

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

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**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CAG585001
ORDER R5-2023-0025**

**WASTE DISCHARGE REQUIREMENTS
FOR
MUNICIPAL WASTEWATER DISCHARGERS THAT MEET OBJECTIVES/CRITERIA AT THE
POINT OF DISCHARGE TO SURFACE WATER
(MUNICIPAL GENERAL ORDER)**

The following Dischargers are subject to waste discharge requirements (WDRs) set forth in this General Order upon authorization by a Notice of Applicability (NOA):

Table 1. Discharger Information

Dischargers	Owners and operators of municipal wastewater treatment facilities that meet water quality objectives/criteria at the point of discharge to waters of the United States.
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Table 2. Administrative Information

This Order was adopted on:	22 June 2023
This Order shall become effective on:	2 October 2023
This Order shall expire on:	1 October 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:	< 1 mgd = Minor discharge ≥ 1 mgd = 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 **22 June 2023**.

PATRICK PULUPA, Executive Officer

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I. DISCHARGER INFORMATION

A. Eligible Discharges

This General Order applies to owners and operators (hereafter Dischargers) of municipal wastewater treatment facilities that meet water quality objectives/criteria at the point of discharge to surface waters of the United States. These facilities may be publicly owned treatment works (POTWs), as defined at 40 Code of Federal Regulations (C.F.R.) section 403.3, or privately owned treatment works, as defined at 40 C.F.R. section 122.2. This General Order covers major and minor discharges and does not specify eligibility criteria for flow.

The municipal wastewater treatment facilities to be covered by this General Order receive and treat primarily municipal and domestic sewage (i.e., waste and wastewater from humans or household operations), but may also receive and treat septage, commercial and industrial wastewater, storm water, and dry-weather diversions from municipal separate storm sewer (MS4) systems. This General Order does not authorize discharges to surface waters directly from septic tanks or discharges that are comprised solely of non-municipal wastewater (e.g., commercial wastewater, industrial wastewater, or storm water).

This General Order covers municipal wastewater treatment facilities that provide secondary, advanced secondary, or tertiary treatment. Secondary treatment facilities are defined as those meeting the secondary treatment regulations at 40 C.F.R. part 133. Secondary treatment processes generally include a combination of physical and biological treatment to remove biodegradable organics and suspended solids. Advanced secondary facilities provide additional treatment beyond secondary (e.g., filtration). Tertiary facilities are defined as those providing filtration and disinfection equivalent to the levels required by the State Water Resources Control Board (State Water Board), Division of Drinking Water (DDW) reclamation criteria at California Code of Regulations (CCR), Title 22, division 4, chapter 3, (Title 22). This General Order does not cover discharges that do not receive, at a minimum, secondary treatment (e.g., primary treatment, equivalent-to-secondary treatment).

This General Order covers municipal wastewater treatment facilities that provide disinfection using either chlorine or ultraviolet light (UV) but does not cover facilities that provide disinfection using alternative disinfection methods (e.g., ozonation or pasteurization).

The Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP) in section 1.3, Step 8, paragraph 2, states that the Central Valley Regional Water Quality Control Board (Central Valley Water Board) may choose to exempt low volume discharges, determined to have no significant adverse impact on water quality, from certain monitoring requirements. Any exemption granted will be included in the Notice of Applicability.

If a Screening Level contained in Attachment C is exceeded and there is no associated effluent limit listed in section V of this General Order, then the discharge is not eligible for coverage under this General Order.

B. Eligibility Criteria

To be authorized by this General Order, all Dischargers of treated municipal wastewater to surface waters of the United States must demonstrate in the Notice of Intent that the discharge or proposed discharge meets the following criteria:

1. If pollutant concentrations in the discharge cause, have a reasonable potential to cause, or contribute to an excursion above any applicable federal water quality criterion established by U.S. EPA pursuant to CWA section 303, then the Discharger must demonstrate the ability to comply with the water quality criterion and associated effluent limitations in section V of this General Order at the point of discharge, without consideration of dilution credits (i.e., end-of-pipe). A Discharger not currently in compliance with the water quality criterion and associated effluent limitations but under a compliance schedule in this General Order or a separate enforcement order (e.g., Time Schedule Order or Cease and Desist Order) that will enable compliance with the water quality criterion and associated effluent limitations may be enrolled under this General Order.
2. If pollutant concentrations in the discharge cause, have a reasonable potential to cause, or contribute to an excursion above any water quality objective adopted by the Central Valley Water Board or State Water Board, including prohibitions of discharge for the receiving waters, then the Discharger must demonstrate the ability to comply with the water quality objective and associated effluent limitations in section V of this General Permit at the point of discharge, without consideration of dilution credits (i.e., end-of-pipe). A Discharger not currently meeting the water quality objectives and associated effluent limitations but under a compliance schedule in this General Order or a separate enforcement order (e.g., Time Schedule Order or Cease and Desist Order) that will enable compliance with the water quality criterion and associated effluent limitations may be enrolled under this General Order.
3. This Order allows discharges of secondary treated wastewater under the following conditions, unless the Discharger is otherwise required by the Central Valley Water Board to provide tertiary treatment:
 - a. The discharge is to a receiving water with the agricultural supply (AGR) or water contact recreation (REC-1) beneficial use and receives 20:1 dilution at all times, or
 - b. The discharge is to an ephemeral stream with little or no natural flow all or part of the year, there is no nearby habitation, there is limited use of the discharge area, and contact with the effluent is not encouraged.

Eligible Dischargers of secondary treated wastewater must demonstrate that their treatment system provides adequate treatment and disinfection to achieve

compliance with the effluent limitations specified in section V.A.1.a.i of this General Order that, based on historical monitoring data, are applicable to the Discharger.

4. This Order allows discharges of tertiary treated wastewater under the following conditions:
 - a. The discharge is to a receiving water with the AGR or REC-1 beneficial use and does not receive 20:1 dilution at all times, or
 - b. The discharge is otherwise required by the Central Valley Water Board to provide tertiary treatment (e.g., where DDW has made a site-specific recommendation that tertiary treatment in addition to 20:1 dilution is necessary or where tertiary treatment has been required to comply with State and federal antidegradation requirements).

Eligible Dischargers of tertiary treated wastewater must demonstrate that their treatment system provides adequate treatment and disinfection to achieve compliance with the effluent limitations specified in section V.A.1.a.ii of this General Order that, based on historical monitoring data, are applicable to the Discharger.

5. This Order includes site-specific limitations for Dischargers that Central Valley Water Board staff has determined to be potentially eligible for coverage under this Order. Dischargers specifically listed in this Order are not guaranteed coverage under this Order and must undergo the formal application and review process to determine individual eligibility. Dischargers with site-specific limitations not contained in this Order may apply for coverage under this Order, but any site-specific limitations, beyond those included in this Order, must be adopted separately by the Central Valley Water Board before the site-specific limitations can be included in the Notice of Applicability.
6. Facilities that use unlined basins or ponds beyond incidental, emergency, or short-term facility maintenance (e.g., diversion during UV channel maintenance or facility upset) or operate unlined sludge lagoons, unlined sludge drying beds, or unlined dried sludge storage areas (unlined is considered to have a hydraulic conductivity standard of greater than 1×10^{-6} centimeters per second) as part of their wastewater treatment process must obtain or be in the process of obtaining additional regulatory requirements that address operation, maintenance, monitoring, and other specific requirements for operating the unlined treatment process to be enrolled in this Order.

II. NOTIFICATION REQUIREMENTS

A. General Order Application

It is the responsibility of the Discharger to obtain coverage under this General Order prior to commencement of any discharge to surface waters of the United States. To obtain coverage under this General Order, which also serves as a National Pollutant Discharge Elimination System (NPDES) permit, new enrollees must submit a complete Notice of Intent (as described in Attachment B), a minimum of one year prior to expiration of their existing NPDES permit if the discharge has already been permitted,

or 180 days prior to a new discharge. For existing enrollees, a Notice of Intent (as described in Attachment B) must be submitted as specified in their existing Notice of Applicability (NOA) or within three years of the effective date of this General Order, whichever is sooner. The Notice of Intent includes the following:

1. Requirements for All Dischargers

The following must be submitted:

- a. The appropriate first annual fee as required by Title 23 of the CCR, Division 3, Chapter 9, Article 1. Information regarding the [current fee schedule](http://www.waterboards.ca.gov/resources/fees) (<http://www.waterboards.ca.gov/resources/fees>) and [how to make a payment](https://www.waterboards.ca.gov/make_a_payment) (https://www.waterboards.ca.gov/make_a_payment) by check or credit card is available online. (Checks must be made payable to the State Water Resources Control Board.)
- b. A signed Notice of Intent (Attachment B).
- c. Discharger information in Attachment B on official letterhead as follows:
 - i. Discharger information in section 2.
 - ii. Facility Information in section 3.
 - iii. Pretreatment program information in section 4, if applicable.
- d. The [Salt Control Program Notice of Intent](https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/forms_temps_guide/salt_noi_form.pdf) (https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/forms_temps_guide/salt_noi_form.pdf), if a Salt Control Program Notice of Intent has not been submitted previously.

2. Additional Requirements for Specific Dischargers

- a. **Low Volume Dischargers.** Low volume Dischargers requesting an exception to priority pollutant sampling requirements in section IX.G of the Monitoring and Reporting Program (Attachment E), as allowed by Section 1.3, Step 8 of the SIP, shall submit a justification that the discharge will have no significant adverse impact on water quality.
- b. **Existing Dischargers.** Existing Dischargers under General Order R5-2017-0085-02 (“previous permit”) shall remain covered under the previous permit until:
 - i. A new NOA is issued for coverage under this General Order (R5-2023-0025), even after the effective date of this General Order, or;
 - ii. Permit coverage is terminated pursuant to the terms of the previous permit.

To obtain coverage under this General Order, existing Dischargers under the previous permit shall submit an updated NOI no later than the earliest of:

- i. Three years from the effective date of this General Order (2 October 2026);
- ii. As specified in their existing NOA for General Order R5-2017-0085-02, or;
- iii. An earlier date specified by the Executive Officer, to obtain coverage under this General Order.

An NOI submitted prior to expiration of R5-2017-0085-02 can fulfill the requirements of section II.A.2.b. A Discharger continuing regulatory coverage under the previous permit after 2 October 2026 shall not make any material change to the facility or the discharge until the Executive Officer issues a NOA under this General Order or the Discharger obtains an individual permit.

A Discharger desiring coverage under this Order that as of the effective date of this Order is authorized to discharge under another Central Valley Water Board or State Water Board individual NPDES permit that has not yet expired, shall submit a NOI to the Executive Officer no later than one year prior to the expiration date of its current NPDES permit. This time period may be waived by the Executive Officer.

Dischargers operating under existing individual NPDES permits (“existing Dischargers”) may provide additional representative data for the effluent and/or receiving water that they wish to be considered that has not been reported in the California Integrated Water Quality System (CIWQS) during the last 3 years, if available. If an existing Discharger has completed a major upgrade to its existing facility for which representative data is not available from the upgraded facility or the upgrades have not been completed, the Discharger shall provide estimated data for the proposed effluent and receiving water and for the priority pollutants and other constituents of concern listed in section IX.G of the Monitoring and Reporting Program (Attachment E). The Discharger will be required to sample the effluent and report the analytical results for the priority pollutants and other constituents of concern listed in section IX.G of the Monitoring and Reporting Program (Attachment E) within 18 months for an upgraded facility that is fully operational at the time of the issuance of the Notice of Applicability or within 21 months following completion of construction of the upgrades to the existing facility.

- c. **New Enrollees.** New enrollees (those not previously covered by this General Order or General Order R5-2017-0085-02) shall provide either analytical results (if the proposed new discharge is from an operational facility) or estimated data (if the proposed new discharge is from a new facility for which data is not available or for which construction and startup has not been completed) for the proposed effluent and receiving water for the priority pollutants and other constituents of concern listed in section IX.G of the Monitoring and Reporting Program (Attachment E). If estimated data are provided, the Discharger will be required to sample the effluent and report the analytical results for the priority pollutants and other constituents of concern listed in section IX.G of the Monitoring and Reporting Program (Attachment E) within 18 months for a new facility that is fully operational at the time of the issuance of the Notice of

Applicability or within 21 months following completion of construction of a new facility that is not fully operational at the time of the issuance of the Notice of Applicability.

- d. **New or Increased Discharge.** Dischargers requesting coverage for a new discharge or expanding facility capacity beyond their current permitted average dry weather flow shall provide an antidegradation analysis and a feasibility analysis for wastewater disposal, regionalization, and recycled water alternatives.
- e. **UV Disinfection Dischargers.** Dischargers that use UV disinfection shall provide a copy of the site-specific engineering study and DDW approval letter if requesting site-specific UV disinfection system operating specifications in lieu of the specification in Special Provisions VII.C.4.b.i and ii. Dischargers that use UV disinfection shall also provide a description of any continued chlorine use at the facility.

B. General Order Coverage

Upon receipt of a complete Notice of Intent, the Executive Officer shall determine the eligibility of the proposed discharge to this General Order. If the discharge is deemed eligible for coverage under this General Order, the Executive Officer will issue a Notice of Applicability to the Discharger. The Notice of Applicability will specify that the discharge is authorized under the terms and conditions of this General Order, when such authorization is effective, and will indicate the applicable effluent limitations and include a monitoring and reporting program. Proposed discharges to surface waters of the United States that are not already covered by an existing individual NPDES permit may not commence until issuance of a Notice of Applicability. If the discharge is not eligible for coverage under this General Order, the Executive Officer will notify the Discharger in writing with instructions on how to proceed.

The Discharger must notify the Central Valley Water Board in writing prior to making any modifications to the facility and/or discharge as described in the Notice of Applicability. Upon receipt of notification from the Discharger regarding any planned modifications to the previously approved discharge, the Central Valley Water Board may request information, such as a modified Notice of Intent and applicable laboratory analyses, in order to determine eligibility of the modified facility and/or discharge for this Order. If applicable, the Executive Officer may issue a modified Notice of Applicability for discharges that continue to qualify for this Order. Discharge may continue during this process. Dischargers that no longer qualify for this Order but wish to continue discharge to surface waters of the United States must immediately apply for an individual NPDES permit.

C. Termination of Coverage

The Discharger is subject to the terms and conditions of this Order as of the effective date of the Notice of Applicability and is responsible for submitting monitoring reports and the annual fee associated with this Order until a written request for official termination of coverage is received and coverage is terminated. In accordance with 40 C.F.R. section 122.28(b)(3)(iii), any Discharger may request to be excluded from

coverage under a general NPDES permit by applying for an individual NPDES permit. This request must provide justification supporting this request for an individual NPDES permit and reasons why coverage under this General Order is not appropriate. Upon receipt of the request and application, the Executive Officer shall determine if an individual NPDES permit should be issued. When the Central Valley Water Board issues an individual NPDES permit and/or WDRs to a Discharger, the applicability of this General Order to that Discharger is automatically terminated on the effective date of the individual NPDES permit or WDRs.

Dischargers shall also request termination of coverage under this General Order when either (a) the facility has ceased operations or (b) the facility's operations have changed and are no longer eligible for coverage under the General Order. Termination of coverage takes effect upon approval by the Executive Officer.

D. General Order Expiration

This General Order will expire five years after the effective date, as specified on the cover page of this General Order. In accordance with 40 C.F.R. sections 122.6 and 122.28(b)(2), if the permit is not reissued by the expiration date, the conditions of this General Order will continue in force and effect until a new general order is adopted. Only those facilities authorized to discharge under this General Order will remain authorized to continue discharge under the administratively continued permit conditions until a new general order is adopted and a new Notice of Applicability is issued by the Executive Officer, or the Discharger is issued an individual NPDES permit or WDRs. Dischargers that intend to maintain coverage under this General Order after the expiration date and have not submitted a NOI within three years prior to the expiration date of this General Order shall submit the following at least one year prior to 1 October 2028:

1. Notification of the Discharger's intent to obtain regulatory coverage under this General Order, or
2. A NOI, if a material change to the facility or the discharge is planned prior to the NOI due date.

III. FINDINGS

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

A. Legal Authorities. This General 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 General 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 for municipal wastewater treatment facilities, as described herein, that meet water quality objectives/criteria at the point of discharge to surface waters.

40 C.F.R. section 122.28 authorizes U.S. EPA and approved states to issue general permits to regulate a point source category if the sources:

1. Involve the same or substantially similar types of operations;
2. Discharge the same type of waste;
3. Require the same type of effluent limitations or operating conditions;
4. Require similar monitoring; and
5. Are more appropriately regulated under a general permit rather than individual permits.

On 22 September 1989, U.S. EPA granted the State of California, through the State Water Board and the Regional Water Boards, the authority to issue general NPDES permits pursuant to 40 C.F.R. parts 122 and 123.

- B. California Environmental Quality Act (CEQA).** Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA, (commencing with section 21100) of Division 13 of Public Resources Code. Additionally, the adoption of land discharge requirements and/or Title 22 water reclamation requirements for the Facility constitutes permitting of an existing facility that is categorically exempt from the provisions of CEQA pursuant to CCR, title 14, section 15301.
- C. Background and Rationale for Requirements.** The Central Valley Water Board developed the requirements in this General Order based available information and permit requirements for several similar dischargers in the Central Valley Region. The Fact Sheet (Attachment F), which contains background information and rationale for the requirements in this General Order, is hereby incorporated into and constitutes Findings for this Order. Attachments A through E and G are also incorporated into this General Order.
- D. Provisions and Requirements Implementing State Law.** The provisions/requirements in subsection V.B, V.C, VI.B and VII.C.4 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. The Monitoring and Reporting Program, as specified in the Notice of Applicability and in Attachment E, establishes 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. Municipal wastewater treatment facilities that are

issued a Notice of Applicability by the Executive Officer are subject to this General Order. The monitoring reports required by this General Order are necessary to determine compliance with this General Order. The need for the monitoring reports is discussed in the Fact Sheet.

- F. Notification of Interested Persons.** The Central Valley Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe 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.
- H. Notification of Interested Parties and Consideration of Public Comments for Individual NOAs.** It is the intent of this General Order that the public comment period for this General Order shall be adequate for the enrollments under this Order. The Central Valley Water Board's current practice is to provide 15 days public notice of tentative NOAs, although it is not required. The Executive Officer may issue a NOA after considering any public comments. If the Executive Officer determines that a public hearing is appropriate, the Central Valley Water Board, in a public meeting, will hear and consider all comments pertaining to the tentative NOA.

THEREFORE, IT IS HEREBY ORDERED that Municipal General Order R5-2017-0085-02 (Waste Discharge Requirements for Municipal Wastewater Dischargers That Meet Objectives/Criteria at the Point of Discharge to Surface Water) is rescinded upon the effective date of this General Order except as stated in Provision II.A.2.b for existing enrollees and 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 General Order upon the issuance of a NOA. This action in no way prevents the Central Valley Water Board from taking enforcement action for violations of the previous General Order.

IV. DISCHARGE PROHIBITIONS

- A.** The discharge of wastes, other than those described in section I.A and meeting the eligibility criteria in section I.B of this General Order, is prohibited unless the Discharger obtains coverage under another general or individual Order that regulates the discharge of such wastes. The discharge of wastes at a location or in a manner different from that described in the NOI and NOA is prohibited.
- B.** The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Federal Standard Provisions I.G. and I.H. (Attachment D).
- C.** Neither the discharge nor its treatment shall create a nuisance as defined in section 13050 of the Water Code.

- D. Discharge of waste classified as 'hazardous', as defined in the CCR, title 22, section 66261.1 et seq., is prohibited.
- E. **Average Dry Weather Flow.** Discharges exceeding the site-specific average dry weather flow specified in the NOA are prohibited.
- F. The City of Jackson is prohibited from discharging wastewater into Jackson Creek in amounts that cause the downstream Amador Lake water to exceed greater than 5 percent volume of wastewater in Amador Lake (one part wastewater in 20 parts of lake water, or 20:1 dilution).

V. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The Executive Officer shall indicate the applicable effluent limitations in the NOA when a Discharger is enrolled under this General Order. If necessary, effluent limitations for priority pollutants not specifically listed in this section will be determined using the same standard analysis and procedures used to determine the effluent limitations for priority pollutants contained herein and as described in the Fact Sheet (Attachment F).

The effluent limitations specified in sections V.A.1.b, V.A.1.c.v, V.A.1.c.vi, and V.A.1.c.vii were calculated according to the procedures in section 1.4 of the SIP and vary according to the coefficient of variation (CV) of the effluent data unless otherwise specified. The CV is a measure of the data variability and is calculated as the standard deviation divided by the arithmetic mean of the observed values. If (a) the number of effluent data points is less than ten, or (b) at least 80 percent of the data are reported as not detected, the CV shall be set equal to 0.6. When calculating the CV using this procedure, if an effluent data point is below the method detection limit (MDL) for the pollutant in that sample, one-half of the MDL shall be used as a value in the calculations.

As identified in the NOA from the Executive Officer, the constituents, parameters, and pollutants listed in this section shall not exceed the effluent limitations below:

A. Effluent Limitations

1. Final Effluent Limitations

a. Secondary and Tertiary Treatment Requirements and Pathogen Removal Requirements

i. Secondary Treatment Requirements

As specified in the Notice of Applicability, Dischargers of secondary treated wastewater that meet the eligibility criteria in section I.B.3 shall not exceed the effluent limitations below:

- (a) The Discharger shall maintain compliance with the effluent limitations specified in Table 3:

Table 3. Effluent Limitations – Secondary Treatment Requirements

Parameters	Units	Average Monthly Effluent Limitation (AMEL)	Average Weekly Effluent Limitation (AWEL)	Maximum Daily Effluent Limitation (MDEL)
Biochemical Oxygen Demand, 5-day @ 20°Celsius (BOD ₅)	milligrams per liter (mg/L)	30	45	60
BOD ₅	pounds per day (lbs/day)	See Table Note 1	See Table Note 1	See Table Note 1
Total Suspended Solids (TSS)	mg/L	30	45	60
TSS	lbs/day	See Table Note 1	See Table Note 1	See Table Note 1
Settleable Solids	milliliters per liter (ml/L)	0.1	0.2	--

Table 3 Note:

1. As specified in the Notice of Applicability, mass-based effluent limitations shall be established based on the design average dry weather flow.

(b) **Percent Removal.** The average monthly percent removal of BOD₅ and TSS shall not be less than 85 percent.

(c) **Total Coliform Organisms.** Effluent total coliform organisms shall not exceed the following at Monitoring Location EFF-001 or other monitoring locations specified in the Notice of Applicability:

- (1) 23 most probable number (MPN) per 100 mL, as a 7-day median; and
- (2) 240 MPN/100 mL, more than once in any 30-day period.

ii. Tertiary Treatment Requirements

As specified in the Notice of Applicability, Dischargers of tertiary treated wastewater that meet the eligibility criteria in section I.B.4 shall not exceed the effluent limitations below:

(a) The Discharger shall maintain compliance with the effluent limitations specified in Table 4:

Table 4. Effluent Limitations – Tertiary Treatment Requirements

Parameters	Units	AMEL	AWEL
BOD ₅	milligrams per liter (mg/L)	10	15
TSS	mg/L	10	15

(b) **Percent Removal.** The average monthly percent removal of BOD₅ and TSS shall not be less than:

- (1) 85 percent; or

(2) 90 percent, if 90 percent was specified in the Discharger's most recent individual NPDES permit.

