samples collected since April 2019, when discharging to the Disposal Ponds, ammonia, total (as nitrogen), in the effluent ranged from 6.3 mg/L to 49 mg/L with an average of 25.7 mg/L. In 39 samples from December 2013 through November 2023, ammonia, total as nitrogen in GW-001 averaged 8.9 mg/L with a maximum value of 21 mg/L. Ammonia, total as nitrogen in GW-003 showed a higher maximum value of 23 mg/L but averaged less than GW-001 at 2.1 mg/L (44 samples).

Figure F-1: Monitoring Well Ammonia, (Total as Nitrogen) Concentrations.

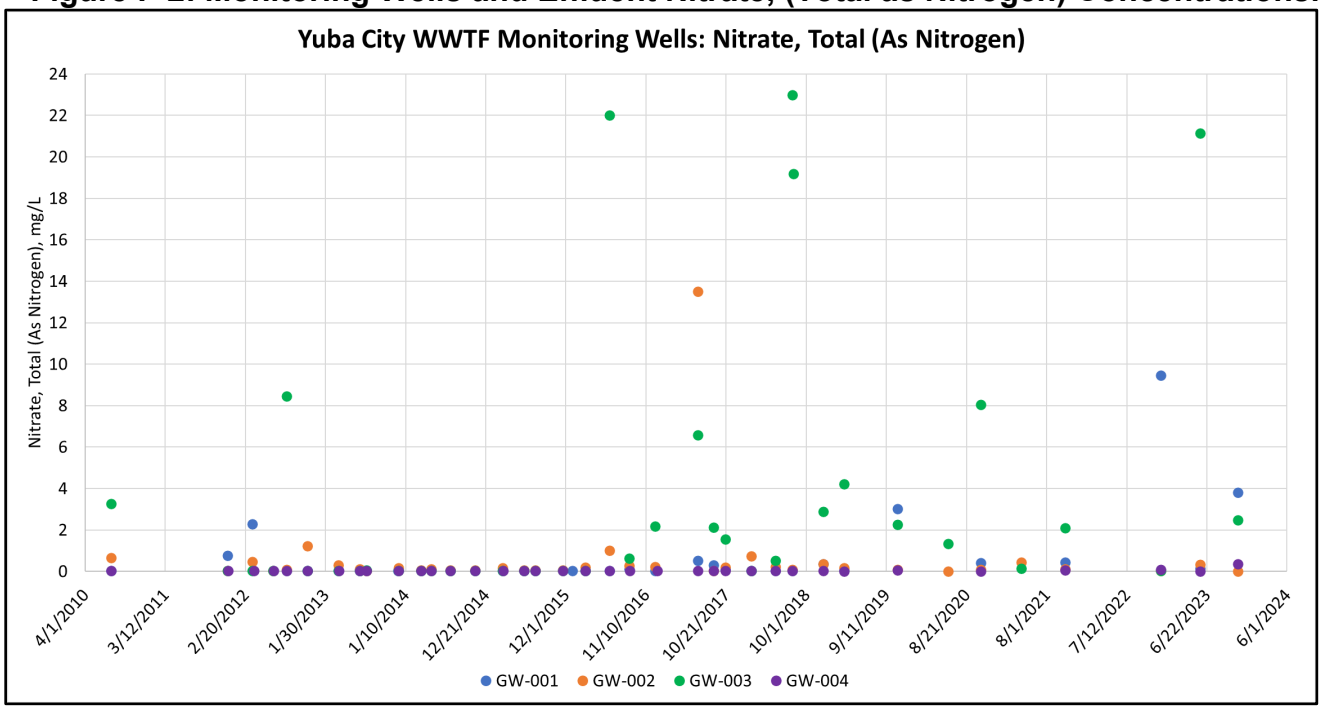


Since October 2020, the ammonia, total as nitrogen concentration in GW-001 has been declining. The Discharger has discharged to surface water since Discharge Point 003 became operational in February 2023 and plans to continue to routinely discharge to Discharge Point 003 until the diffuser at Discharge Point 004 is operational. Discharge to the disposal ponds may still occur for short periods of time to perform maintenance or repairs on Discharge Point 003, but not at the rate prior to the construction of Discharge Point 003. Based on the ammonia data discussed above, there does appear to be groundwater degradation occurring in downgradient wells. This Order requires the Discharger to submit a Hydrogeologic Assessment to determine whether the groundwater degradation is a result of discharge to the ponds, a result of agricultural operations surrounding the river at the discharge location, or a combination of both. To continue to determine the influence the pond discharge has on groundwater, more frequent ammonia monitoring has been added to the groundwater monitoring and reporting program in this Order.

b. **Nitrate, Total as Nitrogen.** Table 64431-A (Inorganic Chemicals) contains Maximum Contaminant Levels (MCLs) for nitrate, total as nitrogen, nitrite, total as nitrogen, and nitrate plus nitrite, total as nitrogen of 10 mg/L, 1 mg/L, and 10 mg/L, respectively. There were no nitrite groundwater samples collected; therefore, there were no groundwater nitrite, total as nitrogen data to compare to the effluent or background levels. The nitrite, total as nitrogen in the effluent was all below 1 mg/L and the facility is not designed to nitrify.

   Background well GW-004 had nitrate, total as nitrogen detections between 0.063 mg/L and 0.35 mg/L from 37 samples. Well GW-002 exceeded the nitrate, total as nitrogen MCL of 10 mg/L on one occasion with a maximum concentration of 13.5 mg/L and well GW-003 exceeded the nitrate, total as nitrogen MCL on four occasions with a maximum concentration of 23 mg/L. The average nitrate, total as nitrogen concentrations at GW-002 and GW-003 were both below the nitrate, total as nitrogen MCL of 10 mg/L at 0.58 mg/L and 3.45 mg/L, respectively, between July 2010 and November 2023.

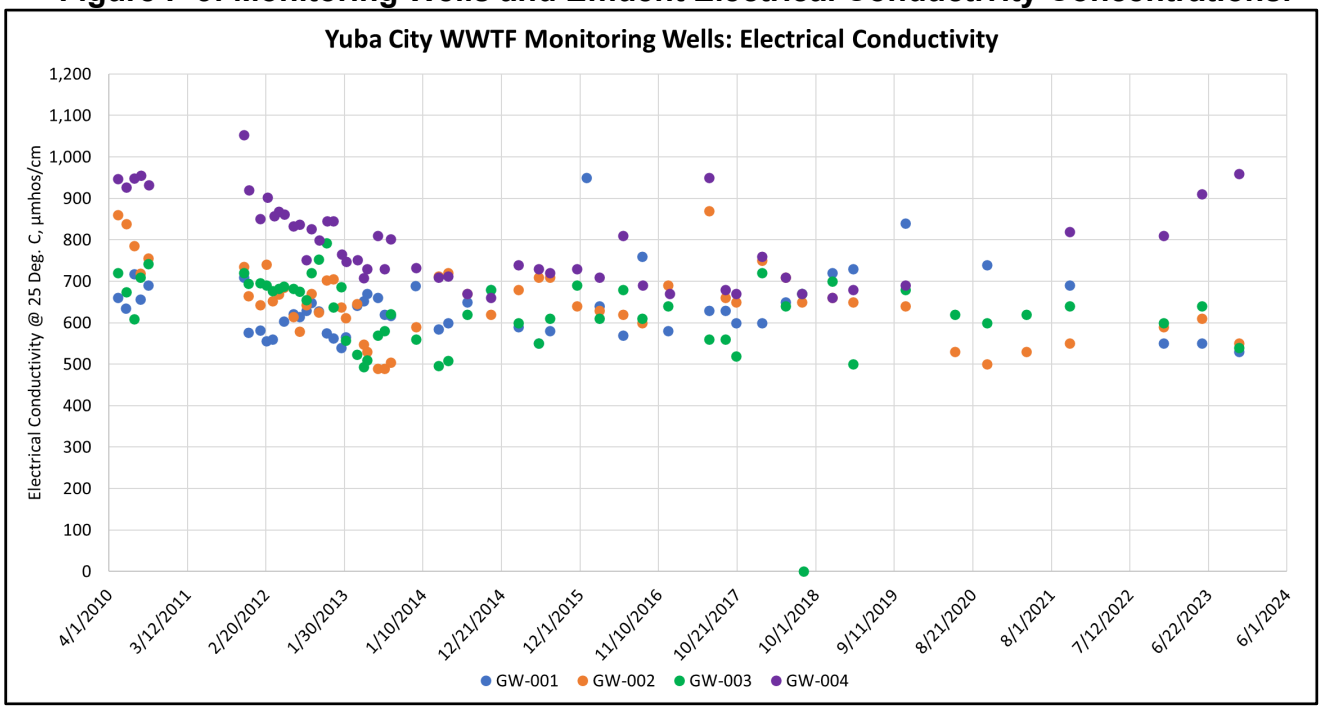
Figure F-2: Monitoring Wells and Effluent Nitrate, (Total as Nitrogen) Concentrations.



Based on the nitrate, total as nitrogen data discussed above there does appear to be groundwater degradation occurring in downgradient wells; however, the downgradient wells do not consistently exceed the nitrate, total as nitrogen primary MCL. This Order requires the Discharger to submit a Hydrogeologic Assessment to determine whether the groundwater degradation is a result of discharge to the ponds, a result of agricultural operations surrounding the river at the discharge location, or a combination of both. To continue to determine the influence the pond discharge has on groundwater, more frequent nitrate, total as nitrogen monitoring has been added to the groundwater monitoring and reporting program in this Order.

c. **Electrical Conductivity.** As shown in Figure F-3, electrical conductivity appears to be elevated in downgradient wells versus the upgradient wells based on average concentrations, but the average concentrations between March 2014 and December 2022 are less than 700 µmhos/cm for all four downgradient wells. The elevated concentrations in the downgradient wells are to be expected considering the Facility's effluent concentrations typically ranged from 390 to 960 µmhos/cm and the average over the same date range is 676 µmhos/cm. The comparison of effluent to groundwater EC concentrations demonstrates that concentrations are very similar in downgradient wells as compared to the effluent.

Figure F-3: Monitoring Wells and Effluent Electrical Conductivity Concentrations.



Data from downgradient wells does indicate that electrical conductivity is increased over background concentrations; however, the downgradient concentrations are in line with the discharge concentrations to the ponds indicating that the groundwater is not increasing electrical conductivity beyond concentrations in the effluent discharged to the ponds.

The Discharger selected to participate in the Prioritization and Optimization Study for the Salt Control Program and has been an active participant but has yet to submit their salinity Notice of Intent. To help ensure that the Discharger continues to implement salinity reduction measures, this Order includes an effluent trigger of 870 µmhos/cm for electrical conductivity to update the Salinity Evaluation and Minimization Plan. This Order also requires the Discharger to comply with the new Salinity Control Program (i.e., to participate in the P&O Study). To continue to determine the influence the pond discharge has on groundwater, more frequent electrical conductivity monitoring, along with specific constituents like chloride and sodium have been added to the groundwater monitoring and reporting program in this Order. Furthermore, this Order requires the Discharger to submit a Hydrogeologic Assessment to determine whether the groundwater degradation is a result of discharge to the ponds, a result of agricultural operations surrounding the river at the discharge location, or a combination of both.

d. **Groundwater Gradient.** From December 2013 through November 2023, the groundwater gradient at the disposal ponds was directed towards the Feather River except on three occasions in December of 2013, December 2016, and November 2023 indicating that groundwater at the vicinity of the disposal ponds is regularly flowing towards the river and not inland.

This Order requires the Discharger to continue groundwater monitoring to evaluate impacts to groundwater and assure protection of beneficial uses and to submit a Hydrogeologic Assessment that will be submitted to the Central Valley Water Board to assess current and potential impacts at and around the vicinity of the disposal ponds and if the discharges from the ponds to groundwater complies with the Basin Plan. This Order increases the number of constituents sampled and the frequency of groundwater monitoring from previous Order R5-2019-0017-01. Additional monitoring at the disposal ponds has also been included in this Order to better evaluate impacts to groundwater and protection of beneficial uses.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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

A. Discharge Prohibitions

1. **Prohibition III.A (No discharge or application of waste other than that described in this Order).** This prohibition is based on Water Code section 13260 that requires filing of a ROWD before discharges can occur. The Discharger submitted a ROWD for the discharges described in this Order; therefore, discharges not described in this Order are prohibited.
2. **Prohibition III.B (No bypasses or overflow of untreated wastewater, except under the conditions at CFR 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 CCR, title 22, section 66261.1 et seq, that prohibits discharge of hazardous waste.

5. **Prohibition III.E (Average Dry Weather Flow)**. This prohibition is based on the design average dry weather flow treatment capacity rating for the Facility and ensures the Facility is operated within its treatment capacity.

6. **Prohibition III.F (No discharge to the Feather River at Discharge Point 001 when depth of water over the diffuser is below an average of 0.8 feet)**. The Feather River has at Shanghai Falls eroded to form a new path for water as a result of storm events in 2011, 2016/2017, and the Oroville Dam Incident. At normal non-storm event flows, the diffuser is not submerged. In order to ensure that discharges to the Feather River via the diffuser at Discharge Point 001 receive adequate dilution, this Order prohibits discharges at Discharge Point 001 when the depth of water over the diffuser is less than an average of 0.8 feet, which corresponds to a receiving water flow of approximately 10,000 cfs based on data collected since the Oroville Dam Incident in February 2017. A flow of 10,000 cfs in the Feather River is considered a conservative value that allows for the diffuser to be submerged an average of 0.8 feet; therefore, when discharging to Discharge Point 001 and daily average flows in the Feather River are greater than or equal to 10,000 cfs, the Discharger will be considered in compliance with this discharge prohibition. For daily average Feather River flows less than 10,000 cfs while discharge to Discharge Point 001, compliance shall be determined by the average measurement of depth over the diffuser. Due to changing channel morphology, this minimum flow compliance threshold will be re-evaluated at the next permit renewal.

7. **Prohibition III.G (No Discharge to the Feather River at Discharge Point 001 and 003 when the new diffuser is installed and fully operational)**. Once the Discharger has completed construction of the Relocated Diffuser at Discharge Point 004, discharge at Discharge Point 001 and 003 would no longer be necessary, with the exception of Discharge Point 004 becoming non-functional or during periods of maintenance.

B. Technology-Based Effluent Limitations

1. Scope and Authority

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

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

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) established the minimum performance requirements for POTWs [defined in section 304(d)(1)]. Section 301(b)(1)(B) of that Act requires that such treatment works must, as a minimum, meet effluent limitations based on secondary treatment as defined by the U.S. EPA Administrator.

Based on this statutory requirement, U.S. EPA developed secondary treatment regulations, which are specified in 40 C.F.R. part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of BOD_5, TSS, and pH.

2. Applicable Technology-Based Effluent Limitations

a. **BOD_5 and TSS.** Federal regulations at 40 C.F.R. part 133, establish the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for BOD5 and TSS. A daily maximum effluent limitation for BOD_5 and TSS is also included in the Order to ensure that the treatment works are not organically overloaded and operate in accordance with design capabilities. 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_5 and TSS over each calendar month.

b. **pH.** The secondary treatment regulations at 40 C.F.R. part 133 also require that pH be maintained between 6.0 and 9.0 standard units. This Order, however, requires more stringent WQBELs for pH to comply with the Basin Plan's water quality objectives for pH.

Summary of Technology-based Effluent Limitations
Discharge Points 001, 002, 003, and 004

Table F-7. Summary of Technology-based Effluent Limitations

Parameter	Units	Effluent Limitations
BOD_5	mg/L	AMEL 30 AWEL 45
TSS	mg/L	AMEL 30 AWEL 45
BOD_5 and TSS Removal	Percent	85
pH	Standard Units	Instantaneous Minimum 6.0 Instantaneous Maximum 9.0

Table F-7 Notes:

1. Note that more stringent WQBELs for pH are applicable and are established as final effluent limitations in this Order (see section IV.C.3 of this Fact Sheet).

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

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

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

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

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

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

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

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

The federal CWA section 101(a)(2), states: "*it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water be achieved by July 1, 1983."* Federal Regulations, developed to implement the requirements of the CWA, create a rebuttable presumption that all waters be designated as fishable and swimmable. Federal Regulations, 40 CFR sections 131.2 and 131.10, require that all waters of the State regulated to protect the

beneficial uses of public water supply, protection and propagation of fish, shellfish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. 40 C.F.R. section 131.3(e) defines existing beneficial uses as those uses actually attained after 28 November 1975, whether or not they are included in the water quality standards. Federal Regulation, 40 C.F.R. section 131.10 requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States.

a. **Receiving Water and Beneficial Uses.** Refer to III.C.1. above for a complete description of the receiving water and beneficial uses.

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 May 2020 through April 2023, which includes effluent and ambient background data submitted in the SMRs.

c. **Assimilative Capacity/Mixing Zone**

i. **Regulatory Guidance for Dilution Credits and Mixing Zones.** The CWA directs the states to adopt water quality standards to protect the quality of its waters. U.S. EPA's current water quality standards regulation authorizes states to adopt general policies, such as mixing zones, to implement state water quality standards (40 CFR sections 122.44 and 122.45). The U.S. EPA allows states to have broad flexibility in designing its mixing zone policies. Primary policy and guidance on determining mixing zone and dilution credits is provided by the SIP and the Basin Plan. If no procedure applies in the SIP or the Basin Plan, then the Central Valley Water Board may use the U.S. EPA *Technical Support Document for Water Quality-Based Toxics Control* (EPA/505/2-90-001) (TSD).

For non-Priority Pollutant constituents, the allowance of mixing zones by the Central Valley Water Board is discussed in the Basin Plan, Policy for Application of Water Quality Objectives, which states the following, in part: *"In conjunction with the issuance of NPDES and storm water permits, the Regional Board may designate mixing zones within which water quality objectives will not apply provided the discharger has demonstrated to the satisfaction of the Regional Board that the mixing zone will not adversely impact beneficial uses. If allowed, different mixing zones may be designated for different types of objectives, including, but not limited to, acute aquatic life objectives, chronic aquatic life objectives, human health objectives, and acute and chronic whole effluent toxicity objectives, depending in part on the averaging period over which the objectives apply. In determining the size of such mixing zones, the Regional Board will consider the applicable procedures and guidelines in the EPA's Water Quality Standards Handbook and the [TSD]. Pursuant to EPA guidelines, mixing zones designated for acute aquatic life objectives will generally be limited to a small zone of initial dilution in the immediate vicinity of the discharge."*

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

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

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

A mixing zone shall not:

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

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

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

The mixing zone is thus an administrative construct defined as an area around the outfall that may exceed water quality objectives but is otherwise protective of the beneficial uses. Dilution is defined as the amount of mixing that has occurred at the edge of this mixing zone under critical conditions, thus protecting the beneficial uses at the concentration and for the duration and frequency required.

ii. **2007 Mixing Zone and Dilution Credits.** Flows in the Feather River originate in the Sierras and converge in the Lake Oroville Reservoir, located 5 miles northeast of Oroville. From the reservoir, the Feather River flows south across the Sacramento Valley, east of Sutter Buttes past Oroville and Yuba City and Marysville and joins the Sacramento River from the north. The Yuba River and Bear River are tributary to the Feather River east and south of Yuba City, respectively. Flow in the Feather River at the point of discharge from the Facility is affected by upstream flow in the Feather River, as well as flow in the Yuba River. Due to concerns over low flow conditions that could occur below historical levels in the Feather River at the point of discharge from the Facility, the Discharger completed a technical report assessing the impact of full utilization of water right withdrawals on critical low flows on 5 December 2003. According to the report, the Feather and Yuba Rivers are operated to maintain minimum flow rates regardless of flow diversions. The flow of the Feather River is operated in accordance with a 26 August 1983 agreement between the Department of Water Resources (DWR) and the California Department of Fish and Wildlife (DFW) entitled "*Concerning the Operation of the Oroville Division of the State Water Project for Management of Fish and Wildlife.*" This agreement states that a minimum flow of 1,000 cfs must be maintained by releases from the Oroville Reservoir (Thermolito Diversion Dam) along all stretches of the Feather River from the Thermolito Afterbay to the mouth of the Feather River at Verona. Releases from the reservoir are limited to prevent water elevations in the reservoir to fall below 733 feet. When releases are limited, the Feather River flow could be as low as 750 cfs. The flow in the Yuba River is controlled under the 1 March 2001 State Water Board Decision 1644. Under this decision, flows in the Yuba River are to be maintained at 250 cfs except under hydrologic critical years, where the flow at Marysville will be 100 cfs. Concurrent with the development of Order R5-2007-0134, the Discharger requested dilution credits for a number of parameters. The Discharger supported the request with a number of technical reports related to evaluation of the mixing zone in the vicinity of the discharge to the Feather River. The Discharger used

the Cornell Mixing Zone Expert System (CORMIX) to model the dilution characteristics of the Facility discharge to the Feather River through the diffuser. As a result of the review of these studies (2007 Mixing Zone Studies), the Central Valley Water Board granted mixing zones and dilution credits in Order R5-2007-0134 as summarized in the table below.

Table F-8. Regulatory Mixing Zone Sizes and Dilution from 2007 Model

Regulatory Mixing Zone	River Flowrate (cfs)	Effluent Flowrate (MGD)	Distance Downstream (feet)	Dilution (D)
Acute	1,000	15.2	8	11
Chronic	1,000	14.3	160	12
Human Health	3,600	10.5	1,200	221

Table F-8 Notes:

1. Dilutions evaluated at receiving water and effluent flowrates specified in Table 3 of the SIP.
2. **Acute Aquatic Life.** Distance to zone of initial dilution at 1Q10 flowrate of 1,000 cfs.
3. **Chronic Aquatic Life.** Nominal distance from diffuser to lip of Shanghai Falls (Larry Walker Associates, *CORMIX Updates for 3-Year Data Window and Future Critical Flows* Technical Memorandum to Bill Lewis, Maria Solis, and Michael Paulucci of the Yuba City WRP, dated January 29, 2007).
4. **Human Health River Flowrate.** Calculated harmonic mean flowrate.

iii. **2013 Mixing Zone and Dilution Credits.** The partial collapse of the rock shelf which comprised Shanghai Falls occurred in October 2011. The rock shelf restricted the river flow at Shanghai Falls which resulted in higher upstream river surface elevations than would otherwise have occurred. After the collapse of Shanghai Falls, the surface elevation of the river dropped such that the diffuser was no longer submerged beneath the Feather River year-round.

To support continuation of the dilution credits granted in Order R5-2007-0134-01 in light of the 2011 changes to the Feather River in the vicinity of Discharge Point 001, the Discharger provided additional information in the 3 April 2012 ROWD and in a 11 September 2012, *2012, CORMIX Update for Current Diffuser in the Feather River* (Larry Walker Associates) (referred to as 2012 CORMIX Update Study). Previous CORMIX modeling determined flow of an average of 0.8 feet of water over the diffuser as the level of critical low flow depth. The 2012 CORMIX Update Study maintained the critical low flow depth of an average of 0.8 feet over the diffuser but with an increase in the minimum flow required (i.e., 6,500 cfs) to match the new flow regime where an average of 0.8 feet over the diffuser was maintained. All other data was maintained from the previous CORMIX modeling with the exceptions of the following, which were updated to reflect updated information:

(a) As documented in the 3 March 2011 *Analysis of Minimum Flows Expected in the Feather River and the Yuba River in the Vicinity of Yuba City* (Larry Walker Associates), the Discharger conservatively estimated the 1Q10 and 7Q10 flow rates at 1,200 cfs and 1,236 cfs, respectively (and based on the operations agreements for Oroville Reservoir and Thermolito Afterbay on the Feather River and the New Bullard Bar Reservoir on the Yuba River).

(b) As documented in the 12 October 2012 *Harmonic Mean Flowrate and Human Health Dilution Update* (Larry Walker Associates), the harmonic mean flow was updated based on data from October 1968 through October 2012 using data collected by the United States Geological Survey (USGS) and DWR for the Feather River at Gridley and the Yuba River at Marysville. The harmonic mean calculated from the updated dataset is 3,612 cfs.

As shown in the table below, the 2012 CORMIX Update Study demonstrated that the resulting dilutions associated with the minimum flow required (i.e., 6,500 cfs) were greater than those used as the basis for the dilution credits provided under Order R5-2007-0134-01.

Table F-9. Comparison Of 2007 Dilutions and 2012 Requested Dilution

Regulatory Mixing Zone	Dilution Under Revised Feather River Flow Regime	Dilution Under Order R5-2007-0134-01
Acute	51	11
Chronic	56	12
Human Health	222	221

According to the 2012 CORMIX Update Study, the diffuser was submerged when flows in Feather River exceeded 4,650 cfs and was exposed to the atmosphere when flows were less than 4,650 cfs. Based on the new flow regime, the CORMIX model was run by the Discharger for receiving water flow rates ranging from 5,500 cfs to 7,500 cfs. At a receiving water flow of 6,500 cfs (corresponding to a river depth submerging the diffuser in an average of 0.8 feet of water, that represents the water depth that used to occur at the critical river flowrate), the model estimated that the water column would be completely mixed at a distance of 4.0 feet from the diffuser (which represents a shorter distance to achieve complete mixing when compared to the acute mixing zone of 8 feet as established in Order R5-2007-0134-01). Based on the results of the 2012 CORMIX Update Study, the Central Valley Water Board retained the dilution factors granted under Order R5-2007-0134-01 in Order R5-2013-0094-01 and prohibited discharges to the river when the depth of water over the diffuser is below an average of 0.8 feet.

iv. **2019 Mixing Zone and Dilution Credits.** Due to high flows in the Feather River, including the Oroville Dam Incident in 2016 and 2017, the diffuser requires approximately 10,000 cfs of flow to be submerged an average of 0.8 feet and the disposal ponds sustained damage that require repair. The

Discharger submitted a Technical Memorandum, *Yuba City WWTP TSO Dilution Evaluation* (referred to as 2019 Dilution Evaluation) on 15 February 2019 and an amended version on 25 February 2019. The 2019 Dilution Evaluation proposed establishing a temporary direct pipe discharge at Discharge Point 003 on the east bank of the Feather River to minimize public access to the discharged effluent so the disposal ponds can be prepared for the necessary repairs and maintenance. The 2019 Dilution Evaluation measured the mixing of electrical conductivity and temperature from the confluence of the Yuba and Feather Rivers in transects at Discharge Point 003, Mid Channel, and approximately 370 feet and 950 feet downstream of Discharge Point 003, respectively. The evaluation indicated that the discharge would be fully mixed by R2. Using a minimum Feather River flow rate of 2,000 cfs when discharging and a peak flow of 15.2 MGD, the available dilution is 85:1. The amended 2019 Dilution Evaluation confirmed that the estimated mixing zones at Discharge Point 003 are smaller than the existing mixing zones as shown in the Table F-10 below:

Table F-10. 2019 Comparison of Mixing Zone Sizes

Regulatory Mixing Zone	Mixing Zone Size at Discharge Point 001 per 2007 Model	Mixing Zone Size at Discharge Point 003
Acute	1,280 square feet	440 square feet
Chronic	25,600 square feet	510 square feet
Human Health	1,200 feet	950 feet

Table F-10 Notes:

1. Discharge Point 001 human health mixing zone is fully mix by this distance downstream.
2. Discharge Point 003 human health mixing zone is fully mix by this distance downstream.

v. **2023 Mixing Zone and Dilution Credits**. The March 2023 ROWD noted that river velocities over the diffuser at Discharge Point 001 are greater than observed when the dilution modeling was performed in 2007. Previously, the minimum depth over the diffuser corresponded with critical low river flows (as shown in Table F-8), with generally low velocities. Previous studies have concluded that the modeling conducted in 2007, before the river bottom erosion, is a conservative estimate of the currently available dilution and would be appropriate to use for permitting purposes. The unstable river bottom around the discharge continues to change and confounds additional modeling work to determine the precise dilution available from the discharge. The result of installing the relocated diffuser at Discharge Point 004 would be to allow accurate modeling to assess the available dilution. The Discharger requested to retain the dilution credits from R5-2019-0017-01 at Discharge Point 001.

Order R5-2019-0017-01 required a dilution verification study at Discharge Point 003 which the Discharger submitted in March 2023. In the Discharge Point 003 Mixing Zone Verification study, the Discharger performed two sampling events in February 2023 at river flows of approximately 3,000 cfs, to evaluate the level of mixing provided by flow through the boulder field remnants of Shanghai Bend Falls.

For a completely mixed discharge, the SIP requires not more than a 5 percent difference, accounting for analytical variability, in the concentration of a pollutant exists across a transect of the water body at a point within two stream/river widths from the discharge point. Two river widths of the Feather River equates to approximately 660 feet. The Discharge Point 003 Mixing Zone Verification study concluded that dilutions of 11 and 12 would be available at a distance downstream of Discharge Point 003 at 96 feet and 105 feet respectively, showing complete mixing per the SIP, as show in Table F-11. Because the flows at dilutions of 11 and 12 are significantly lower than 2,000 cfs, the discharge prohibition requiring a Feather River flow of 2,000 cfs has been removed from this Order.

Table F-11. Discharge Point 003 Mixing Zone Verification Sizes

Regulatory Mixing Zone	Length (Feet)	Width (Feet)	Area (Square Feet)
Acute	96	20	960
Chronic	105	22	1,155

The Discharger provided a complete antidegradation analysis and a predesign engineering report to determine design specifications, estimate mixing zone sizes, and determine available dilution for Discharge Point 004, as shown in Table F-12 below:

Table F-12. Requested Mixing Zones and Dilution Credits for the Relocated Diffuser

Mixing Zone	River Flowrate (cfs)	Effluent Flowrate (MGD)	Distance Downstream (feet)	Dilution (D)
Acute	1,200	15.8	35	45
Chronic, 4-Day	1,236	13.7	350	48
Chronic, 30-Day	1,236	12.6	350	50
Human Health	3,252	10.5	500	143

vi. **Applicability of Existing Mixing Zone and Dilution Credits.** Significant channel erosion took place during the Oroville Dam Incident where releases from the Oroville Dam spillway resulted in flows as high as 150,000 cfs in the Feather River at Discharge Point 001. Currently, the diffuser is adequately submerged (i.e., average depth of 0.8 feet over the diffuser) at flows of approximately 10,000 cfs. The flowrate required to submerge the diffuser has continued to increase as the river channel erodes and may increase further in the future.

(a) **2013 Mixing Zone and Dilution Credits.** Given the uncertainty of possible changes to the riverbed configuration in the future, use of a water level trigger of an average of 0.8 feet over the diffuser will ensure that adequate river flow is available to mix with the Facility effluent and protect aquatic life and human health. Since the proposed water level trigger requires significantly higher flow rates for discharges at Discharge Point 001 to occur (greater than 10,000 cfs as of adoption of this Order), significantly more dilution will be available when discharging than the assumptions on which the dilution credits allowed in Order R5-2007-0134-01 and the 2012 CORMIX Update Study were based.

(b) **2019 Mixing Zone and Dilution Credits.** The 2019 Dilution Evaluation determined that the mixing zones at Discharge Point 003 are smaller than the existing mixing zones granted under Order R5-2007-0134-01 when flow in the Feather River is at least 2,000 cfs. Therefore, the Discharge Point 003 mixing zone is consistent with the SIP mixing zone requirements, and the existing dilution credits and dynamic model from Discharge Point 001 can be applied to Discharge Point 003.

(c) **2023 Mixing Zone and Dilution Credits.** The March 2023 Discharge Point 003 Mixing Zone Verification Study showed that the Feather River is completely mixed by 96 feet and 105 feet downstream of Discharge Point 003 at dilution credits of 11 and 12 respectively at 3,000 cfs. The dilution and mixing zone sizes for the relocated diffuser are estimates since it has not been constructed as of September 2023. Because the flows at dilutions of 11 and 12 are significantly lower than 2,000 cfs, the discharge prohibition requiring a Feather River flow of 2,000 cfs has been removed from this Order.

Given that no change has been requested for the existing dilution credits for Discharge Points 001, 002, and 003, the conditions stipulated in the SIP for granting dilution credits (e.g., the mixing zone will not cause acutely toxic conditions to aquatic life passing through the mixing zone) will continue to be met under the new flow regime and discharge flow (based on the water level trigger at Discharge Point 001). In addition, the discharge of effluent will only be allowed during receiving water flows which substantially exceed the critical low flows. Dilutions granted at Discharge Points 001, 002, and 003 are conservative to apply to the Discharge Point 004 and confirmed by a Mixing Zone verification study required when Discharge Point 004 is fully operational.

As described previously in Section II.E of this Fact Sheet, the Discharger is proposing to locate and install a new diffuser within the next 10 years downstream of the Shanghai Falls in the deeper more stable stretch of the river to allow the Discharger to regain the ability to discharge to the river under all flow conditions.

Consistent with Order R5-2019-0017-01, this Order applies the same dilution credits from Discharge Points 001 and 002 to Discharge Point

003. The Discharger submitted a 23 October 2008 Disposal Pond Study that concluded that the effluent limitations for discharges to the ponds established with the same dilution credits as Discharge Point 001 are protective of water quality objectives when the ponds are inundated. Although evaporation does increase constituent concentrations in the ponds, the significant amounts of dilution available during flood stages reduces the constituent concentrations when the ponds are inundated. Dilutions granted at Discharge Points 001, 002, and 003 are conservatively to applied to the Discharge Point 004 and will be confirmed by a Mixing Zone verification study required when Discharge Point 004 is fully operational.

Consistent with Orders R5-2007-0134-01, R5-2013-0094-01, this Order includes effluent limitations for ammonia and copper per the Discharger's dynamic model. The effluent limitations for copper in this Order are more stringent than those from Order R5-2019-0017-01.

vii. **Evaluation of Available Dilution for Acute and Chronic Aquatic Life.** The SIP requires a mixing zone must be as small as practicable and comply with eleven (11) mixing zone prohibitions under section 1.4.2.2.A. The original 2007 mixing zone authorized by Order R5-2007-0134-01 meets the acute and chronic water quality criteria for ammonia and copper. Based on the 2007 Mixing Zone Studies, the requested acute and chronic mixing zones are 8 feet and 160 feet downstream, respectively. The 2012 CORMIX Update Study, the amended 2019 Dilution Evaluation, and March 2023 Discharge Point 003 Mixing Zone Verification Study demonstrated that the mixing zone at Discharge Points 001 and 003, respectively, are smaller than the mixing zones that were authorized in Order R5-2007-0134-01 (see Table F-9 and F-10). Therefore, these mixing zones are considered conservative for all discharge points, and the existing acute and chronic mixing zones meet the acute and chronic water quality criteria for ammonia and copper.