(c) **Total Coliform Organisms.** Effluent total coliform organisms shall not exceed the following at Monitoring Location EFF-001 or otherwise specified in the Notice of Applicability:

(1) 2.2 MPN/100 mL, as a 7-day median;

(2) 23 MPN/100 mL, more than once in any 30-day period; and

(3) 240 MPN/100 mL, at any time.

b. Water Quality-Based Effluent Limitations for Priority Pollutants of Concern

To determine the priority pollutants requiring effluent limitations, the Central Valley Water Board will conduct a reasonable potential analysis (RPA) using the effluent and ambient background data as discussed in section V.C.2.b of the Fact Sheet (Attachment), the screening levels in Attachment C, and the procedures specified in section 1.3 of the SIP. See Attachment C and section V.C.3.a of the Fact Sheet (Attachment F) for additional information regarding the specific RPA procedures for priority pollutants. For priority pollutants that exhibit reasonable potential to cause or contribute to an exceedance of a water quality criterion/objective, the Executive Officer shall indicate the applicable effluent limitations in the Notice of Applicability.

i. **Effluent Limitations for Priority Pollutants.** Average monthly effluent limitations and maximum daily effluent limitations are established based on the default coefficient of variation (CV) of 0.6 in Tables 5A for discharges to receiving waters with the Municipal and Domestic Supply (MUN) beneficial use and Table 5B for discharges to receiving waters without MUN. For hardness-dependent metals, average monthly effluent limitations and maximum daily effluent limitations are established in Section V.A.1.b.ii (Tables 6 through 9, Tables 10A through 10F, Tables 11A through 11F, and Tables 12A through 12F). Constituent specific tables with a wider range of CVs are also included in Tables 5C through 5I as follows:

(a) **Table 5C.** Effluent Limitations for Arsenic, Total

(b) **Table 5D.** Effluent Limitations for Bis (2-ethylhexyl) Phthalate

(c) **Table 5E.** Effluent Limitations for Chlorodibromomethane

(d) **Table 5F.** Effluent Limitations for Cyanide, Total (as CN)

(e) **Table 5G.** Effluent Limitations for Dichlorobromomethane

(f) **Table 5H.** Effluent Limitations for Tetrachloroethylene

(g) **Table 5I.** Effluent Limitations for Selenium and Thallium

The priority pollutants, subject to effluent limitations as identified in the NOA from the Executive Officer, shall not exceed the effluent limitations in Table 5A through 5I below:

Table 5A. Effluent Limitations for Priority Pollutants with MUN

CTR Number	Parameter	Units	AMEL	MDEL
1	Antimony, Total	µg/L	6	12
2	Arsenic, Total	µg/L	See Tables 5C and 15	See Tables 5C and 15
3	Beryllium, Total	µg/L	4	8
4	Cadmium, Total	µg/L	See Table 6	See Table 6
5a	Chromium (III)	µg/L	See Table 7	See Table 7
5b	Chromium (VI)	µg/L	8	16
6	Copper, Total	µg/L	See Tables 10A through 10F, 13, 15, and 16A through 16E	See Tables 10A through 10F, 13, 15, and 16A through 16E
7	Lead, Total	µg/L	See Tables 11A through 11F	See Tables 11A through 11F
8	Mercury, Total (See Table Note 3)	µg/L	0.05	0.10
9	Nickel, Total	µg/L	See Table 8	See Table 8
10	Selenium, Total	µg/L	See Table 5I	See Table 5I
11	Silver, Total	µg/L	See Table 9	See Table 9
12	Thallium, Total	µg/L	See Table 5I	See Table 5I
13	Zinc, Total	µg/L	See Tables 12A through 12F, 14, 15, and 17A through 17E	See Tables 12A through 12F, 14, 15, and 17A through 17E
14	Cyanide, Total (as CN)	µg/L	See Table 5F and 15	See Table 5F and 15
15	Asbestos	MFL	7	14
16	2,3,7,8-TCDD	µg/L	1.3E-08	2.6E-08
17	Acrolein	µg/L	320	642
18	Acrylonitrile	µg/L	0.059	0.118
19	Benzene	µg/L	1	2
20	Bromoform	µg/L	4.3	8.6
21	Carbon Tetrachloride	µg/L	0.25	0.50
22	Chlorobenzene	µg/L	70	140
23	Chlorodibromomethane	µg/L	See Table 5F	See Table 5F
24	Chloroethane	µg/L	--	--
25	2-Chloroethylvinyl Ether	µg/L	--	--
26	Chloroform	µg/L	60	120
27	Dichlorobromomethane	µg/L	See Table 5G	See Table 5G
28	1,1-Dichloroethane	µg/L	5	10
29	1,2-Dichloroethane	µg/L	0.38	0.76

CTR Number	Parameter	Units	AMEL	MDEL
30	1,1-Dichloroethylene	µg/L	0.057	0.114
31	1,2-Dichloropropane	µg/L	0.52	1.04
32	1,3-Dichloropropylene	µg/L	0.5	1.0
33	Ethylbenzene	µg/L	300	602
34	Methyl Bromide	µg/L	48	96
35	Methyl Chloride	µg/L	--	--
36	Methylene Chloride	µg/L	4.7	9.4
37	1,1,2,2-Tetrachloroethane	µg/L	0.17	0.34
38	Tetrachloroethylene	µg/L	See Table 5H	See Table 5H
39	Toluene	µg/L	150	301
40	1,2-Trans-Dichloroethylene	µg/L	10	20
41	1,1,1-Trichloroethane	µg/L	200	401
42	1,1,2-Trichloroethane	µg/L	0.60	1.20
43	Trichloroethylene	µg/L	2.7	5.4
44	Vinyl Chloride	µg/L	0.5	1.0
45	2-Chlorophenol	µg/L	120	241
46	2,4-Dichlorophenol	µg/L	93	187
47	2,4-Dimethylphenol	µg/L	540	1,083
48	2-Methyl-4,6-Dinitrophenol	µg/L	13.4	26.9
49	2,4-Dinitrophenol	µg/L	70	140
50	2-Nitrophenol	µg/L	--	--
51	4-Nitrophenol	µg/L	--	--
52	3-Methyl-4-Chlorophenol	µg/L	--	--
53	Pentachlorophenol	µg/L	0.28	0.56
54	Phenol	µg/L	21000	42130
55	2,4,6-Trichlorophenol	µg/L	2.1	4.2
56	Acenaphthene	µg/L	1200	2407
57	Acenaphthylene	µg/L	--	--
58	Anthracene	µg/L	9,600	19,259
59	Benzidine	µg/L	0.00012	0.00024
60	Benzo(a)Anthracene	µg/L	0.0044	0.0088
61	Benzo(a)Pyrene	µg/L	0.0044	0.0088
62	Benzo(b)Fluoranthene	µg/L	0.0044	0.0088
63	Benzo(ghi)Perylene	µg/L	--	--
64	Benzo(k)Fluoranthene	µg/L	0.0044	0.0088
65	Bis(2-Chloroethoxy)Methane	µg/L	--	--
66	Bis(2-Chloroethyl)Ether	µg/L	0.031	0.062
67	Bis(2-Chloroisopropyl)Ether	µg/L	1400	2809
68	Bis(2-Ethylhexyl)Phthalate	µg/L	See Table 5D	See Table 5D
69	4-Bromophenyl Phenyl Ether	µg/L	--	--
70	Butylbenzyl Phthalate	µg/L	3000	6019
71	2-Chloronaphthalene	µg/L	1700	3411
72	4-Chlorophenyl Phenyl Ether	µg/L	--	--

CTR Number	Parameter	Units	AMEL	MDEL
73	Chrysene	µg/L	0.0044	0.0088
74	Dibenzo(a,h)Anthracene	µg/L	0.0044	0.0088
75	1,2-Dichlorobenzene	µg/L	600	1,204
76	1,3-Dichlorobenzene	µg/L	400	802
77	1,4-Dichlorobenzene	µg/L	5	10
78	3,3 Dichlorobenzidine	µg/L	0.04	0.08
79	Diethyl Phthalate	µg/L	23000	46142
80	Dimethyl Phthalate	µg/L	313000	627937
81	Di-n-Butyl Phthalate	µg/L	2700	5417
82	2,4-Dinitrotoluene	µg/L	0.11	0.22
83	2,6-Dinitrotoluene	µg/L	--	--
84	Di-n-Octyl Phthalate	µg/L	--	--
85	1,2-Diphenylhydrazine	µg/L	0.040	0.080
86	Fluoranthene	µg/L	300	602
87	Fluorene	µg/L	1300	2608
88	Hexachlorobenzene	µg/L	0.00075	0.00150
89	Hexachlorobutadiene	µg/L	0.44	0.88
90	Hexachlorocyclopentadiene	µg/L	50	100
91	Hexachloroethane	µg/L	1.9	3.8
92	Indeno(1,2,3-cd)Pyrene	µg/L	0.0044	0.0088
93	Isophorone	µg/L	8.4	16.9
94	Naphthalene	µg/L	--	--
95	Nitrobenzene	µg/L	17	34
96	N-Nitrosodimethylamine	µg/L	0.00069	0.00138
97	N-Nitrosodi-n-Propylamine	µg/L	0.005	0.010
98	N-Nitrosodiphenylamine	µg/L	5.0	10.0
99	Phenanthrene	µg/L	--	--
100	Pyrene	µg/L	960	1926
101	1,2,4-Trichlorobenzene	µg/L	5	10
102	Aldrin	µg/L	Non-detect (ND)	ND
103	alpha-BHC	µg/L	ND	ND
104	beta-BHC	µg/L	ND	ND
105	gamma-BHC (Lindane)	µg/L	ND	ND
106	delta-BHC	µg/L	ND	ND
107	Chlordane	µg/L	ND	ND
108	4,4'-DDT	µg/L	ND	ND
109	4,4'-DDE (linked to DDT)	µg/L	ND	ND
110	4,4'-DDD	µg/L	ND	ND
111	Dieldrin	µg/L	ND	ND
112	alpha-Endosulfan	µg/L	ND	ND
113	beta-Endosulfan	µg/L	ND	ND
114	Endosulfan Sulfate	µg/L	ND	ND

CTR Number	Parameter	Units	AMEL	MDEL
115	Endrin	µg/L	ND	ND
116	Endrin Aldehyde	µg/L	ND	ND
117	Heptachlor	µg/L	ND	ND
118	Heptachlor Epoxide	µg/L	ND	ND
119-125	Polychlorinated Biphenyls (PCBs) sum	µg/L	ND	ND
126	Toxaphene	µg/L	ND	ND

Table 5A Notes:

1. The sum of PCBs applies to PCB aroclors, 1016, 1221, 1232, 1242, 1248, 1254, and 1260.
2. The non-detectable (ND) limitation applies to each individual pesticide (CTR number 102 through 126). No individual pesticide may be present in the discharge at detectable concentrations. The Discharger shall use U.S. EPA standard analytical techniques with a maximum acceptable reporting limit of 0.5 µg/L (SIP minimum level).
3. **Mercury, Total.** For discharges to receiving waters with the beneficial uses of commercial and sport fishing (COMM), tribal tradition and culture (CUL), wildlife habitat (WILD), or marine habitat (MAR), an annual average effluent limitation of 12 ng/L for flowing water bodies (e.g., rivers, creeks, streams, and waters with tidal mixing) or 4 ng/L of total mercury for slow-moving water bodies (e.g, lagoons, closed estuaries, and marshes) is applicable in lieu of effluent limitations for total mercury in Table 5A.

Table 5B. Effluent Limitations for Priority Pollutants without MUN

CTR Number	Parameter	Units	AMEL	MDEL
1	Antimony, Total	µg/L	4300	8600
2	Arsenic, Total	µg/L	See Table 5C	See Table 5C
3	Beryllium, Total	µg/L	--	--
4	Cadmium, Total	µg/L	See Table 6	See Table 6
5a	Chromium (III)	µg/L	See Table 7	See Table 7
5b	Chromium (VI)	µg/L	8	16
6	Copper, Total	µg/L	See Tables 10A through 10F	See Tables 10A through 10F
7	Lead, Total	µg/L	See Tables 11A through 11F	See Tables 11A through 11F
8	Mercury, Total (See Table Note 4)	µg/L	0.05	0.10
9	Nickel, Total	µg/L	See Table 8	See Table 8
10	Selenium, Total	µg/L	See Table 5I	See Table 5I
11	Silver, Total	µg/L	See Table 9	See Table 9
12	Thallium, Total	µg/L	See Table 5I	See Table 5I

CTR Number	Parameter	Units	AMEL	MDEL
13	Zinc, Total	µg/L	See Tables 12A through 12F	See Tables 12A through 12F
14	Cyanide, Total (as CN)	µg/L	See Table 5F	See Table 5F
15	Asbestos	MFL	--	--
16	2,3,7,8-TCDD	µg/L	--	--
17	Acrolein	µg/L	--	--
18	Acrylonitrile	µg/L	--	--
19	Benzene	µg/L	71	142
20	Bromoform	µg/L	360	720
21	Carbon Tetrachloride	µg/L	4.4	8.8
22	Chlorobenzene	µg/L	--	--
23	Chlorodibromomethane	µg/L	See Table 5F	See Table 5F
24	Chloroethane	µg/L	--	--
25	2-Chloroethylvinyl Ether	µg/L	--	--
26	Chloroform	µg/L	1000	2000
27	Dichlorobromomethane	µg/L	See Table 5G	See Table 5G
28	1,1-Dichloroethane	µg/L	--	--
29	1,2-Dichloroethane	µg/L	--	--
30	1,1-Dichloroethylene	µg/L	--	--
31	1,2-Dichloropropane	µg/L	--	--
32	1,3-Dichloropropylene	µg/L	--	--
33	Ethylbenzene	µg/L	--	--
34	Methyl Bromide	µg/L	--	--
35	Methyl Chloride	µg/L	--	--
36	Methylene Chloride	µg/L	--	--
37	1,1,2,2-Tetrachloroethane	µg/L	--	--
38	Tetrachloroethylene	µg/L	See Table 5H	See Table 5H
39	Toluene	µg/L	--	--
40	1,2-Trans-Dichloroethylene	µg/L	--	--
41	1,1,1-Trichloroethane	µg/L	--	--
42	1,1,2-Trichloroethane	µg/L	--	--
43	Trichloroethylene	µg/L	--	--
44	Vinyl Chloride	µg/L	--	--
45	2-Chlorophenol	µg/L	--	--
46	2,4-Dichlorophenol	µg/L	--	--
47	2,4-Dimethylphenol	µg/L	2300	4600
48	2-Methyl-4,6-Dinitrophenol	µg/L	770	1500
49	2,4-Dinitrophenol	µg/L	--14000	28000
50	2-Nitrophenol	µg/L	--	--
51	4-Nitrophenol	µg/L	--	--
52	3-Methyl-4-Chlorophenol	µg/L	--	--
53	Pentachlorophenol	µg/L	8.2	16.4

CTR Number	Parameter	Units	AMEL	MDEL
54	Phenol	µg/L	--	--
55	2,4,6-Trichlorophenol	µg/L	6.5	13
56	Acenaphthene	µg/L	--	--
57	Acenaphthylene	µg/L	--	--
58	Anthracene	µg/L	110000	220000
59	Benzidine	µg/L	0.00054	0.0011
60	Benzo(a)Anthracene	µg/L	0.049	0.098
61	Benzo(a)Pyrene	µg/L	0.049	0.098
62	Benzo(b)Fluoranthene	µg/L	0.049	0.098
63	Benzo(ghi)Perylene	µg/L	--	--
64	Benzo(k)Fluoranthene	µg/L	0.049	0.098
65	Bis(2-Chloroethoxy)Methane	µg/L	--	--
66	Bis(2-Chloroethyl)Ether	µg/L	1.4	2.8
67	Bis(2-Chloroisopropyl)Ether	µg/L	170000	340000
68	Bis(2-Ethylhexyl)Phthalate	µg/L	See Table 5D	See Table 5D
69	4-Bromophenyl Phenyl Ether	µg/L	--	--
70	Butylbenzyl Phthalate	µg/L	5200	10400
71	2-Chloronaphthalene	µg/L	4300	8600
72	4-Chlorophenyl Phenyl Ether	µg/L	--	--
73	Chrysene	µg/L	0.049	0.098
74	Dibenzo(a,h)Anthracene	µg/L	0.049	0.098
75	1,2-Dichlorobenzene	µg/L	--	--
76	1,3-Dichlorobenzene	µg/L	--	--
77	1,4-Dichlorobenzene	µg/L	2600	5200
78	3,3 Dichlorobenzidine	µg/L	0.077	0.154
79	Diethyl Phthalate	µg/L	120000	240000
80	Dimethyl Phthalate	µg/L	2900000	5800000
81	Di-n-Butyl Phthalate	µg/L	12000	24000
82	2,4-Dinitrotoluene	µg/L	9.1	18.2
83	2,6-Dinitrotoluene	µg/L	--	--
84	Di-n-Octyl Phthalate	µg/L	--	--
85	1,2-Diphenylhydrazine	µg/L	0.54	1.08
86	Fluoranthene	µg/L	370	740
87	Fluorene	µg/L	14000	28000
88	Hexachlorobenzene	µg/L	0.00077	0.0015
89	Hexachlorobutadiene	µg/L	50	100
90	Hexachlorocyclopentadiene	µg/L	17000	34000
91	Hexachloroethane	µg/L	8.9	17.8
92	Indeno(1,2,3-cd)Pyrene	µg/L	0.049	0.098
93	Isophorone	µg/L	600	1200
94	Naphthalene	µg/L	--	--
95	Nitrobenzene	µg/L	1900	3800
96	N-Nitrosodimethylamine	µg/L	8.1	16.2

CTR Number	Parameter	Units	AMEL	MDEL
97	N-Nitrosodi-n-Propylamine	µg/L	1.4	2.8
98	N-Nitrosodiphenylamine	µg/L	16	32
99	Phenanthrene	µg/L	--	--
100	Pyrene	µg/L	11000	22000
101	1,2,4-Trichlorobenzene	µg/L	--	--
102	Aldrin	µg/L	ND	ND
103	alpha-BHC	µg/L	ND	ND
104	beta-BHC	µg/L	ND	ND
105	gamma-BHC (Lindane)	µg/L	ND	ND
106	delta-BHC	µg/L	ND	ND
107	Chlordane	µg/L	ND	ND
108	4,4'-DDT	µg/L	ND	ND
109	4,4'-DDE (linked to DDT)	µg/L	ND	ND
110	4,4'-DDD	µg/L	ND	ND
111	Dieldrin	µg/L	ND	ND
112	alpha-Endosulfan	µg/L	ND	ND
113	beta-Endosulfan	µg/L	ND	ND
114	Endosulfan Sulfate	µg/L	ND	ND
115	Endrin	µg/L	ND	ND
116	Endrin Aldehyde	µg/L	ND	ND
117	Heptachlor	µg/L	ND	ND
118	Heptachlor Epoxide	µg/L	ND	ND
119-125	PCBs sum	µg/L	ND	ND
126	Toxaphene	µg/L	ND	ND

Table 5B Notes:

1. The effluent limitation for 1,4-dichlorobenzene and hexachlorobutadiene are based on the CTR Human Health Criterion (fish consumption only).
2. The sum of PCBs applies to PCB aroclors, 1016, 1221, 1232, 1242, 1248, 1254, and 1260.
3. The non-detectable (ND) limitation applies to each individual pesticide (CTR number 102 through 126). No individual pesticide may be present in the discharge at detectable concentrations. The Discharger shall use USEPA standard analytical techniques with a maximum acceptable reporting limit of 0.5 µg/L (SIP minimum level).
4. **Mercury, Total.** For discharges to receiving waters with the beneficial uses of commercial and sport fishing (COMM), tribal tradition and culture (CUL), wildlife habitat (WILD), or marine habitat (MAR), an annual average effluent limitation of 12 ng/L for flowing water bodies (e.g., rivers, creeks, streams, and waters with tidal mixing) or 4 ng/L of total mercury for slow-moving water bodies (e.g, lagoons, closed estuaries, and marshes) is applicable in lieu of effluent limitations for total mercury in Table 5B.

Table 5C. Effluent Limitations for Arsenic, Total in µg/L

CV	Arsenic, Total AMEL for MUN	Arsenic, Total MDEL for MUN	Arsenic, Total AMEL for No MUN	Arsenic, Total MDEL for No MUN
0.1	10	12	150	170
0.2	10	13	140	190
0.3	10	15	140	200
0.4	10	17	130	220
0.5	10	18	130	230
0.6	10	20	120	250
0.7	10	22	120	260
0.8	10	23	120	260
0.9	10	24	110	270
1.0	10	25	110	270
1.1	10	26	110	280
1.2	10	27	100	280
1.3	10	28	100	280
1.4	10	28	98	280
1.5	10	29	95	280
1.6	10	29	93	270
1.7	10	30	91	270
1.8	10	30	89	270
1.9	10	30	87	270
2.0	10	31	85	260
2.1	10	31	83	260
2.2	10	31	82	260
2.3	10	31	80	250
2.4	10	32	79	250
2.5	10	32	77	250
2.6	10	32	76	240
2.7	10	32	75	240
2.8	10	32	74	240
2.9	10	32	73	240
3.0	10	33	72	230
3.1	10	33	71	230
3.2	10	33	70	230
3.3	10	33	69	230
3.4	10	33	68	220
3.5	10	33	67	220
3.6	10	33	66	220
3.7	10	33	65	220
3.8	10	34	65	220
3.9	10	34	64	220
4.0	10	34	63	210

Table 5D. Effluent Limitations for Bis (2-ethylhexyl) Phthalate in µg/L

CV	Bis (2-ethylhexyl) Phthalate AMEL for MUN	Bis (2-ethylhexyl) Phthalate MDEL for MUN	Bis (2-ethylhexyl) Phthalate AMEL for No MUN	Bis (2-ethylhexyl) Phthalate MDEL for No MUN
0.1	1.8	2.1	5.9	6.8
0.2	1.8	2.4	5.9	7.8
0.3	1.8	2.7	5.9	8.9
0.4	1.8	3.0	5.9	9.9
0.5	1.8	3.3	5.9	11
0.6	1.8	3.6	5.9	12
0.7	1.8	3.9	5.9	13
0.8	1.8	4.1	5.9	14
0.9	1.8	4.3	5.9	14
1.0	1.8	4.5	5.9	15
1.1	1.8	4.7	5.9	15
1.2	1.8	4.9	5.9	16
1.3	1.8	5.0	5.9	16
1.4	1.8	5.1	5.9	17
1.5	1.8	5.2	5.9	17
1.6	1.8	5.3	5.9	17
1.7	1.8	5.4	5.9	18
1.8	1.8	5.4	5.9	18
1.9	1.8	5.5	5.9	18
2.0	1.8	5.5	5.9	18
2.1	1.8	5.6	5.9	18
2.2	1.8	5.6	5.9	18
2.3	1.8	5.7	5.9	19
2.4	1.8	5.7	5.9	19
2.5	1.8	5.7	5.9	19
2.6	1.8	5.8	5.9	19
2.7	1.8	5.8	5.9	19
2.8	1.8	5.8	5.9	19
2.9	1.8	5.8	5.9	19
3.0	1.8	5.9	5.9	19
3.1	1.8	5.9	5.9	19
3.2	1.8	5.9	5.9	19
3.3	1.8	5.9	5.9	19
3.4	1.8	6.0	5.9	20
3.5	1.8	6.0	5.9	20
3.6	1.8	6.0	5.9	20
3.7	1.8	6.0	5.9	20
3.8	1.8	6.0	5.9	20
3.9	1.8	6.1	5.9	20
4.0	1.8	6.1	5.9	20

Table 5E. Effluent Limitations for Chlorodibromomethane in µg/L

CV	Chlorodibromo- methane AMEL for MUN	Chlorodibromo- methane MDEL for MUN	Chlorodibromo- methane AMEL for No MUN	Chlorodibromo- methane MDEL for No MUN
0.1	0.41	0.47	34	39
0.2	0.41	0.54	34	45
0.3	0.41	0.62	34	51
0.4	0.41	0.69	34	57
0.5	0.41	0.76	34	63
0.6	0.41	0.82	34	68
0.7	0.41	0.88	34	73
0.8	0.41	0.94	34	78
0.9	0.41	0.99	34	82
1.0	0.41	1.0	34	86
1.1	0.41	1.1	34	89
1.2	0.41	1.1	34	92
1.3	0.41	1.1	34	94
1.4	0.41	1.2	34	96
1.5	0.41	1.2	34	98
1.6	0.41	1.2	34	100
1.7	0.41	1.2	34	100
1.8	0.41	1.2	34	100
1.9	0.41	1.2	34	100
2.0	0.41	1.3	34	110
2.1	0.41	1.3	34	110
2.2	0.41	1.3	34	110
2.3	0.41	1.3	34	110
2.4	0.41	1.3	34	110
2.5	0.41	1.3	34	110
2.6	0.41	1.3	34	110
2.7	0.41	1.3	34	110
2.8	0.41	1.3	34	110
2.9	0.41	1.3	34	110
3.0	0.41	1.3	34	110
3.1	0.41	1.3	34	110
3.2	0.41	1.3	34	110
3.3	0.41	1.4	34	110
3.4	0.41	1.4	34	110
3.5	0.41	1.4	34	110
3.6	0.41	1.4	34	110
3.7	0.41	1.4	34	110
3.8	0.41	1.4	34	110
3.9	0.41	1.4	34	110
4.0	0.41	1.4	34	120

Table 5F. Effluent Limitations for Cyanide, Total (as CN) in µg/L

CV	Cyanide, Total (as CN) AMEL for MUN and No Mun	Cyanide, Total (as CN) MDEL for MUN and No Mun
0.1	5.0	5.8
0.2	4.9	6.4
0.3	4.7	7.0
0.4	4.5	7.6
0.5	4.4	8.1
0.6	4.3	8.5
0.7	4.1	8.9
0.8	4.0	9.2
0.9	3.9	9.4
1.0	3.8	9.5
1.1	3.7	9.6
1.2	3.6	9.6
1.3	3.5	9.6
1.4	3.4	9.6
1.5	3.3	9.5
1.6	3.2	9.5
1.7	3.1	9.4
1.8	3.1	9.3
1.9	3.0	9.2
2.0	2.9	9.1
2.1	2.9	9.0
2.2	2.8	8.9
2.3	2.8	8.8
2.4	2.7	8.7
2.5	2.7	8.6
2.6	2.6	8.5
2.7	2.6	8.4
2.8	2.6	8.3
2.9	2.5	8.2
3.0	2.5	8.1
3.1	2.4	8.0
3.2	2.4	7.9
3.3	2.4	7.9
3.4	2.4	7.8
3.5	2.3	7.7
3.6	2.3	7.6
3.7	2.3	7.6
3.8	2.2	7.5
3.9	2.2	7.5
4.0	2.2	7.4

Table 5G. Effluent Limitations for Dichlorobromomethane in µg/L

CV	Dichloro-bromomethane AMEL for MUN	Dichloro-bromomethane MDEL for MUN	Dichloro-bromomethane AMEL for No MUN	Dichloro-bromomethane MDEL for No MUN
0.1	0.56	0.65	46	53
0.2	0.56	0.74	46	61
0.3	0.56	0.84	46	69
0.4	0.56	0.94	46	77
0.5	0.56	1.0	46	85
0.6	0.56	1.1	46	92
0.7	0.56	1.2	46	99
0.8	0.56	1.3	46	110
0.9	0.56	1.4	46	110
1.0	0.56	1.4	46	120
1.1	0.56	1.5	46	120
1.2	0.56	1.5	46	120
1.3	0.56	1.6	46	130
1.4	0.56	1.6	46	130
1.5	0.56	1.6	46	130
1.6	0.56	1.6	46	140
1.7	0.56	1.7	46	140
1.8	0.56	1.7	46	140
1.9	0.56	1.7	46	140
2.0	0.56	1.7	46	140
2.1	0.56	1.7	46	140
2.2	0.56	1.7	46	140
2.3	0.56	1.8	46	150
2.4	0.56	1.8	46	150
2.5	0.56	1.8	46	150
2.6	0.56	1.8	46	150
2.7	0.56	1.8	46	150
2.8	0.56	1.8	46	150
2.9	0.56	1.8	46	150
3.0	0.56	1.8	46	150
3.1	0.56	1.8	46	150
3.2	0.56	1.8	46	150
3.3	0.56	1.8	46	150
3.4	0.56	1.9	46	150
3.5	0.56	1.9	46	150
3.6	0.56	1.9	46	150
3.7	0.56	1.9	46	150
3.8	0.56	1.9	46	150
3.9	0.56	1.9	46	160
4.0	0.56	1.9	46	160