(1) ***Shall not compromise the integrity of the entire water body*** – The TSD states that, *"If the total area affected by elevated concentrations within all mixing zones combined is small compared to the total area of a water body (such as a river segment), then mixing zones are likely to have little effect on the integrity of the water body as a whole, provided that the mixing zone does not impinge on unique or critical habitats."* The mixing zones are small and make up less than one-half of the stream width. The aquatic life mixing zones do not compromise the integrity of the entire water body.

(2) ***Shall not cause acutely toxic conditions to aquatic life passing through the mixing zone*** – The SIP requires that the acute mixing zone be appropriately sized to prevent lethality to organisms passing through the mixing zone. U.S. EPA recommends that float times through a mixing zone less than 15 minutes ensure that there will not be lethality to passing organisms. The acute mixing zone extends 8 feet downstream of the diffuser. The Discharger's previous CORMIX

studies calculated the time required to reach the end of the acceleration zone, and conservatively estimated travel times by directly proportioning the time required with the fraction of the total acceleration zone distance. For the case of the 1Q10 of 1,000 cfs and peak day effluent flowrate of 15.2 MGD, the acceleration zone is approximately 80 feet long and CORMIX calculates the total travel time to be 28 seconds. The conservative estimate of the time required to traverse the 4 feet from the diffuser to the 5 river depths length scale distance would be estimated as 28 seconds times (4 feet divided by 80 feet), which equals 1.4 seconds. Likewise, the distance to reach the end of the zone of initial mixing (8 feet for these conditions) would conservatively require 2.8 seconds. The estimates are conservative because the water velocity closer to the diffuser would be greater. Velocity decreases as momentum dissipates and the plume mixes. However, neglecting the acceleration provided by the momentum of the discharged effluent, the Discharger estimated that the travel time to traverse 8.5 feet is 4.5 seconds, which is still considerably smaller than U.S. EPA's recommendation of less than 15-minute exposure. Furthermore, 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 acute toxic conditions to aquatic life passing through the acute and chronic mixing zones do not occur.

(3) ***Shall not restrict the passage of aquatic life*** – The Discharger's evaluated the availability of a zone of passage around the mixing zones in Attachment C of the 18 July 2006 ROWD, in a 29 January 2007 technical memorandum CORMIX Updates for 3-Year Data Window and Future Critical Flows, in the 2019 Dilution Evaluation, and the March 2023 Discharge Point 003 Mixing Zone Verification Study. Based on review of these reports, the Central Valley Water Board concludes that an adequate zone of passage for aquatic organisms exists.

(4) ***Shall not adversely impact biologically sensitive or critical habitats, including, but not limited to, habitat of species listed under federal or State endangered species laws*** – The acute and chronic mixing zones will not cause acutely toxic conditions, allow adequate zones of passage, and are sized appropriately to ensure that there will be no adverse impacts to biologically sensitive or critical habitats.

(5-9) ***Shall not produce undesirable or nuisance aquatic life; result in floating debris, oil, or scum; produce objectionable color, odor, taste, or turbidity; cause objectionable bottom deposits; cause nuisance*** – The current discharge has not been shown to result in floating debris, oil, or scum; produce objectionable color, odor, taste, or turbidity; cause objectionable bottom deposits; or cause nuisance.

(10) ***Shall not dominate the receiving water body or overlap a mixing zone from different outfalls*** – The acute and chronic mixing zones are small relative to the water body, so they will not dominate the water body. Discharge Point 001 diffuser is located approximately 3,400 feet downstream of the Linda County Water District Wastewater Treatment Plant (WWTP) outfall and Discharge Point 003 outfall is located approximately 3,350 feet downstream of the Linda County Water District WWTP's outfall, for which the Central Valley Water Board has not authorized aquatic life mixing zones in Order R5-2022-0070. Order R5-2022-0070 does contain a chronic whole effluent toxicity dilution ration of 11:1 that extends 100 feet downstream of the Linda County Water District WWTP Outfall. The distance from the Linda County Water District WWTP Outfall to Discharge Points 001 and 003 are approximately 3,400 feet apart. Discharge Point 004 would be located approximately 1.6 miles from the approximate locations of Discharge Points 001 and 003 with no overlapping of mixing zones from different outfalls. There are no other outfalls or mixing zones in the vicinity of the discharge.

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

The acute and chronic aquatic life mixing zones 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. The 2012 CORMIX Update Study and the amended 2019 Dilution Evaluation demonstrated that the acute and chronic mixing zones at Discharge Points 001 and 003, respectively, are smaller than the mixing zones that were authorized in Order R5-2007-0134-01 (see Table F-9 and F-10). Therefore, these mixing zones also comply with the SIP and the Basin Plan as discussed above.

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

viii. **Evaluation of Available Dilution for Human Health Criteria.** 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 has requested a human health mixing zone for compliance with human health water quality criteria for dichlorobromomethane. Based on the mixing zone studies, the requested human health mixing zone is 1,200 feet downstream of Discharge Point 001. The amended 2019 Dilution Evaluation demonstrated that the discharge is fully mixed by approximately 950 feet downstream of Discharge Point 003, which is less than the mixing zone that was authorized in Order R5-2007-0134-01 (see Tables F-7 and F-8). The March 2023 Discharge Point 003 Mixing Zone Verification Study showed that the Feather River is completely mixed by 96 feet and 105 feet downstream of Discharge Point 003 at dilution credits of 11 and 12 respectively at 3,000 cfs (see Table F-11). Therefore, this mixing zone is considered conservative, and the existing human health mixing zone is applicable at Discharge Point 003. Furthermore, dilutions granted at Discharge Points 001, 002, and 003 are conservative to apply to the Discharge Point 004 until a mixing zone verification study is conducted when it is fully operational.

(1) ***Shall not compromise the integrity of the entire water body*** – The TSD states that, *"If the total area affected by elevated concentrations within all mixing zones combined is small compared to the total area of a water body (such as a river segment), then mixing zones are likely to have little effect on the integrity of the water body as a whole, provided that the mixing zone does not impinge on unique or critical habitats."* The Human Health mixing zone does not compromise the integrity of the entire water body.

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

(3) ***Shall not restrict the passage of aquatic life*** – The human health mixing zone is not applicable to aquatic life criteria. Therefore, the mixing zone will not restrict the passage of aquatic life.

(4) ***Shall not adversely impact biologically sensitive or critical habitats, including, but not limited to, habitat of species listed under federal or State endangered species laws*** – The human health mixing zone is not applicable to aquatic life criteria. Therefore, the mixing zone will not restrict the passage of aquatic life.

(5-9) ***Shall not produce undesirable or nuisance aquatic life; result in floating debris, oil, or scum; produce objectionable color, odor, taste, or turbidity; cause objectionable bottom deposits; cause nuisance*** – The allowance of a human health mixing zone will not produce undesirable or nuisance aquatic life, result in floating debris,

oil, or scum; produce objectionable color, odor, taste, or turbidity; cause objectionable bottom deposits; or cause nuisance.

(10) ***Shall not dominate the receiving water body or overlap a mixing zone from different outfalls*** – The acute and chronic mixing zones are small relative to the water body, so they will not dominate the water body. Discharge Point 001 diffuser is located approximately 3,400 feet downstream of the Linda County Water District Wastewater Treatment Plant (WWTP) outfall and Discharge Point 003 outfall is located approximately 3,350 feet downstream of the Linda County Water District WWTP's outfall, for which the Central Valley Water Board has not authorized aquatic life mixing zones in Order R5-2017-0094. Discharge Point 004 would be located approximately 1.6 miles from the approximate locations of Discharge Points 001 and 003 with no overlapping of mixing zones from different outfalls. There are no other outfalls or mixing zones in the vicinity of the discharge.

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

The human health mixing zone, therefore, complies with the SIP. The mixing zone also 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 zone, 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. The amended 2019 Dilution Evaluation demonstrated that the discharge is fully mixed by approximately 950 feet downstream of Discharge Point 003, which is a smaller mixing zone than the mixing zone authorized in Order R5-2007-0134-01 (see Tables F-7 and F-8). Therefore, the existing human health mixing zone at Discharge Point 003 also complies with the SIP and the Basin Plan as discussed above. Furthermore, dilutions granted at Discharge Points 001, 002, and 003 are conservative to apply to Discharge Point 004.

ix. **Evaluation of Available Dilution for Specific Constituents (Pollutant-by- Pollutant Evaluation).** As discussed in section IV.C.3 of this Fact Sheet, based on existing effluent data, it appears the Facility cannot meet the end-of pipe (no dilution) WQBELs for ammonia, copper, bis (2-ethylhexyl) phthalate, cyanide, and dichlorobromomethane.

The allowance of a mixing zone and dilution credits is a discretionary act by the Central Valley Water Board. When determining the appropriate dilution credits for a specific pollutant, several factors must be considered, such as available assimilative capacity, Facility performance, and best practicable treatment or control (BPTC). The Central Valley Water Board has determined the allowable dilution credits on a constituent-by-constituent basis.

The receiving water contains assimilative capacity for ammonia, copper, bis (2-ethylhexyl) phthalate, cyanide, and dichlorobromomethane. As discussed above, acute, chronic and human health mixing zones with associated dilution credits of 11, 12, and 221, respectively, meet the mixing zone conditions specified in section 1.4.2.2.A of the SIP. However, an overarching mixing zone condition is that "*A mixing zone shall be as small as practicable.*", and section 1.4.2.2.B requires, "*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 considered Facility performance and the receiving water's assimilative capacity in determining the dilution needed. The consideration of these factors is necessary to avoid allocating an unnecessarily large portion of the receiving water's assimilative capacity and possibly violating the Antidegradation Policy. Effluent data from the current permit term indicates that effluent concentrations for bis (2-ethylhexyl) phthalate, cyanide, and dichlorobromomethane are well below the WQBELs derived with the granted dilution credit. Based on this analysis, the full dilution credit is not necessary for bis (2-ethylhexyl) phthalate, cyanide, and dichlorobromomethane, and this Order does not grant the full extent of the requested mixing zone. Therefore, in lieu of allowing the full dilution credit for bis (2-ethylhexyl) phthalate, cyanide, and dichlorobromomethane, this Order retains the performance-based effluent limitations that were established in Order R5-2013-0094-01 and R5-2019-0017-01 (for dichlorobromomethane), with which the Discharger is able to comply, as shown in the following table (also discussed further in section IV.C.3).

Table F-13. Dilution Credits Associated with Performance-based Effluent Limitations

Parameter	Units	ECA	Criterion	Background	Dilution Credit
Bis (2-ethylhexyl) Phthalate	µg/L	27	1.8	0.25	14
Cyanide, Total	µg/L	12	5.2	0.45	1.3
Dichlorobromomethane	µg/L	10	0.56	0.08	16.9

As described further in section IV.C.2.f below, the Discharger performed dynamic modeling to serve as the basis for WQBELs established under Order R5-2007-0134-01 for ammonia and copper. In performing the dynamic modeling, the mixing zone dimensions serve as the point of compliance with water quality criteria. The dynamic model specifically determines the long-term average constituent concentration that would comply with the applicable water quality criteria at the edge of the mixing zones. Based on the 2012 CORMIX Update Study, the amended 2019 Dilution Evaluation, and the March 2023 Discharge Point 003 Mixing Zone Verification Study, the allowable acute and chronic aquatic life dilution for the mixing zones authorized at Discharge Points 001 and 003 is greater

than authorized under Order R5-2007-0134-01; therefore, the dynamic model provides a conservative estimation of WQBELs for ammonia and copper and has been used to established the WQBELs for all Discharge Points.

x. **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-8 based on the following:

(a) 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.

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

(c) 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 zones are small relative to the large size of the receiving water, are not at or near a drinking water intake, and do not overlap a mixing zone from a different outfall.

(d) 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.

(e) 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 zones. 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 Order establishes end-of-pipe effluent limitations (e.g., for BOD5 and TSS) and discharge prohibitions to prevent these conditions from occurring.

(f) 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 credit is adequately protective of the beneficial uses of the receiving water.

(g) The Central Valley Water Board has determined mixing zone complies with the SIP for priority pollutants.

(h) 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 effluent limitations for all constituents in this Order.

(i) The Central Valley Water Board has determined the mixing zones comply with the Basin Plan for non-priority pollutants. The Basin Plan requires a 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.

(j) The Central Valley Water Board has determined that allowing dilution factors that exceed those proposed by this Order would not comply with the State Antidegradation Policy for receiving waters outside the allowable mixing zone for ammonia, copper, bis (2-ethylhexyl) phthalate, cyanide, and dichlorobromomethane. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16 (State Antidegradation Policy). The State Antidegradation 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 bis (2-ethylhexyl) phthalate, cyanide, and dichlorobromomethane that have been adjusted for dilution credits provided in Table F-11 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 BPTC 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, bis (2-ethylhexyl) phthalate, cyanide, and dichlorobromomethane that have been adjusted for dilution credits provided in Table F-8 is consistent with Section 1.4.2.2B of the SIP that requires the Central Valley Water Board to shall deny or significantly limit a mixing zone and dilution credits as necessary to comply with other regulatory requirements.

Therefore, the Central Valley Water Board has determined the effluent limitations established in this Order for ammonia, copper, bis (2-ethylhexyl) phthalate, cyanide, and dichlorobromomethane that have been adjusted for dilution credits provided in Table F-8 are appropriate and necessary to comply with the Basin Plan, SIP, federal antidegradation regulations, and the State Antidegradation Policy.

d. **Conversion Factors.** The default U.S. EPA conversion factors contained in Appendix 3 of the SIP were used to convert the applicable dissolved criteria to total criteria when developing effluent limitations for CTR metals, including cadmium, chromium III, chromium VI, copper, lead, nickel, silver, and zinc. Furthermore, a conservative dissolved-to-total metal translator of 1 has been used when developing effluent limitations for cadmium, chromium III, chromium VI, copper, lead, nickel, silver, and zinc. Per the Reopener Provisions of this Order, if the Discharger performs studies to determine site-specific dissolved-to-total metal translators this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

e. **Hardness-Dependent CTR Metals Criteria.** The CTR and the NTR contain water quality criteria for seven metals that vary as a function of hardness. The lower the hardness the lower the water quality criteria. The metals with hardness-dependent criteria include cadmium, copper, chromium III, lead, nickel, silver, and zinc. This Order has established the criteria for hardness-dependent metals based on the hardness of the receiving water (actual ambient hardness) as required by the SIP and the CTR.

The ambient hardness for the Feather River ranges from 28 mg/L to 65 mg/L based on collected ambient data from May 2010 through April 2023. Given the high variability in ambient hardness values, there is no single hardness value that describes the ambient receiving water for all possible scenarios (e.g., minimum, maximum). Because of this variability, staff has determined that based on the ambient hardness concentrations measured in the receiving water, the Central Valley Water Board has discretion to select ambient hardness values within the range of 28 mg/L (minimum) up to 65 mg/L (maximum).

The Central Valley Water Board finds that the use of the ambient hardness values and associated acute and chronic criteria shown in Table F-13 to conduct the reasonable potential analysis (RPA) and calculate WQBELs,

protect beneficial uses under all ambient receiving water conditions and comply with the SIP, CTR, and Basin Plan.

Table F-14. Summary of Criteria for CTR Hardness-dependent Metals

Parameter	Ambient Hardness (mg/L)	Acute Criteria (µg/L, total)	Chronic Criteria (µg/L, total)
Cadmium	51 (acute) 51 (chronic)	2.3	1.6
Chromium III	51	1143	136
Copper	51	8.7	6.0
Lead	51	39.0	1.5
Nickel	51	305	34
Silver	51	1.32	--
Zinc	51	78	78

Table F-14 Notes:

1. **Criteria (µg/L total).** Acute and chronic criteria were rounded to two significant figures in accordance with the CTR (40 C.F.R. section 131.38(b)(2)).
2. **Ambient hardness (mg/L).** Values in Table F-14 represent actual observed receiving water hardness measurements.
3. **Copper.** This Order allows a mixing zone for copper. The ambient hardness shown above is only appropriate for conducting the RPA, because dilution has not been considered. As discussed in Section IV.C.2.c, when considering dilution to calculate the WQBELs, ambient hardness is based solely on upstream receiving water hardness. The Discharger provided an Updated Dynamic Model in the March 2023 Report of Waste Discharge that determined an ambient hardness based on functions of the ambient flowrate plus a Monte Carlo term to add the observed variability around the regression.

f. **Dynamic Modeling Results.** As allowed for under Section 1.4 of the SIP, the Discharger performed dynamic modeling to calculate WQBELs under Order R5-2007-0134-01 for ammonia and copper. The Discharger used a dynamic modeling approach to directly derive appropriate long-term average wasteload allocations (LTAs) and associated average monthly effluent limitations (AMELs) and maximum daily effluent limitation (MDELs) for the discharge to the Feather River, using the approach described in the TSD. Orders R5-2007-0134-01, R5-2013-0094-01, and R5-2019-0017-01 contained AMELs and MDELs for ammonia and copper based on the dynamic model results.

The Discharger submitted the *Updated Dynamic Model for the Derivation of Select WQBELs for the Yuba City WWTF*, by Larry Walker Associates, on 31 March 2023 (March 2023 Dynamic Model). The March 2023 Dynamic Model submittal updated effluent limitations for Discharge Points 001, 002, 003, and

004. Similar to sections above, the results of the Dynamic Model for Discharge Points 001, 002, and 003 are conservative to apply to Discharge Point 004 until a Mixing Zone verification study is conducted when the relocated diffuser is fully operational. The Central Valley Water Board finds that the dynamic model results remain applicable to the discharge at Discharge Points 001, 002, and 003 and are applicable to Discharge Point 004. This Order contains effluent limitations for copper per the March 2023 Dynamic Model but retains the effluent limitations from R5-2019-0017-01 for ammonia.

1. **Copper.** The AMEL and MDEL for copper have been updated to 11 µg/L and 18 µg/L respectively in this Order based on the dynamic model results.
2. **Ammonia.** Ammonia is a non-priority pollutant not subject to the SIP, the MDEL must be replaced with an average weekly effluent limitation (AWEL) in accordance with 40 C.F.R. section 122.45(d), which requires AMELs and AWELs for POTWs unless impracticable. This Order retains the AMEL and AWEL of 31 mg/L and 51 mg/L, respectively.

3. Determining the Need for WQBELs

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

For priority pollutants, the SIP dictates the procedures for conducting the RPA. For non-priority pollutants the Central Valley Water Board is not restricted to one particular RPA method; therefore, the RPAs have been conducted based on U.S. EPA guidance considering multiple lines of evidence and the site-specific conditions of the discharge. Ammonia, total as nitrogen, acute toxicity, chronic toxicity, chlorine residual, nitrate plus nitrite, total as nitrogen, pH, pathogens are not priority pollutants. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the

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

a. **Constituents with 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 WLA for the discharge prepared by the State and approved by U.S. 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 WQBELs for these pollutants pursuant to 40 C.F.R. section 122.44(d)(1)(vii), which does not require or contemplate an RPA.

i. **Diazinon and Chlorpyrifos.**

(a) **WQO.** The Central Valley Water Board completed a TMDL for diazinon and chlorpyrifos in the Sacramento and Feather Rivers and amended the Basin Plan to include 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 and Feather Rivers was adopted by the Central Valley Water Board on 3 May 2007 and became effective on 11 August 2008.

The amendment modified Basin Plan Chapter 3 (Water Quality Objectives) to establish site-specific numeric objectives for diazinon and chlorpyrifos in the Sacramento River from the Colusa Basin Drain to I Street Bridge and the Feather River from Fish Barrier Dam to the Sacramento River and identified the requirements to meet the additive formula already in Basin Plan Chapter 4 (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:

$S = C_d/WQO_d + Cc/WQO_c \leq 1.0$

Where:

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

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

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

WQO_c = 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.

(b) **RPA.** Between May 2020 through April 2023 diazinon and chlorpyrifos were not detected in the effluent or receiving water, but because WLAs in the TMDL for diazinon and chlorpyrifos in the Sacramento and Feather Rivers are applicable, WQBELs for these constituents are required. The TMDL WLAs apply to all NPDES dischargers to the Sacramento and Feather Rivers and serves as the basis for WQBELs for this Facility.

(c) **WQBELs.** WQBELs for diazinon and chlorpyrifos are required per the TMDL. This Order includes effluent limits calculated based on the WLAs contained in the TMDL, as follows:

Average Monthly Effluent Limitation (AMEL)

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

Where:

C_d(M-avg) = average monthly diazinon effluent concentration in µg/L

C_c (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:

C_d(W-avg) = average weekly diazinon effluent concentration in µg/L

C_c (W-avg) = average weekly chlorpyrifos effluent concentration in µg/L

(d) **Plant Performance and Attainability.** Although diazinon and chlorpyrifos were not detected in the effluent or receiving water, because WLAs in the TMDL for diazinon and chlorpyrifos in the Sacramento and Feather Rivers are applicable, WQBELs for these constituents are required. The TMDL WLAs apply to all NPDES dischargers to the Sacramento and Feather Rivers and serves as the basis for WQBELs for this Facility.

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. WQBELs are not included in this Order for constituents that do not demonstrate reasonable potential to cause or contribute to an instream excursion of an applicable water quality objective; however, monitoring for those pollutants is established in this Order as required by the SIP. If the results of effluent monitoring demonstrate reasonable potential, this Order may be reopened and modified by adding an appropriate effluent limitation.

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

i. **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-15, below, contains various recommended levels for EC or TDS, sulfate, and chloride along with maximum annual averages from 2020-2022 (3 full years), and

maximum daily effluent concentrations from May 2020 through April 2023.

Table F-15. Salinity Water Quality Criteria/Objectives

Parameters	Secondary MCL	U.S. EPA NAWQC	Annual Average	MEC
EC (µmhos/cm)	Recommended: 900 Upper: 1,600 Short Term: 2,200	N/A	685	990
TDS (mg/L)	Recommended: 500 Upper: 1,000 Short Term: 1,500	N/A	301	390
Sulfate (mg/L)	Recommended: 250 Upper: 500 Short Term: 600	N/A	35	46
Chloride (mg/L)	Recommended: 250 Upper: 500 Short Term: 600	860 1-hour 230 4-day	69	72

Table F-15 Notes:

1. **Agricultural Water Quality Objectives.** Applicable agricultural water quality objectives vary. Procedures for establishing the applicable numeric limitation to implement the narrative chemical constituent objective can be found in the Policy for Application of Water Quality Objectives, section 4.2.2.1.9 of the Basin Plan. However, the Basin Plan does not require improvement over naturally occurring background concentrations. In cases where the natural background concentration of a particular constituent exceeds an applicable water quality objective, the natural background concentration will be considered to comply with the objective.
2. **Secondary MCLs.** Secondary MCLs are for protection of public welfare and are stated as a recommended level, upper level, and a short-term maximum level.
3. **Chloride.** The Secondary MCL for chloride is 250 mg/L, as a recommended level, 500 mg/L as an upper level, and 600 mg/L as a short-term maximum.
4. **Electrical Conductivity or Total Dissolved Solids.** The Secondary MCL for EC is 900 µmhos/cm as a recommended level, 1600 µmhos/cm as an upper level, and 2200 µmhos/cm as a short-term maximum, or when expressed as TDS is 500 mg/L as a recommended level, 1000 mg/L as an upper level, and 1500 mg/L as a short-term maximum. The Basin Plan includes a water quality objective that electrical conductivity (at 25°C) "*[s]hall not exceed 150 micromhos/cm (90 percentile) in well-mixed waters of the Feather River.*" The Basin Plan

objective for electrical conductivity is applied as a 10-year rolling average.

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.
6. **Recommended Level, Upper Level, Short-Term level.** Corresponds to the Secondary MCL Recommended Level, Upper Level, Short-Term levels.
7. **Annual Average.** Maximum Calendar Annual Average Effluent Concentration
8. **MEC.** Maximum Daily Effluent Concentration

(b) **RPA Results.** As shown on Table F-15 above, neither chloride, electrical conductivity, total dissolved solids, or sulfate exceeded their respective WQOs.

(c) **WQBELs.** As discussed above, the discharge does not have reasonable potential to cause or contribute to an in-stream excursion of water quality objectives for salinity. On 17 January 2020, certain amendments to the Basin Plan incorporating a Program to Control and Permit Salt Discharges to Surface and Groundwater (Salt Control Program) became effective. Other amendments became effective on 2 November 2020 when approved by the U.S. EPA. The Salt Control Program is a three-phased program, with each phase lasting 10 to 15 years. The Basin Plan requires all salt dischargers to comply with the provisions of the program. Two compliance pathways are available for salt dischargers during Phase 1.

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

The Discharger has been paying towards the CV-SALTS P&O Study, which is seen as active participation, but has not submitted a Notice of Intent to comply with the Salt Control Program. This Order requires implementation of a Salinity Evaluation and Minimization Plan, participation in the Salinity P&O Study, and includes a performance-based trigger for EC consistent with the Alternative Salinity Permitting Approach.

(d) **Plant Performance and Attainability.** Analysis of the effluent data shows that the maximum annual average of 685 µmhos/cm is less than the applicable performance-based trigger for EC of 870 µmhos/cm.

The Central Valley Water Board concludes, therefore, that the Facility would regularly be under the trigger.

ii. **Mercury**

(a) **WQO.** The State Water Board adopted Resolution 2017-0027 on 2 May 2017, which approved Part 2 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California, Tribal and Subsistence Fishing Beneficial Uses and Mercury Provisions (Statewide Mercury Provisions). The Statewide Mercury Provisions establish a Sport Fish Water Quality Objective of an average 0.2 mg/kg methylmercury fish tissue concentration within a calendar year for waters with the beneficial uses of commercial and sport fishing (COMM), tribal tradition and culture (CUL), wildlife habitat (WILD), and marine habitat (MAR). This fish tissue objective corresponds to a water column concentration of 12 ng/L of total mercury for flowing water bodies. As shown in Table F-4, the beneficial uses of the Feather River include WILD; therefore, the Sport Fish Water Quality Objective is applicable and is the most stringent objective.

(b) **RPA Results.** The Statewide Mercury Provisions specify that the RPA shall be conducted using the maximum annual average effluent and background mercury concentrations for comparison with the Sport Fish Water Quality Objective. The maximum observed effluent mercury concentration was 9.1 ng/L, with a maximum annual average of 4.2 ng/L, based on thirty-eight samples collected from June 2020 to May 2023. The maximum annual average background concentration for mercury was 1.2 ng/L based on two samples collected August and November 2020.

This Order contains a performance-based mass effluent limitation of 0.67 lbs/year for mercury for the effluent discharged to the receiving water. This limitation is based on maintaining the mercury loading at the current level until a TMDL can be established. The performance-based mercury effluent mass limit was derived using current, representative data.

(c) **Plant Performance and Attainability.** The effluent limitations for mercury are based on Facility performance. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

c. **Constituents with Reasonable Potential.** The Central Valley Water Board finds that the discharge has a reasonable potential to cause or contribute to an instream excursion above a water quality standard for ammonia, bis(2-ethylhexyl) phthalate, chlorine residual, copper, cyanide, dichlorobromomethane, nitrate plus nitrite, total as nitrogen, pathogens, pH, and settleable solids. WQBELs for these constituents are included in this Order. A summary of the RPA is provided in Attachment G, and a detailed discussion of the RPA for each constituent is provided below.

i. **Ammonia, Total as Nitrogen**

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

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

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

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

Site-specific Criteria for the Feather River. The recalculated site-specific criteria developed in the Criteria Recalculation Report for the acute and chronic criteria are presented based on equations that vary according to pH and temperature for situations where freshwater mussels are present and where they are absent. In this case, for the Feather River freshwater mussels have been assumed to be present. In addition, the recalculated criteria include equations that provide enhanced protection for important salmonid species in the genus *Oncorhynchus*, that can be implemented for receiving waters where salmonid species are present. Because the 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 May 2020 and April 2023. The most stringent CMC of 3.28 mg/L (ammonia as nitrogen) calculated has been implemented in this Order.

The chronic (30-day average) criterion or CCC was calculated using paired effluent pH and temperature data, collected during the period from May 2020 and April 2023. The most stringent 30-day rolling average CCC of 1.44 mg/L (ammonia as nitrogen) 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 1.44 mg/L (ammonia as nitrogen), the 4-day average concentration that should not be exceeded is 3.61 mg/L (ammonia as nitrogen).

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

(c) **WQBELs.** As discussed in section IV.C.2.f of this Fact Sheet, the Discharger previously conducted dynamic modeling for ammonia, which was reviewed and approved by the Central Valley Water Board, and the results of which were included in Orders R5-2007-0134-01, R5-2013-0094-01, and R5-2019-0017-01. In addition, as described in section IV.C.2.c of this Fact Sheet, the flows observed in the Yuba River are greater than the flows corresponding to the granted dilution in previous Orders for Discharge Points 001, 002, and 003. Therefore, the existing dynamic modeling results are expected to be conservative and protective of the receiving water. This Order retains the AMEL and AWEL of 31 mg/L and 51 mg/L, respectively, at Discharge Points 001, 002, and 003 and establishes the same effluent limitations at Discharge Point 004 that are more stringent than the Discharger's requested limitations for this discharge point.

(d) **Plant Performance and Attainability.** Analysis of the effluent data shows that the Discharger cannot consistently comply with AMEL and AWEL for ammonia. The Discharger has exceeded the AMEL of 31 mg/L on 9 instances in from April 2019 through February 2024 and

only exceeded the AMEL in two consecutive months one time (April and May 2020). The effluent limitations for ammonia in this Order are the same as those in previous Orders R5-2007-0134-01, R5-2013-0094-01, and R5-2019-0017-01; therefore, a compliance schedule cannot be issued because the limits are not new and/or more stringent. However, if the Discharger determines that an increase in ammonia concentrations have occurred in the influent, they can provide the Central Valley Water Board with an Infeasibility Analysis to request a Time Schedule Order while they address source control and/or facility improvements to reduce ammonia concentrations in the effluent.

ii. **Bis(2-ethylhexyl) Phthalate**

(a) **WQO.** The CTR includes a criterion of 1.8 µg/L for bis(2-ethylhexyl) phthalate for the protection of human health for waters from which both water and organisms are consumed. Order R5-2013-0094-01 included effluent limitations for bis(2-ethylhexyl) phthalate based on the CTR human health criterion.

(b) **RPA Results.** The MEC for bis(2-ethylhexyl) phthalate in the effluent was 6.8 µg/L based on 24 samples collected between May 2020 and April 2023. The maximum observed upstream receiving water bis(2-ethylhexyl) phthalate concentration was 0.25 µg/L, based on 3 samples collected between May 2020 and April 2023. Therefore, bis(2-ethylhexyl) phthalate in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for the protection of human health.

(c) **WQBELs.** The receiving water contains assimilative capacity for bis(2-ethylhexyl) phthalate; therefore, as discussed in section IV.C.2.c, a dilution credit of 221:1 may be allowed in the development of the WQBELs for bis(2-ethylhexyl) phthalate. However, the Central Valley Water Board finds that granting of this dilution credit would allocate an unnecessarily large portion of the receiving water's assimilative capacity for bis(2-ethylhexyl) phthalate and could violate the Antidegradation Policy. Therefore, this Order sets a performance-based AMEL of 27 µg/L and MDEL of 86 µg/L based on a dilution credit of 14, previously granted under R5-2013-0094-01.

(d) **Plant Performance and Attainability.** Analysis of the effluent data shows that the MEC of 6.8 µg/L is less than the applicable WQBELs. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

iii. **Chlorine Residual**

(a) **WQO.** U.S. EPA developed NAWQC for protection of freshwater aquatic life for chlorine residual. The recommended 4-day average (chronic) and 1-hour average (acute) criteria for chlorine residual are 0.011 mg/L and 0.019 mg/L, respectively. These criteria are protective of the Basin Plan's narrative toxicity objective.

(b) **RPA Results.** The concentrations of chlorine used to disinfect wastewater are high enough to harm aquatic life and violate the Basin Plan narrative toxicity objective if discharged to the receiving water. Reasonable potential therefore does exist and effluent limits are required.

Federal regulations at 40 C.F.R. section 122.44(d)(1)(i) require 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.

U.S. EPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "*State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available…A permitting authority might also determine that WQBELs are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBELs for pathogens in all permits for 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 sodium bisulfite process to dechlorinate the effluent prior to discharge to the Feather River at Discharge Points 001, 003, or 004, 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.

Chlorine residual in the ponds is expected to dissipate prior to any direct discharge to the Feather River at Discharge Point 002 when the

ponds are inundated. Therefore, discharge at Discharge Point 002 does not exhibit reasonable potential to cause or contribute to an in-stream excursion above the NAWQC and effluent limitations for chlorine residual are not applicable at Discharge Point 002.

(c) **WQBELs (Discharge Points 001, 003, and 004 only).** The U.S. EPA Technical Support Document 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, at Discharge Point 001, 003, and 004 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 (Discharge Points 001, 003, and 004 only).** The Discharger uses a sodium bisulfite process to dechlorinate the effluent prior to discharge to the Feather River at Discharge Points 001, 003, and/or 004. Thus, the Central Valley Water Board concludes that immediate compliance with these effluent limitations is feasible.

iv. **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 effluent and receiving water. As described in section IV.C.2.e of this Fact Sheet, the applicable acute and chronic criteria for total copper in the effluent are 9.3 µg/L and 6.5 µg/L, respectively.

(b) **RPA Results.** The MEC for copper in the effluent was 8.5 µg/L based on 38 samples collected between May 2020 and April 2023. The maximum observed and average upstream receiving water total copper concentration was 8.1 µg/L and 1.3 µg/L, respectively, based on 55 samples collected between May 2020 and April 2023. Therefore, 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.

(c) **WQBELs.** As discussed in section IV.C.2.f of this Fact Sheet, the Discharger previously conducted dynamic modeling for copper, which was reviewed and approved by the Central Valley Water Board, and

the results of which were included in Orders R5-2007-0134-01, R5-2013-0094- 01, and R5-2019-0017-01. In addition, as described in section IV.C.2.c of this Fact Sheet, the flows observed in the Yuba River are greater than the flows corresponding to the granted dilution in previous Orders for Discharge Points 001, 002, and 003. Therefore the existing dynamic modeling results are expected to be conservative and protective of the receiving water. This Order revises the AMEL and MDEL to more stringent limits of 11 µg/L and 18 µg/L, respectively, at Discharge Points 001, 002, and 003 and establishes the same effluent limitations at Discharge Point 004.