Table 5H. Effluent Limitations for Tetrachloroethylene in µg/L

CV	Tetrachloro-ethylene AMEL for MUN	Tetrachloro-ethylene MDEL for MUN	Tetrachloro-ethylene AMEL for No MUN	Tetrachloro-ethylene MDEL for No MUN
0.1	0.80	0.93	8.9	10
0.2	0.80	1.1	8.9	12
0.3	0.80	1.2	8.9	13
0.4	0.80	1.3	8.9	15
0.5	0.80	1.5	8.9	16
0.6	0.80	1.6	8.9	18
0.7	0.80	1.7	8.9	19
0.8	0.80	1.8	8.9	20
0.9	0.80	1.9	8.9	21
1.0	0.80	2.0	8.9	22
1.1	0.80	2.1	8.9	23
1.2	0.80	2.2	8.9	24
1.3	0.80	2.2	8.9	25
1.4	0.80	2.3	8.9	25
1.5	0.80	2.3	8.9	26
1.6	0.80	2.3	8.9	26
1.7	0.80	2.4	8.9	26
1.8	0.80	2.4	8.9	27
1.9	0.80	2.4	8.9	27
2.0	0.80	2.5	8.9	27
2.1	0.80	2.5	8.9	27
2.2	0.80	2.5	8.9	28
2.3	0.80	2.5	8.9	28
2.4	0.80	2.5	8.9	28
2.5	0.80	2.5	8.9	28
2.6	0.80	2.6	8.9	28
2.7	0.80	2.6	8.9	28
2.8	0.80	2.6	8.9	29
2.9	0.80	2.6	8.9	29
3.0	0.80	2.6	8.9	29
3.1	0.80	2.6	8.9	29
3.2	0.80	2.6	8.9	29
3.3	0.80	2.6	8.9	29
3.4	0.80	2.6	8.9	29
3.5	0.80	2.7	8.9	29
3.6	0.80	2.7	8.9	29
3.7	0.80	2.7	8.9	30
3.8	0.80	2.7	8.9	30
3.9	0.80	2.7	8.9	30
4.0	0.80	2.7	8.9	30

Table 5I. Effluent Limitations for Selenium, Total and Thallium, Total in µg/L

CV	Selenium, Total AMEL for MUN	Selenium, Total MDEL for MUN	Thallium, Total AMEL for MUN	Thallium, Total MDEL for MUN
0.1	4.8	5.6	1.7	2.0
0.2	4.7	6.2	1.7	2.3
0.3	4.5	6.8	1.7	2.6
0.4	4.4	7.3	1.7	2.8
0.5	4.2	7.8	1.7	3.1
0.6	4.1	8.2	1.7	3.4
0.7	4.0	8.6	1.7	3.7
0.8	3.8	8.8	1.7	3.9
0.9	3.7	9.0	1.7	4.1
1.0	3.6	9.1	1.7	4.3
1.1	3.5	9.2	1.7	4.4
1.2	3.4	9.2	1.7	4.6
1.3	3.3	9.2	1.7	4.7
1.4	3.3	9.2	1.7	4.8
1.5	3.2	9.2	1.7	4.9
1.6	3.1	9.1	1.7	5.0
1.7	3.0	9.0	1.7	5.1
1.8	3.0	8.9	1.7	5.1
1.9	2.9	8.8	1.7	5.2
2.0	2.8	8.7	1.7	5.2
2.1	2.8	8.6	1.7	5.3
2.2	2.7	8.5	1.7	5.3
2.3	2.7	8.4	1.7	5.3
2.4	2.6	8.3	1.7	5.4
2.5	2.6	8.2	1.7	5.4
2.6	2.5	8.1	1.7	5.4
2.7	2.5	8.0	1.7	5.5
2.8	2.5	7.9	1.7	5.5
2.9	2.4	7.9	1.7	5.5
3.0	2.4	7.8	1.7	5.5
3.1	2.4	7.7	1.7	5.6
3.2	2.3	7.6	1.7	5.6
3.3	2.3	7.6	1.7	5.6
3.4	2.3	7.5	1.7	5.6
3.5	2.2	7.4	1.7	5.6
3.6	2.2	7.3	1.7	5.7
3.7	2.2	7.3	1.7	5.7
3.8	2.2	7.2	1.7	5.7
3.9	2.1	7.2	1.7	5.7
4.0	2.1	7.1	1.7	5.7

- ii. **Effluent Limitations for Hardness-Dependent Metals.** The priority pollutant effluent limitations, as identified in the Notice of Applicability from the Executive Officer, shall not exceed the respective effluent limitations contained in:

- (a) **Table 6.** Cadmium, Total
- (b) **Table 7.** Chromium, Total
- (c) **Table 8.** Nickel, Total
- (d) **Table 9.** Silver, Total
- (e) **Tables 10A through 10F.** Copper, Total
- (f) **Tables 11A through 11F.** Lead, Total
- (g) **Tables 12A through 12F.** Zinc, Total

Average monthly effluent limitations and maximum daily effluent limitations are established based on the default CV of 0.6 for Tables 6 through 9. Effluent limitations specified in Tables 10A through 10F, Tables 11A through 11F, and Tables 12A through 12F for copper, lead, and zinc, respectively, are based on a wider range of CVs. Tables 6 through 9, Tables 10A through 10F, Tables 11A through 11F, and Tables 12A through 12F are based on the appropriate ambient hardness concentration (H) in mg/L selected using the procedures described in section V.C.2.e of the Fact Sheet (Attachment F) and are applicable to both MUN and non-MUN uses unless otherwise noted. See section VII.C.1.d for additional information regarding effluent limitations for metals.

For the City of Grass Valley, Wastewater Treatment Plant (WWTP), the effluent limitations contained in Table 13 for copper, total and Table 14 for zinc, total shall apply in lieu of those in Tables 10A through 10F and 12A through 12F, respectively.

Table 6. Effluent Limitations – Cadmium, Total in µg/L

Hardness in mg/L (H)	AMEL	MDEL
H < 5	0.080	0.15
5 ≤ H < 10	0.12	0.24
10 ≤ H < 15	0.22	0.43
15 ≤ H < 20	0.32	0.63
20 ≤ H < 25	0.42	0.84
25 ≤ H < 30	0.52	1.1
30 ≤ H < 35	0.63	1.3
35 ≤ H < 40	0.74	1.5
40 ≤ H < 45	0.86	1.7
45 ≤ H < 50	0.97	2.0
50 ≤ H < 55	1.1	2.2
55 ≤ H < 60	1.2	2.4
60 ≤ H < 65	1.3	2.7
65 ≤ H < 70	1.4	2.9
70 ≤ H < 75	1.6	3.1
75 ≤ H < 80	1.7	3.3
80 ≤ H < 90	1.8	3.6
90 ≤ H < 100	1.9	3.9
100 ≤ H < 110	2.1	4.2
110 ≤ H < 120	2.2	4.5
120 ≤ H < 130	2.4	4.8
130 ≤ H < 140	2.6	5.1
140 ≤ H < 150	2.7	5.4
150 ≤ H < 200	3.1	6.3
200 ≤ H < 250	3.8	7.6
250 ≤ H < 300	4.5	8.9
300 ≤ H < 350 (non-MUN only)	5.1	10
350 ≤ H < 400 (non-MUN only)	5.7	11
H ≥ 400 (non-MUN only)	6.0	12
H ≥ 300 (MUN only)	5	10

Table 7. Effluent Limitations – Chromium (III), Total in µg/L

Hardness in mg/L (H)	AMEL	MDEL
H < 5	15	30
5 ≤ H < 10	20	41
10 ≤ H < 15	31	62
15 ≤ H < 20	41	82
20 ≤ H < 25	49	99
25 ≤ H < 30	57	110
30 ≤ H < 35	66	130
35 ≤ H < 40	74	150
40 ≤ H < 45	82	160
45 ≤ H < 50	90	180
50 ≤ H < 55	98	200
55 ≤ H < 60	110	210
60 ≤ H < 65	110	230
65 ≤ H < 70	120	250
70 ≤ H < 75	130	260
75 ≤ H < 80	140	280
80 ≤ H < 90	150	300
90 ≤ H < 100	160	330
100 ≤ H < 110	180	360
110 ≤ H < 120	190	380
120 ≤ H < 130	200	410
130 ≤ H < 140	210	430
140 ≤ H < 150	230	460
150 ≤ H < 200	270	540
200 ≤ H < 250	330	660
250 ≤ H < 300	380	770
300 ≤ H < 350	440	890
350 ≤ H < 400	500	1000
H ≥ 400	520	1100

Table 8. Effluent Limitations – Nickel, Total in µg/L

Hardness in mg/L (H)	AMEL	MDEL
H < 5	3.4	6.8
5 ≤ H < 10	4.8	9.6
10 ≤ H < 15	7.4	15
15 ≤ H < 20	9.8	20
20 ≤ H < 25	12	24
25 ≤ H < 30	14	29
30 ≤ H < 35	17	33
35 ≤ H < 40	19	37
40 ≤ H < 45	21	42
45 ≤ H < 50	23	46
50 ≤ H < 55	25	50
55 ≤ H < 60	27	54
60 ≤ H < 65	29	58
65 ≤ H < 70	31	61
70 ≤ H < 75	33	65
75 ≤ H < 80	34	69
80 ≤ H < 90	37	75
90 ≤ H < 100	41	82
100 ≤ H < 110	45	89
110 ≤ H < 120	48	96
120 ≤ H < 130	52	100
130 ≤ H < 140	55	110
140 ≤ H < 150	58	120
150 ≤ H < 200	69	140
200 ≤ H < 250	85	170
250 ≤ H < 300	100	200
300 ≤ H < 350 (non-MUN only)	120	230
350 ≤ H < 400 (non-MUN only)	130	260
H ≥ 400 (non-MUN only)	140	280
H ≥ 300 (MUN only)	100	200

Table 9. Effluent Limitations – Silver, Total in µg/L

Hardness in mg/L (H)	AMEL	MDEL
H < 5	0.012	0.023
5 ≤ H < 10	0.024	0.047
10 ≤ H < 15	0.057	0.11
15 ≤ H < 20	0.10	0.20
20 ≤ H < 25	0.16	0.31
25 ≤ H < 30	0.22	0.44
30 ≤ H < 35	0.29	0.59
35 ≤ H < 40	0.37	0.75
40 ≤ H < 45	0.46	0.93
45 ≤ H < 50	0.56	1.1
50 ≤ H < 55	0.67	1.3
55 ≤ H < 60	0.78	1.6
60 ≤ H < 65	0.90	1.8
65 ≤ H < 70	1.0	2.1
70 ≤ H < 75	1.2	2.3
75 ≤ H < 80	1.3	2.6
80 ≤ H < 90	1.5	3.1
90 ≤ H < 100	1.9	3.7
100 ≤ H < 110	2.1	4.2
110 ≤ H < 120	2.2	4.5
120 ≤ H < 130	2.4	4.8
130 ≤ H < 140	2.6	5.1
140 ≤ H < 150	2.7	5.4
150 ≤ H < 200	3.1	6.3
200 ≤ H < 250	3.8	7.6
250 ≤ H < 300	4.5	8.9
300 ≤ H < 350	5.1	10
350 ≤ H < 400	5.7	11
H ≥ 400	6.0	12

Table 10A. Effluent Limitations – Copper, Total in µg/L

CV	0 ≤ H < 5 AMEL	0 ≤ H < 5 MDEL	5 ≤ H < 10 AMEL	5 ≤ H < 10 MDEL	10 ≤ H < 15 AMEL	10 ≤ H < 15 MDEL	15 ≤ H < 20 AMEL	15 ≤ H < 20 MDEL	20 ≤ H < 25 AMEL	20 ≤ H < 25 MDEL
0.1	0.37	0.43	0.99	1.1	1.5	1.8	2.0	2.4	2.5	2.9
0.2	0.33	0.43	0.92	1.2	1.5	2.0	2.0	2.6	2.4	3.2
0.3	0.29	0.43	0.81	1.2	1.3	2.0	1.8	2.7	2.3	3.4
0.4	0.26	0.43	0.73	1.2	1.2	2.0	1.6	2.7	2.0	3.4
0.5	0.23	0.43	0.66	1.2	1.1	2.0	1.5	2.7	1.9	3.4
0.6	0.22	0.43	0.61	1.2	0.98	2.0	1.4	2.7	1.7	3.4
0.7	0.20	0.43	0.57	1.2	0.92	2.0	1.3	2.7	1.6	3.4
0.8	0.19	0.43	0.53	1.2	0.86	2.0	1.2	2.7	1.5	3.4
0.9	0.18	0.43	0.51	1.2	0.82	2.0	1.1	2.7	1.4	3.4
1.0	0.17	0.43	0.48	1.2	0.78	2.0	1.1	2.7	1.4	3.4
1.1	0.17	0.43	0.47	1.2	0.75	2.0	1.0	2.7	1.3	3.4
1.2	0.16	0.43	0.45	1.2	0.73	2.0	1.0	2.7	1.3	3.4
1.3	0.16	0.43	0.44	1.2	0.71	2.0	0.98	2.7	1.2	3.4
1.4	0.15	0.43	0.43	1.2	0.70	2.0	0.96	2.7	1.2	3.4
1.5	0.15	0.43	0.42	1.2	0.68	2.0	0.94	2.7	1.2	3.4
1.6	0.15	0.43	0.42	1.2	0.67	2.0	0.92	2.7	1.2	3.4
1.7	0.15	0.43	0.41	1.2	0.66	2.0	0.91	2.7	1.2	3.4
1.8	0.14	0.43	0.40	1.2	0.65	2.0	0.90	2.7	1.1	3.4
1.9	0.14	0.43	0.40	1.2	0.65	2.0	0.89	2.7	1.1	3.4
2.0	0.14	0.43	0.40	1.2	0.64	2.0	0.88	2.7	1.1	3.4
2.1	0.14	0.43	0.39	1.2	0.64	2.0	0.87	2.7	1.1	3.4
2.2	0.14	0.43	0.39	1.2	0.63	2.0	0.87	2.7	1.1	3.4
2.3	0.14	0.43	0.39	1.2	0.63	2.0	0.86	2.7	1.1	3.4
2.4	0.14	0.43	0.39	1.2	0.62	2.0	0.86	2.7	1.1	3.4
2.5	0.14	0.43	0.38	1.2	0.62	2.0	0.85	2.7	1.1	3.4
2.6	0.14	0.43	0.38	1.2	0.62	2.0	0.85	2.7	1.1	3.4
2.7	0.13	0.43	0.38	1.2	0.61	2.0	0.84	2.7	1.1	3.4
2.8	0.13	0.43	0.38	1.2	0.61	2.0	0.84	2.7	1.1	3.4
2.9	0.13	0.43	0.38	1.2	0.61	2.0	0.83	2.7	1.1	3.4
3.0	0.13	0.43	0.37	1.2	0.61	2.0	0.83	2.7	1.1	3.4
3.1	0.13	0.43	0.37	1.2	0.60	2.0	0.83	2.7	1.0	3.4
3.2	0.13	0.43	0.37	1.2	0.60	2.0	0.82	2.7	1.0	3.4
3.3	0.13	0.43	0.37	1.2	0.60	2.0	0.82	2.7	1.0	3.4
3.4	0.13	0.43	0.37	1.2	0.60	2.0	0.82	2.7	1.0	3.4
3.5	0.13	0.43	0.37	1.2	0.59	2.0	0.82	2.7	1.0	3.4
3.6	0.13	0.43	0.37	1.2	0.59	2.0	0.81	2.7	1.0	3.4
3.7	0.13	0.43	0.36	1.2	0.59	2.0	0.81	2.7	1.0	3.4
3.8	0.13	0.43	0.36	1.2	0.59	2.0	0.81	2.7	1.0	3.4
3.9	0.13	0.43	0.36	1.2	0.59	2.0	0.81	2.7	1.0	3.4
4.0	0.13	0.43	0.36	1.2	0.58	2.0	0.80	2.7	1.0	3.4

Table 10B. Effluent Limitations – Copper, Total in µg/L

CV	25 ≤ H	25 ≤ H	30 ≤ H	30 ≤ H	35 ≤ H	35 ≤ H	40 ≤ H	40 ≤ H	45 ≤ H	45 ≤ H
	< 30 AMEL	< 30 MDEL	< 35 AMEL	< 35 MDEL	< 40 AMEL	< 40 MDEL	< 45 AMEL	< 45 MDEL	< 50 AMEL	< 50 MDEL
0.1	3.0	3.5	3.5	4.0	3.9	4.5	4.3	5.0	4.8	5.5
0.2	2.9	3.8	3.3	4.4	3.8	5.0	4.2	5.6	4.6	6.1
0.3	2.8	4.1	3.2	4.8	3.6	5.5	4.1	6.1	4.5	6.7
0.4	2.5	4.1	2.9	4.9	3.3	5.6	3.7	6.3	4.1	6.9
0.5	2.2	4.1	2.6	4.9	3.0	5.6	3.4	6.3	3.8	6.9
0.6	2.1	4.1	2.4	4.9	2.8	5.6	3.1	6.3	3.5	6.9
0.7	1.9	4.1	2.3	4.9	2.6	5.6	2.9	6.3	3.2	6.9
0.8	1.8	4.1	2.1	4.9	2.4	5.6	2.7	6.3	3.0	6.9
0.9	1.7	4.1	2.0	4.9	2.3	5.6	2.6	6.3	2.9	6.9
1.0	1.6	4.1	1.9	4.9	2.2	5.6	2.5	6.3	2.8	6.9
1.1	1.6	4.1	1.9	4.9	2.1	5.6	2.4	6.3	2.7	6.9
1.2	1.5	4.1	1.8	4.9	2.1	5.6	2.3	6.3	2.6	6.9
1.3	1.5	4.1	1.8	4.9	2.0	5.6	2.3	6.3	2.5	6.9
1.4	1.5	4.1	1.7	4.9	2.0	5.6	2.2	6.3	2.5	6.9
1.5	1.4	4.1	1.7	4.9	1.9	5.6	2.2	6.3	2.4	6.9
1.6	1.4	4.1	1.7	4.9	1.9	5.6	2.1	6.3	2.4	6.9
1.7	1.4	4.1	1.6	4.9	1.9	5.6	2.1	6.3	2.3	6.9
1.8	1.4	4.1	1.6	4.9	1.8	5.6	2.1	6.3	2.3	6.9
1.9	1.4	4.1	1.6	4.9	1.8	5.6	2.1	6.3	2.3	6.9
2.0	1.3	4.1	1.6	4.9	1.8	5.6	2.0	6.3	2.3	6.9
2.1	1.3	4.1	1.6	4.9	1.8	5.6	2.0	6.3	2.2	6.9
2.2	1.3	4.1	1.6	4.9	1.8	5.6	2.0	6.3	2.2	6.9
2.3	1.3	4.1	1.5	4.9	1.8	5.6	2.0	6.3	2.2	6.9
2.4	1.3	4.1	1.5	4.9	1.8	5.6	2.0	6.3	2.2	6.9
2.5	1.3	4.1	1.5	4.9	1.7	5.6	2.0	6.3	2.2	6.9
2.6	1.3	4.1	1.5	4.9	1.7	5.6	2.0	6.3	2.2	6.9
2.7	1.3	4.1	1.5	4.9	1.7	5.6	1.9	6.3	2.2	6.9
2.8	1.3	4.1	1.5	4.9	1.7	5.6	1.9	6.3	2.1	6.9
2.9	1.3	4.1	1.5	4.9	1.7	5.6	1.9	6.3	2.1	6.9
3.0	1.3	4.1	1.5	4.9	1.7	5.6	1.9	6.3	2.1	6.9
3.1	1.3	4.1	1.5	4.9	1.7	5.6	1.9	6.3	2.1	6.9
3.2	1.3	4.1	1.5	4.9	1.7	5.6	1.9	6.3	2.1	6.9
3.3	1.3	4.1	1.5	4.9	1.7	5.6	1.9	6.3	2.1	6.9
3.4	1.3	4.1	1.5	4.9	1.7	5.6	1.9	6.3	2.1	6.9
3.5	1.2	4.1	1.5	4.9	1.7	5.6	1.9	6.3	2.1	6.9
3.6	1.2	4.1	1.5	4.9	1.7	5.6	1.9	6.3	2.1	6.9
3.7	1.2	4.1	1.5	4.9	1.7	5.6	1.9	6.3	2.1	6.9
3.8	1.2	4.1	1.4	4.9	1.7	5.6	1.9	6.3	2.1	6.9
3.9	1.2	4.1	1.4	4.9	1.7	5.6	1.9	6.3	2.1	6.9
4.0	1.2	4.1	1.4	4.9	1.6	5.6	1.9	6.3	2.1	6.9

Table 10C. Effluent Limitations – Copper, Total in µg/L

CV	50 ≤ H < 55 AMEL	50 ≤ H < 55 MDEL	55 ≤ H < 60 AMEL	55 ≤ H < 60 MDEL	60 ≤ H < 65 AMEL	60 ≤ H < 65 MDEL	65 ≤ H < 70 AMEL	65 ≤ H < 70 MDEL	70 ≤ H < 75 AMEL	70 ≤ H < 75 MDEL
0.1	5.2	6.0	5.6	6.5	6.0	7.0	6.4	7.5	6.9	7.9
0.2	5.0	6.7	5.4	7.2	5.8	7.7	6.2	8.3	6.6	8.8
0.3	4.9	7.3	5.3	7.9	5.6	8.5	6.0	9.0	6.4	9.6
0.4	4.6	7.6	5.0	8.3	5.4	9.0	5.8	9.7	6.2	10
0.5	4.1	7.6	4.5	8.3	4.9	9.0	5.2	9.7	5.6	10
0.6	3.8	7.6	4.1	8.3	4.5	9.0	4.8	9.7	5.2	10
0.7	3.5	7.6	3.9	8.3	4.2	9.0	4.5	9.7	4.8	10
0.8	3.3	7.6	3.6	8.3	3.9	9.0	4.2	9.7	4.5	10
0.9	3.2	7.6	3.4	8.3	3.7	9.0	4.0	9.7	4.3	10
1.0	3.0	7.6	3.3	8.3	3.6	9.0	3.8	9.7	4.1	10
1.1	2.9	7.6	3.2	8.3	3.4	9.0	3.7	9.7	4.0	10
1.2	2.8	7.6	3.1	8.3	3.3	9.0	3.6	9.7	3.8	10
1.3	2.8	7.6	3.0	8.3	3.2	9.0	3.5	9.7	3.7	10
1.4	2.7	7.6	2.9	8.3	3.2	9.0	3.4	9.7	3.7	10
1.5	2.6	7.6	2.9	8.3	3.1	9.0	3.3	9.7	3.6	10
1.6	2.6	7.6	2.8	8.3	3.1	9.0	3.3	9.7	3.5	10
1.7	2.6	7.6	2.8	8.3	3.0	9.0	3.2	9.7	3.5	10
1.8	2.5	7.6	2.8	8.3	3.0	9.0	3.2	9.7	3.4	10
1.9	2.5	7.6	2.7	8.3	3.0	9.0	3.2	9.7	3.4	10
2.0	2.5	7.6	2.7	8.3	2.9	9.0	3.1	9.7	3.4	10
2.1	2.5	7.6	2.7	8.3	2.9	9.0	3.1	9.7	3.3	10
2.2	2.4	7.6	2.7	8.3	2.9	9.0	3.1	9.7	3.3	10
2.3	2.4	7.6	2.6	8.3	2.9	9.0	3.1	9.7	3.3	10
2.4	2.4	7.6	2.6	8.3	2.8	9.0	3.1	9.7	3.3	10
2.5	2.4	7.6	2.6	8.3	2.8	9.0	3.0	9.7	3.2	10
2.6	2.4	7.6	2.6	8.3	2.8	9.0	3.0	9.7	3.2	10
2.7	2.4	7.6	2.6	8.3	2.8	9.0	3.0	9.7	3.2	10
2.8	2.4	7.6	2.6	8.3	2.8	9.0	3.0	9.7	3.2	10
2.9	2.3	7.6	2.6	8.3	2.8	9.0	3.0	9.7	3.2	10
3.0	2.3	7.6	2.5	8.3	2.8	9.0	3.0	9.7	3.2	10
3.1	2.3	7.6	2.5	8.3	2.7	9.0	3.0	9.7	3.2	10
3.2	2.3	7.6	2.5	8.3	2.7	9.0	2.9	9.7	3.1	10
3.3	2.3	7.6	2.5	8.3	2.7	9.0	2.9	9.7	3.1	10
3.4	2.3	7.6	2.5	8.3	2.7	9.0	2.9	9.7	3.1	10
3.5	2.3	7.6	2.5	8.3	2.7	9.0	2.9	9.7	3.1	10
3.6	2.3	7.6	2.5	8.3	2.7	9.0	2.9	9.7	3.1	10
3.7	2.3	7.6	2.5	8.3	2.7	9.0	2.9	9.7	3.1	10
3.8	2.3	7.6	2.5	8.3	2.7	9.0	2.9	9.6	3.1	10
3.9	2.3	7.6	2.5	8.3	2.7	9.0	2.8	9.6	3.0	10
4.0	2.3	7.6	2.5	8.3	2.6	8.9	2.8	9.5	3.0	10