(d) **Plant Performance and Attainability.** Plant Performance and Attainability. Analysis of the effluent data shows that the MEC of 6.6 µg/L is less than the applicable WQBELs. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

v. **Cyanide**

(a) **WQO.** The CTR includes maximum 1-hour average and 4-day average cyanide concentrations of 22 µg/L and 5.2 µg/L, respectively, for the protection of freshwater aquatic life. Order R5-2007-0134-01 included effluent limitations for cyanide based on the CTR criterion.

(b) **RPA Results.** The MEC for cyanide was 6.8 µg/L based on 11 samples collected between May 2020 and April 2023. Cyanide was detected once in the upstream receiving water at 0.45 µg/L based on 3 samples collected between May 2020 and April 2023. Therefore, cyanide in the discharge demonstrates reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion of 5.2 µg/L.

(c) **WQBELs.** The receiving water contains assimilative capacity for cyanide; therefore, as discussed in section IV.C.2.c, a dilution credit of 12:1 may be allowed in the development of the WQBELs for Chronic Aquatic Life objectives. However, the Central Valley Water Board finds that granting of this dilution credit would allocate an unnecessarily large portion of the receiving water's assimilative capacity for cyanide and could violate the Antidegradation Policy. Therefore, this Order sets a performance-based AMEL of 10 µg/L and MDEL of 20 µg/L, corresponding to a dilution credit of 1.3:1.

(d) **Plant Performance and Attainability.** Analysis of the effluent data shows that the MEC of 6.8 µg/L is less than the applicable WQBELs. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

vi. **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 MEC for dichlorobromomethane was 1.1 µg/L based on 38 samples collected between May 2020 through April 2023. The maximum background receiving water concentration for dichlorobromomethane was not detected (Laboratory Reporting Level of 0.5 µg/L) based on 3 samples collected between May 2020 and April 2023. Therefore, dichlorobromomethane in the discharge has reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for the protection of human health.

(c) **WQBELs.** The receiving water contains assimilative capacity for dichlorobromomethane; therefore, as discussed in section IV.C.2.c, a dilution credit of 221:1 may be allowed in the development of the WQBELs for dichlorobromomethane. However, the Central Valley Water Board finds that granting of this dilution credit would allocate an unnecessarily large portion of the receiving water's assimilative capacity for dichlorobromomethane and could violate the Antidegradation Policy. Therefore, this Order retains the performance-based AMEL of 10 µg/L but updates the MDEL to 16 µg/L from Order R5-2019-0017-01.

(d) **Plant Performance and Attainability.** Analysis of the effluent data shows that the MEC of 1.6 µg/L is less than the applicable WQBELs. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

vii. **Nitrate and Nitrite, Total as Nitrogen**

(a) **WQO.** DDW has adopted Primary MCLs for the protection of human health for nitrite and nitrate, total as nitrogen 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 total 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, total as nitrogen, U.S. EPA has developed Drinking Water Standards (10 mg/L as Primary MCL) and NAWQC for protection of human health (10 mg/L for non-cancer health effects).

(b) **RPA Results.** The Facility is a POTW that treats domestic wastewater. Untreated domestic wastewater contains ammonia in concentrations that is harmful to aquatic life and exceed the Basin Plan's narrative toxicity objective. Inadequate or incomplete treatment may result in the discharge of nitrate, total as nitrogen and/or nitrite, total as nitrogen to the receiving stream in concentrations that may exceed the Primary MCL and would violate the Basin Plan's narrative chemical constituents' objective. Therefore, the Central Valley Water Board finds the discharge has a reasonable potential to cause or contribute to an instream excursion above the Primary MCL and WQBELs are required for nitrate plus nitrite.

(c) **WQBELs.** This Order contains an AMEL and AWEL for nitrate plus nitrite, total as nitrogen of 10 mg/L and 20 mg/L, respectively, based on

the Basin Plan's narrative chemical constituent's objective for protection of the MUN beneficial use.

(d) **Plant Performance and Attainability.** Based on the available effluent data, the Central Valley Water Board concludes that immediate compliance with these effluent limitations is feasible.

viii. **Pathogens**

(a) **WQO.** In a letter to the Central Valley Water Board dated 8 April 1999, DDW indicated it would consider wastewater discharged to water bodies with identified beneficial uses of irrigation or contact recreation and where the wastewater receives dilution of more than 20:1 to be adequately disinfected if the effluent coliform concentration does not exceed 23 MPN/100 mL as a 7-day median and if the effluent coliform concentration does not exceed 240 MPN/100 mL more than once in any 30-day period.

(b) **RPA Results.** Raw domestic wastewater inherently contains human pathogens that threaten human health and life, and constitute a threatened pollution and nuisance under CWC Section 13050 if discharged untreated to the receiving water. Reasonable potential for pathogens therefore exists and WQBELs are required.

Federal regulations at 40 C.F.R. section 122.44(d)(1)(i) require 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. Pathogens 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 WQBELs are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBELs for pathogens in all permits for 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).

Municipal and domestic supply, agricultural irrigation, and body contact water recreation are beneficial uses of the Feather River. The critical low flow for the Feather River is 1,200 cfs and the design effluent flow for the Facility is 16 cfs (10.5 MGD, average dry weather flow). To protect these beneficial uses, the Central Valley Water board finds that the wastewater must be disinfected and adequately treated to prevent disease. Although the Discharger provides disinfection, inadequate or incomplete disinfection creates the potential for pathogens to be discharged and provides the basis for the discharge to have a reasonable potential to cause or contribute to an exceedance of the Basin Plan's narrative toxicity objective. Therefore, the Central Valley Water Board finds the discharge has reasonable potential for pathogens and WQBELs are required.

(c) **WQBELs.** Pursuant to guidance from DDW, this Order includes effluent limitations for total coliform organisms of 23 MPN/100 mL as a 7-day median and 240 MPN/100 mL, not to be exceeded more than once in a 30-day period. These 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 is designed to provide chlorine disinfection to achieve compliance with the effluent limitations for pathogens. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

ix. **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 WQBELs are required.

(c) **WQBELs.** Effluent limitations for pH of 6.5 as an instantaneous minimum and 8.5 as an instantaneous maximum are included in this Order based on protection of the Basin Plan objectives for pH. Specifically:

(1) **Discharge Points 001, 003, and 004**. Effluent limitations for pH of 6.5 as an instantaneous minimum and 8.5 as an instantaneous

maximum are included in this Order based on protection of the Basin Plan objectives for pH.

(2) **Discharge Point 002.** Effluent limitations for pH of 6.0 as an instantaneous minimum and 8.5 as an instantaneous maximum are included in this Order based on protection of the Basin Plan objectives for pH. The soil beneath the disposal ponds is expected to buffer the lower pH prior to discharge to the Feather River. The reduction in pH will also be minimized by the retention time in the ponds, which can increase the pH by the change in temperature. Or when the ponds are inundated, the significant amount of dilution available will result in pH being buffered by the significant flows in the Feather River.

(d) **Plant Performance and Attainability.** Based on the available effluent data, the Central Valley Water Board concludes that immediate compliance with these effluent limitations is feasible.

x. **Settleable Solids**

(a) **WQO.** For inland surface waters, the Basin Plan states that "*water shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses*."

(b) **RPA Results.** Settleable solids were detected in the effluent in 194 samples, with a maximum effluent concentration of 6.5 ml/L, and exceeded the MDEL of 0.2 ml/L on 27 occasions. Therefore, settleable solids in the discharge at Discharge Points 001, 003, and 004 have a reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan's narrative settleable solids objective.

Settleable solids discharged to the ponds is expected to settle prior to discharge at Discharge Points 002. Therefore, settleable solids in the discharge does not demonstrate reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan's narrative settleable solids objective and effluent limitations for settleable solids are not applicable at Discharge Point 002.

(c) **WQBELs (Discharge Points 001, 003, and 004 only).** This Order retains both the AMEL and MDEL for settleable solids of 0.1 ml/L and 0.2 ml/L, respectively, from Order R5-2019-0017-01. Because the amount of settleable solids is measured in terms of volume per volume without a mass component, it is impracticable to calculate mass limitations for inclusion in this Order. A daily maximum effluent limitation for settleable solids is included in the Order, in lieu of a weekly average, to ensure that the treatment works operate in accordance with design capabilities.

(d) **Plant Performance and Attainability.** As discussed in section II.D of this Fact Sheet, the Discharger has received effluent limitation violations for settleable solids during the term of Order R5-2019-0017-

01. The effluent limitations for settleable solids in this Order are the same as those in previous Orders R5-2007-0134-01, R5-2013-0094-01, and R5-2019-0017-01; therefore, a compliance schedule cannot be issued because the limits are not new and/or more stringent. The discharge only exceeded the MDEL of 0.2 ml/L in 27 out of 1,493 samples (1.8%).

4. WQBEL Calculations

a. This Order includes WQBELs for ammonia, copper, bis (2-ethylhexyl) phthalate, cyanide, dichlorobromomethane, nitrate plus nitrite, total as nitrogen, pH, total coliform organisms, and settleable solids. The general methodology for calculating WQBELs based on the different criteria/objectives is described in subsections IV.C.5.b through e, below. See Attachment H for the WQBEL calculations.

b. **Effluent Concentration Allowance.** For each water quality criterion/objective, the ECA is calculated using the following steady-state mass balance equation from section 1.4 of the SIP:

ECA = C + D(C – B) where C>B, and
ECA = C where C≤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 MCLs to protect human health (e.g., nitrate plus nitrite), the AMEL is set equal to the primary MCL and the AWEL is calculated using the AWEL/AMEL multiplier, where the AWEL multiplier is based on a 98th percentile occurrence probability and the AMEL multiplier is from Table 2 of the SIP.

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

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

e. **Human Health Criteria.** For priority pollutants with human health criteria, the WQBELs are calculated in accordance with section 1.4 of the SIP. The AMEL is set equal to the ECA and the MDEL is calculated using the MDEL/AMEL multiplier from Table 2 of the SIP. For non-priority pollutants with human health criteria, WQBELs are calculated using similar procedures, except that an AWEL is established using the MDEL/AMEL multiplier from Table 2 of the SIP.

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

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

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

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 001, 002, 003, and 004.

Table F-16. Summary of Water Quality-Based Effluent Limitations

Parameter	Units	AMEL	AWEL	MDEL
Ammonia Nitrogen, Total (as Nitrogen)	mg/L	31	51	--
Bis(2-ethylhexyl) Phthalate	µg/L	27	--	86
Chlorine, Total Residual	mg/L	--	0.11	0.019
Copper, Total	µg/L	11	--	18

Parameter	Units	AMEL	AWEL	MDEL
Cyanide	µg/L	10	--	20
Diazinon and Chlorpyrifos	µg/L	(see table note 4 below)	(see table note 5 below)	--
Dichlorobromomethane	µg/L	10	--	16
Mercury, Total Recoverable	lbs/year	(see table note 8 below)	--	--
Nitrate Plus Nitrite, Total (as Nitrogen)	mg/L	10	20	--
pH	Standard Units	Instantaneous Minimum 6.5 Instantaneous Maximum 8.5	--	--
Settleable Solids	ml/L	0.1	-	0.2
Total Coliform Organisms	MPN/100mL	--	23	240

Table F-16 Notes:

1. **pH.** Compliance with the instantaneous minimum and maximum effluent limitations is determined by monitoring indicated in the Monitoring and Reporting Program, Table E-3.
2. **pH at Discharge Point 002.** The instantaneous minimum effluent limitation is limited to 6.0 standard units for discharges at Discharge Point 002.
3. **Chlorine Residual.** AWEL is applied as a 4-day average effluent limitation at Discharge Points 001, 003, and 004 only. MDEL is applied as a 1-hour average effluent limitation at Discharge Points 001, 003, and 004 only.
4. **Diazinon and Chlorpyrifos AMEL**

   $S_{AMEL} = C_{D\ M\text{-}avg} / 0.079 + C_{C\ M\text{-}avg} / 0.012 \leq 1.0$

   $C_{D\ M\text{-}AVG}$ = average monthly diazinon effluent concentration (µg/L).

   $C_{C\ M\text{-}AVG}$ = average monthly chlorpyrifos effluent concentration (µg/L)
5. **Diazinon and Chlorpyrifos AWEL**
   $S_{AWEL} = C_{D\ W\text{-}avg} / 0.14 + C_{C\ W\text{-}avg} / 0.021 \leq 1.0$
   $C_{D\ W\text{-}AVG}$ = average weekly diazinon effluent concentration (µg/L).
   $C_{C\ W\text{-}AVG}$ = average weekly chlorpyrifos effluent concentration (µg/L).
6. **Settleable Solids.** Applicable at Discharge Points 001 and 003 only.
7. **Total Coliform Organisms.** AWEL is applied as a 7-day median effluent limitation. MDEL cannot be exceeded more than once in any 30-day period.
8. **Mercury, Total.** The total annual mass discharge of total mercury shall not exceed 0.67 pounds/year.

5. Whole Effluent Toxicity (WET)

The State Water Board's toxicity provisions, which include numeric objectives for acute and chronic aquatic toxicity, are applicable to this discharge and are hereafter referred to as the Toxicity Provisions.

a. **WET WQO.**

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

Ho: Mean response (ambient water) ≤ 0.80 • mean response (control)

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

Ha: Mean response (ambient water) > 0.80 • mean response (control)

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

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

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

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

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

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

The Basin Plan contains a narrative toxicity objective that states, “All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.” (Basin Plan at page.) To evaluate compliance with the Statewide Toxicity Provisions aquatic toxicity numeric objectives and

Basin Plan's narrative toxicity objective, acute and chronic whole effluent toxicity testing data has been evaluated in the development of this Order.

b. **WET RPA.**

i. **Acute Toxicity.** 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. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA. U.S. EPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "*State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available…A permitting authority might also determine that WQBELs are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBELs for pathogens in all permits for POTWs discharging to contact recreational waters).*" The Facility is a POTW that treats domestic wastewater containing ammonia and other toxic pollutants, is required to have a pretreatment program by the terms of 40 CFR § 403.8(a) and has failed acute WET testing multiple times. Therefore, the discharge has a reasonable potential to cause or contribute to an instream exceedance of the Statewide Toxicity Provisions aquatic toxicity numeric objectives and Basin Plan's narrative toxicity objective and water quality-based effluent limits for acute toxicity are required. The table below is acute WET testing performed by the Discharger from June 2020 through May 2023.

Table F-17. Acute WET Testing Results – Test of Significant Toxicity

Date	Pass/Fail	Percent Effect
6/4/2020	Pass	0
7/1/2020	Fail	100
8/5/2020	Pass	5
9/2/2020	Pass	0
2/10/2021	Pass	0
3/4/2021	Pass	0
4/8/2021	Pass	5
5/5/2021	Fail	0
6/2/2021	Pass	5
11/16/2021	Pass	0
12/8/2021	Pass	0
1/13/2022	Pass	2.5
2/9/2022	Pass	5
3/2/2022	Pass	0
4/7/2022	Pass	0
5/12/2022	Pass	0

Date	Pass/Fail	Percent Effect
6/1/2022	Fail	47.5
7/16/2022	Pass	0
8/3/2022	Fail	75
9/14/2022	Pass	0
10/13/2022	Pass	0
1/11/2023	Pass	0
2/15/2023	Pass	0
3/15/2023	Pass	0
4/5/2023	Pass	12.5
5/4/2023	Pass	2.5

ii. **Chronic Toxicity.** For priority pollutants, the SIP dictates the procedures for conducting the RPA. Chronic toxicity is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA. U.S. EPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "*State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available…A permitting authority might also determine that WQBELs are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBELs for pathogens in all permits for POTWs discharging to contact recreational waters).*" The Facility is a POTW with a permitted ADWF of greater than or equal to 5 MGD that treats domestic wastewater containing ammonia and other toxic pollutants and is required to have a pretreatment program by the terms of 40 C.F.R. § 403.8(a). Therefore, the discharge has a reasonable potential to cause or contribute to an instream exceedance of the Basin Plan's narrative toxicity objective and water quality-based effluent limits for chronic toxicity are included in this Order. The table below is chronic WET *Ceriodaphnia dubia* testing performed by the Discharger from May 2020 through April 2023.

Table F-18. Chronic WET Testing Results – TST at 8.3% IWC

Date	IWC	Pass/Fail	Mean Percent Effect at IWC
5/13/2020	8.3	Pass	2.4
8/12/2020	8.3	Pass	10.8
11/4/2020	8.3	Fail	24.1
2/10/2021	8.3	Pass	-0.4
4/7/2021	8.3	Pass	8.5
12/7/2021	8.3	Pass	18.5
1/12/2022	8.3	Pass	-10.4

Date	IWC	Pass/Fail	Mean Percent Effect at IWC
4/6/2022	8.3	Fail	66.1
5/11/2022	8.3	Fail	34.7
5/18/2022	8.3	Fail	30.5
7/13/2022	8.3	Pass	-72.4
10/12/2022	8.3	Fail	79.0
11/16/2022	8.3	Pass	-1.4
1/29/2023	8.3	Pass	-7.0
2/22/2023	8.3	Pass	10.1
3/16/2023	8.3	Fail	20.6
4/6/2023	8.3	Fail	32.7

Table F-19. Chronic WET Testing Results – TST at 4.2% IWC

Date	IWC	Pass/Fail	Mean Percent Effect at IWC
5/8/2019	4.2	Pass	14.8
10/9/2019	4.2	Pass	3.2
2/12/2020	4.2	Pass	0.00
5/13/2020	4.2	Pass	5.8
8/12/2020	4.2	Fail	18.4
11/4/2020	4.2	Fail	22.4
2/10/2021	4.2	Pass	-3.2
4/7/2021	4.2	Pass	7.5
12/7/2021	4.2	Pass	5.3
1/12/2022	4.2	Pass	-4.6
4/6/2022	4.2	Fail	35.9
5/11/2022	4.2	Pass	6.1
5/18/2022	4.2	Fail	19.2
7/13/2022	4.2	Fail	33.9
10/12/2022	4.2	Fail	72.7
11/16/2022	4.2	Pass	3.0
1/29/2023	4.2	Pass	0.0
2/22/2023	4.2	Pass	8.1
3/16/2023	4.2	Pass	5.2
4/6/2023	4.2	Fail	52.3

iii. **IWC for Acute and Chronic WET Testing.** As per the Statewide Toxicity Provisions, the ICW is calculated as follows:

$$IWC = 100 \times \left(\frac{1}{1+D}\right)$$

The granted dilution for acute and chronic toxicity is 11 and 12, respectively, and calculates to an IWC of 8.3% for acute and 7.7%

chronic. This Order applies these IWCs for routine acute and chronic WET testing.

c. **WET WQBELs.** The following effluent limitations have been established for chronic whole effluent toxicity:

i. **Acute Toxicity**

(a) **MDEL.** No acute aquatic toxicity test shall result in a "Fail" at the IWC of 8.3 percent and a percent effect greater than or equal to 50 percent.

(b) **MMEL.** No more than one acute aquatic toxicity test initiated in a toxicity calendar month shall result in a "Fail" at the IWC of 8.3 percent.

ii. **Chronic Toxicity**

(a) **MDEL.** No chronic aquatic toxicity test shall result in a "Fail" at the IWC of 7.7 percent for the sub-lethal endpoint measured in the test and a percent effect for the survival endpoint greater than or equal to 50 percent.

(b) **MMEL.** No more than one chronic aquatic toxicity test initiated in a toxicity calendar month shall result in a "Fail" at the IWC of 7.7 percent for any endpoint.

d. **WET Plant Performance and Attainability.** Analysis of the effluent data shows chronic WET fails using the TST at an IWC of 7.7 percent. Based on the WET test results for the effluent, the limitations appear to put the Discharger in immediate non-compliance. The Discharger submitted an infeasibility analysis on 25 January 2024. As discussed in section IV.E of this Fact Sheet, a compliance schedule has been included in this Order.

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. Pursuant to the exceptions to mass limitations provided in 40 C.F.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 MCLs) and mass limitations are not necessary to protect the beneficial uses of the receiving water.

2. Averaging Periods for Effluent Limitations

40 C.F.R. section 122.45 (d) requires average weekly and average monthly discharge limitations for POTWs unless impracticable. For bis(2-ethylhexyl) phthalate, copper, cyanide, and dichlorobromomethane, average weekly effluent limitations have been replaced with maximum daily effluent limitations in accordance with section 1.4 of the SIP. Furthermore, for pH, settleable solids, and total coliform organisms, weekly average effluent limitations have been replaced or supplemented with effluent limitations utilizing shorter

averaging periods. The rationale for using shorter averaging periods for these constituents is discussed in section IV.C.3 of this Fact Sheet.

3. Satisfaction of Anti-Backsliding Requirements

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

The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order.

4. Antidegradation Policies

This Order does not authorize lowering water quality. This Order does not allow for an increase in flow or mass of pollutants to the receiving water. The Order requires compliance with applicable federal technology-based standards and with WQBELs where the discharge could have the reasonable potential to cause or contribute to an exceedance of water quality standards. Accordingly, the permitted discharge is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and the State Anti-Degradation Policy.

a. **2007 Antidegradation Analysis.** Order R5-2007-0134 provided a summary of the findings from the *Antidegradation Analysis for Proposed Wastewater Treatment Facility Discharge Modification* report (2007 Antidegradation Analysis) submitted by the Discharger on 15 August 2007. The 2007 Antidegradation Analysis evaluated potential degradation to the Feather River due discharge flow increase from 7 MGD to the current 10.5 MGD.

b. **2023 Antidegradation Analysis.** The Discharger submitted the March 2023 Antidegradation Analysis with the 2023 ROWD. The March 2023 Antidegradation Analysis provided an antidegradation analysis following the guidance provided by State Water Board APU 90-004. Pursuant to this guidance, the Antidegradation Analysis evaluated whether changes in water quality resulting from the proposed new discharge to the Feather River of up to 10.5 MGD of secondary treated wastewater are consistent with the maximum benefit to the people of the State, will not unreasonably affect beneficial uses, will not cause water quality to be less than water quality objectives, and that the discharge provides protection for existing instream uses and water quality necessary to protect those uses. Additionally, the Antidegradation Analysis included an analysis of alternative measures. Findings from the March 2023 Antidegradation Analysis are summarized below:

i. **Water quality parameters and beneficial uses which will be affected by the proposed expansion and the extent of the impact.** Compliance with this Order will not adversely impact beneficial uses of the receiving water or downstream receiving waters. All beneficial uses will be maintained and protected. 40 C.F.R. section 131.12 defines the following tier designations to describe water quality in the receiving water body.

Tier 1 Designation*:* Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected. (40 C.F.R. §131.12(a)(1))

Tier 2 Designation*:* Where the quality of waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the State shall assure water quality adequate to protect existing uses fully. Further, the State shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control. (40 C.F.R. §131.12(a)(2)).

The tier designation is assigned on a pollutant-by-pollutant basis. The Antidegradation Analysis did not delineate the tier designation for pollutants, but instead conducted an analysis of the potential impact of each constituent and its use of assimilative capacity. The Feather River is listed on the 303(d) list as impaired by only one of the constituents that was evaluated in the Antidegradation Analysis, mercury. Therefore, the Feather River is considered a Tier 1 receiving water for mercury. The Feather River was not listed as impaired by the remaining constituents assessed, and therefore, the Feather River was considered a Tier 2 receiving water for these pollutants.

ii. **Scientific Rationale for Determining Potential Lowering of Water Quality.** The rationale used in the Antidegradation Analysis is based on 40 C.F.R. section 131.12, U.S. EPA memorandum Regarding Tier 2 Antidegradation Reviews and Significance Thresholds (U.S. EPA2005), U.S. EPA Region 9 Guidance on Implementing the Antidegradation Provisions of 40 C.F.R. 131.12 (U.S. EPA 1987), the State Anti-Degradation Policy, a State Water Board 1987 policy memorandum to the Regional Water Boards, and an Administrative Procedures Update (APU 90-004) issued by the State Water Board to the Regional Water Boards.

iii. **Alternative Control Measures Considered.** The State Anti-Degradation Policy requires that degradation of water quality be consistent with maximum benefit to the people of the State. APU 90-004 identifies factors to be considered for regulatory actions "that, in the Regional Board's judgement [sic], will result in a significant increase in pollutant loadings" (i.e., when a complete antidegradation analysis is required) when determining whether the discharge is necessary to accommodate social or economic development and is consistent with maximum public benefit. The Central Valley Water Board exercised its judgment to require a complete antidegradation analysis and implementation of feasible

alternative control measures which might reduce, eliminate, or compensate for negative impacts.

The 2023 Antidegradation Analysis assessed alternatives for effluent control and treatment, including replacement/relocation of Discharge Point 001 (to Discharge Point 004), advanced treatment alternatives, wastewater reclamation alternatives, and wastewater regionalization alternatives summarized below:

1) **Replacement/relocation of Discharge Point 001.** This alternative includes the installation of a 1.5-mile effluent pipeline, a levee crossing, multiport diffuser in the Feather River, pump station, siphon, and drop-shaft to diffuser.
2) **Advanced Treatment.** This alternative includes the installation of an add-on treatment system process for nitrogen removal downstream of the high-purity oxygen treatment process with discharge to a new bankside outfall at the Feather River Shallows at River Mile 24.
3) **Wastewater Reclamation.** This alternative includes upgrade of the Facility's existing secondary treatment system to a tertiary treatment system to meet Title 22 recycled water requirements and installation of new distribution piping.
4). **Wastewater Regionalization.** This alternative includes regionalization with the Linda County Wastewater Treatment Plant or the Olivehurst Public Utility District Wastewater Treatment Plant.

iv. **Socioeconomic Evaluation.** The objective of the socioeconomic analysis was to determine if the lowering of water quality in the Feather River is in the maximum interest of the people of the State. For the socioeconomic evaluation, the Central Valley Water Board considered:

1) **Replacement/relocation of Discharge Point 001.** This alternative would cost approximately 25-29 million dollars. This alternative is the lowest cost to the Discharger, provides utility operations cost stability for operations and maintenance (O&M), and removes wastewater discharge from Feather River shallows at Discharge Point 001, maintaining river water quality and meets all water quality standards.
2) **Advanced Treatment.** This alternative would cost approximately 180 million dollars. This alternative would upgrade the wastewater treatment to allow discharge at the at the Feather River Shallows at River Mile 24 with increased costs and a lesser benefit of utility costs stability for O&M.
3) **Wastewater Reclamation.** This alternative would cost approximately 545 million dollars. This alternative would require upgrading the Facility from secondary treatment to tertiary treatment and would reduce discharge to surface water, maintaining the existing water quality in the Feather River.
4) **Wastewater Regionalization.** This alternative would cost approximately 221 million dollars. This alternative would expand

advanced wastewater treatment required at the Linda County Wastewater Treatment Plant or Olivehurst Public Utility District Wastewater Treatment Plant while removing discharge from the Feather River shallows during the dry season.

v. **Justification for Allowing Degradation.** The March 2023 Antidegradation Analysis provided the following rationale for allowing degradation from the new discharge from the multiport diffuser at Discharge Point 004:

1) Discharge Point 001 needs to be replaced and relocated because the existing diffuser has limited discharge capacity because of erosion at Shanghai Falls, and these discharge limitations have required the Discharger to use its existing effluent percolation ponds to dispose of effluent nearly year-round and to install the side-bank outfall at Discharge Point 003.
2) Restoring the ability to discharge directly to the Feather River while maintaining the intermittent function of the effluent percolation ponds will make operations more reliable and safer, allow for normal seasonal maintenance of the ponds, and provide the environmental benefit of enhanced dilutions through the multiport diffuser in the Feather River at Discharge Point 004.
3) The multiport diffuser at Discharge 004 will relocate the effluent discharge for Outfall 001. Discharge Points 001 and 003 will no longer be used for the Facility discharges to the Feather River once the diffuser at Discharge Point 004 is operating.
4) Discharge Point 004 will enable the Discharger to replace its existing limited outfall diffuser at Discharge Point 001 with a new outfall diffuser that meets current and anticipated discharge permit requirements. By providing adequate mixing and dilution of discharged treated effluent, the replacement outfall pipeline and diffuser constructed for this project will provide an in-river system for compliance with water quality objectives in the Feather River.
5) Discharge Point 004 is a large distance downstream of Shanghai Falls and effluent percolation ponds, in a stable river location with deeper water to improve dilutions, nearshore aquatic life passage, and the protection of beneficial uses of the Feather River.
6) Discharge Point 004 will maintain river water quality and will meet water quality objectives and criteria at the mixing zone boundaries.
7) Discharge Point 004 will help the Discharger meet the region's long-term wastewater treatment needs while safeguarding public health, environmental quality, and the service area's economic future.
8) The March 2023 Antidegradation Analysis provided that failure to approve the Discharge Point 004 would have significant adverse economic and social effects on the Discharger and its citizens and businesses.

9) Discharge Point 004 is consistent with federal and state anti-degradation policies in that the project will not lower water quality in the Feather River and will not affect beneficial uses in the Feather River.

10) The requested project is consistent with the Porter-Cologne Act and the resulting water quality will constitute the highest water quality that is reasonable, considering all demands placed on the waters, economic and social considerations, and other public interest factors.

As detailed above, the permitted discharge is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and the State Anti-Degradation Policy.

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

vii. **Groundwater.** The Facility utilizes six unlined disposal ponds, located in the Feather River floodplain, for discharge of secondary treated effluent. Domestic wastewater contains constituents such as total dissolved solids, specific conductivity, pathogens, nitrates (including ammonia), total as nitrogen, organics, metals, and oxygen demanding substances. Percolation from the disposal ponds may result in an increase in the concentration of these constituents in the groundwater.

The 2008 Hydrogeologic Assessment concluded that groundwater degradation is confined to a specified area and noted that the disposal ponds lie within the confines of the Feather River levee system. The shallow groundwater system underlying the ponds is at the convergence of a predominant westerly gradient and localized mounding from the Feather River (Groundwater gradient maps from October 2013 – November 2023 continued to show a predominately westerly gradient). This groundwater flow system will tend to keep groundwater impacted by the ponds within the levee system and development of potable supply wells in this specified area is not feasible.

The State Anti-Degradation Policy generally prohibits the Central Valley Water Board from authorizing activities that will result in the degradation of high-quality waters unless it has been shown that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water, and will not result in water quality less than that prescribed in applicable policies; and that any activity which produces or may produce a waste or increased volume or concentration of waste will implement 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 Facility is designed and constructed to provide secondary level treatment and disinfection to treat municipal domestic wastewater prior to discharge. This level of treatment may result in limited groundwater degradation not exceeding water quality objectives. Groundwater monitoring samples showed that averages for nitrate, total as nitrogen do not exceed the Primary MCL of 10 mg/L for any monitoring well. Providing wastewater treatment to the community is in the best interest of the people of the State. However, this Order does not authorize an increase in flow or mass of pollutants to groundwater beyond the levels authorized in Order R52019-0017-01. The technology, energy, water recycling, and waste management advantages of municipal utility service far exceed any benefits derived from a community otherwise reliant on numerous concentrated individual wastewater systems, and the impacts on water quality will be substantially less.

5. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD_5, pH, and TSS. Restrictions on these pollutants are discussed in section IV.B.2 of this 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 pH, both technology-based effluent limitations and WQBELs are applicable. The more stringent of these effluent limitations are implemented by this Order. These limitations are not more stringent than required by the CWA.

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

Summary of Final Effluent Limitations
Discharge Points 001, 002. 003, and 004

Table F-20. Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations	Basis
Ammonia Nitrogen, Total (as nitrogen)	mg/L	AMEL 31 AWEL 51	NAWQC
Bis(2-ethylhexyl) Phthalate	µg/L	AMEL 27 MDEL 86	CTR

Parameter	Units	Effluent Limitations	Basis
Chlorine, Total Residual	mg/L	4-Day Average 0.011 1-Hour Average 0.019	NAWQC
Copper, Total	µg/L	AMEL 11 MDEL18	CTR
Cyanide	µg/L	AMEL 10 MDEL 20	CTR
Diazinon and Chlorpyrifos	µg/L	AMEL 1 AWEL 1	BP
Dichlorobromomethane	µg/L	AMEL 10 MDEL 16	CTR
Nitrate Plus Nitrite, Total (as nitrogen)	mg/L	AMEL 10 AWEL 20	MCL
Mercury, Total Recoverable	lbs/year	AAEL 0.67	PB
pH	Standard Units	Instantaneous Min 6.5 Instantaneous Max 8.5	BP
Settleable Solids	ml/L	AMEL 0.1 MDEL 0.2	BP
Total Coliform Organisms	MPN/100mL	7-Day Median 23 No more than once in any 30-day period 240	Title 22

Table F-20 Notes:

1. **CFR** – Based on secondary treatment standards contained in 40 CFR part 133.
   BP – Based on water quality objectives contained in the Basin Plan.
   PB – Based on Facility performance.
   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..
   MCL – Based on the Primary Maximum Contaminant Level.
   Title 22 – Based on State Water Board Division of Drinking Water Reclamation Criteria, CCR, Division 4, Chapter 3 (Title 22).

E. Interim Effluent Limitations

1. Chronic WET

a. **Compliance Schedule.** The Discharger has complied with the application requirements in paragraph 4 of the State Water Board's Compliance Schedule Policy, and the Discharger's application demonstrates the need for additional time to implement actions to comply with the final effluent limitation for chronic WET. Therefore, a compliance schedule for compliance with the final effluent limitation for chronic WET is established in this Order.

A compliance schedule is necessary because the Discharger must implement actions to comply with the final effluent limitation for chronic WET.

The Discharger has made diligent efforts to quantify chronic WET in the discharge and the sources of chronic WET in the waste stream. The Discharger conducted quarterly chronic WET monitoring during the term of Order R5-2019-0017 and amendment R5-2019-0017-01.