Table 10D. Effluent Limitations – Copper, Total in µg/L

CV	75 ≤ H < 80 AMEL	75 ≤ H < 80 MDEL	80 ≤ H < 85 AMEL	80 ≤ H < 85 MDEL	85 ≤ H < 90 AMEL	85 ≤ H < 90 MDEL	90 ≤ H < 95 AMEL	90 ≤ H < 95 MDEL	95 ≤ H < 100 AMEL	95 ≤ H < 100 MDEL
0.1	7.3	8.4	7.7	8.9	8.0	9.3	8.4	9.8	8.8	10
0.2	7.0	9.3	7.4	9.8	7.8	10	8.2	11	8.5	11
0.3	6.8	10	7.2	11	7.5	11	7.9	12	8.2	12
0.4	6.4	11	6.7	11	7.1	12	7.5	13	7.8	13
0.5	5.8	11	6.1	11	6.4	12	6.8	13	7.1	13
0.6	5.3	11	5.6	11	5.9	12	6.2	13	6.5	13
0.7	4.9	11	5.2	11	5.5	12	5.8	13	6.1	13
0.8	4.6	11	4.9	11	5.2	12	5.5	13	5.7	13
0.9	4.4	11	4.7	11	4.9	12	5.2	13	5.4	13
1.0	4.2	11	4.5	11	4.7	12	5.0	13	5.2	13
1.1	4.1	11	4.3	11	4.5	12	4.8	13	5.0	13
1.2	3.9	11	4.2	11	4.4	12	4.6	13	4.9	13
1.3	3.8	11	4.1	11	4.3	12	4.5	13	4.7	13
1.4	3.8	11	4.0	11	4.2	12	4.4	13	4.6	13
1.5	3.7	11	3.9	11	4.1	12	4.3	13	4.5	13
1.6	3.6	11	3.8	11	4.1	12	4.3	13	4.5	13
1.7	3.6	11	3.8	11	4.0	12	4.2	13	4.4	13
1.8	3.5	11	3.7	11	3.9	12	4.1	13	4.4	13
1.9	3.5	11	3.7	11	3.9	12	4.1	13	4.3	13
2.0	3.5	11	3.7	11	3.9	12	4.1	13	4.3	13
2.1	3.4	11	3.6	11	3.8	12	4.0	13	4.2	13
2.2	3.4	11	3.6	11	3.8	12	4.0	13	4.2	13
2.3	3.4	11	3.6	11	3.8	12	4.0	13	4.2	13
2.4	3.4	11	3.6	11	3.8	12	3.9	13	4.1	13
2.5	3.3	11	3.5	11	3.7	12	3.9	13	4.1	13
2.6	3.3	11	3.5	11	3.7	12	3.9	13	4.1	13
2.7	3.3	11	3.5	11	3.7	12	3.9	13	4.1	13
2.8	3.3	11	3.5	11	3.7	12	3.9	13	4.1	13
2.9	3.3	11	3.5	11	3.7	12	3.9	13	4.0	13
3.0	3.3	11	3.5	11	3.6	12	3.8	13	4.0	13
3.1	3.3	11	3.4	11	3.6	12	3.8	13	4.0	13
3.2	3.2	11	3.4	11	3.6	12	3.8	13	4.0	13
3.3	3.2	11	3.4	11	3.6	12	3.8	13	4.0	13
3.4	3.2	11	3.4	11	3.6	12	3.8	13	4.0	13
3.5	3.2	11	3.4	11	3.6	12	3.8	13	3.9	13
3.6	3.2	11	3.4	11	3.6	12	3.8	13	3.9	13
3.7	3.2	11	3.4	11	3.6	12	3.7	13	3.9	13
3.8	3.2	11	3.4	11	3.5	12	3.7	13	3.9	13
3.9	3.2	11	3.4	11	3.5	12	3.7	13	3.9	13
4.0	3.2	11	3.3	11	3.5	12	3.7	12	3.8	13

Table 10E. Effluent Limitations – Copper, Total in µg/L

CV	100 ≤ H	100 ≤ H	120 ≤ H	120 ≤ H	140 ≤ H	140 ≤ H	160 ≤ H	160 ≤ H	180 ≤ H	180 ≤ H
	< 120 AMEL	< 120 MDEL	< 140 AMEL	< 140 MDEL	< 160 AMEL	< 160 MDEL	< 180 AMEL	< 180 MDEL	< 200 AMEL	< 200 MDEL
0.1	9.8	11	11	13	13	15	14	16	16	18
0.2	9.5	13	11	14	12	16	14	18	15	20
0.3	9.1	14	11	16	12	18	13	20	15	22
0.4	8.8	15	10	17	12	19	13	21	14	24
0.5	8.3	15	9.7	18	11	21	12	23	14	25
0.6	7.6	15	8.9	18	10	21	12	23	13	26
0.7	7.1	15	8.3	18	9.5	21	11	23	12	26
0.8	6.7	15	7.8	18	9.0	21	10	23	11	26
0.9	6.3	15	7.4	18	8.5	21	9.6	23	11	26
1.0	6.1	15	7.1	18	8.1	21	9.2	23	10	26
1.1	5.9	15	6.9	18	7.8	21	8.8	23	9.8	26
1.2	5.7	15	6.6	18	7.6	21	8.6	23	9.5	26
1.3	5.5	15	6.5	18	7.4	21	8.3	23	9.3	26
1.4	5.4	15	6.3	18	7.2	21	8.1	23	9.0	26
1.5	5.3	15	6.2	18	7.1	21	8.0	23	8.9	26
1.6	5.2	15	6.1	18	7.0	21	7.9	23	8.7	26
1.7	5.1	15	6.0	18	6.9	21	7.8	23	8.6	26
1.8	5.1	15	5.9	18	6.8	21	7.7	23	8.5	26
1.9	5.0	15	5.9	18	6.7	21	7.6	23	8.4	26
2.0	5.0	15	5.8	18	6.7	21	7.5	23	8.3	26
2.1	4.9	15	5.8	18	6.6	21	7.4	23	8.3	26
2.2	4.9	15	5.7	18	6.6	21	7.4	23	8.2	26
2.3	4.9	15	5.7	18	6.5	21	7.3	23	8.1	26
2.4	4.8	15	5.7	18	6.5	21	7.3	23	8.1	26
2.5	4.8	15	5.6	18	6.4	21	7.2	23	8.1	26
2.6	4.8	15	5.6	18	6.4	21	7.2	23	8.0	26
2.7	4.8	15	5.6	18	6.4	21	7.2	23	8.0	26
2.8	4.7	15	5.5	18	6.3	21	7.1	23	7.9	26
2.9	4.7	15	5.5	18	6.3	21	7.1	23	7.8	25
3.0	4.7	15	5.5	18	6.3	21	7.0	23	7.7	25
3.1	4.7	15	5.5	18	6.2	20	6.9	23	7.6	25
3.2	4.7	15	5.4	18	6.1	20	6.8	22	7.5	25
3.3	4.6	15	5.3	18	6.0	20	6.7	22	7.4	24
3.4	4.6	15	5.3	17	6.0	20	6.6	22	7.3	24
3.5	4.5	15	5.2	17	5.9	20	6.6	22	7.2	24
3.6	4.5	15	5.1	17	5.8	19	6.5	22	7.1	24
3.7	4.4	15	5.1	17	5.8	19	6.4	21	7.0	24
3.8	4.4	15	5.0	17	5.7	19	6.3	21	7.0	23
3.9	4.3	15	5.0	17	5.6	19	6.3	21	6.9	23
4.0	4.3	14	4.9	17	5.6	19	6.2	21	6.8	23

Table 10F. Effluent Limitations – Copper, Total in µg/L

CV	200 ≤ H < 250 AMEL	200 ≤ H < 250 MDEL	250 ≤ H < 300 AMEL	250 ≤ H < 300 MDEL	300 ≤ H < 350 AMEL	300 ≤ H < 350 MDEL	350 ≤ H < 400 AMEL	350 ≤ H < 400 MDEL	H ≥ 400 AMEL	H ≥ 400 MDEL
0.1	18	21	21	25	25	29	28	32	29	34
0.2	17	23	21	27	24	32	27	36	28	38
0.3	17	25	20	30	23	35	26	39	28	41
0.4	16	27	19	32	22	37	25	42	27	45
0.5	16	29	19	35	22	40	24	45	26	48
0.6	15	30	18	36	21	42	24	47	25	50
0.7	14	30	17	36	20	43	23	49	24	52
0.8	13	30	16	36	19	43	21	49	23	52
0.9	12	30	15	36	18	43	20	49	21	52
1.0	12	30	14	36	17	43	19	49	21	52
1.1	11	30	14	36	16	43	19	49	20	52
1.2	11	30	13	36	16	43	18	49	19	52
1.3	11	30	13	36	15	43	18	49	19	52
1.4	11	30	13	36	15	43	17	49	18	52
1.5	10	30	13	36	15	43	17	49	18	52
1.6	10	30	12	36	14	43	17	49	18	52
1.7	10	30	12	36	14	43	16	49	17	52
1.8	10	30	12	36	14	43	16	49	17	52
1.9	10	30	12	36	14	43	16	49	17	52
2.0	10	30	12	36	14	43	16	49	17	52
2.1	10	30	12	36	14	43	16	49	17	52
2.2	10	30	12	36	14	43	16	49	17	52
2.3	10	30	12	36	14	43	15	49	16	51
2.4	10	30	11	36	13	42	15	48	16	51
2.5	9.4	30	11	36	13	42	15	47	16	50
2.6	9.4	30	11	36	13	42	15	47	15	50
2.7	9.3	30	11	36	13	41	14	46	15	49
2.8	9.2	30	11	35	13	41	14	46	15	48
2.9	9.0	29	11	35	12	40	14	45	15	48
3.0	8.9	29	11	34	12	40	14	45	15	47
3.1	8.8	29	10	34	12	39	14	44	14	47
3.2	8.7	28	10	34	12	39	13	44	14	47
3.3	8.5	28	10	33	12	39	13	44	14	46
3.4	8.4	28	10	33	12	38	13	43	14	46
3.5	8.3	28	10	33	11	38	13	43	14	45
3.6	8.2	27	10	33	11	38	13	42	13	45
3.7	8.1	27	10	32	11	37	13	42	13	44
3.8	8.0	27	10	32	11	37	12	42	13	44
3.9	7.9	27	9.4	32	11	37	12	41	13	44
4.0	7.9	27	9.3	31	11	36	12	41	13	43

Table 11A. Effluent Limitations – Lead, Total in µg/L

CV	0 ≤ H < 5 AMEL	0 ≤ H < 5 MDEL	5 ≤ H < 10 AMEL	5 ≤ H < 10 MDEL	10 ≤ H < 15 AMEL	10 ≤ H < 15 MDEL	15 ≤ H < 20 AMEL	15 ≤ H < 20 MDEL	20 ≤ H < 25 AMEL	20 ≤ H < 25 MDEL
0.1	0.028	0.033	0.11	0.13	0.22	0.25	0.33	0.39	0.46	0.53
0.2	0.027	0.036	0.11	0.15	0.21	0.28	0.32	0.43	0.45	0.59
0.3	0.026	0.039	0.11	0.16	0.20	0.31	0.31	0.47	0.43	0.65
0.4	0.025	0.043	0.10	0.17	0.20	0.33	0.30	0.51	0.42	0.70
0.5	0.025	0.045	0.10	0.18	0.19	0.35	0.29	0.54	0.40	0.74
0.6	0.024	0.048	0.10	0.19	0.18	0.37	0.28	0.57	0.39	0.78
0.7	0.023	0.050	0.093	0.20	0.18	0.39	0.27	0.59	0.38	0.81
0.8	0.022	0.051	0.091	0.21	0.17	0.40	0.27	0.61	0.37	0.84
0.9	0.022	0.052	0.088	0.21	0.17	0.41	0.26	0.62	0.36	0.86
1.0	0.021	0.053	0.085	0.21	0.16	0.41	0.25	0.63	0.35	0.87
1.1	0.020	0.054	0.083	0.22	0.16	0.42	0.24	0.64	0.34	0.88
1.2	0.020	0.054	0.081	0.22	0.15	0.42	0.24	0.64	0.33	0.88
1.3	0.019	0.054	0.079	0.22	0.15	0.42	0.23	0.64	0.32	0.88
1.4	0.019	0.054	0.077	0.22	0.15	0.42	0.23	0.64	0.31	0.88
1.5	0.018	0.053	0.075	0.22	0.14	0.41	0.22	0.63	0.30	0.87
1.6	0.018	0.053	0.073	0.21	0.14	0.41	0.21	0.63	0.30	0.87
1.7	0.018	0.052	0.071	0.21	0.14	0.41	0.21	0.62	0.29	0.86
1.8	0.017	0.052	0.070	0.21	0.13	0.40	0.20	0.62	0.28	0.85
1.9	0.017	0.051	0.068	0.21	0.13	0.40	0.20	0.61	0.28	0.84
2.0	0.016	0.051	0.067	0.21	0.13	0.39	0.20	0.60	0.27	0.83
2.1	0.016	0.050	0.065	0.20	0.13	0.39	0.19	0.60	0.26	0.82
2.2	0.016	0.049	0.064	0.20	0.12	0.38	0.19	0.59	0.26	0.81
2.3	0.016	0.049	0.063	0.20	0.12	0.38	0.19	0.58	0.25	0.80
2.4	0.015	0.048	0.062	0.20	0.12	0.38	0.18	0.58	0.25	0.79
2.5	0.015	0.048	0.061	0.19	0.12	0.37	0.18	0.57	0.25	0.78
2.6	0.015	0.047	0.060	0.19	0.11	0.37	0.18	0.56	0.24	0.77
2.7	0.015	0.047	0.059	0.19	0.11	0.36	0.17	0.56	0.24	0.77
2.8	0.014	0.046	0.058	0.19	0.11	0.36	0.17	0.55	0.23	0.76
2.9	0.014	0.046	0.057	0.19	0.11	0.35	0.17	0.54	0.23	0.75
3.0	0.014	0.045	0.056	0.18	0.11	0.35	0.17	0.54	0.23	0.74
3.1	0.014	0.045	0.055	0.18	0.11	0.35	0.16	0.53	0.22	0.73
3.2	0.013	0.044	0.055	0.18	0.10	0.34	0.16	0.53	0.22	0.73
3.3	0.013	0.044	0.054	0.18	0.10	0.34	0.16	0.52	0.22	0.72
3.4	0.013	0.043	0.053	0.18	0.10	0.34	0.16	0.52	0.22	0.71
3.5	0.013	0.043	0.053	0.17	0.10	0.33	0.15	0.51	0.21	0.71
3.6	0.013	0.043	0.052	0.17	0.10	0.33	0.15	0.51	0.21	0.70
3.7	0.013	0.042	0.051	0.17	0.10	0.33	0.15	0.50	0.21	0.69
3.8	0.013	0.042	0.051	0.17	0.10	0.33	0.15	0.50	0.21	0.69
3.9	0.012	0.042	0.050	0.17	0.10	0.32	0.15	0.50	0.20	0.68
4.0	0.012	0.041	0.050	0.17	0.10	0.32	0.15	0.49	0.20	0.68

Table 11B. Effluent Limitations – Lead, Total in µg/L

CV	25 ≤ H	25 ≤ H	30 ≤ H	30 ≤ H	35 ≤ H	35 ≤ H	40 ≤ H	40 ≤ H	45 ≤ H	45 ≤ H
	< 30 AMEL	< 30 MDEL	< 35 AMEL	< 35 MDEL	< 40 AMEL	< 40 MDEL	< 45 AMEL	< 45 MDEL	< 50 AMEL	< 50 MDEL
0.1	0.59	0.69	0.74	0.85	0.88	1.0	1.0	1.2	1.2	1.4
0.2	0.57	0.76	0.71	0.94	0.85	1.1	1.0	1.3	1.2	1.5
0.3	0.56	0.83	0.69	1.0	0.82	1.2	1.0	1.5	1.1	1.7
0.4	0.54	0.90	0.66	1.1	0.80	1.3	0.94	1.6	1.1	1.8
0.5	0.52	1.0	0.64	1.2	0.77	1.4	0.91	1.7	1.0	1.9
0.6	0.50	1.0	0.62	1.2	0.75	1.5	0.88	1.8	1.0	2.0
0.7	0.49	1.1	0.60	1.3	0.72	1.6	0.85	1.8	1.0	2.1
0.8	0.47	1.1	0.59	1.3	0.70	1.6	0.82	1.9	1.0	2.2
0.9	0.46	1.1	0.57	1.4	0.68	1.6	0.80	1.9	0.92	2.2
1.0	0.45	1.1	0.55	1.4	0.66	1.7	0.78	2.0	0.89	2.3
1.1	0.43	1.1	0.54	1.4	0.64	1.7	0.75	2.0	0.87	2.3
1.2	0.42	1.1	0.52	1.4	0.63	1.7	0.73	2.0	0.85	2.3
1.3	0.41	1.1	0.51	1.4	0.61	1.7	0.71	2.0	0.82	2.3
1.4	0.40	1.1	0.49	1.4	0.59	1.7	0.70	2.0	0.80	2.3
1.5	0.39	1.1	0.48	1.4	0.58	1.7	0.68	2.0	0.78	2.3
1.6	0.38	1.1	0.47	1.4	0.57	1.7	0.66	1.9	0.76	2.2
1.7	0.37	1.1	0.46	1.4	0.55	1.6	0.65	1.9	0.75	2.2
1.8	0.36	1.1	0.45	1.4	0.54	1.6	0.63	1.9	0.73	2.2
1.9	0.36	1.1	0.44	1.3	0.53	1.6	0.62	1.9	0.71	2.2
2.0	0.35	1.1	0.43	1.3	0.52	1.6	0.61	1.9	0.70	2.2
2.1	0.34	1.1	0.42	1.3	0.51	1.6	0.60	1.8	0.69	2.1
2.2	0.34	1.0	0.41	1.3	0.50	1.6	0.58	1.8	0.67	2.1
2.3	0.33	1.0	0.41	1.3	0.49	1.5	0.57	1.8	0.66	2.1
2.4	0.32	1.0	0.40	1.3	0.48	1.5	0.56	1.8	0.65	2.1
2.5	0.32	1.0	0.39	1.3	0.47	1.5	0.55	1.8	0.64	2.0
2.6	0.31	1.0	0.39	1.2	0.46	1.5	0.54	1.7	0.63	2.0
2.7	0.31	1.0	0.38	1.2	0.46	1.5	0.53	1.7	0.62	2.0
2.8	0.30	1.0	0.37	1.2	0.45	1.5	0.53	1.7	0.61	2.0
2.9	0.30	1.0	0.37	1.2	0.44	1.4	0.52	1.7	0.60	1.9
3.0	0.29	1.0	0.36	1.2	0.44	1.4	0.51	1.7	0.59	1.9
3.1	0.29	1.0	0.36	1.2	0.43	1.4	0.50	1.6	0.58	1.9
3.2	0.29	0.94	0.35	1.2	0.42	1.4	0.50	1.6	0.57	1.9
3.3	0.28	0.93	0.35	1.1	0.42	1.4	0.49	1.6	0.56	1.9
3.4	0.28	0.92	0.34	1.1	0.41	1.4	0.48	1.6	0.56	1.8
3.5	0.27	0.91	0.34	1.1	0.41	1.4	0.48	1.6	0.55	1.8
3.6	0.27	0.90	0.34	1.1	0.40	1.3	0.47	1.6	0.54	1.8
3.7	0.27	0.90	0.33	1.1	0.40	1.3	0.47	1.6	0.54	1.8
3.8	0.27	0.89	0.33	1.1	0.39	1.3	0.46	1.5	0.53	1.8
3.9	0.26	0.88	0.32	1.1	0.39	1.3	0.46	1.5	0.53	1.8
4.0	0.26	0.87	0.32	1.1	0.38	1.3	0.45	1.5	0.52	1.8

Table 11C. Effluent Limitations – Lead, Total in µg/L

CV	50 ≤ H < 55 AMEL	50 ≤ H < 55 MDEL	55 ≤ H < 60 AMEL	55 ≤ H < 60 MDEL	60 ≤ H < 65 AMEL	60 ≤ H < 65 MDEL	65 ≤ H < 70 AMEL	65 ≤ H < 70 MDEL	70 ≤ H < 75 AMEL	70 ≤ H < 75 MDEL
0.1	1.4	1.6	1.5	1.8	1.7	2.0	1.9	2.2	2.0	2.4
0.2	1.3	1.7	1.5	1.9	1.6	2.2	1.8	2.4	2.0	2.6
0.3	1.3	1.9	1.4	2.1	1.6	2.4	1.7	2.6	1.9	2.9
0.4	1.2	2.1	1.4	2.3	1.5	2.6	1.7	2.8	1.8	3.1
0.5	1.2	2.2	1.3	2.5	1.5	2.7	1.6	3.0	1.8	3.3
0.6	1.1	2.3	1.3	2.6	1.4	2.9	1.6	3.2	1.7	3.5
0.7	1.1	2.4	1.2	2.7	1.4	3.0	1.5	3.3	1.7	3.6
0.8	1.1	2.5	1.2	2.8	1.3	3.1	1.5	3.4	1.6	3.7
0.9	1.0	2.5	1.2	2.8	1.3	3.2	1.4	3.5	1.6	3.8
1.0	1.0	2.6	1.1	2.9	1.3	3.2	1.4	3.5	1.5	3.9
1.1	1.0	2.6	1.1	2.9	1.2	3.2	1.4	3.6	1.5	3.9
1.2	1.0	2.6	1.1	2.9	1.2	3.2	1.3	3.6	1.4	3.9
1.3	0.94	2.6	1.0	2.9	1.2	3.2	1.3	3.6	1.4	3.9
1.4	0.91	2.6	1.0	2.9	1.1	3.2	1.3	3.6	1.4	3.9
1.5	0.89	2.6	1.0	2.9	1.1	3.2	1.2	3.5	1.3	3.9
1.6	0.87	2.5	1.0	2.9	1.1	3.2	1.2	3.5	1.3	3.8
1.7	0.85	2.5	1.0	2.8	1.1	3.2	1.2	3.5	1.3	3.8
1.8	0.83	2.5	0.93	2.8	1.0	3.1	1.1	3.4	1.3	3.8
1.9	0.81	2.5	0.91	2.8	1.0	3.1	1.1	3.4	1.2	3.7
2.0	0.79	2.4	0.89	2.7	1.0	3.1	1.1	3.4	1.2	3.7
2.1	0.78	2.4	0.87	2.7	1.0	3.0	1.1	3.3	1.2	3.6
2.2	0.76	2.4	0.86	2.7	1.0	3.0	1.1	3.3	1.2	3.6
2.3	0.75	2.4	0.84	2.6	0.94	2.9	1.0	3.2	1.1	3.6
2.4	0.74	2.3	0.83	2.6	0.92	2.9	1.0	3.2	1.1	3.5
2.5	0.72	2.3	0.81	2.6	0.90	2.9	1.0	3.2	1.1	3.5
2.6	0.71	2.3	0.80	2.6	0.89	2.8	1.0	3.1	1.1	3.4
2.7	0.70	2.3	0.79	2.5	0.87	2.8	1.0	3.1	1.1	3.4
2.8	0.69	2.2	0.77	2.5	0.86	2.8	1.0	3.1	1.0	3.4
2.9	0.68	2.2	0.76	2.5	0.85	2.8	0.93	3.0	1.0	3.3
3.0	0.67	2.2	0.75	2.4	0.84	2.7	0.92	3.0	1.0	3.3
3.1	0.66	2.2	0.74	2.4	0.82	2.7	0.91	3.0	1.0	3.3
3.2	0.65	2.1	0.73	2.4	0.81	2.7	0.90	2.9	1.0	3.2
3.3	0.64	2.1	0.72	2.4	0.80	2.6	0.88	2.9	1.0	3.2
3.4	0.63	2.1	0.71	2.4	0.79	2.6	0.87	2.9	1.0	3.2
3.5	0.63	2.1	0.70	2.3	0.78	2.6	0.86	2.9	0.94	3.1
3.6	0.62	2.1	0.69	2.3	0.77	2.6	0.85	2.8	0.93	3.1
3.7	0.61	2.0	0.69	2.3	0.76	2.5	0.84	2.8	0.92	3.1
3.8	0.60	2.0	0.68	2.3	0.75	2.5	0.83	2.8	0.91	3.1
3.9	0.60	2.0	0.67	2.3	0.75	2.5	0.82	2.8	0.90	3.0
4.0	0.59	2.0	0.66	2.2	0.74	2.5	0.81	2.7	0.89	3.0

Table 11D. Effluent Limitations – Lead, Total in µg/L

CV	75 ≤ H < 80 AMEL	75 ≤ H < 80 MDEL	80 ≤ H < 85 AMEL	80 ≤ H < 85 MDEL	85 ≤ H < 90 AMEL	85 ≤ H < 90 MDEL	90 ≤ H < 95 AMEL	90 ≤ H < 95 MDEL	95 ≤ H < 100 AMEL	95 ≤ H < 100 MDEL
0.1	2.2	2.6	2.4	2.8	2.6	3.0	2.8	3.2	3.0	3.4
0.2	2.1	2.8	2.3	3.1	2.5	3.3	2.7	3.6	2.9	3.8
0.3	2.1	3.1	2.2	3.4	2.4	3.6	2.6	3.9	2.8	4.2
0.4	2.0	3.4	2.2	3.6	2.3	3.9	2.5	4.2	2.7	4.5
0.5	1.9	3.6	2.1	3.9	2.3	4.2	2.4	4.5	2.6	4.8
0.6	1.9	3.8	2.0	4.1	2.2	4.4	2.4	4.7	2.5	5.1
0.7	1.8	3.9	2.0	4.3	2.1	4.6	2.3	4.9	2.4	5.3
0.8	1.8	4.1	1.9	4.4	2.1	4.7	2.2	5.1	2.4	5.4
0.9	1.7	4.1	1.9	4.5	2.0	4.8	2.2	5.2	2.3	5.5
1.0	1.7	4.2	1.8	4.6	1.9	4.9	2.1	5.3	2.2	5.6
1.1	1.6	4.2	1.8	4.6	1.9	4.9	2.0	5.3	2.2	5.7
1.2	1.6	4.3	1.7	4.6	1.8	5.0	2.0	5.3	2.1	5.7
1.3	1.5	4.3	1.7	4.6	1.8	5.0	1.9	5.3	2.1	5.7
1.4	1.5	4.2	1.6	4.6	1.7	4.9	1.9	5.3	2.0	5.7
1.5	1.5	4.2	1.6	4.6	1.7	4.9	1.8	5.3	2.0	5.6
1.6	1.4	4.2	1.5	4.5	1.7	4.9	1.8	5.2	1.9	5.6
1.7	1.4	4.1	1.5	4.5	1.6	4.8	1.7	5.2	1.9	5.5
1.8	1.4	4.1	1.5	4.4	1.6	4.8	1.7	5.1	1.8	5.5
1.9	1.3	4.1	1.4	4.4	1.6	4.7	1.7	5.1	1.8	5.4
2.0	1.3	4.0	1.4	4.3	1.5	4.7	1.6	5.0	1.7	5.4
2.1	1.3	4.0	1.4	4.3	1.5	4.6	1.6	5.0	1.7	5.3
2.2	1.3	3.9	1.4	4.2	1.5	4.6	1.6	4.9	1.7	5.2
2.3	1.2	3.9	1.3	4.2	1.4	4.5	1.5	4.9	1.6	5.2
2.4	1.2	3.8	1.3	4.1	1.4	4.5	1.5	4.8	1.6	5.1
2.5	1.2	3.8	1.3	4.1	1.4	4.4	1.5	4.7	1.6	5.1
2.6	1.2	3.7	1.3	4.0	1.4	4.4	1.5	4.7	1.6	5.0
2.7	1.1	3.7	1.2	4.0	1.3	4.3	1.4	4.6	1.5	5.0
2.8	1.1	3.7	1.2	4.0	1.3	4.3	1.4	4.6	1.5	4.9
2.9	1.1	3.6	1.2	3.9	1.3	4.2	1.4	4.5	1.5	4.8
3.0	1.1	3.6	1.2	3.9	1.3	4.2	1.4	4.5	1.5	4.8
3.1	1.1	3.5	1.2	3.8	1.3	4.1	1.4	4.4	1.5	4.7
3.2	1.1	3.5	1.2	3.8	1.2	4.1	1.3	4.4	1.4	4.7
3.3	1.1	3.5	1.1	3.8	1.2	4.1	1.3	4.4	1.4	4.7
3.4	1.0	3.4	1.1	3.7	1.2	4.0	1.3	4.3	1.4	4.6
3.5	1.0	3.4	1.1	3.7	1.2	4.0	1.3	4.3	1.4	4.6
3.6	1.0	3.4	1.1	3.7	1.2	3.9	1.3	4.2	1.4	4.5
3.7	1.0	3.4	1.1	3.6	1.2	3.9	1.3	4.2	1.3	4.5
3.8	1.0	3.3	1.1	3.6	1.2	3.9	1.2	4.2	1.3	4.5
3.9	1.0	3.3	1.1	3.6	1.1	3.8	1.2	4.1	1.3	4.4
4.0	1.0	3.3	1.0	3.5	1.1	3.8	1.2	4.1	1.3	4.4

Table 11E. Effluent Limitations – Lead, Total in µg/L

CV	100 ≤ H	100 ≤ H	120 ≤ H	120 ≤ H	140 ≤ H	140 ≤ H	160 ≤ H	160 ≤ H	180 ≤ H	180 ≤ H
	< 120 AMEL	< 120 MDEL	< 140 AMEL	< 140 MDEL	< 160 AMEL	< 160 MDEL	< 180 AMEL	< 180 MDEL	< 200 AMEL	< 200 MDEL
0.1	3.5	4.0	4.3	5.0	5.2	6.0	6.0	7.0	7.0	8.1
0.2	3.4	4.4	4.2	5.5	5.0	6.6	5.8	7.7	6.7	8.9
0.3	3.2	4.9	4.0	6.0	4.8	7.2	5.6	8.5	6.5	10
0.4	3.1	5.3	3.9	6.5	4.7	7.8	5.5	9.1	6.3	11
0.5	3.0	5.6	3.8	6.9	4.5	8.3	5.3	10	6.1	11
0.6	2.9	5.9	3.6	7.3	4.4	8.8	5.1	10	5.9	12
0.7	2.8	6.1	3.5	7.6	4.2	9.1	5.0	11	5.7	12
0.8	2.8	6.3	3.4	7.8	4.1	9.4	4.8	11	5.5	13
0.9	2.7	6.5	3.3	8.0	4.0	10	4.7	11	5.4	13
1.0	2.6	6.6	3.2	8.1	3.9	10	4.5	11	5.2	13
1.1	2.5	6.6	3.1	8.2	3.8	10	4.4	12	5.1	13
1.2	2.5	6.6	3.0	8.2	3.7	10	4.3	12	4.9	13
1.3	2.4	6.6	3.0	8.2	3.6	10	4.2	12	4.8	13
1.4	2.3	6.6	2.9	8.2	3.5	10	4.1	12	4.7	13
1.5	2.3	6.6	2.8	8.1	3.4	10	4.0	11	4.6	13
1.6	2.2	6.5	2.8	8.1	3.3	10	3.9	11	4.5	13
1.7	2.2	6.5	2.7	8.0	3.2	10	3.8	11	4.4	13
1.8	2.1	6.4	2.6	7.9	3.2	10	3.7	11	4.3	13
1.9	2.1	6.3	2.6	7.8	3.1	9.4	3.6	11	4.2	13
2.0	2.0	6.3	2.5	7.7	3.0	9.3	3.5	11	4.1	13
2.1	2.0	6.2	2.5	7.7	3.0	9.2	3.5	11	4.0	12
2.2	2.0	6.1	2.4	7.6	2.9	9.1	3.4	11	3.9	12
2.3	1.9	6.0	2.4	7.5	2.9	9.0	3.3	11	3.9	12
2.4	1.9	6.0	2.3	7.4	2.8	8.9	3.3	10	3.8	12
2.5	1.9	5.9	2.3	7.3	2.8	8.8	3.2	10	3.7	12
2.6	1.8	5.8	2.3	7.2	2.7	8.7	3.2	10	3.7	12
2.7	1.8	5.8	2.2	7.1	2.7	8.6	3.1	10	3.6	12
2.8	1.8	5.7	2.2	7.1	2.6	8.5	3.1	10	3.5	11
2.9	1.7	5.6	2.2	7.0	2.6	8.4	3.0	10	3.5	11
3.0	1.7	5.6	2.1	6.9	2.5	8.3	3.0	10	3.4	11
3.1	1.7	5.5	2.1	6.8	2.5	8.2	2.9	10	3.4	11
3.2	1.7	5.5	2.1	6.8	2.5	8.1	2.9	10	3.3	11
3.3	1.6	5.4	2.0	6.7	2.4	8.1	2.9	9.4	3.3	11
3.4	1.6	5.4	2.0	6.6	2.4	8.0	2.8	9.4	3.3	11
3.5	1.6	5.3	2.0	6.6	2.4	7.9	2.8	9.3	3.2	11
3.6	1.6	5.3	2.0	6.5	2.4	7.8	2.8	9.2	3.2	11
3.7	1.6	5.2	1.9	6.5	2.3	7.8	2.7	9.1	3.1	10
3.8	1.5	5.2	1.9	6.4	2.3	7.7	2.7	9.0	3.1	10
3.9	1.5	5.1	1.9	6.4	2.3	7.6	2.7	9.0	3.1	10
4.0	1.5	5.1	1.9	6.3	2.2	7.6	2.6	8.9	3.0	10

Table 11F. Effluent Limitations – Lead, Total in µg/L

CV	200 ≤ H	200 ≤ H	250 ≤ H	250 ≤ H	300 ≤ H	300 ≤ H	350 ≤ H	350 ≤ H	H ≥ 400	H ≥ 400
	< 250 AMEL	< 250 MDEL	< 300 AMEL	< 300 MDEL	< 350 AMEL	< 350 MDEL	< 400 AMEL	< 400 MDEL		
0.1	8.6	10	11	13	14	16	17	19	18	21
0.2	8.3	11	11	14	13	18	16	21	17	23
0.3	8.1	12	10	16	13	19	15	23	17	25
0.4	7.8	13	10	17	12	21	15	25	16	27
0.5	7.6	14	10	18	12	22	14	27	16	29
0.6	7.3	15	9.4	19	12	23	14	28	15	31
0.7	7.1	15	9.1	20	11	24	14	29	15	32
0.8	6.9	16	8.9	20	11	25	13	30	14	33
0.9	6.7	16	8.6	21	11	26	13	31	14	33
1.0	6.5	16	8.4	21	10	26	12	31	13	34
1.1	6.3	16	8.1	21	10	26	12	32	13	34
1.2	6.1	17	7.9	21	10	26	12	32	13	34
1.3	6.0	17	7.7	21	10	26	11	32	12	34
1.4	5.8	16	7.5	21	9.3	26	11	32	12	34
1.5	5.7	16	7.3	21	9.1	26	11	31	12	34
1.6	5.5	16	7.1	21	8.8	26	11	31	12	34
1.7	5.4	16	7.0	21	8.6	26	10	31	11	33
1.8	5.3	16	6.8	21	8.4	25	10	31	11	33
1.9	5.2	16	6.7	20	8.3	25	10	30	11	33
2.0	5.1	16	6.5	20	8.1	25	10	30	11	32
2.1	5.0	15	6.4	20	7.9	25	10	30	10	32
2.2	4.9	15	6.3	20	7.8	24	9.3	29	10	32
2.3	4.8	15	6.2	19	7.6	24	9.2	29	10	31
2.4	4.7	15	6.1	19	7.5	24	9.0	28	10	31
2.5	4.6	15	6.0	19	7.4	23	8.8	28	10	31
2.6	4.5	15	5.9	19	7.2	23	8.7	28	9.4	30
2.7	4.5	14	5.8	19	7.1	23	8.6	28	9.3	30
2.8	4.4	14	5.7	18	7.0	23	8.4	27	9.1	30
2.9	4.3	14	5.6	18	6.9	22	8.3	27	9.0	29
3.0	4.3	14	5.5	18	6.8	22	8.2	27	8.9	29
3.1	4.2	14	5.4	18	6.7	22	8.1	26	8.7	29
3.2	4.1	14	5.4	18	6.6	22	7.9	26	8.6	28
3.3	4.1	13	5.3	17	6.5	22	7.8	26	8.5	28
3.4	4.0	13	5.2	17	6.5	21	7.7	26	8.4	28
3.5	4.0	13	5.1	17	6.4	21	7.6	25	8.3	28
3.6	3.9	13	5.1	17	6.3	21	7.5	25	8.2	27
3.7	3.9	13	5.0	17	6.2	21	7.5	25	8.1	27
3.8	3.8	13	5.0	17	6.1	21	7.4	25	8.0	27
3.9	3.8	13	4.9	17	6.1	20	7.3	25	7.9	27
4.0	3.8	13	4.9	16	6.0	20	7.2	24	7.8	26

Table 12A. Effluent Limitations – Zinc, Total in µg/L

CV	0 ≤ H < 5 AMEL	0 ≤ H < 5 MDEL	5 ≤ H < 10 AMEL	5 ≤ H < 10 MDEL	10 ≤ H < 15 AMEL	10 ≤ H < 15 MDEL	15 ≤ H < 20 AMEL	15 ≤ H < 20 MDEL	20 ≤ H < 25 AMEL	20 ≤ H < 25 MDEL
0.1	4.5	5.3	12	13	18	21	24	27	29	34
0.2	4.0	5.3	10	13	16	21	21	27	26	34
0.3	3.5	5.3	8.9	13	14	21	18	27	23	34
0.4	3.1	5.3	8.0	13	12	21	16	27	20	34
0.5	2.9	5.3	7.2	13	11	21	15	27	18	34
0.6	2.6	5.3	6.7	13	10	21	14	27	17	34
0.7	2.4	5.3	6.2	13	9.5	21	13	27	16	34
0.8	2.3	5.3	5.8	13	9.0	21	12	27	15	34
0.9	2.2	5.3	5.5	13	8.5	21	11	27	14	34
1.0	2.1	5.3	5.3	13	8.2	21	11	27	13	34
1.1	2.0	5.3	5.1	13	7.9	21	10	27	13	34
1.2	2.0	5.3	4.9	13	7.6	21	10	27	13	34
1.3	1.9	5.3	4.8	13	7.4	21	9.9	27	12	34
1.4	1.9	5.3	4.7	13	7.3	21	9.7	27	12	34
1.5	1.8	5.3	4.6	13	7.1	21	9.5	27	12	34
1.6	1.8	5.3	4.5	13	7.0	21	9.3	27	12	34
1.7	1.8	5.3	4.5	13	6.9	21	9.2	27	11	34
1.8	1.7	5.3	4.4	13	6.8	21	9.1	27	11	34
1.9	1.7	5.3	4.4	13	6.8	21	9.0	27	11	34
2.0	1.7	5.3	4.3	13	6.7	21	8.9	27	11	34
2.1	1.7	5.3	4.3	13	6.6	21	8.8	27	11	34
2.2	1.7	5.3	4.3	13	6.6	21	8.8	27	11	34
2.3	1.7	5.3	4.2	13	6.5	21	8.7	27	11	34
2.4	1.7	5.3	4.2	13	6.5	21	8.6	27	11	34
2.5	1.7	5.3	4.2	13	6.5	21	8.6	27	11	34
2.6	1.6	5.3	4.2	13	6.4	21	8.5	27	11	34
2.7	1.6	5.3	4.1	13	6.4	21	8.5	27	11	34
2.8	1.6	5.3	4.1	13	6.4	21	8.5	27	10	34
2.9	1.6	5.3	4.1	13	6.3	21	8.4	27	10	34
3.0	1.6	5.3	4.1	13	6.3	21	8.4	27	10	34
3.1	1.6	5.3	4.1	13	6.3	21	8.4	27	10	34
3.2	1.6	5.3	4.1	13	6.3	21	8.3	27	10	34
3.3	1.6	5.3	4.0	13	6.2	21	8.3	27	10	34
3.4	1.6	5.3	4.0	13	6.2	21	8.3	27	10	34
3.5	1.6	5.3	4.0	13	6.2	21	8.2	27	10	34
3.6	1.6	5.3	4.0	13	6.2	21	8.2	27	10	34
3.7	1.6	5.3	4.0	13	6.2	21	8.2	27	10	34
3.8	1.6	5.3	4.0	13	6.1	21	8.2	27	10	34
3.9	1.6	5.3	4.0	13	6.1	21	8.1	27	10	34
4.0	1.6	5.3	4.0	13	6.1	21	8.1	27	10	34

Table 12B. Effluent Limitations – Zinc, Total in µg/L

CV	25 ≤ H	25 ≤ H	30 ≤ H	30 ≤ H	35 ≤ H	35 ≤ H	40 ≤ H	40 ≤ H	45 ≤ H	45 ≤ H
	< 30 AMEL	< 30 MDEL	< 35 AMEL	< 35 MDEL	< 40 AMEL	< 40 MDEL	< 45 AMEL	< 45 MDEL	< 50 AMEL	< 50 MDEL
0.1	35	40	40	46	45	52	50	58	55	64
0.2	30	40	35	46	39	52	44	58	48	64
0.3	27	40	31	46	35	52	39	58	43	64
0.4	24	40	28	46	31	52	35	58	38	64
0.5	22	40	25	46	28	52	31	58	35	64
0.6	20	40	23	46	26	52	29	58	32	64
0.7	19	40	21	46	24	52	27	58	30	64
0.8	18	40	20	46	23	52	25	58	28	64
0.9	17	40	19	46	22	52	24	58	26	64
1.0	16	40	18	46	21	52	23	58	25	64
1.1	15	40	18	46	20	52	22	58	24	64
1.2	15	40	17	46	19	52	22	58	24	64
1.3	14	40	17	46	19	52	21	58	23	64
1.4	14	40	16	46	18	52	20	58	23	64
1.5	14	40	16	46	18	52	20	58	22	64
1.6	14	40	16	46	18	52	20	58	22	64
1.7	13	40	16	46	18	52	19	58	21	64
1.8	13	40	15	46	17	52	19	58	21	64
1.9	13	40	15	46	17	52	19	58	21	64
2.0	13	40	15	46	17	52	19	58	21	64
2.1	13	40	15	46	17	52	19	58	21	64
2.2	13	40	15	46	17	52	19	58	20	64
2.3	13	40	15	46	17	52	18	58	20	64
2.4	13	40	15	46	16	52	18	58	20	64
2.5	13	40	15	46	16	52	18	58	20	64
2.6	13	40	14	46	16	52	18	58	20	64
2.7	12	40	14	46	16	52	18	58	20	64
2.8	12	40	14	46	16	52	18	58	20	64
2.9	12	40	14	46	16	52	18	58	20	64
3.0	12	40	14	46	16	52	18	58	20	64
3.1	12	40	14	46	16	52	18	58	19	64
3.2	12	40	14	46	16	52	18	58	19	64
3.3	12	40	14	46	16	52	18	58	19	64
3.4	12	40	14	46	16	52	18	58	19	64
3.5	12	40	14	46	16	52	17	58	19	64
3.6	12	40	14	46	16	52	17	58	19	64
3.7	12	40	14	46	16	52	17	58	19	64
3.8	12	40	14	46	16	52	17	58	19	64
3.9	12	40	14	46	16	52	17	58	19	64
4.0	12	40	14	46	15	52	17	58	19	64

Table 12C. Effluent Limitations – Zinc, Total in µg/L

CV	50 ≤ H < 55 AMEL	50 ≤ H < 55 MDEL	55 ≤ H < 60 AMEL	55 ≤ H < 60 MDEL	60 ≤ H < 65 AMEL	60 ≤ H < 65 MDEL	65 ≤ H < 70 AMEL	65 ≤ H < 70 MDEL	70 ≤ H < 75 AMEL	70 ≤ H < 75 MDEL
0.1	60	69	65	75	70	80	74	86	79	91
0.2	52	69	57	75	61	80	65	86	69	91
0.3	46	69	50	75	54	80	57	86	61	91
0.4	41	69	45	75	48	80	51	86	54	91
0.5	38	69	41	75	44	80	47	86	49	91
0.6	35	69	37	75	40	80	43	86	45	91
0.7	32	69	35	75	37	80	40	86	42	91
0.8	30	69	33	75	35	80	37	86	40	91
0.9	29	69	31	75	33	80	36	86	38	91
1.0	28	69	30	75	32	80	34	86	36	91
1.1	27	69	29	75	31	80	33	86	35	91
1.2	26	69	28	75	30	80	32	86	34	91
1.3	25	69	27	75	29	80	31	86	33	91
1.4	25	69	26	75	28	80	30	86	32	91
1.5	24	69	26	75	28	80	30	86	32	91
1.6	24	69	26	75	27	80	29	86	31	91
1.7	23	69	25	75	27	80	29	86	31	91
1.8	23	69	25	75	27	80	29	86	30	91
1.9	23	69	25	75	26	80	28	86	30	91
2.0	23	69	24	75	26	80	28	86	30	91
2.1	22	69	24	75	26	80	28	86	29	91
2.2	22	69	24	75	26	80	27	86	29	91
2.3	22	69	24	75	26	80	27	86	29	91
2.4	22	69	24	75	25	80	27	86	29	91
2.5	22	69	24	75	25	80	27	86	29	91
2.6	22	69	23	75	25	80	27	86	29	91
2.7	22	69	23	75	25	80	27	86	28	91
2.8	21	69	23	75	25	80	27	86	28	91
2.9	21	69	23	75	25	80	26	86	28	91
3.0	21	69	23	75	25	80	26	86	28	91
3.1	21	69	23	75	25	80	26	86	28	91
3.2	21	69	23	75	24	80	26	86	28	91
3.3	21	69	23	75	24	80	26	86	28	91
3.4	21	69	23	75	24	80	26	86	28	91
3.5	21	69	23	75	24	80	26	86	27	91
3.6	21	69	22	75	24	80	26	86	27	91
3.7	21	69	22	75	24	80	26	86	27	91
3.8	21	69	22	75	24	80	26	86	27	91
3.9	21	69	22	75	24	80	26	86	27	91
4.0	21	69	22	75	24	80	25	86	27	91

Table 12D. Effluent Limitations – Zinc, Total in µg/L

CV	75 ≤ H < 80 AMEL	75 ≤ H < 80 MDEL	80 ≤ H < 85 AMEL	80 ≤ H < 85 MDEL	85 ≤ H < 90 AMEL	85 ≤ H < 90 MDEL	90 ≤ H < 95 AMEL	90 ≤ H < 95 MDEL	95 ≤ H < 100 AMEL	95 ≤ H < 100 MDEL
0.1	83	97	88	100	92	110	97	110	100	120
0.2	73	97	77	100	81	110	85	110	88	120
0.3	64	97	68	100	71	110	75	110	78	120
0.4	58	97	61	100	64	110	67	110	70	120
0.5	52	97	55	100	58	110	61	110	64	120
0.6	48	97	51	100	53	110	56	110	58	120
0.7	45	97	47	100	50	110	52	110	54	120
0.8	42	97	44	100	47	110	49	110	51	120
0.9	40	97	42	100	44	110	46	110	49	120
1.0	38	97	40	100	42	110	44	110	47	120
1.1	37	97	39	100	41	110	43	110	45	120
1.2	36	97	38	100	40	110	42	110	43	120
1.3	35	97	37	100	39	110	40	110	42	120
1.4	34	97	36	100	38	110	40	110	41	120
1.5	33	97	35	100	37	110	39	110	41	120
1.6	33	97	35	100	36	110	38	110	40	120
1.7	32	97	34	100	36	110	38	110	39	120
1.8	32	97	34	100	36	110	37	110	39	120
1.9	32	97	33	100	35	110	37	110	39	120
2.0	31	97	33	100	35	110	36	110	38	120
2.1	31	97	33	100	35	110	36	110	38	120
2.2	31	97	33	100	34	110	36	110	38	120
2.3	31	97	32	100	34	110	36	110	37	120
2.4	30	97	32	100	34	110	35	110	37	120
2.5	30	97	32	100	34	110	35	110	37	120
2.6	30	97	32	100	33	110	35	110	37	120
2.7	30	97	32	100	33	110	35	110	36	120
2.8	30	97	31	100	33	110	35	110	36	120
2.9	30	97	31	100	33	110	35	110	36	120
3.0	30	97	31	100	33	110	34	110	36	120
3.1	29	97	31	100	33	110	34	110	36	120
3.2	29	97	31	100	33	110	34	110	36	120
3.3	29	97	31	100	32	110	34	110	36	120
3.4	29	97	31	100	32	110	34	110	35	120
3.5	29	97	31	100	32	110	34	110	35	120
3.6	29	97	31	100	32	110	34	110	35	120
3.7	29	97	30	100	32	110	34	110	35	120
3.8	29	97	30	100	32	110	33	110	35	120
3.9	29	97	30	100	32	110	33	110	35	120
4.0	29	97	30	100	32	110	33	110	35	120

Table 12E. Effluent Limitations – Zinc, Total in µg/L

CV	100 ≤ H	100 ≤ H	120 ≤ H	120 ≤ H	140 ≤ H	140 ≤ H	160 ≤ H	160 ≤ H	180 ≤ H	180 ≤ H
	< 120 AMEL	< 120 MDEL	< 140 AMEL	< 140 MDEL	< 160 AMEL	< 160 MDEL	< 180 AMEL	< 180 MDEL	< 200 AMEL	< 200 MDEL
0.1	110	130	130	150	150	170	160	190	180	210
0.2	98	130	110	150	130	170	140	190	160	210
0.3	87	130	100	150	110	170	130	190	140	210
0.4	78	130	89	150	100	170	110	190	120	210
0.5	70	130	81	150	92	170	100	190	110	210
0.6	65	130	75	150	84	170	94	190	100	210
0.7	60	130	69	150	78	170	87	190	96	210
0.8	57	130	65	150	74	170	82	190	90	210
0.9	54	130	62	150	70	170	78	190	86	210
1.0	52	130	59	150	67	170	75	190	82	210
1.1	50	130	57	150	65	170	72	190	79	210
1.2	48	130	55	150	63	170	70	190	77	210
1.3	47	130	54	150	61	170	68	190	75	210
1.4	46	130	53	150	60	170	66	190	73	210
1.5	45	130	52	150	59	170	65	190	71	210
1.6	44	130	51	150	58	170	64	190	70	210
1.7	44	130	50	150	57	170	63	190	69	210
1.8	43	130	50	150	56	170	62	190	69	210
1.9	43	130	49	150	55	170	62	190	68	210
2.0	42	130	49	150	55	170	61	190	67	210
2.1	42	130	48	150	54	170	61	190	67	210
2.2	42	130	48	150	54	170	60	190	66	210
2.3	41	130	48	150	54	170	60	190	66	210
2.4	41	130	47	150	53	170	59	190	65	210
2.5	41	130	47	150	53	170	59	190	65	210
2.6	41	130	47	150	53	170	59	190	64	210
2.7	40	130	47	150	53	170	58	190	64	210
2.8	40	130	46	150	52	170	58	190	64	210
2.9	40	130	46	150	52	170	58	190	64	210
3.0	40	130	46	150	52	170	58	190	63	210
3.1	40	130	46	150	52	170	57	190	63	210
3.2	40	130	46	150	51	170	57	190	63	210
3.3	39	130	45	150	51	170	57	190	63	210
3.4	39	130	45	150	51	170	57	190	62	210
3.5	39	130	45	150	51	170	57	190	62	210
3.6	39	130	45	150	51	170	56	190	62	210
3.7	39	130	45	150	51	170	56	190	62	210
3.8	39	130	45	150	50	170	56	190	62	210
3.9	39	130	44	150	50	170	56	190	61	210
4.0	38	130	44	150	50	170	56	190	61	210

Table 12F. Effluent Limitations – Zinc, Total in µg/L

CV	200 ≤ H	200 ≤ H	250 ≤ H	250 ≤ H	300 ≤ H	300 ≤ H	350 ≤ H	350 ≤ H	H ≥ 400	H ≥ 400
	< 250 AMEL	< 250 MDEL	< 300 AMEL	< 300 MDEL	< 350 AMEL	< 350 MDEL	< 400 AMEL	< 400 MDEL		
0.1	210	240	240	280	280	330	320	370	340	390
0.2	180	240	210	280	250	330	280	370	290	390
0.3	160	240	190	280	220	330	240	370	260	390
0.4	140	240	170	280	190	330	220	370	230	390
0.5	130	240	150	280	180	330	200	370	210	390
0.6	120	240	140	280	160	330	180	370	190	390
0.7	110	240	130	280	150	330	170	370	180	390
0.8	100	240	120	280	140	330	160	370	170	390
0.9	99	240	120	280	130	330	150	370	160	390
1.0	95	240	110	280	130	330	150	370	150	390
1.1	91	240	110	280	120	330	140	370	150	390
1.2	88	240	100	280	120	330	140	370	140	390
1.3	86	240	100	280	120	330	130	370	140	390
1.4	84	240	100	280	110	330	130	370	140	390
1.5	83	240	98	280	110	330	130	370	130	390
1.6	81	240	96	280	110	330	130	370	130	390
1.7	80	240	95	280	110	330	120	370	130	390
1.8	79	240	94	280	110	330	120	370	130	390
1.9	78	240	93	280	110	330	120	370	130	390
2.0	77	240	92	280	110	330	120	370	130	390
2.1	77	240	91	280	100	330	120	370	130	390
2.2	76	240	90	280	100	330	120	370	120	390
2.3	76	240	90	280	100	330	120	370	120	390
2.4	75	240	89	280	100	330	120	370	120	390
2.5	75	240	89	280	100	330	120	370	120	390
2.6	74	240	88	280	100	330	110	370	120	390
2.7	74	240	88	280	100	330	110	370	120	390
2.8	74	240	87	280	100	330	110	370	120	390
2.9	73	240	87	280	100	330	110	370	120	390
3.0	73	240	87	280	100	330	110	370	120	390
3.1	73	240	86	280	99	330	110	370	120	390
3.2	72	240	86	280	99	330	110	370	120	390
3.3	72	240	86	280	99	330	110	370	120	390
3.4	72	240	85	280	98	330	110	370	120	390
3.5	72	240	85	280	98	330	110	370	120	390
3.6	71	240	85	280	98	330	110	370	120	390
3.7	71	240	84	280	97	330	110	370	120	390
3.8	71	240	84	280	97	330	110	370	120	390
3.9	71	240	84	280	97	330	110	370	120	390
4.0	71	240	84	280	96	330	110	370	110	390