The compliance schedule is as short as possible. An interim performance-based limitation has been included in this Order and was determined as described in section IV.E.1.b, below. The interim effluent limitation for chronic WET is in effect until the final effluent limitation takes effect on **1 January 2030**. The interim numeric effluent limitation for chronic WET and source control measures will result in the highest discharge quality that can reasonably be achieved until final compliance is attained.

b. **Interim Requirements.** The Compliance Schedule Policy requires the Central Valley Water Board to establish interim requirements and dates for their achievement in the NPDES permit. Interim numeric effluent limitations are required for a compliance schedule longer than 1 year. Interim effluent limitations must be based on current treatment plant performance or pervious final permit limitations, whichever is more stringent. When feasible, interim limitations must correspond with final permit effluent limitations with respect to averaging bases (e.g., AMEL, MDEL, AWEL, etc.) for effluent limitations for which compliance protection is intended.

   i. **Monitoring Requirements.** The Discharger shall perform monthly chronic toxicity testing, concurrent with effluent ammonia sampling.

   ii. **Chronic WET Interim Effluent Limitation.** The interim effluent limitation for chronic WET is based on Facility performance. Based on quarterly chronic WET testing conducted over the term of Order R5-2019-0017, the maximum observed result was greater than 47.6 TUc (as 100/NOEC) and a percent effect of 73.5 percent at 2.1 percent effluent. Orders R5-2019-0017 and R5-2019-0017-01 required a dilution series of 33.2%, 16.6%, 8.3%, 4.2%, and 2.1% effluent for chronic WET testing. The Discharger did not test for dilutions below 2.1% effluent. The Central Valley Water Board has established an interim effluent limitation for chronic WET of 50 TUc (as 100/NOEC) **and** a percent effect of 25 percent at 2 percent effluent, for any endpoint as the median of up to three consecutive chronic toxicity tests within a 6-week period.

   iii. **Toxicity Reduction Evaluation (TRE) Requirements.** The TRE requirements specified in MRP section V.H, this Order requires the Discharger to investigate the causes of and identify corrective actions to reduce or eliminate effluent toxicity.

   The Central Valley Water Board finds that the Discharger can undertake source control and treatment plant measures to maintain compliance with the interim limitations included in this Order. Interim limitations are established when compliance with final effluent limitations cannot be achieved by the existing discharge. Discharge of constituents in concentrations in excess of the final effluent limitations, but in compliance with the interim effluent limitations, can significantly degrade water quality

and adversely affect the beneficial uses of the receiving stream on a long-term basis. The interim limitations, however, establish an enforceable ceiling concentration until compliance with the final effluent limitations can be achieved.

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 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.

B. Groundwater

1. The beneficial uses of the underlying groundwater are municipal and domestic supply, industrial service supply, industrial process supply, and agricultural supply.

2. Basin Plan water quality objectives include narrative objectives for chemical constituents, tastes and odors, and toxicity of groundwater. The toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants, animals, or aquatic life. The chemical constituent objective states groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use. The tastes and odors objective prohibits taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan also establishes numerical water quality objectives for chemical constituents and radioactivity in groundwaters designated as municipal supply. These include, at a minimum, compliance with MCLs in Title 22 of the CCR. The bacteria objective prohibits coliform organisms at or above 23 MPN/100 mL. The Basin Plan requires the application of the most stringent objective necessary to ensure that waters do not contain chemical constituents, toxic substances, radionuclides, taste- or odor-producing substances, or bacteria in concentrations that adversely affect municipal or domestic supply, agricultural supply, industrial supply or some other beneficial use.

3. Once the outfall at Discharge Point 003 was operational in February 2023, the Discharger ceased discharging secondary treated wastewater continuously to the disposal ponds. This Order requires an updated Hydrogeologic Assessment to assess the current state of the groundwater surrounding the disposal ponds. Consistent with Order R5-2019-0017-01, this Order retains groundwater limitations and specifies that release of waste constituents from any storage, treatment, or disposal component associated with the Facility shall not cause the underlying groundwater to contain waste constituents in concentrations greater than background water quality or applicable water quality objectives, whichever is greater.

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. **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 hardness dependent metals. 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.

c. **Ammonia Assessment.** Section VI.C.2.e requires the Discharger to complete an assessment of the Facility's ammonia discharge. If information

provided by the Discharger demonstrates that less stringent ammonia effluent limitations are protective of beneficial uses, satisfy federal antibacksliding regulations, and comply with state and federal antidegradation requirements, this Order may be reopened to amend the ammonia effluent limitations.

2. Special Studies and Additional Monitoring Requirements

a. **Hydrogeologic Assessment.** The 2008 Hydrogeologic Assessment provided valuable groundwater information that has been used in the Discharger's NPDES permits since then. As of June 2024, it has been 16 years since the submittal of the 2008 Hydrogeologic Assessment and several significant environmental events have occurred since 2008 (the collapse of Shanghai Falls and the Oroville Dam Spillway collapse). This Order requires an updated Hydrogeologic Assessment to assess the current state of the area beneath and around the disposal ponds. This technical report is intended as an update to the 2008 Hydrogeologic Assessment and to provide additional information. A California certified hydrogeologist shall prepare and sign the Technical Report.

b. **Low Dissolved Oxygen Assessment.** To further determine the effects of the ammonia discharged and potential low dissolving oxygen levels in the receiving water, the Central Valley Water Board is requiring a Low Dissolved Oxygen Assessment for the to be completed after the Discharger installs the proposed diffuser in its new location. The Low Dissolved Oxygen Assessment shall include, at a minimum, modeling of a dissolved oxygen sag curve possibly created by the discharge and a comparison of varied ammonia concentrations effect on the dissolved oxygen sag curve. The Discharger shall comply with the time schedule in the Technical Reports Table to complete the assessment.

c. **Annual Discharge Point 003 Mixing Zone Verification Study.** The Discharger shall submit an annual mixing zone verification study to validate that the mixing zone and dilution credits allowed in this Order are consistent with section 1.4.2.2 of the SIP for Discharge Point 003 due to the unstable geology in and around the mixing zone.

d. **Discharge Points 001 and 004 Mixing Zone Verification Study.** The Discharger shall conduct a mixing zone verification study to validate that the mixing zone and dilution credits allowed in this Order are consistent with section 1.4.2.2 of the SIP. The mixing zone verification study shall be conducted and submitted to the Central Valley Water Board with the Report of Waste Discharge for Discharge Points 001 and 004.

e. **Ammonia Assessment.** The Discharger requested the ammonia effluent limitations be increased. Though there is adequate assimilative capacity in the receiving water to accommodate the request to increase the ammonia effluent limitations, the Facility has been in compliance with their current ammonia effluent limitations established in 2007 until the previous permit term. This Ammonia Assessment will provide the Central Valley Water Board with adequate information to make a determination on the ammonia limitations. The Ammonia Assessment shall evaluate the ammonia treatment

at the Facility, factors affecting ammonia effluent concentrations at the Facility, and the Facility's compliance with the ammonia effluent limitations.

3. Best Management Practices and Pollution Prevention

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

The Discharger has been paying towards the CV-SALTS Prioritization and Optimization (P&O) Study, which is seen as active participation, but has not submitted a Notice of Intent to comply with the Salt Control Program. Under the Alternative Permitting Approach, the Basin Plan requires dischargers to implement salinity minimization measures to maintain existing salinity levels and participate in the P&O Study. The Discharger's payment towards the P&O Study demonstrates participation in the P&O Study and this Order requires continued participation to meet the requirements of the Alternative Salinity Permitting Approach. This Order also requires continued implementation of the Discharger's SEMP and includes a performance-based salinity trigger to ensure salinity levels do not increase. In accordance with the Basin Plan, the salinity trigger was developed based on existing facility performance and considers possible temporary increases that may occur due to water conservation and/or drought.

4. Construction, Operation, and Maintenance Specifications

a. **Treatment Pond Operating Requirements.** Order R5-2003-0085 did not originally exempt the disposal ponds from the 100-year flood protection provision; however, the State Water Board WQO 2004-0013 remanded the permit and indicated that an exception to the provision was appropriate pending completion of a disposal pond study analyzing if discharges from the pond cause exceedances of water quality objectives, effluent limitations, or receiving water limitations. The Discharger submitted a 23 October 2008 Disposal Pond Study that concluded that the effluent limitations established in Order R5-2007-0134-01 for discharges to the ponds are protective of water quality objectives when the ponds are inundated. Although evaporation does increase constituent concentrations within the ponds, the significant amounts of dilution available during flood stages reduces the constituent concentrations when the ponds are inundated. Based on the study conclusions, the Central Valley Water Board concurs that that effluent limitations established for discharges to the ponds are protective of water quality objectives when the ponds are inundated. Therefore, consistent with Orders R5-2007-0134-01, R5-2013-0094-01, and R5-2019-0017-01, this Order requires that the treatment, storage, and disposal facilities be designed,

constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency except for ponds located within the Feather River levees.

b. **Diffuser Maintenance Requirements.** As discussed under Section IV.C.2.c of this Fact Sheet, the dilution credits provided for the discharge from the Facility are based on the modeling analysis performed by the Discharger and the current conditions of the diffuser. To ensure that the assumptions under which the Central Valley Water Board has approved the dilution credits used to derive effluent limitations are representative of actual conditions, this Order requires annual reporting on the operational condition of the diffuser and the maintenance that has taken place to assure it is operating properly.

c. **Disposal Pond Operating Requirements.** The operation and maintenance specifications for the disposal ponds are necessary to protect the beneficial uses of the groundwater. In addition, reporting requirements related to use of the disposal ponds are required to monitor their use and the potential impact on groundwater.

5. Special Provisions for 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. **Resource Recovery from Anaerobically Digestible Material (ADM).** Some POTWs choose to accept organic material such as food waste, fats, oils, and grease into their anaerobic digesters for co-digestion to increase production of methane and other biogases for energy production and to prevent such materials from being discharged into the collection system, which could cause sanitary sewer overflows. The California Department of Resources Recycling and Recovery has proposed an exemption from requiring Process Facility/Transfer Station permits where this activity is regulated under waste discharge requirements or NPDES permits. The proposed exemption is restricted to ADM that has been prescreened, slurried, and processed/conveyed in a closed system to be co-digested with regular POTW sludge. The proposed exemption requires that a POTW develop Standard Operating Procedures (SOPs) for the proper handling, processing, tracking, and management of the ADM before it is received by the POTW.

SOPs are required for POTWs that accept hauled food waste, fats, oil, and grease for injection into anaerobic digesters. The development and implementation of SOPs for management of these materials is intended to allow the California Department of Resources Recycling and Recovery to exempt this activity from separate and redundant permitting programs. If the POTW does not accept food waste, fats, oil, or grease for resource recovery purposes, it is not required to develop and implement SOPs.

The Discharger currently does not accept hauled-in ADM for direct injection into its anaerobic digester for co-digestion. However, if the Discharger proposes to receive hauled-in ADM for injection into its anaerobic digester for co-digestion, this provision requires the Discharger to notify the Central Valley Water Board and develop and implement SOPs for this activity prior to initiation of the hauling.

c. **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.

6. Other Special Provisions – Not Applicable

7. Compliance Schedules

The State Water Board's Resolution 2008-0025 "Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits" (Compliance Schedule Policy) requires the Central Valley Water Board to establish interim numeric effluent limitations in this Order for compliance schedules longer than 1 year. As discussed in section VI.B.7 of this Fact Sheet, the Central Valley Water Board is approving a compliance schedule longer than 1 year for chronic WET. The Compliance Schedule Policy requires that interim effluent limitations be based on current Facility performance or existing permit limitations, whichever is more stringent.

In general, an NPDES permit must include final effluent limitations that are consistent with CWA section 301 and with 40 C.F.R. section 122.44(d). There are exceptions to this general rule. The State Water Board's Resolution 2008-0025 "Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits" (Compliance Schedule Policy) allows compliance schedules for new, revised, or newly interpreted water quality objectives or

criteria, or in accordance with a TMDL. All compliance schedules must be as short as possible, and may not exceed 10 years from the effective date of the adoption, revision, or new interpretation of the applicable water quality objective or criterion, unless a TMDL allows a longer schedule. Where a compliance schedule for a final effluent limitation exceeds one year, the Order must include interim numeric effluent limitations for that constituent or parameter, interim requirements and dates toward achieving compliance, and compliance reporting within 14 days after each interim date. The Order may also include interim requirements to control the pollutant, such as pollutant minimization and source control measures.

In accordance with the Compliance Schedule Policy and 40 C.F.R. section 122.47, a discharger who seeks a compliance schedule must demonstrate additional time is necessary to implement actions to comply with a more stringent permit limitation. The Discharger must provide the following documentation as part of the application requirements:

a. Diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream, and the results of those efforts;

b. Source control efforts are currently underway or completed, including compliance with any pollution prevention programs that have been established;

c. A proposed schedule for additional source control measures or waste treatment;

d. Data demonstrating current Facility performance to compare against existing permit effluent limits, as necessary to determine which is the more stringent interim, permit effluent limit to apply if a schedule of compliance is granted;

e. The highest discharge quality that can reasonably be achieved until final compliance is attained;

f. The proposed compliance schedule is as short as possible, given the type of facilities being constructed or programs being implemented, and industry experience with the time typically required to construct similar facilities or implement similar programs; and

g. Additional information and analyses to be determined by the Regional Water Board on a case-by-case basis.

Based on information submitted with the Notice of Intent, SMRs, and other miscellaneous submittals, it has been demonstrated to the satisfaction of the Central Valley Water Board that the Discharger needs time to implement actions to comply with the final effluent limitations for the chronic WET effluent limitation.

Chronic Whole Effluent Toxicity. The Discharger submitted a request and justification, dated 25 January 2024 and a revised request and justification on 17 May 2024, for a compliance schedule for chronic WET. The compliance schedule justification included all items specified in subsections (a) through (g),

above. This Order establishes a compliance schedule for the final WQBELs for chronic WET, with compliance required by **1 January 2030.**

VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

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

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

Section 13176 cannot be interpreted in a manner that would violate federal holding time requirements that apply to NPDES permits pursuant to the CWA. (Wat. Code sections 13370, subd. (c), 13372, 13377.). Section 13176 is inapplicable to NPDES permits to the extent it is inconsistent with CWA requirements. (Wat. Code section 13372, subd. (a).) Lab accreditation is not required for field tests such as tests for color, odor, turbidity, pH, temperature, dissolved oxygen, electrical conductivity, and disinfectant residual. The holding time requirements are 15 minutes for temperature, dissolved oxygen probe, pH, and chlorine residual, (40 C.F.R. section 136.3(e), Table II). The Discharger maintains an ELAP accredited laboratory on-site and conducts analysis within the required hold times.

A. Influent Monitoring

1. Influent monitoring is required to collect data on the characteristics of the wastewater and to assess compliance with effluent limitations (e.g., BOD_5 and TSS reduction requirements). The monitoring frequencies and sample types have been retained from Order R5-2019-0017-01.

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. This Order combines the effluent monitoring locations EFF-001, EFF-002, and EFF-003 into a single location EFF-001 to simplify the sample reporting since

previous locations EFF-001, EFF-002, and EFF-003 were all the same sample location, just named differently depending on the discharge point the effluent was directed to. The discharge point location has been added as a sample parameter to better track which discharge point is in use at a given time.

3. Effluent monitoring frequencies and sample types have been retained from Order R5-2019-0017-01, except as noted in Table F-21, below (applicable monitoring locations EFF-001, EFF-002, and EFF-003 have been combined into EFF-001):

Table F-21. Revised Effluent Sampling Frequencies

Parameter	Units	Previous Sample Frequency	Revised Sample Frequency	Reason for Change
Discharge Location	Discharge Point 001, 002, 003, or 004 (see table note below	When switching discharge points	1/Day	Note 1
Bis(2-ethylhexyl) phthalate	µg/L	--	1/Month	Note 2
Total Cyanide	µg/L	--	1/Month	Note 2
Total Dissolved Solids	mg/L	--	Discontinue	Note 3
Total Organic Carbon	mg/L	--	1/Month	Note 4
Acute Toxicity	--	1/Month	1/Quarter	Note 5
Chronic Toxicity	--	1/Quarter	1/Month	Note 6

Table F-21 Notes:

1. **Discharge Location.** Monitoring location for all discharge points is at the same location.
2. **Bis(2-ethylhexyl) phthalate and Cyanide.** Concentrations in the effluent have the reasonable potential to cause or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.
3. **Total Dissolved Solids.** Monitoring for electrical conductivity is sufficient to determine compliance with the Salinity standards.
4. **Total Organic Carbon.** Monitoring required to calculate site-specific freshwater aluminum criteria in accordance with the 2018 U.S. EPA NAWQC for aluminum in freshwater for the next permit renewal.
5. **Acute Toxicity.** Concentrations in the effluent have the reasonable potential to cause or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality. The Statewide Toxicity Provisions concluded that a chronic aquatic toxicity test is generally protective of both chronic and acute aquatic toxicity Therefore, with the increase from quarterly to monthly chronic toxicity testing, this Order reduces the acute toxicity testing frequency to quarterly.
6. **Chronic Toxicity.** Concentrations in the effluent have the reasonable potential to cause or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality. The

increase in frequency is consistent with the requirement in section III.C.4.b.i.(A) of the Statewide Toxicity Provisions.

4. **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 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. Receiving Water Monitoring

1. Surface Water

a. This Order establishes receiving water monitoring at locations upstream and downstream from Discharge Point 004 for the same parameters at the same frequencies as Monitoring Locations RSW-001 and RSW-002.

b. Receiving water monitoring is necessary to assess compliance with receiving water limitations and to assess the impacts of the discharge on the receiving stream. Receiving surface water monitoring frequencies and sample types have been retained from Order R5-2019-0017-01, except as noted in Table F-22, below:

Table F-22. Revised Surface Water Sampling Frequencies

Parameter	Units	Previous Sample Frequency	Revised Sample Frequency	Reason for Change
Ammonia Nitrogen, Total (as Nitrogen)	µg/L	--	1/Month	Note 1
Nitrate, Total (as Nitrogen)	µg/L	--	1/Month	Note 1

Table F-22 Notes:

1. There is limited nitrification at the Facility and the Facility does not denitrify the effluent prior to discharge to the Feather River. This Order grants dilution for ammonia per the Discharger's Dynamic Models provided through the years. Effluent nitrate, total as nitrogen concentrations are low but effluent ammonia concentrations averaged 27 mg/L from May 2020 through April 2023. Upstream and downstream receiving water monitoring for ammonia, total as nitrogen and nitrate, total as nitrogen will confirm the Discharger's Dynamic Model remains representative of the discharge conditions occurring in the Feather River.