Table 13. Effluent Limitations – Copper, Total in µg/L for City of Grass Valley WWTP

Hardness in mg/L (H)	AMEL	MDEL
H < 5	1.4	2.8
5 ≤ H < 10	4.0	8.0
10 ≤ H < 15	6.4	13
15 ≤ H < 20	8.8	18
20 ≤ H < 25	11	22
25 ≤ H < 30	14	27
30 ≤ H < 35	16	32
35 ≤ H < 40	18	36
40 ≤ H < 45	20	41
45 ≤ H < 50	23	45
50 ≤ H < 55	25	50
55 ≤ H < 60	27	54
60 ≤ H < 65	29	59
65 ≤ H < 70	32	63
70 ≤ H < 75	34	68
75 ≤ H < 80	36	72
80 ≤ H < 85	38	76
85 ≤ H < 90	40	81
90 ≤ H < 95	42	85
95 ≤ H < 100	45	89
100 ≤ H < 120	50	100
120 ≤ H < 140	58	120
140 ≤ H < 160	67	130
160 ≤ H < 180	75	150
180 ≤ H < 200	84	170
H ≥ 200	88	176

Table 14. Effluent Limitations – Zinc, Total in $\mu\text{g/L}$ for City of Grass Valley WWTP

Hardness in mg/L (H)	AMEL	MDEL
$H < 5$	4.5	9.0
$5 \leq H < 10$	11	23
$10 \leq H < 15$	18	35
$15 \leq H < 20$	23	47
$20 \leq H < 25$	29	58
$25 \leq H < 30$	34	69
$30 \leq H < 35$	39	79
$35 \leq H < 40$	45	89
$40 \leq H < 45$	50	99
$45 \leq H < 50$	54	110
$50 \leq H < 55$	59	120
$55 \leq H < 60$	64	130
$60 \leq H < 65$	69	140
$65 \leq H < 70$	73	150
$70 \leq H < 75$	78	160
$75 \leq H < 80$	82	170
$80 \leq H < 85$	87	170
$85 \leq H < 90$	91	180
$90 \leq H < 95$	96	190
$95 \leq H < 100$	100	200
$100 \leq H < 120$	110	220
$120 \leq H < 140$	130	260
$140 \leq H < 160$	140	290
$160 \leq H < 180$	160	320
$180 \leq H < 200$	180	350
$H \geq 200$	180	370

- iii. **Applicable to Discharges in the Sacramento-San Joaquin Delta.** For discharges to receiving waters within the legal boundaries of the Sacramento-San Joaquin Delta, the priority pollutant effluent limitations, as identified in the Notice of Applicability from the Executive Officer, shall not exceed the effluent limitations in Table 15 below unless more stringent effluent limitations are applicable:

Table 15. Effluent Limitations – Priority Pollutants (Receiving Waters in the Sacramento-San Joaquin Delta)

CV	Arsenic, Total AMEL	Arsenic, Total MDEL	Copper, Total AMEL	Copper, Total MDEL	Cyanide, Total AMEL	Cyanide, Total MDEL	Zinc, Total AMEL	Zinc, Total MDEL
0.1	350	410	420	480	480	560	570	660
0.2	310	410	360	480	420	560	500	660
0.3	270	410	320	480	370	560	440	660
0.4	240	410	290	480	330	560	400	660
0.5	220	410	260	480	300	560	360	660
0.6	200	410	240	480	280	560	330	660
0.7	190	410	220	480	260	560	310	660
0.8	180	410	210	480	240	560	290	660
0.9	170	410	200	480	230	560	280	660
1.0	160	410	190	480	220	560	260	660
1.1	160	410	180	480	210	560	250	660
1.2	150	410	180	480	210	560	250	660
1.3	150	410	170	480	200	560	240	660
1.4	140	410	170	480	200	560	230	660
1.5	140	410	170	480	190	560	230	660
1.6	140	410	160	480	190	560	230	660
1.7	140	410	160	480	190	560	220	660
1.8	140	410	160	480	180	560	220	660
1.9	130	410	160	480	180	560	220	660
2.0	130	410	160	480	180	560	220	660
2.1	130	410	160	480	180	560	210	660
2.2	130	410	150	480	180	560	210	660
2.3	130	410	150	480	180	560	210	660
2.4	130	410	150	480	180	560	210	660
2.5	130	410	150	480	170	560	210	660
2.6	130	410	150	480	170	560	210	660
2.7	130	410	150	480	170	560	210	660
2.8	130	410	150	480	170	560	210	660
2.9	130	410	150	480	170	560	200	660
3.0	130	410	150	480	170	560	200	660
3.1	120	410	150	480	170	560	200	660
3.2	120	410	150	480	170	560	200	660
3.3	120	410	150	480	170	560	200	660
3.4	120	410	150	480	170	560	200	660
3.5	120	410	150	480	170	560	200	660
3.6	120	410	150	480	170	560	200	660
3.7	120	410	140	480	170	560	200	660
3.8	120	410	140	480	170	560	200	660
3.9	120	410	140	480	170	560	200	660
4.0	120	410	140	480	170	560	200	660

- iv. **Applicable to Discharges to the Sacramento River and its tributaries above the State Highway 32 Bridge at Hamilton City.** For discharges to the Sacramento River and its tributaries above the State Highway 32 Bridge at Hamilton City, the priority pollutant effluent limitations, as identified in the Notice of Applicability from the Executive Officer, shall not exceed the effluent limitations in Tables 16A through 16E for copper, total and 17A through 17E for zinc, total below unless more stringent effluent limitations from Tables 10A through 10F or Tables 12A through 12F, respectively, are applicable:

Table 16A. Effluent Limitations – Copper, Total in µg/L for Discharges to the Sacramento River and Its Tributaries Above the State Highway 32 Bridge at Hamilton City

CV	0 ≤ H	0 ≤ H	5 ≤ H	5 ≤ H	10 ≤ H	10 ≤ H	15 ≤ H	15 ≤ H	20 ≤ H	20 ≤ H
	< 5 AMEL	< 5 MDEL	< 10 AMEL	< 10 MDEL	< 15 AMEL	< 15 MDEL	< 20 AMEL	< 20 MDEL	< 25 AMEL	< 25 MDEL
0.1	0.39	0.45	0.99	1.1	1.5	1.8	2.0	2.4	2.6	3.0
0.2	0.36	0.48	0.95	1.3	1.5	2.0	2.0	2.6	2.5	3.4
0.3	0.32	0.48	0.86	1.3	1.4	2.0	1.8	2.8	2.3	3.5
0.4	0.28	0.48	0.77	1.3	1.2	2.0	1.7	2.8	2.1	3.5
0.5	0.26	0.48	0.70	1.3	1.1	2.0	1.5	2.8	1.9	3.5
0.6	0.24	0.48	0.64	1.3	1.0	2.0	1.4	2.8	1.7	3.5
0.7	0.22	0.48	0.60	1.3	0.95	2.0	1.3	2.8	1.6	3.5
0.8	0.21	0.48	0.56	1.3	0.89	2.0	1.2	2.8	1.5	3.5
0.9	0.20	0.48	0.53	1.3	0.85	2.0	1.1	2.8	1.4	3.5
1.0	0.19	0.48	0.51	1.3	0.81	2.0	1.1	2.8	1.4	3.5
1.1	0.18	0.48	0.49	1.3	0.78	2.0	1.1	2.8	1.3	3.5
1.2	0.18	0.48	0.48	1.3	0.76	2.0	1.0	2.8	1.3	3.5
1.3	0.17	0.48	0.46	1.3	0.74	2.0	1.0	2.8	1.3	3.5
1.4	0.17	0.48	0.45	1.3	0.72	2.0	0.98	2.8	1.2	3.5
1.5	0.16	0.48	0.45	1.3	0.71	2.0	0.96	2.8	1.2	3.5
1.6	0.16	0.48	0.44	1.3	0.70	2.0	0.94	2.8	1.2	3.5
1.7	0.16	0.48	0.43	1.3	0.69	2.0	0.93	2.8	1.2	3.5
1.8	0.16	0.48	0.43	1.3	0.68	2.0	0.92	2.8	1.2	3.5
1.9	0.16	0.48	0.42	1.3	0.67	2.0	0.91	2.8	1.1	3.5
2.0	0.15	0.48	0.42	1.3	0.66	2.0	0.90	2.8	1.1	3.5
2.1	0.15	0.48	0.42	1.3	0.66	2.0	0.89	2.8	1.1	3.5
2.2	0.15	0.48	0.41	1.3	0.65	2.0	0.89	2.8	1.1	3.5
2.3	0.15	0.48	0.41	1.3	0.65	2.0	0.88	2.8	1.1	3.5
2.4	0.15	0.48	0.41	1.3	0.65	2.0	0.88	2.8	1.1	3.5
2.5	0.15	0.48	0.40	1.3	0.64	2.0	0.87	2.8	1.1	3.5
2.6	0.15	0.48	0.40	1.3	0.64	2.0	0.87	2.8	1.1	3.5
2.7	0.15	0.48	0.40	1.3	0.64	2.0	0.86	2.8	1.1	3.5
2.8	0.15	0.48	0.40	1.3	0.63	2.0	0.86	2.8	1.1	3.5
2.9	0.15	0.48	0.40	1.3	0.63	2.0	0.85	2.8	1.1	3.5
3.0	0.15	0.48	0.39	1.3	0.63	2.0	0.85	2.8	1.1	3.5
3.1	0.15	0.48	0.39	1.3	0.62	2.0	0.85	2.8	1.1	3.5
3.2	0.14	0.48	0.39	1.3	0.62	2.0	0.84	2.8	1.1	3.5
3.3	0.14	0.48	0.39	1.3	0.62	2.0	0.84	2.8	1.1	3.5
3.4	0.14	0.48	0.39	1.3	0.62	2.0	0.84	2.8	1.1	3.5
3.5	0.14	0.48	0.39	1.3	0.62	2.0	0.83	2.8	1.0	3.5
3.6	0.14	0.48	0.39	1.3	0.61	2.0	0.83	2.8	1.0	3.5
3.7	0.14	0.48	0.38	1.3	0.61	2.0	0.83	2.8	1.0	3.5
3.8	0.14	0.48	0.38	1.3	0.61	2.0	0.83	2.8	1.0	3.5
3.9	0.14	0.48	0.38	1.3	0.61	2.0	0.82	2.8	1.0	3.5
4.0	0.14	0.48	0.38	1.3	0.61	2.0	0.82	2.8	1.0	3.5

Table 16B. Effluent Limitations – Copper, Total in µg/L for Discharges to the Sacramento River and Its Tributaries Above the State Highway 32 Bridge at Hamilton City

CV	25 ≤ H	25 ≤ H	30 ≤ H	30 ≤ H	35 ≤ H	35 ≤ H	40 ≤ H	40 ≤ H	45 ≤ H	45 ≤ H
	< 30 AMEL	< 30 MDEL	< 35 AMEL	< 35 MDEL	< 40 AMEL	< 40 MDEL	< 45 AMEL	< 45 MDEL	< 50 AMEL	< 50 MDEL
0.1	3.0	3.5	3.5	4.0	3.9	4.5	4.3	5.0	4.8	5.5
0.2	2.9	3.8	3.3	4.4	3.8	5.0	4.2	5.6	4.6	6.1
0.3	2.8	4.2	3.2	4.8	3.6	5.5	4.1	6.1	4.5	6.7
0.4	2.5	4.2	2.9	4.9	3.3	5.5	3.7	6.2	4.1	6.8
0.5	2.3	4.2	2.6	4.9	3.0	5.5	3.4	6.2	3.7	6.8
0.6	2.1	4.2	2.4	4.9	2.8	5.5	3.1	6.2	3.4	6.8
0.7	1.9	4.2	2.3	4.9	2.6	5.5	2.9	6.2	3.2	6.8
0.8	1.8	4.2	2.1	4.9	2.4	5.5	2.7	6.2	3.0	6.8
0.9	1.7	4.2	2.0	4.9	2.3	5.5	2.6	6.2	2.8	6.8
1.0	1.7	4.2	1.9	4.9	2.2	5.5	2.5	6.2	2.7	6.8
1.1	1.6	4.2	1.9	4.9	2.1	5.5	2.4	6.2	2.6	6.8
1.2	1.5	4.2	1.8	4.9	2.0	5.5	2.3	6.2	2.5	6.8
1.3	1.5	4.2	1.8	4.9	2.0	5.5	2.2	6.2	2.5	6.8
1.4	1.5	4.2	1.7	4.9	1.9	5.5	2.2	6.2	2.4	6.8
1.5	1.4	4.2	1.7	4.9	1.9	5.5	2.1	6.2	2.4	6.8
1.6	1.4	4.2	1.7	4.9	1.9	5.5	2.1	6.2	2.3	6.8
1.7	1.4	4.2	1.6	4.9	1.9	5.5	2.1	6.2	2.3	6.8
1.8	1.4	4.2	1.6	4.9	1.8	5.5	2.1	6.2	2.3	6.8
1.9	1.4	4.2	1.6	4.9	1.8	5.5	2.0	6.2	2.2	6.8
2.0	1.4	4.2	1.6	4.9	1.8	5.5	2.0	6.2	2.2	6.8
2.1	1.3	4.2	1.6	4.9	1.8	5.5	2.0	6.2	2.2	6.8
2.2	1.3	4.2	1.6	4.9	1.8	5.5	2.0	6.2	2.2	6.8
2.3	1.3	4.2	1.5	4.9	1.8	5.5	2.0	6.2	2.2	6.8
2.4	1.3	4.2	1.5	4.9	1.7	5.5	2.0	6.2	2.2	6.8
2.5	1.3	4.2	1.5	4.9	1.7	5.5	1.9	6.2	2.1	6.8
2.6	1.3	4.2	1.5	4.9	1.7	5.5	1.9	6.2	2.1	6.8
2.7	1.3	4.2	1.5	4.9	1.7	5.5	1.9	6.2	2.1	6.8
2.8	1.3	4.2	1.5	4.9	1.7	5.5	1.9	6.2	2.1	6.8
2.9	1.3	4.2	1.5	4.9	1.7	5.5	1.9	6.2	2.1	6.8
3.0	1.3	4.2	1.5	4.9	1.7	5.5	1.9	6.2	2.1	6.8
3.1	1.3	4.2	1.5	4.9	1.7	5.5	1.9	6.2	2.1	6.8
3.2	1.3	4.2	1.5	4.9	1.7	5.5	1.9	6.2	2.1	6.8
3.3	1.3	4.2	1.5	4.9	1.7	5.5	1.9	6.2	2.1	6.8
3.4	1.3	4.2	1.5	4.9	1.7	5.5	1.9	6.2	2.1	6.8
3.5	1.3	4.2	1.5	4.9	1.7	5.5	1.9	6.2	2.1	6.8
3.6	1.3	4.2	1.5	4.9	1.7	5.5	1.9	6.2	2.1	6.8
3.7	1.2	4.2	1.5	4.9	1.7	5.5	1.9	6.2	2.0	6.8
3.8	1.2	4.2	1.4	4.9	1.6	5.5	1.8	6.2	2.0	6.8
3.9	1.2	4.2	1.4	4.9	1.6	5.5	1.8	6.2	2.0	6.8
4.0	1.2	4.2	1.4	4.9	1.6	5.5	1.8	6.2	2.0	6.8

Table 16C. Effluent Limitations – Copper, Total in µg/L for Discharges to the Sacramento River and Its Tributaries Above the State Highway 32 Bridge at Hamilton City

CV	50 ≤ H	50 ≤ H	55 ≤ H	55 ≤ H	60 ≤ H	60 ≤ H	65 ≤ H	65 ≤ H	70 ≤ H	70 ≤ H
	< 55 AMEL	< 55 MDEL	< 60 AMEL	< 60 MDEL	< 65 AMEL	< 65 MDEL	< 70 AMEL	< 70 MDEL	< 75 AMEL	< 75 MDEL
0.1	5.2	6.0	5.6	6.5	6.0	7.0	6.4	7.5	6.9	7.9
0.2	5.0	6.7	5.4	7.2	5.8	7.7	6.2	8.3	6.6	8.8
0.3	4.9	7.3	5.3	7.9	5.6	8.5	6.0	9.0	6.4	9.6
0.4	4.5	7.5	4.9	8.1	5.2	8.8	5.6	9.4	6.0	10
0.5	4.1	7.5	4.4	8.1	4.8	8.8	5.1	9.4	5.4	10
0.6	3.7	7.5	4.1	8.1	4.4	8.8	4.7	9.4	5.0	10
0.7	3.5	7.5	3.8	8.1	4.1	8.8	4.4	9.4	4.7	10
0.8	3.3	7.5	3.5	8.1	3.8	8.8	4.1	9.4	4.4	10
0.9	3.1	7.5	3.4	8.1	3.6	8.8	3.9	9.4	4.2	10
1.0	3.0	7.5	3.2	8.1	3.5	8.8	3.7	9.4	4.0	10
1.1	2.9	7.5	3.1	8.1	3.4	8.8	3.6	9.4	3.8	10
1.2	2.8	7.5	3.0	8.1	3.3	8.8	3.5	9.4	3.7	10
1.3	2.7	7.5	2.9	8.1	3.2	8.8	3.4	9.4	3.6	10
1.4	2.6	7.5	2.9	8.1	3.1	8.8	3.3	9.4	3.5	10
1.5	2.6	7.5	2.8	8.1	3.0	8.8	3.3	9.4	3.5	10
1.6	2.6	7.5	2.8	8.1	3.0	8.8	3.2	9.4	3.4	10
1.7	2.5	7.5	2.7	8.1	2.9	8.8	3.2	9.4	3.4	10
1.8	2.5	7.5	2.7	8.1	2.9	8.8	3.1	9.4	3.3	10
1.9	2.5	7.5	2.7	8.1	2.9	8.8	3.1	9.4	3.3	10
2.0	2.4	7.5	2.6	8.1	2.9	8.8	3.1	9.4	3.3	10
2.1	2.4	7.5	2.6	8.1	2.8	8.8	3.0	9.4	3.2	10
2.2	2.4	7.5	2.6	8.1	2.8	8.8	3.0	9.4	3.2	10
2.3	2.4	7.5	2.6	8.1	2.8	8.8	3.0	9.4	3.2	10
2.4	2.4	7.5	2.6	8.1	2.8	8.8	3.0	9.4	3.2	10
2.5	2.4	7.5	2.6	8.1	2.8	8.8	3.0	9.4	3.1	10
2.6	2.3	7.5	2.5	8.1	2.7	8.8	2.9	9.4	3.1	10
2.7	2.3	7.5	2.5	8.1	2.7	8.8	2.9	9.4	3.1	10
2.8	2.3	7.5	2.5	8.1	2.7	8.8	2.9	9.4	3.1	10
2.9	2.3	7.5	2.5	8.1	2.7	8.8	2.9	9.4	3.1	10
3.0	2.3	7.5	2.5	8.1	2.7	8.8	2.9	9.4	3.1	10
3.1	2.3	7.5	2.5	8.1	2.7	8.8	2.9	9.4	3.1	10
3.2	2.3	7.5	2.5	8.1	2.7	8.8	2.9	9.4	3.1	10
3.3	2.3	7.5	2.5	8.1	2.7	8.8	2.9	9.4	3.0	10
3.4	2.3	7.5	2.5	8.1	2.6	8.8	2.8	9.4	3.0	10
3.5	2.3	7.5	2.4	8.1	2.6	8.8	2.8	9.4	3.0	10
3.6	2.2	7.5	2.4	8.1	2.6	8.8	2.8	9.4	3.0	10
3.7	2.2	7.5	2.4	8.1	2.6	8.8	2.8	9.4	3.0	10
3.8	2.2	7.5	2.4	8.1	2.6	8.8	2.8	9.4	3.0	10
3.9	2.2	7.5	2.4	8.1	2.6	8.8	2.8	9.4	3.0	10
4.0	2.2	7.5	2.4	8.1	2.6	8.8	2.8	9.4	3.0	10

Table 16D. Effluent Limitations – Copper, Total in µg/L for Discharges to the Sacramento River and Its Tributaries Above the State Highway 32 Bridge at Hamilton City

CV	75 ≤ H	75 ≤ H	80 ≤ H	80 ≤ H	85 ≤ H	85 ≤ H	90 ≤ H	90 ≤ H	95 ≤ H	95 ≤ H
	< 80 AMEL	< 80 MDEL	< 85 AMEL	< 85 MDEL	< 90 AMEL	< 90 MDEL	< 95 AMEL	< 95 MDEL	< 100 AMEL	< 100 MDEL
0.1	7.3	8.4	7.7	8.9	8.0	9.3	8.4	9.8	8.8	10
0.2	7.0	9.3	7.4	9.8	7.8	10	8.2	11	8.5	11
0.3	6.8	10	7.2	11	7.5	11	7.9	12	8.2	12
0.4	6.4	11	6.7	11	7.1	12	7.5	13	7.8	13
0.5	5.8	11	6.1	11	6.4	12	6.8	13	7.1	13
0.6	5.3	11	5.6	11	5.9	12	6.2	13	6.5	13
0.7	4.9	11	5.2	11	5.5	12	5.8	13	6.1	13
0.8	4.6	11	4.9	11	5.2	12	5.5	13	5.7	13
0.9	4.4	11	4.7	11	4.9	12	5.2	13	5.4	13
1.0	4.2	11	4.5	11	4.7	12	5.0	13	5.2	13
1.1	4.1	11	4.3	11	4.5	12	4.8	13	5.0	13
1.2	3.9	11	4.2	11	4.4	12	4.6	13	4.9	13
1.3	3.8	11	4.1	11	4.3	12	4.5	13	4.7	13
1.4	3.8	11	4.0	11	4.2	12	4.4	13	4.6	13
1.5	3.7	11	3.9	11	4.1	12	4.3	13	4.5	13
1.6	3.6	11	3.8	11	4.1	12	4.3	13	4.5	13
1.7	3.6	11	3.8	11	4.0	12	4.2	13	4.4	13
1.8	3.5	11	3.7	11	3.9	12	4.1	13	4.4	13
1.9	3.5	11	3.7	11	3.9	12	4.1	13	4.3	13
2.0	3.5	11	3.7	11	3.9	12	4.1	13	4.3	13
2.1	3.4	11	3.6	11	3.8	12	4.0	13	4.2	13
2.2	3.4	11	3.6	11	3.8	12	4.0	13	4.2	13
2.3	3.4	11	3.6	11	3.8	12	4.0	13	4.2	13
2.4	3.4	11	3.6	11	3.8	12	3.9	13	4.1	13
2.5	3.3	11	3.5	11	3.7	12	3.9	13	4.1	13
2.6	3.3	11	3.5	11	3.7	12	3.9	13	4.1	13
2.7	3.3	11	3.5	11	3.7	12	3.9	13	4.1	13
2.8	3.3	11	3.5	11	3.7	12	3.9	13	4.1	13
2.9	3.3	11	3.5	11	3.7	12	3.9	13	4.0	13
3.0	3.3	11	3.5	11	3.6	12	3.8	13	4.0	13
3.1	3.3	11	3.4	11	3.6	12	3.8	13	4.0	13
3.2	3.2	11	3.4	11	3.6	12	3.8	13	4.0	13
3.3	3.2	11	3.4	11	3.6	12	3.8	13	4.0	13
3.4	3.2	11	3.4	11	3.6	12	3.8	13	4.0	13
3.5	3.2	11	3.4	11	3.6	12	3.8	13	3.9	13
3.6	3.2	11	3.4	11	3.6	12	3.8	13	3.9	13
3.7	3.2	11	3.4	11	3.6	12	3.7	13	3.9	13
3.8	3.2	11	3.4	11	3.5	12	3.7	13	3.9	13
3.9	3.2	11	3.4	11	3.5	12	3.7	13	3.9	13
4.0	3.2	11	3.3	11	3.5	12	3.7	12	3.8	13

Table 16E. Effluent Limitations – Copper, Total in µg/L for Discharges to the Sacramento River and Its Tributaries Above the State Highway 32 Bridge at Hamilton City

CV	100 ≤ H < 120 AMEL	100 ≤ H < 120 MDEL	120 ≤ H < 140 AMEL	120 ≤ H < 140 MDEL	140 ≤ H < 160 AMEL	140 ≤ H < 160 MDEL	160 ≤ H < 180 AMEL	160 ≤ H < 180 MDEL	180 ≤ H AMEL	180 ≤ H MDEL
0.1	9.8	11	11	13	13	15	14	16	16	18
0.2	9.5	13	11	14	12	16	14	18	15	20
0.3	9.1	14	11	16	12	18	13	20	15	22
0.4	8.7	15	10	17	12	19	13	21	14	23
0.5	7.9	15	9.2	17	10	19	12	22	12	23
0.6	7.3	15	8.5	17	9.7	19	11	22	11	23
0.7	6.8	15	7.9	17	9.0	19	10	22	11	23
0.8	6.4	15	7.4	17	8.5	19	9.5	22	10	23
0.9	6.1	15	7.1	17	8.0	19	9.0	22	9.5	23
1.0	5.8	15	6.7	17	7.7	19	8.6	22	9.1	23
1.1	5.6	15	6.5	17	7.4	19	8.3	22	8.7	23
1.2	5.4	15	6.3	17	7.2	19	8.0	22	8.5	23
1.3	5.3	15	6.1	17	7.0	19	7.8	22	8.2	23
1.4	5.2	15	6.0	17	6.8	19	7.7	22	8.1	23
1.5	5.1	15	5.9	17	6.7	19	7.5	22	7.9	23
1.6	5.0	15	5.8	17	6.6	19	7.4	22	7.8	23
1.7	4.9	15	5.7	17	6.5	19	7.3	22	7.7	23
1.8	4.9	15	5.6	17	6.4	19	7.2	22	7.6	23
1.9	4.8	15	5.6	17	6.4	19	7.1	22	7.5	23
2.0	4.8	15	5.5	17	6.3	19	7.1	22	7.4	23
2.1	4.7	15	5.5	17	6.2	19	7.0	22	7.4	23
2.2	4.7	15	5.4	17	6.2	19	6.9	22	7.3	23
2.3	4.6	15	5.4	17	6.2	19	6.9	22	7.3	23
2.4	4.6	15	5.4	17	6.1	19	6.9	22	7.2	23
2.5	4.6	15	5.3	17	6.1	19	6.8	22	7.2	23
2.6	4.6	15	5.3	17	6.0	19	6.8	22	7.1	23
2.7	4.5	15	5.3	17	6.0	19	6.7	22	7.1	23
2.8	4.5	15	5.3	17	6.0	19	6.7	22	7.1	23
2.9	4.5	15	5.2	17	6.0	19	6.7	22	7.0	23
3.0	4.5	15	5.2	17	5.9	19	6.7	22	7.0	23
3.1	4.5	15	5.2	17	5.9	19	6.6	22	7.0	23
3.2	4.5	15	5.2	17	5.9	19	6.6	22	7.0	23
3.3	4.4	15	5.2	17	5.9	19	6.6	22	6.9	23
3.4	4.4	15	5.1	17	5.9	19	6.6	22	6.9	23
3.5	4.4	15	5.1	17	5.8	19	6.5	22	6.9	23
3.6	4.4	15	5.1	17	5.8	19	6.5	22	6.9	23
3.7	4.4	15	5.1	17	5.8	19	6.4	21	6.8	23
3.8	4.4	15	5.0	17	5.7	19	6.3	21	6.8	23
3.9	4.3	15	5.0	17	5.6	19	6.3	21	6.8	23
4.0	4.3	14	4.9	17	5.6	19	6.2	21	6.8	23