2. Groundwater

a. Water Code section 13267 states, in part, "*(a) A Regional Water Board, in establishing waste discharge requirements may investigate the quality of any waters of the state within its region*" and "*(b)(1) In conducting an investigation,*

the Regional Water Board may require that any person who discharges waste that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the Regional Water Board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports." The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, a Regional Water Board shall provide the person with a written explanation with regard to the need for the reports and shall identify the evidence that supports requiring that person to provide the reports. The Monitoring and Reporting Program is issued pursuant to Water Code section 13267. The groundwater monitoring and reporting program required by this Order and the Monitoring and Reporting Program are necessary to assure compliance with these waste discharge requirements. The Discharger is responsible for the discharge of waste at the facility subject to this Order.

b. Monitoring of the groundwater must be conducted to determine if the discharge has caused an increase in constituent concentrations, when compared to background. The monitoring must, at a minimum, require a complete assessment of groundwater impacts including the vertical and lateral extent of degradation, an assessment of all wastewater-related constituents which may have migrated to groundwater, an analysis of whether additional or different methods of treatment or control of the discharge are necessary to provide BPTC to comply with the State Anti-Degradation Policy. Economic analysis is only one of many factors considered in determining BPTC. If monitoring indicates that the discharge has incrementally increased constituent concentrations in groundwater above background, this permit may be reopened and modified. Until groundwater monitoring is sufficient, this Order contains Groundwater Limitations that allow groundwater quality to be degraded for certain constituents when compared to background groundwater quality, but not to exceed water quality objectives. If groundwater quality has been degraded by the discharge, the incremental change in pollutant concentration (when compared with background) may not be increased. If groundwater quality has been or may be degraded by the discharge, this Order may be reopened, and specific numeric limitations established consistent with the State Anti-Degradation Policy and the Basin Plan.

c. This Order requires the Discharger to continue groundwater monitoring and includes a regular schedule of groundwater monitoring in the attached Monitoring and Reporting Program. The groundwater monitoring reports are necessary to evaluate impacts to waters of the State to assure protection of beneficial uses and compliance with Central Valley Water Board plans and policies, including the State Anti-Degradation Policy. Evidence in the record includes effluent monitoring data that indicates the presence of constituents that may degrade groundwater and surface water.

d. Groundwater monitoring frequencies for depth to groundwater, groundwater elevation, gradient, gradient direction, electrical conductivity, pH, total coliform organisms, nitrate, total as nitrogen, and ammonia, total as nitrogen have

been increased from Order R5-2019-0017-01. Table F-23 below shows additional parameters and frequencies to be monitored at the groundwater per Table E-6 of the MRP:

Table F-23. Revised Groundwater Sampling Frequencies

Parameter	Units	Sample Frequency	Reason for Change
Depth to Groundwater	±0.01 feet	1/Quarter	Note 1
Groundwater Elevation	±0.01 feet	1/Quarter	Note 1
Gradient	feet/feet	1/Quarter	Note 1
Gradient Direction	degrees	1/Quarter	Note 1
Electrical Conductivity	µmhos/cm	1/Quarter	Note 1
pH	Standard Units	1/Quarter	Note 1
Total Coliform Organisms	MPN/100 mL	1/Quarter	Note 1
Nitrate, Total (as Nitrogen)	mg/L	1/Quarter	Note 1
Ammonia, Total (as Nitrogen)	mg/L	1/Quarter	Note 1
Arsenic, Dissolved	µg/L	1/Quarter	Note 1
Dissolved Oxygen	mg/L	1/Quarter	Note 1
Total Coliform Organisms	MPN/100 mL	1/Quarter	Note 1
Hardness, Total (as CaCO3)	mg/L	1/Quarter	Note 1
Standard Minerals	µg/L	1/Quarter	Note 1
Total Organic Carbon	mg/L	1/Quarter	Note 1
Total Trihalomethanes	µg/L	1/Quarter	Note 1

Table F-23 Notes:

1. Groundwater monitoring for these relevant parameters is needed to determine background and downgradient concentrations and characterize the discharge the groundwater passing though the approved monitoring wells. Nitrate, total as nitrogen monitoring in this Order is increased to quarterly due to the variability in the semiannual samples in previous Order R5-2017-0019-01.

D. Whole Effluent Toxicity Testing Requirements

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

Receiving Waters to Freshwater Organisms, Fourth Edition (EPA-821-R-02-013), and Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition (EPA-821-R-02-012).

Quarterly acute whole effluent toxicity testing is required to demonstrate compliance with the toxicity receiving water limitation and acute toxicity effluent limitation. Due to the acute toxicity test failures in Order R5-2019-0017-01, the acute toxicity testing species of the fathead minnow (*Pimephales promelas*) from previous Order R5-2019-0017-01 is retained in this Order. Monthly chronic whole effluent toxicity testing is required to demonstrate compliance with the toxicity receiving water limitation and chronic toxicity effluent limitations/targets.

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

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

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

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

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

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

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

4. **Sensitive Species Screening.** For determining the most sensitive species, The Statewide Toxicity Provisions specify “The PERMITTING AUTHORITY has the discretion to choose the approach for selecting the MOST SENSITIVE SPECIES from the SPECIES SENSITIVITY SCREENING (e.g., species exhibiting highest PERCENT EFFECT, species with the most number of “fails” etc.). However, the PERMITTING AUTHORITY shall select the species in the SPECIES SENSITIVITY SCREENING exhibiting the highest PERCENT EFFECT at the IWC as the approach for selecting the MOST SENSITIVE SPECIES, unless the PERMITTING AUTHORITY identifies the basis for selecting a different approach in the NPDES fact sheet (or equivalent document).”.

   For subsequent species sensitivity screening, section III.C.2.a.ii of the Statewide

Toxicity Provisions specifies "Following the first issuance, reissuance, renewal, or reopening (if the permit reopening is to address toxicity requirements) of the permit after the effective date of these TOXICITY PROVISIONS, the PERMITTING AUTHORITY shall require the discharger to conduct a SPECIES SENSITIVITY SCREENING prior to any subsequent issuance, reissuance, renewal, or reopening (if the permit reopening is to address toxicity requirements) of the permit if (1) the discharger has not conducted a SPECIES SENSITIVITY SCREENING in accordance with Section III.C.2.c within the previous 15 years or (2) if the effluent used in the last SPECIES SENSITIVITY SCREENING is no longer representative of the effluent."

The Discharger conducted a species sensitivity screening, quarterly, between March 2020 through November 2020 using an IWC of 8.3% (12 TUc). No species exhibited a result above 12 TUc but Ceriodaphnia dubia exhibited the highest percent effect at the IWC in November 2020. This Order sets the most sensitive species as Ceriodaphnia dubia and does not require a subsequent Species Sensitivity Screening until November 2035, unless the effluent used in the last Species Sensitivity Screening is no longer representative.

If effluent used in the last Species Sensitivity Screening is no longer representative of the effluent, the Discharger shall perform subsequent sensitivity screening to re-evaluate the most sensitive species and submit the results with the Report of Waste Discharge. Species sensitivity screening for chronic toxicity shall include, at a minimum, chronic WET testing four consecutive calendar quarters using the water flea (*Ceriodaphnia dubia*), fathead minnow (*Pimephales promelas*), and green alga (*Pseudokirchneriella subcapitata*). The tests shall be performed at an IWC of no less than 7.7 percent effluent and one control. For subsequent species sensitivity screening, if the first two subsequent screening events result in no change in the most sensitive species, the Discharger may cease the subsequent species sensitive screening testing and the most sensitive species will remain unchanged.

The most sensitive species to be used for chronic toxicity testing was determined in accordance with the process outlined in the MRP section V.F. The species that exhibited the highest percent effect was the water flea (*Ceriodaphnia dubia*), with a percent effect of 32.7 percent. Consequently, *Ceriodaphnia dubia* has been established as the most sensitive species for chronic WET testing.

5. **Toxicity Reduction Evaluation (TRE).** The Monitoring and Reporting Program of this Order requires chronic WET testing to demonstrate compliance with the numeric chronic toxicity effluent limitation. The Discharger is required to initiate a TRE when there is any combination of two or more chronic toxicity MDEL or MMEL violations within a single toxicity calendar month or within two successive toxicity calendar months has occurred. In addition, if other information indicates toxicity (e.g., results of additional monitoring, results of monitoring at a higher concentration than the IWC, fish kills, intermittent recurring toxicity), the Central Valley Water Board may require a TRE. A TRE may also be required when there is no effluent available to complete a routine monitoring test or MMEL compliance test.

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. Pond Monitoring

Treatment pond monitoring is required to ensure proper operation of the storage pond. Weekly monitoring for freeboard, odors, electrical conductivity, and dissolved oxygen and daily monitoring for odors has been retained from Order R5-2019-0017-01. This Order includes monitoring for pH, nitrate (total as nitrogen), hardness total (as $CaCO_3$), alkalinity, total (as $CaCO_3$), standard minerals, ammonia (total as nitrogen), and total trihalomethanes for comparison to the local groundwater. Pond monitoring for these relevant parameters is required to characterize the ponds in relation to the groundwater concentrations.

3. Pyrethroid Pesticides Monitoring

On 8 June 2017, the Central Valley Water Board adopted Resolution R5-2017-0057, which adopted the Basin Plan Amendment (BPA) for the Control of Pyrethroid Pesticide Discharges. Pyrethroid pesticides and toxicity monitoring has been included in this Order in accordance with the Pyrethroids Pesticides BPA, which is required for POTWs with design average dry weather flow greater than or equal to 1 million gallons per day.

4. Effluent and Receiving Water Characterization Monitoring

This Order requires characterization monitoring of the effluent and receiving water to compare parameters with their respective water quality objectives. The effluent and receiving water characterization monitoring will aid in determining any changes to current or future effluent or receiving water limitations and/or monitoring.

5. 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 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 WDRs that will serve as an NPDES permit for the City of Yuba City Wastewater Treatment Facility. As a step in the WDR adoption process, the Central Valley Water Board staff has developed tentative WDRs and has encouraged public participation in the WDR adoption process.

A. Notification of Interested Persons

The Central Valley Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided an opportunity to submit written comments and recommendations. Additionally, consistent with Water Code section 189.7, the Central Valley Water Board conducted outreach to potentially affected disadvantaged and/or tribal communities concerning tentative WDRs. Notification was provided through posting on the Central Valley Water Board's website on **26 June 2024** and through posting by the Discharger at **Yuba City City Hall** and the Facility entrance on **2 July 2024**.

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

To be fully responded to by staff and considered by the Central Valley Water Board, the written comments were due at the Central Valley Water Board office by 5:00 p.m. on **26 July 2024**.

C. Public Hearing

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

Date: **18 October 2024**
Time: **8:30 a.m.**
Location: Online and Regional Water Quality Control Board
11020 Sun Center Drive, 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, WDRs, and permit. For accuracy of the record, important testimony was requested in writing.

D. Reconsideration of Waste Discharge Requirements

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

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

Or by email at waterqualitypetitions@waterboards.ca.gov

Instructions on how to file a petition for review (http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_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 WDRs and NPDES permit should contact the Central Valley Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Armando Martinez at (916) 464-4617, or email at Armando.Martinez@waterboards.ca.gov.

G.

ATTACHMENT G – SUMMARY OF REASONABLE POTENTIAL ANALYSIS

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	RP
Ammonia Nitrogen, Total (as Nitrogen)	mg/L	55	0.25		2.7	3.3	--	--	--	--	Yes
Bis(2-ethylhexyl) Phthalate	µg/L	6.8	ND	1.8	--	--	1.8	5.9	--	4	Yes
Copper, Total	µg/L	6.6	8.1	6.5	9.3	6.5	1,300	--	--	1,000	Yes
Cyanide, Total	µg/L	6.8	0.45	5.2	22	5.2	700	220,000	--	150	Yes
Dichlorobromomethane	µg/L	1.1	ND	0.56	--	--	0.56	46	--	80	Yes
Electrical Conductivity	µmhos/cm	685	110	900	--	--	--	--	--	900	No
Lead, Total	µg/L	0.31	0.03	1.5	39	1.5	--	--	--	15	No
Manganese, Total	µg/L	36.5	27	50	--	--	--	--	--	50	No
Mercury, Total	ng/L	5.4	0.001	12	--	--	50	51	12	2,000	No
Nitrite Nitrogen, Total (as Nitrogen)	mg/L	0.57	ND	1	--	--	--	--	--	1	No
Nitrate Plus Nitrite, Total (as Nitrogen)	mg/L	0.33	0.25	10	--	--	--	--	--	10	Yes
Sulfate	mg/L	46	3.1	250	--	--	--	--	--	250	No
Total Dissolved Solids	mg/L	360	72	500	--	--	--	--	--	500	No

Attachment G Table Notes:

1. **Ammonia, total as Nitrogen.** CMC represents the U.S. EPA National Recommended Ambient Water Quality Criteria, Freshwater Aquatic Life Protection, 1-hour average. The CCC represents the U.S. EPA National Recommended Ambient Water Quality Criteria, Freshwater Aquatic Life Protection, 30-day average.
2. **Electrical Conductivity and Manganese.** MEC represents the maximum observed annual average concentration for comparison with the Secondary MCL.
3. **Dichlorobromomethane**. Primary MCL of 80 µg/L represents the primary MCL for total trihalomethanes, which includes bromoform, chlorodibromomethane, chloroform, and dichlorobromomethane.
4. **Mercury.** MEC represents the maximum observed annual average concentration for comparison with water column concentration corresponding to the Sport Fish Water Quality Objective in the Statewide Mercury Provisions. The Basin Plan

criteria of 12 ng/L represents the water column concentration corresponding to the Sport Fish Water Quality Objective in the Statewide Mercury Provisions.

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
RP =	Reasonable Potential
ND =	Non-detect

H

ATTACHMENT H-1 – CALCULATION OF WQBELS

HUMAN HEALTH WQBELS CALCULATIONS

Parameter	Units	Criteria	B	Effluent CV	Dilution Factor	MDEL/AMEL Multiplier	AMEL Multiplier	AMEL	MDEL	AWEL
Dichlorobromomethane	µg/L	0.56	0.08	0.34	16.9	1.56	1.3	10	16	--
Nitrate Plus Nitrite, Total (as Nitrogen)	mg/L	10	--	0.98	--	2.0	1.9	10	--	20
Bis(2-Ethylhexyl)Phthalate	µg/L	1.8	0.25	2.4	14	3.2	3.1	27	86	--

Attachment H-1 Table Notes:

1. **Ambient Background Concentration (B).** Step 2 in Section 1.4 of the SIP describes B as the observed maximum concentration 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 ambient background concentration as an arithmetic mean determined in accordance with section 1.4.3.2 of the SIP.
2. **Effluent CV.** Established according to section 1.4 of the SIP.
3. **Nitrate plus Nitrite, total as Nitrogen.** MDEL/AMEL Multiplier of 2.5 represents an AWEL/AMEL Multiplier.

Abbreviations used in this table:

B= Mean Background Concentration
CV = Coefficient of Variation
MDEL = Maximum Daily Effluent Limitation
AMEL = Average Monthly Effluent Limitation
MDEL = Maximum Daily Effluent Limitation
AWEL = Average Weekly Effluent Limitation

ATTACHMENT H-2 – CALCULATION OF WQBELS

AQUATIC LIFE WQBELS CALCULATIONS

Parameter	Units	CMC	CCC	B	CV	CMC Dilution Factor	CCC Dilution Factor	ECA Multiplier$_{acute}$	LTA$_{acute}$	ECA Multiplier$_{chronic}$	LTA$_{chronic}$	AMEL Multiplier$_{95}$	AWEL Multiplier	MDEL Multiplier$_{99}$	AMEL	AWEL	MDEL
Ammonia Nitrogen, Total (as Nitrogen)	mg/L	3.28	1.44	0.25	0.3	11	12	--	--	--	29.8	1.36	2.28	--	31	51	--
Copper, Total	µg/L	9.3	6.5	8.1	0.38	11	12	--	--	--	8.2	1.3	--	2.2	11	--	18
Cyanide, Total	µg/L	750	5.2	0.45	0.6	11	12	0.32	241	0.53	15	1.55	--	3.1	10		20

Attachment H-2 Table Notes:

1. AMEL calculated according to section 1.4 of the SIP using a 95th percentile occurrence probability.
2. AWEL calculated according to section 1.4 of the SIP using a 98th percentile occurrence probability.
3. MDEL calculated according to section 1.4 of the SIP using a 99th percentile occurrence probability.
4. **Ammonia, total as Nitrogen and Copper.** LTAs, Multipliers, and Final effluent limitations in the Order are based on the Discharger's dynamic modeling results.
5. **Cyanide.** Final effluent limitations in the Order are based on Facility performance and a Dilution of 1.3.

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