Table 17A. Effluent Limitations – Zinc, Total in µg/L for Discharges to the Sacramento River and Its Tributaries Above the State Highway 32 Bridge at Hamilton City

CV	0 ≤ H	0 ≤ H	5 ≤ H	5 ≤ H	10 ≤ H	10 ≤ H	15 ≤ H	15 ≤ H	20 ≤ H	20 ≤ H
	< 5 AMEL	< 5 MDEL	< 10 AMEL	< 10 MDEL	< 15 AMEL	< 15 MDEL	< 20 AMEL	< 20 MDEL	< 25 AMEL	< 25 MDEL
0.1	1.4	1.6	3.5	4.0	5.3	6.2	7.1	8.2	8.7	10
0.2	1.2	1.6	3.1	4.0	4.7	6.2	6.2	8.2	7.6	10
0.3	1.1	1.6	2.7	4.0	4.1	6.2	5.4	8.2	6.7	10
0.4	0.97	1.6	2.4	4.0	3.7	6.2	4.9	8.2	6.0	10
0.5	0.88	1.6	2.2	4.0	3.4	6.2	4.4	8.2	5.5	10
0.6	0.81	1.6	2.0	4.0	3.1	6.2	4.1	8.2	5.0	10
0.7	0.75	1.6	1.9	4.0	2.9	6.2	3.8	8.2	4.7	10
0.8	0.71	1.6	1.8	4.0	2.7	6.2	3.6	8.2	4.4	10
0.9	0.67	1.6	1.7	4.0	2.6	6.2	3.4	8.2	4.2	10
1.0	0.64	1.6	1.6	4.0	2.5	6.2	3.2	8.2	4.0	10
1.1	0.62	1.6	1.5	4.0	2.4	6.2	3.1	8.2	3.8	10
1.2	0.60	1.6	1.5	4.0	2.3	6.2	3.0	8.2	3.7	10
1.3	0.59	1.6	1.5	4.0	2.2	6.2	3.0	8.2	3.6	10
1.4	0.57	1.6	1.4	4.0	2.2	6.2	2.9	8.2	3.6	10
1.5	0.56	1.6	1.4	4.0	2.1	6.2	2.8	8.2	3.5	10
1.6	0.55	1.6	1.4	4.0	2.1	6.2	2.8	8.2	3.4	10
1.7	0.55	1.6	1.4	4.0	2.1	6.2	2.7	8.2	3.4	10
1.8	0.54	1.6	1.3	4.0	2.1	6.2	2.7	8.2	3.3	10
1.9	0.53	1.6	1.3	4.0	2.0	6.2	2.7	8.2	3.3	10
2.0	0.53	1.6	1.3	4.0	2.0	6.2	2.7	8.2	3.3	10
2.1	0.52	1.6	1.3	4.0	2.0	6.2	2.6	8.2	3.2	10
2.2	0.52	1.6	1.3	4.0	2.0	6.2	2.6	8.2	3.2	10
2.3	0.52	1.6	1.3	4.0	2.0	6.2	2.6	8.2	3.2	10
2.4	0.51	1.6	1.3	4.0	2.0	6.2	2.6	8.2	3.2	10
2.5	0.51	1.6	1.3	4.0	1.9	6.2	2.6	8.2	3.2	10
2.6	0.51	1.6	1.3	4.0	1.9	6.2	2.6	8.2	3.1	10
2.7	0.51	1.6	1.3	4.0	1.9	6.2	2.5	8.2	3.1	10
2.8	0.50	1.6	1.3	4.0	1.9	6.2	2.5	8.2	3.1	10
2.9	0.50	1.6	1.2	4.0	1.9	6.2	2.5	8.2	3.1	10
3.0	0.50	1.6	1.2	4.0	1.9	6.2	2.5	8.2	3.1	10
3.1	0.50	1.6	1.2	4.0	1.9	6.2	2.5	8.2	3.1	10
3.2	0.49	1.6	1.2	4.0	1.9	6.2	2.5	8.2	3.1	10
3.3	0.49	1.6	1.2	4.0	1.9	6.2	2.5	8.2	3.1	10
3.4	0.49	1.6	1.2	4.0	1.9	6.2	2.5	8.2	3.0	10
3.5	0.49	1.6	1.2	4.0	1.9	6.2	2.5	8.2	3.0	10
3.6	0.49	1.6	1.2	4.0	1.9	6.2	2.5	8.2	3.0	10
3.7	0.49	1.6	1.2	4.0	1.8	6.2	2.4	8.2	3.0	10
3.8	0.48	1.6	1.2	4.0	1.8	6.2	2.4	8.2	3.0	10
3.9	0.48	1.6	1.2	4.0	1.8	6.2	2.4	8.2	3.0	10
4.0	0.48	1.6	1.2	4.0	1.8	6.2	2.4	8.2	3.0	10

Table 17B. Effluent Limitations – Zinc, Total in µg/L for Discharges to the Sacramento River and Its Tributaries Above the State Highway 32 Bridge at Hamilton City

CV	25 ≤ H	25 ≤ H	30 ≤ H	30 ≤ H	35 ≤ H	35 ≤ H	40 ≤ H	40 ≤ H	45 ≤ H	45 ≤ H
	< 30 AMEL	< 30 MDEL	< 35 AMEL	< 35 MDEL	< 40 AMEL	< 40 MDEL	< 45 AMEL	< 45 MDEL	< 50 AMEL	< 50 MDEL
0.1	10	12	12	14	13	15	15	17	16	19
0.2	9.0	12	10	14	12	15	13	17	14	19
0.3	7.9	12	9.1	14	10	15	11	17	12	19
0.4	7.1	12	8.2	14	9.2	15	10	17	11	19
0.5	6.4	12	7.4	14	8.3	15	9.3	17	10	19
0.6	5.9	12	6.8	14	7.7	15	8.5	17	9.3	19
0.7	5.5	12	6.3	14	7.1	15	7.9	17	8.7	19
0.8	5.2	12	6.0	14	6.7	15	7.4	17	8.2	19
0.9	4.9	12	5.7	14	6.4	15	7.1	17	7.8	19
1.0	4.7	12	5.4	14	6.1	15	6.8	17	7.4	19
1.1	4.5	12	5.2	14	5.9	15	6.5	17	7.2	19
1.2	4.4	12	5.1	14	5.7	15	6.3	17	6.9	19
1.3	4.3	12	4.9	14	5.6	15	6.2	17	6.8	19
1.4	4.2	12	4.8	14	5.4	15	6.0	17	6.6	19
1.5	4.1	12	4.7	14	5.3	15	5.9	17	6.5	19
1.6	4.1	12	4.7	14	5.2	15	5.8	17	6.4	19
1.7	4.0	12	4.6	14	5.2	15	5.7	17	6.3	19
1.8	3.9	12	4.5	14	5.1	15	5.7	17	6.2	19
1.9	3.9	12	4.5	14	5.1	15	5.6	17	6.1	19
2.0	3.9	12	4.4	14	5.0	15	5.6	17	6.1	19
2.1	3.8	12	4.4	14	5.0	15	5.5	17	6.0	19
2.2	3.8	12	4.4	14	4.9	15	5.5	17	6.0	19
2.3	3.8	12	4.3	14	4.9	15	5.4	17	6.0	19
2.4	3.8	12	4.3	14	4.9	15	5.4	17	5.9	19
2.5	3.7	12	4.3	14	4.8	15	5.4	17	5.9	19
2.6	3.7	12	4.3	14	4.8	15	5.3	17	5.8	19
2.7	3.7	12	4.2	14	4.8	15	5.3	17	5.8	19
2.8	3.7	12	4.2	14	4.8	15	5.3	17	5.8	19
2.9	3.7	12	4.2	14	4.7	15	5.3	17	5.8	19
3.0	3.6	12	4.2	14	4.7	15	5.2	17	5.7	19
3.1	3.6	12	4.2	14	4.7	15	5.2	17	5.7	19
3.2	3.6	12	4.2	14	4.7	15	5.2	17	5.7	19
3.3	3.6	12	4.1	14	4.7	15	5.2	17	5.7	19
3.4	3.6	12	4.1	14	4.6	15	5.2	17	5.7	19
3.5	3.6	12	4.1	14	4.6	15	5.1	17	5.6	19
3.6	3.6	12	4.1	14	4.6	15	5.1	17	5.6	19
3.7	3.6	12	4.1	14	4.6	15	5.1	17	5.6	19
3.8	3.5	12	4.1	14	4.6	15	5.1	17	5.6	19
3.9	3.5	12	4.1	14	4.6	15	5.1	17	5.6	19
4.0	3.5	12	4.0	14	4.6	15	5.1	17	5.5	19

Table 17C. Effluent Limitations – Zinc, Total in µg/L for Discharges to the Sacramento River and Its Tributaries Above the State Highway 32 Bridge at Hamilton City

CV	50 ≤ H	50 ≤ H	55 ≤ H	55 ≤ H	60 ≤ H	60 ≤ H	65 ≤ H	65 ≤ H	70 ≤ H	70 ≤ H
	< 55 AMEL	< 55 MDEL	< 60 AMEL	< 60 MDEL	< 65 AMEL	< 65 MDEL	< 70 AMEL	< 70 MDEL	< 75 AMEL	< 75 MDEL
0.1	18	20	19	22	20	24	22	25	23	27
0.2	15	20	17	22	18	24	19	25	20	27
0.3	14	20	15	22	16	24	17	25	18	27
0.4	12	20	13	22	14	24	15	25	16	27
0.5	11	20	12	22	13	24	14	25	14	27
0.6	10	20	11	22	12	24	12	25	13	27
0.7	9.4	20	10	22	11	24	12	25	12	27
0.8	8.9	20	9.6	22	10	24	11	25	12	27
0.9	8.4	20	9.1	22	9.7	24	10	25	11	27
1.0	8.1	20	8.7	22	9.3	24	9.9	25	11	27
1.1	7.8	20	8.4	22	9.0	24	9.6	25	10	27
1.2	7.5	20	8.1	22	8.7	24	9.3	25	9.9	27
1.3	7.3	20	7.9	22	8.5	24	9.0	25	9.6	27
1.4	7.2	20	7.7	22	8.3	24	8.8	25	9.4	27
1.5	7.0	20	7.6	22	8.1	24	8.7	25	9.2	27
1.6	6.9	20	7.5	22	8.0	24	8.5	25	9.1	27
1.7	6.8	20	7.4	22	7.9	24	8.4	25	8.9	27
1.8	6.8	20	7.3	22	7.8	24	8.3	25	8.8	27
1.9	6.7	20	7.2	22	7.7	24	8.2	25	8.7	27
2.0	6.6	20	7.1	22	7.6	24	8.1	25	8.6	27
2.1	6.6	20	7.1	22	7.6	24	8.1	25	8.6	27
2.2	6.5	20	7.0	22	7.5	24	8.0	25	8.5	27
2.3	6.5	20	7.0	22	7.5	24	8.0	25	8.5	27
2.4	6.4	20	6.9	22	7.4	24	7.9	25	8.4	27
2.5	6.4	20	6.9	22	7.4	24	7.9	25	8.4	27
2.6	6.4	20	6.9	22	7.3	24	7.8	25	8.3	27
2.7	6.3	20	6.8	22	7.3	24	7.8	25	8.3	27
2.8	6.3	20	6.8	22	7.3	24	7.8	25	8.2	27
2.9	6.3	20	6.8	22	7.2	24	7.7	25	8.2	27
3.0	6.2	20	6.7	22	7.2	24	7.7	25	8.2	27
3.1	6.2	20	6.7	22	7.2	24	7.7	25	8.1	27
3.2	6.2	20	6.7	22	7.2	24	7.6	25	8.1	27
3.3	6.2	20	6.7	22	7.1	24	7.6	25	8.1	27
3.4	6.1	20	6.6	22	7.1	24	7.6	25	8.0	27
3.5	6.1	20	6.6	22	7.1	24	7.5	25	8.0	27
3.6	6.1	20	6.6	22	7.1	24	7.5	25	8.0	27
3.7	6.1	20	6.6	22	7.0	24	7.5	25	8.0	27
3.8	6.1	20	6.5	22	7.0	24	7.5	25	7.9	27
3.9	6.0	20	6.5	22	7.0	24	7.4	25	7.9	27
4.0	6.0	20	6.5	22	7.0	24	7.4	25	7.9	27

Table 17D. Effluent Limitations – Zinc, Total in µg/L for Discharges to the Sacramento River and Its Tributaries Above the State Highway 32 Bridge at Hamilton City

CV	75 ≤ H	75 ≤ H	80 ≤ H	80 ≤ H	85 ≤ H	85 ≤ H	90 ≤ H	90 ≤ H	95 ≤ H	95 ≤ H
	< 80 AMEL	< 80 MDEL	< 85 AMEL	< 85 MDEL	< 90 AMEL	< 90 MDEL	< 95 AMEL	< 95 MDEL	< 100 AMEL	< 100 MDEL
0.1	24	28	26	30	27	31	28	33	29	34
0.2	21	28	22	30	23	31	25	33	26	34
0.3	19	28	20	30	21	31	22	33	23	34
0.4	17	28	18	30	19	31	19	33	20	34
0.5	15	28	16	30	17	31	18	33	18	34
0.6	14	28	15	30	15	31	16	33	17	34
0.7	13	28	14	30	14	31	15	33	16	34
0.8	12	28	13	30	14	31	14	33	15	34
0.9	12	28	12	30	13	31	13	33	14	34
1.0	11	28	12	30	12	31	13	33	13	34
1.1	11	28	11	30	12	31	12	33	13	34
1.2	10	28	11	30	12	31	12	33	13	34
1.3	10	28	11	30	11	31	12	33	12	34
1.4	9.9	28	10	30	11	31	11	33	12	34
1.5	9.7	28	10	30	11	31	11	33	12	34
1.6	9.6	28	10	30	11	31	11	33	12	34
1.7	9.4	28	9.9	30	10	31	11	33	11	34
1.8	9.3	28	9.8	30	10	31	11	33	11	34
1.9	9.2	28	9.7	30	10	31	11	33	11	34
2.0	9.1	28	9.6	30	10	31	11	33	11	34
2.1	9.1	28	9.5	30	10	31	10	33	11	34
2.2	9.0	28	9.5	30	9.9	31	10	33	11	34
2.3	8.9	28	9.4	30	9.9	31	10	33	11	34
2.4	8.9	28	9.4	30	9.8	31	10	33	11	34
2.5	8.8	28	9.3	30	9.8	31	10	33	11	34
2.6	8.8	28	9.2	30	9.7	31	10	33	11	34
2.7	8.7	28	9.2	30	9.7	31	10	33	11	34
2.8	8.7	28	9.2	30	9.6	31	10	33	11	34
2.9	8.7	28	9.1	30	9.6	31	10	33	10	34
3.0	8.6	28	9.1	30	9.5	31	10	33	10	34
3.1	8.6	28	9.0	30	9.5	31	9.9	33	10	34
3.2	8.6	28	9.0	30	9.5	31	9.9	33	10	34
3.3	8.5	28	9.0	30	9.4	31	9.9	33	10	34
3.4	8.5	28	8.9	30	9.4	31	9.8	33	10	34
3.5	8.5	28	8.9	30	9.4	31	9.8	33	10	34
3.6	8.4	28	8.9	30	9.3	31	9.8	33	10	34
3.7	8.4	28	8.9	30	9.3	31	9.7	33	10	34
3.8	8.4	28	8.8	30	9.3	31	9.7	33	10	34
3.9	8.4	28	8.8	30	9.2	31	9.7	33	10	34
4.0	8.3	28	8.8	30	9.2	31	9.6	33	10	34

Table 17E. Effluent Limitations – Zinc, Total in µg/L for Discharges to the Sacramento River and Its Tributaries Above the State Highway 32 Bridge at Hamilton City

CV	100 ≤ H < 120 AMEL	100 ≤ H < 120 MDEL	120 ≤ H < 140 AMEL	120 ≤ H < 140 MDEL	140 ≤ H < 160 AMEL	140 ≤ H < 160 MDEL	160 ≤ H < 180 AMEL	160 ≤ H < 180 MDEL	180 ≤ H AMEL	180 ≤ H MDEL
0.1	32	38	37	43	42	49	47	54	49	57
0.2	28	38	33	43	37	49	41	54	43	57
0.3	25	38	29	43	32	49	36	54	38	57
0.4	22	38	26	43	29	49	32	54	34	57
0.5	20	38	23	43	26	49	29	54	31	57
0.6	19	38	22	43	24	49	27	54	28	57
0.7	17	38	20	43	23	49	25	54	26	57
0.8	16	38	19	43	21	49	24	54	25	57
0.9	16	38	18	43	20	49	22	54	23	57
1.0	15	38	17	43	19	49	21	54	22	57
1.1	14	38	17	43	19	49	21	54	22	57
1.2	14	38	16	43	18	49	20	54	21	57
1.3	14	38	16	43	18	49	19	54	20	57
1.4	13	38	15	43	17	49	19	54	20	57
1.5	13	38	15	43	17	49	19	54	20	57
1.6	13	38	15	43	17	49	18	54	19	57
1.7	13	38	15	43	16	49	18	54	19	57
1.8	12	38	14	43	16	49	18	54	19	57
1.9	12	38	14	43	16	49	18	54	19	57
2.0	12	38	14	43	16	49	18	54	18	57
2.1	12	38	14	43	16	49	17	54	18	57
2.2	12	38	14	43	16	49	17	54	18	57
2.3	12	38	14	43	15	49	17	54	18	57
2.4	12	38	14	43	15	49	17	54	18	57
2.5	12	38	14	43	15	49	17	54	18	57
2.6	12	38	13	43	15	49	17	54	18	57
2.7	12	38	13	43	15	49	17	54	18	57
2.8	12	38	13	43	15	49	17	54	18	57
2.9	12	38	13	43	15	49	17	54	17	57
3.0	12	38	13	43	15	49	17	54	17	57
3.1	11	38	13	43	15	49	16	54	17	57
3.2	11	38	13	43	15	49	16	54	17	57
3.3	11	38	13	43	15	49	16	54	17	57
3.4	11	38	13	43	15	49	16	54	17	57
3.5	11	38	13	43	15	49	16	54	17	57
3.6	11	38	13	43	15	49	16	54	17	57
3.7	11	38	13	43	15	49	16	54	17	57
3.8	11	38	13	43	14	49	16	54	17	57
3.9	11	38	13	43	14	49	16	54	17	57
4.0	11	38	13	43	14	49	16	54	17	57

c. Water Quality-Based Effluent Limitations for Other Constituents of Concern

To determine the constituents requiring effluent limitations, the Central Valley Water Board will conduct an RPA using the effluent and ambient background data as discussed in section V.C.2.b of the Fact Sheet (Attachment), the screening levels in Attachment C (where applicable), and the pollutant-specific procedures specified in section V.C.3.b of the Fact Sheet (Attachment F). See Attachment C and section V.C.3.b of the Fact Sheet (Attachment F) for additional information regarding the constituent-specific RPA procedures. For constituents that exhibit reasonable potential to cause or contribute to a water quality criterion/objective, the Executive Officer shall indicate the applicable effluent limitations in the Notice of Applicability.

i. Acute Whole Effluent Toxicity (WET)

- (a) **Acute WET MDEL.** No acute aquatic toxicity test with the most sensitive species shall result in a “fail” at the Instream Waste Concentration (IWC) AND a percent effect greater than or equal to 50 percent.
- (b) **Acute WET Median Monthly Effluent Limitation (MMEL).** No more than one acute aquatic toxicity test with the most sensitive species initiated in a toxicity calendar month shall result in a “fail” at the IWC.

ii. Chronic WET

If the most sensitive species is *Ceriodaphnia dubia*, a chronic WET MMEL will apply **beginning 1 January 2024**, as specified in the NOA. **Prior to 1 January 2024**, if the most sensitive species is *Ceriodaphnia dubia*, a chronic WET median monthly effluent target (MMET) will apply in lieu of a chronic WET MMEL, as specified in the MRP of NOA.

(a) Chronic Whole Effluent Toxicity MDEL

- (1) **If the most sensitive species toxicity test includes the survival endpoint for *Pimephales promelas* or *Ceriodaphnia dubia***, no chronic aquatic toxicity test with the most sensitive species shall result in a “fail” at the 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.
- (2) **If the most sensitive species toxicity test does not include the survival endpoint**, no chronic aquatic toxicity test with the most sensitive species shall result in a “fail” at the IWC for the sub-lethal endpoint measured in the test AND a percent effect for that sub-lethal endpoint greater than or equal to 50 percent.

(2) Chronic Whole Effluent Toxicity MMEL

- (i) No more than one chronic aquatic toxicity test with the most sensitive species initiated in a toxicity calendar month shall result in a “fail” at the IWC for any endpoint.

- iii. **Chlorine, Total Residual.** For Dischargers that utilize chlorine for disinfection, effluent total residual chlorine shall not exceed:
- (a) 0.011 mg/L, as a 4-day average; and
 - (b) 0.019 mg/L, as a 1-hour average.
- iv. **pH**
- (a) **Applicable to Discharges Within the Sacramento and San Joaquin River Basins (except Goose Lake in Modoc County).** The pH of all discharges within the Sacramento and San Joaquin River Basins (except Goose Lake in Modoc County) shall at all times be within the range of 6.5 and 8.5. The Executive Officer may specify a lower instantaneous maximum in the Notice of Applicability.
 - (b) **Applicable to Discharges to Goose Lake in Modoc County.** The pH of all discharges to Goose Lake in Modoc County shall at all times be within the range of 7.5 and 9.5. The Executive Officer may specify a lower instantaneous maximum in the Notice of Applicability.
 - (c) **Applicable to Discharges Within the Tulare Lake Basin.** The pH of all discharges within the Tulare Lake Basin shall at all times be within the range of 6.5 and 8.3. The Executive Officer may specify a lower instantaneous maximum in the Notice of Applicability.
- v. **Ammonia**
- (a) **Applicable to Dischargers in the Tulare Lake Basin.** Effluent un-ionized ammonia (NH₃) shall not exceed 0.025 mg/L (as Nitrogen or N).
 - (b) **Applicable to All Dischargers.** Effluent total ammonia nitrogen (as N) shall not exceed the applicable effluent limitations in Tables 18A through 18N or Tables 19A through 19C, whichever are more stringent, as specified in the Notice of Applicability.

The effluent limitations in Tables 18A through 18N are based on the 30-day criteria continuous concentration (CCC) in mg/L. The effluent limitations in Tables 18A through 18N applicable to each Discharger shall be determined by calculating the CCC in accordance with the procedures described in section IV.B of Attachment C and calculating the CV of effluent ammonia concentrations.

The effluent limitations in Tables 19A through 19C are based on the 1-hour criteria maximum concentration (CMC) in mg/L. The effluent limitations in Tables 19A through 19C applicable to each Discharger shall be determined based on the maximum permitted pH (see pH effluent limitations in section V.A.1.c.iv above) or on the maximum observed effluent pH, whichever is lower, and calculating the CV of effluent ammonia concentrations. The Central Valley Water Board will evaluate site-specific information to determine the presence or absence of

salmonids in the receiving water, including the applicability of the cold freshwater habitat (COLD).

The Discharger may request seasonal effluent limitations for ammonia in the Notice of Intent. The Discharger's request shall specify the requested timeframes for the seasonal limitations (e.g., 1 May through 31 October and 1 November through 30 April) and provide a justification describing why seasonal effluent limitations are necessary and appropriate.

If determined necessary by the Executive Officer, mass-based average monthly and average weekly effluent limitations for total ammonia nitrogen (as N), if specified in the Notice of Applicability, shall be calculated based on the design average dry weather flow.

Table 18A. Effluent Limitations – Ammonia Nitrogen, Total (as N) Based on CCC

CV	0.0 ≤ CCC < 0.1	0.0 ≤ CCC < 0.1	0.1 ≤ CCC < 0.2	0.1 ≤ CCC < 0.2	0.2 ≤ CCC < 0.3	0.2 ≤ CCC < 0.3	0.3 ≤ CCC < 0.4	0.3 ≤ CCC < 0.4	0.4 ≤ CCC < 0.5	0.4 ≤ CCC < 0.5
	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL
0.1	0.099	0.12	0.099	0.12	0.20	0.23	0.30	0.35	0.40	0.47
0.2	0.098	0.14	0.098	0.14	0.20	0.27	0.29	0.41	0.39	0.54
0.3	0.096	0.15	0.096	0.15	0.19	0.31	0.29	0.46	0.39	0.62
0.4	0.095	0.17	0.095	0.17	0.19	0.35	0.29	0.52	0.38	0.69
0.5	0.094	0.19	0.094	0.19	0.19	0.38	0.28	0.58	0.38	0.77
0.6	0.093	0.21	0.093	0.21	0.19	0.42	0.28	0.63	0.37	0.84
0.7	0.092	0.22	0.092	0.22	0.18	0.45	0.28	0.67	0.37	0.90
0.8	0.091	0.24	0.091	0.24	0.18	0.48	0.27	0.72	0.36	0.95
0.9	0.089	0.25	0.089	0.25	0.18	0.50	0.27	0.75	0.36	1.00
1.0	0.088	0.26	0.088	0.26	0.18	0.52	0.27	0.78	0.35	1.04
1.1	0.087	0.27	0.087	0.27	0.17	0.54	0.26	0.81	0.35	1.08
1.2	0.086	0.28	0.086	0.28	0.17	0.55	0.26	0.83	0.35	1.10
1.3	0.085	0.28	0.085	0.28	0.17	0.56	0.26	0.84	0.34	1.12
1.4	0.084	0.28	0.084	0.28	0.17	0.57	0.25	0.85	0.34	1.14
1.5	0.083	0.29	0.083	0.29	0.17	0.57	0.25	0.86	0.33	1.14
1.6	0.082	0.29	0.082	0.29	0.16	0.57	0.25	0.86	0.33	1.15
1.7	0.081	0.29	0.081	0.29	0.16	0.57	0.24	0.86	0.33	1.15
1.8	0.080	0.29	0.080	0.29	0.16	0.57	0.24	0.86	0.32	1.15
1.9	0.079	0.29	0.079	0.29	0.16	0.57	0.24	0.86	0.32	1.14
2.0	0.079	0.28	0.079	0.28	0.16	0.57	0.24	0.85	0.31	1.13
2.1	0.078	0.28	0.078	0.28	0.16	0.56	0.23	0.84	0.31	1.12
2.2	0.077	0.28	0.077	0.28	0.15	0.56	0.23	0.83	0.31	1.11
2.3	0.076	0.27	0.076	0.27	0.15	0.55	0.23	0.82	0.30	1.10
2.4	0.075	0.27	0.075	0.27	0.15	0.54	0.23	0.81	0.30	1.08
2.5	0.074	0.27	0.074	0.27	0.15	0.53	0.22	0.80	0.30	1.07
2.6	0.074	0.26	0.074	0.26	0.15	0.53	0.22	0.79	0.29	1.05
2.7	0.073	0.26	0.073	0.26	0.15	0.52	0.22	0.78	0.29	1.04
2.8	0.072	0.26	0.072	0.26	0.14	0.51	0.22	0.77	0.29	1.02
2.9	0.071	0.25	0.071	0.25	0.14	0.50	0.21	0.75	0.29	1.01
3.0	0.071	0.25	0.071	0.25	0.14	0.49	0.21	0.74	0.28	0.99
3.1	0.070	0.24	0.070	0.24	0.14	0.49	0.21	0.73	0.28	0.97
3.2	0.069	0.24	0.069	0.24	0.14	0.48	0.21	0.72	0.28	0.96
3.3	0.068	0.24	0.068	0.24	0.14	0.47	0.21	0.71	0.27	0.94
3.4	0.068	0.23	0.068	0.23	0.14	0.46	0.20	0.69	0.27	0.92
3.5	0.067	0.23	0.067	0.23	0.13	0.45	0.20	0.68	0.27	0.91
3.6	0.066	0.22	0.066	0.22	0.13	0.45	0.20	0.67	0.27	0.89
3.7	0.066	0.22	0.066	0.22	0.13	0.44	0.20	0.66	0.26	0.88
3.8	0.065	0.22	0.065	0.22	0.13	0.43	0.20	0.65	0.26	0.86
3.9	0.065	0.21	0.065	0.21	0.13	0.42	0.19	0.64	0.26	0.85
4.0	0.064	0.21	0.064	0.21	0.13	0.42	0.19	0.62	0.26	0.83

Table 18B. Effluent Limitations – Ammonia Nitrogen, Total (as N) Based on CCC

CV	0.5 ≤ CCC < 0.6	0.5 ≤ CCC < 0.6	0.6 ≤ CCC < 0.7	0.6 ≤ CCC < 0.7	0.7 ≤ CCC < 0.8	0.7 ≤ CCC < 0.8	0.8 ≤ CCC < 0.9	0.8 ≤ CCC < 0.9	0.9 ≤ CCC < 1.0	0.9 ≤ CCC < 1.0
	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL
0.1	0.49	0.59	0.59	0.70	0.69	0.82	0.79	0.94	0.89	1.1
0.2	0.49	0.68	0.59	0.81	0.68	0.95	0.78	1.1	0.88	1.2
0.3	0.48	0.77	0.58	0.93	0.67	1.1	0.77	1.2	0.87	1.4
0.4	0.48	0.87	0.57	1.0	0.67	1.2	0.76	1.4	0.86	1.6
0.5	0.47	0.96	0.56	1.2	0.66	1.3	0.75	1.5	0.85	1.7
0.6	0.46	1.0	0.56	1.3	0.65	1.5	0.74	1.7	0.84	1.9
0.7	0.46	1.1	0.55	1.3	0.64	1.6	0.73	1.8	0.83	2.0
0.8	0.45	1.2	0.54	1.4	0.63	1.7	0.72	1.9	0.82	2.1
0.9	0.45	1.3	0.54	1.5	0.63	1.8	0.72	2.0	0.81	2.3
1.0	0.44	1.3	0.53	1.6	0.62	1.8	0.71	2.1	0.80	2.3
1.1	0.44	1.3	0.52	1.6	0.61	1.9	0.70	2.2	0.79	2.4
1.2	0.43	1.4	0.52	1.7	0.60	1.9	0.69	2.2	0.78	2.5
1.3	0.43	1.4	0.51	1.7	0.60	2.0	0.68	2.2	0.77	2.5
1.4	0.42	1.4	0.51	1.7	0.59	2.0	0.67	2.3	0.76	2.6
1.5	0.42	1.4	0.50	1.7	0.58	2.0	0.67	2.3	0.75	2.6
1.6	0.41	1.4	0.49	1.7	0.58	2.0	0.66	2.3	0.74	2.6
1.7	0.41	1.4	0.49	1.7	0.57	2.0	0.65	2.3	0.73	2.6
1.8	0.40	1.4	0.48	1.7	0.56	2.0	0.64	2.3	0.72	2.6
1.9	0.40	1.4	0.48	1.7	0.56	2.0	0.64	2.3	0.72	2.6
2.0	0.39	1.4	0.47	1.7	0.55	2.0	0.63	2.3	0.71	2.5
2.1	0.39	1.4	0.47	1.7	0.54	2.0	0.62	2.2	0.70	2.5
2.2	0.38	1.4	0.46	1.7	0.54	1.9	0.61	2.2	0.69	2.5
2.3	0.38	1.4	0.46	1.6	0.53	1.9	0.61	2.2	0.68	2.5
2.4	0.38	1.4	0.45	1.6	0.53	1.9	0.60	2.2	0.68	2.4
2.5	0.37	1.3	0.45	1.6	0.52	1.9	0.59	2.1	0.67	2.4
2.6	0.37	1.3	0.44	1.6	0.51	1.8	0.59	2.1	0.66	2.4
2.7	0.36	1.3	0.44	1.6	0.51	1.8	0.58	2.1	0.66	2.3
2.8	0.36	1.3	0.43	1.5	0.50	1.8	0.58	2.0	0.65	2.3
2.9	0.36	1.3	0.43	1.5	0.50	1.8	0.57	2.0	0.64	2.3
3.0	0.35	1.2	0.42	1.5	0.49	1.7	0.56	2.0	0.63	2.2
3.1	0.35	1.2	0.42	1.5	0.49	1.7	0.56	1.9	0.63	2.2
3.2	0.35	1.2	0.41	1.4	0.48	1.7	0.55	1.9	0.62	2.2
3.3	0.34	1.2	0.41	1.4	0.48	1.6	0.55	1.9	0.62	2.1
3.4	0.34	1.2	0.41	1.4	0.47	1.6	0.54	1.8	0.61	2.1
3.5	0.34	1.1	0.40	1.4	0.47	1.6	0.54	1.8	0.60	2.0
3.6	0.33	1.1	0.40	1.3	0.47	1.6	0.53	1.8	0.60	2.0
3.7	0.33	1.1	0.40	1.3	0.46	1.5	0.53	1.8	0.59	2.0
3.8	0.33	1.1	0.39	1.3	0.46	1.5	0.52	1.7	0.59	1.9
3.9	0.32	1.1	0.39	1.3	0.45	1.5	0.52	1.7	0.58	1.9
4.0	0.32	1.0	0.38	1.2	0.45	1.5	0.51	1.7	0.58	1.9

Table 18C. Effluent Limitations – Ammonia Nitrogen, Total (as N) Based on CCC

CV	1.0 ≤ CCC < 1.1	1.0 ≤ CCC < 1.1	1.1 ≤ CCC < 1.2	1.1 ≤ CCC < 1.2	1.2 ≤ CCC < 1.3	1.2 ≤ CCC < 1.3	1.3 ≤ CCC < 1.4	1.3 ≤ CCC < 1.4	1.4 ≤ CCC < 1.5	1.4 ≤ CCC < 1.5
	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL
0.1	0.99	1.2	1.1	1.3	1.2	1.4	1.3	1.5	1.4	1.6
0.2	0.98	1.4	1.1	1.5	1.2	1.6	1.3	1.8	1.4	1.9
0.3	0.96	1.5	1.1	1.7	1.2	1.9	1.3	2.0	1.3	2.2
0.4	0.95	1.7	1.0	1.9	1.1	2.1	1.2	2.3	1.3	2.4
0.5	0.94	1.9	1.0	2.1	1.1	2.3	1.2	2.5	1.3	2.7
0.6	0.93	2.1	1.0	2.3	1.1	2.5	1.2	2.7	1.3	2.9
0.7	0.92	2.2	1.0	2.5	1.1	2.7	1.2	2.9	1.3	3.1
0.8	0.91	2.4	1.0	2.6	1.1	2.9	1.2	3.1	1.3	3.3
0.9	0.89	2.5	0.98	2.8	1.1	3.0	1.2	3.3	1.3	3.5
1.0	0.88	2.6	0.97	2.9	1.1	3.1	1.1	3.4	1.2	3.7
1.1	0.87	2.7	0.96	3.0	1.0	3.2	1.1	3.5	1.2	3.8
1.2	0.86	2.8	0.95	3.0	1.0	3.3	1.1	3.6	1.2	3.9
1.3	0.85	2.8	0.94	3.1	1.0	3.4	1.1	3.6	1.2	3.9
1.4	0.84	2.8	0.93	3.1	1.0	3.4	1.1	3.7	1.2	4.0
1.5	0.83	2.9	0.92	3.1	1.0	3.4	1.1	3.7	1.2	4.0
1.6	0.82	2.9	0.91	3.2	0.99	3.4	1.1	3.7	1.2	4.0
1.7	0.81	2.9	0.89	3.2	0.98	3.4	1.1	3.7	1.1	4.0
1.8	0.80	2.9	0.88	3.2	0.96	3.4	1.0	3.7	1.1	4.0
1.9	0.79	2.9	0.87	3.1	0.95	3.4	1.0	3.7	1.1	4.0
2.0	0.79	2.8	0.86	3.1	0.94	3.4	1.0	3.7	1.1	4.0
2.1	0.78	2.8	0.85	3.1	0.93	3.4	1.0	3.6	1.1	3.9
2.2	0.77	2.8	0.85	3.1	0.92	3.3	1.0	3.6	1.1	3.9
2.3	0.76	2.7	0.84	3.0	0.91	3.3	0.99	3.6	1.1	3.8
2.4	0.75	2.7	0.83	3.0	0.90	3.3	0.98	3.5	1.1	3.8
2.5	0.74	2.7	0.82	2.9	0.89	3.2	0.97	3.5	1.0	3.7
2.6	0.74	2.6	0.81	2.9	0.88	3.2	0.96	3.4	1.0	3.7
2.7	0.73	2.6	0.80	2.9	0.87	3.1	0.95	3.4	1.0	3.6
2.8	0.72	2.6	0.79	2.8	0.86	3.1	0.94	3.3	1.0	3.6
2.9	0.71	2.5	0.78	2.8	0.86	3.0	0.93	3.3	1.0	3.5
3.0	0.71	2.5	0.78	2.7	0.85	3.0	0.92	3.2	0.99	3.5
3.1	0.70	2.4	0.77	2.7	0.84	2.9	0.91	3.2	0.98	3.4
3.2	0.69	2.4	0.76	2.6	0.83	2.9	0.90	3.1	0.97	3.3
3.3	0.68	2.4	0.75	2.6	0.82	2.8	0.89	3.1	0.96	3.3
3.4	0.68	2.3	0.75	2.5	0.81	2.8	0.88	3.0	0.95	3.2
3.5	0.67	2.3	0.74	2.5	0.81	2.7	0.87	3.0	0.94	3.2
3.6	0.66	2.2	0.73	2.5	0.80	2.7	0.86	2.9	0.93	3.1
3.7	0.66	2.2	0.72	2.4	0.79	2.6	0.86	2.9	0.92	3.1
3.8	0.65	2.2	0.72	2.4	0.78	2.6	0.85	2.8	0.91	3.0
3.9	0.65	2.1	0.71	2.3	0.78	2.5	0.84	2.8	0.91	3.0
4.0	0.64	2.1	0.70	2.3	0.77	2.5	0.83	2.7	0.90	2.9

Table 18D. Effluent Limitations – Ammonia Nitrogen, Total (as N) Based on CCC

CV	1.5 ≤ CCC < 1.6	1.5 ≤ CCC < 1.6	1.6 ≤ CCC < 1.7	1.6 ≤ CCC < 1.7	1.7 ≤ CCC < 1.8	1.7 ≤ CCC < 1.8	1.8 ≤ CCC < 1.9	1.8 ≤ CCC < 1.9	1.9 ≤ CCC < 2.0	1.9 ≤ CCC < 2.0
	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL
0.1	1.5	1.8	1.6	1.9	1.7	2.0	1.8	2.1	1.9	2.2
0.2	1.5	2.0	1.6	2.2	1.7	2.3	1.8	2.4	1.9	2.6
0.3	1.4	2.3	1.5	2.5	1.6	2.6	1.7	2.8	1.8	2.9
0.4	1.4	2.6	1.5	2.8	1.6	2.9	1.7	3.1	1.8	3.3
0.5	1.4	2.9	1.5	3.1	1.6	3.3	1.7	3.5	1.8	3.6
0.6	1.4	3.1	1.5	3.3	1.6	3.6	1.7	3.8	1.8	4.0
0.7	1.4	3.4	1.5	3.6	1.6	3.8	1.7	4.0	1.7	4.3
0.8	1.4	3.6	1.4	3.8	1.5	4.1	1.6	4.3	1.7	4.5
0.9	1.3	3.8	1.4	4.0	1.5	4.3	1.6	4.5	1.7	4.8
1.0	1.3	3.9	1.4	4.2	1.5	4.4	1.6	4.7	1.7	5.0
1.1	1.3	4.0	1.4	4.3	1.5	4.6	1.6	4.8	1.7	5.1
1.2	1.3	4.1	1.4	4.4	1.5	4.7	1.6	5.0	1.6	5.2
1.3	1.3	4.2	1.4	4.5	1.4	4.8	1.5	5.0	1.6	5.3
1.4	1.3	4.3	1.3	4.5	1.4	4.8	1.5	5.1	1.6	5.4
1.5	1.2	4.3	1.3	4.6	1.4	4.9	1.5	5.2	1.6	5.4
1.6	1.2	4.3	1.3	4.6	1.4	4.9	1.5	5.2	1.6	5.5
1.7	1.2	4.3	1.3	4.6	1.4	4.9	1.5	5.2	1.5	5.5
1.8	1.2	4.3	1.3	4.6	1.4	4.9	1.4	5.2	1.5	5.4
1.9	1.2	4.3	1.3	4.6	1.4	4.8	1.4	5.1	1.5	5.4
2.0	1.2	4.2	1.3	4.5	1.3	4.8	1.4	5.1	1.5	5.4
2.1	1.2	4.2	1.2	4.5	1.3	4.8	1.4	5.1	1.5	5.3
2.2	1.2	4.2	1.2	4.4	1.3	4.7	1.4	5.0	1.5	5.3
2.3	1.1	4.1	1.2	4.4	1.3	4.7	1.4	4.9	1.4	5.2
2.4	1.1	4.1	1.2	4.3	1.3	4.6	1.4	4.9	1.4	5.1
2.5	1.1	4.0	1.2	4.3	1.3	4.5	1.3	4.8	1.4	5.1
2.6	1.1	4.0	1.2	4.2	1.3	4.5	1.3	4.7	1.4	5.0
2.7	1.1	3.9	1.2	4.2	1.2	4.4	1.3	4.7	1.4	4.9
2.8	1.1	3.8	1.2	4.1	1.2	4.3	1.3	4.6	1.4	4.9
2.9	1.1	3.8	1.1	4.0	1.2	4.3	1.3	4.5	1.4	4.8
3.0	1.1	3.7	1.1	4.0	1.2	4.2	1.3	4.5	1.3	4.7
3.1	1.0	3.6	1.1	3.9	1.2	4.1	1.3	4.4	1.3	4.6
3.2	1.0	3.6	1.1	3.8	1.2	4.1	1.2	4.3	1.3	4.5
3.3	1.0	3.5	1.1	3.8	1.2	4.0	1.2	4.2	1.3	4.5
3.4	1.0	3.5	1.1	3.7	1.2	3.9	1.2	4.2	1.3	4.4
3.5	1.0	3.4	1.1	3.6	1.1	3.9	1.2	4.1	1.3	4.3
3.6	1.0	3.3	1.1	3.6	1.1	3.8	1.2	4.0	1.3	4.2
3.7	0.99	3.3	1.1	3.5	1.1	3.7	1.2	3.9	1.3	4.2
3.8	0.98	3.2	1.0	3.4	1.1	3.7	1.2	3.9	1.2	4.1
3.9	0.97	3.2	1.0	3.4	1.1	3.6	1.2	3.8	1.2	4.0
4.0	0.96	3.1	1.0	3.3	1.1	3.5	1.2	3.7	1.2	4.0

Table 18E. Effluent Limitations – Ammonia Nitrogen, Total (as N) Based on CCC

CV	2.0 ≤ CCC < 2.1	2.0 ≤ CCC < 2.1	2.1 ≤ CCC < 2.2	2.1 ≤ CCC < 2.2	2.2 ≤ CCC < 2.3	2.2 ≤ CCC < 2.3	2.3 ≤ CCC < 2.4	2.3 ≤ CCC < 2.4	2.4 ≤ CCC < 2.5	2.4 ≤ CCC < 2.5
	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL
0.1	2.0	2.3	2.1	2.5	2.2	2.6	2.3	2.7	2.4	2.8
0.2	2.0	2.7	2.0	2.8	2.1	3.0	2.2	3.1	2.3	3.2
0.3	1.9	3.1	2.0	3.2	2.1	3.4	2.2	3.6	2.3	3.7
0.4	1.9	3.5	2.0	3.6	2.1	3.8	2.2	4.0	2.3	4.2
0.5	1.9	3.8	2.0	4.0	2.1	4.2	2.2	4.4	2.3	4.6
0.6	1.9	4.2	1.9	4.4	2.0	4.6	2.1	4.8	2.2	5.0
0.7	1.8	4.5	1.9	4.7	2.0	4.9	2.1	5.2	2.2	5.4
0.8	1.8	4.8	1.9	5.0	2.0	5.3	2.1	5.5	2.2	5.7
0.9	1.8	5.0	1.9	5.3	2.0	5.5	2.1	5.8	2.1	6.0
1.0	1.8	5.2	1.9	5.5	1.9	5.7	2.0	6.0	2.1	6.3
1.1	1.7	5.4	1.8	5.7	1.9	5.9	2.0	6.2	2.1	6.5
1.2	1.7	5.5	1.8	5.8	1.9	6.1	2.0	6.3	2.1	6.6
1.3	1.7	5.6	1.8	5.9	1.9	6.2	2.0	6.5	2.0	6.7
1.4	1.7	5.7	1.8	6.0	1.9	6.2	1.9	6.5	2.0	6.8
1.5	1.7	5.7	1.7	6.0	1.8	6.3	1.9	6.6	2.0	6.9
1.6	1.6	5.7	1.7	6.0	1.8	6.3	1.9	6.6	2.0	6.9
1.7	1.6	5.7	1.7	6.0	1.8	6.3	1.9	6.6	2.0	6.9
1.8	1.6	5.7	1.7	6.0	1.8	6.3	1.8	6.6	1.9	6.9
1.9	1.6	5.7	1.7	6.0	1.7	6.3	1.8	6.6	1.9	6.8
2.0	1.6	5.7	1.7	5.9	1.7	6.2	1.8	6.5	1.9	6.8
2.1	1.6	5.6	1.6	5.9	1.7	6.2	1.8	6.5	1.9	6.7
2.2	1.5	5.6	1.6	5.8	1.7	6.1	1.8	6.4	1.8	6.7
2.3	1.5	5.5	1.6	5.8	1.7	6.0	1.7	6.3	1.8	6.6
2.4	1.5	5.4	1.6	5.7	1.7	6.0	1.7	6.2	1.8	6.5
2.5	1.5	5.3	1.6	5.6	1.6	5.9	1.7	6.1	1.8	6.4
2.6	1.5	5.3	1.5	5.5	1.6	5.8	1.7	6.1	1.8	6.3
2.7	1.5	5.2	1.5	5.4	1.6	5.7	1.7	6.0	1.7	6.2
2.8	1.4	5.1	1.5	5.4	1.6	5.6	1.7	5.9	1.7	6.1
2.9	1.4	5.0	1.5	5.3	1.6	5.5	1.6	5.8	1.7	6.0
3.0	1.4	4.9	1.5	5.2	1.6	5.4	1.6	5.7	1.7	5.9
3.1	1.4	4.9	1.5	5.1	1.5	5.3	1.6	5.6	1.7	5.8
3.2	1.4	4.8	1.5	5.0	1.5	5.3	1.6	5.5	1.7	5.7
3.3	1.4	4.7	1.4	4.9	1.5	5.2	1.6	5.4	1.6	5.6
3.4	1.4	4.6	1.4	4.9	1.5	5.1	1.6	5.3	1.6	5.5
3.5	1.3	4.5	1.4	4.8	1.5	5.0	1.5	5.2	1.6	5.4
3.6	1.3	4.5	1.4	4.7	1.5	4.9	1.5	5.1	1.6	5.4
3.7	1.3	4.4	1.4	4.6	1.4	4.8	1.5	5.0	1.6	5.3
3.8	1.3	4.3	1.4	4.5	1.4	4.7	1.5	5.0	1.6	5.2
3.9	1.3	4.2	1.4	4.4	1.4	4.7	1.5	4.9	1.6	5.1
4.0	1.3	4.2	1.3	4.4	1.4	4.6	1.5	4.8	1.5	5.0

Table 18F. Effluent Limitations – Ammonia Nitrogen, Total (as N) Based on CCC

CV	2.5 ≤ CCC < 2.6	2.5 ≤ CCC < 2.6	2.6 ≤ CCC < 2.7	2.6 ≤ CCC < 2.7	2.7 ≤ CCC < 2.8	2.7 ≤ CCC < 2.8	2.8 ≤ CCC < 2.9	2.8 ≤ CCC < 2.9	2.9 ≤ CCC < 3.0	2.9 ≤ CCC < 3.0
	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL
0.1	2.5	2.9	2.6	3.0	2.7	3.2	2.8	3.3	2.9	3.4
0.2	2.4	3.4	2.5	3.5	2.6	3.7	2.7	3.8	2.8	3.9
0.3	2.4	3.9	2.5	4.0	2.6	4.2	2.7	4.3	2.8	4.5
0.4	2.4	4.3	2.5	4.5	2.6	4.7	2.7	4.9	2.8	5.0
0.5	2.3	4.8	2.4	5.0	2.5	5.2	2.6	5.4	2.7	5.6
0.6	2.3	5.2	2.4	5.4	2.5	5.6	2.6	5.9	2.7	6.1
0.7	2.3	5.6	2.4	5.8	2.5	6.1	2.6	6.3	2.7	6.5
0.8	2.3	6.0	2.4	6.2	2.4	6.4	2.5	6.7	2.6	6.9
0.9	2.2	6.3	2.3	6.5	2.4	6.8	2.5	7.0	2.6	7.3
1.0	2.2	6.5	2.3	6.8	2.4	7.0	2.5	7.3	2.6	7.6
1.1	2.2	6.7	2.3	7.0	2.4	7.3	2.4	7.5	2.5	7.8
1.2	2.2	6.9	2.2	7.2	2.3	7.4	2.4	7.7	2.5	8.0
1.3	2.1	7.0	2.2	7.3	2.3	7.6	2.4	7.9	2.5	8.1
1.4	2.1	7.1	2.2	7.4	2.3	7.7	2.4	8.0	2.4	8.2
1.5	2.1	7.2	2.2	7.4	2.2	7.7	2.3	8.0	2.4	8.3
1.6	2.1	7.2	2.1	7.5	2.2	7.8	2.3	8.0	2.4	8.3
1.7	2.0	7.2	2.1	7.5	2.2	7.8	2.3	8.0	2.4	8.3
1.8	2.0	7.2	2.1	7.5	2.2	7.7	2.3	8.0	2.3	8.3
1.9	2.0	7.1	2.1	7.4	2.1	7.7	2.2	8.0	2.3	8.3
2.0	2.0	7.1	2.0	7.4	2.1	7.6	2.2	7.9	2.3	8.2
2.1	1.9	7.0	2.0	7.3	2.1	7.6	2.2	7.9	2.3	8.1
2.2	1.9	6.9	2.0	7.2	2.1	7.5	2.2	7.8	2.2	8.1
2.3	1.9	6.9	2.0	7.1	2.1	7.4	2.1	7.7	2.2	8.0
2.4	1.9	6.8	2.0	7.0	2.0	7.3	2.1	7.6	2.2	7.9
2.5	1.9	6.7	1.9	6.9	2.0	7.2	2.1	7.5	2.2	7.8
2.6	1.8	6.6	1.9	6.8	2.0	7.1	2.1	7.4	2.1	7.6
2.7	1.8	6.5	1.9	6.7	2.0	7.0	2.0	7.3	2.1	7.5
2.8	1.8	6.4	1.9	6.6	1.9	6.9	2.0	7.2	2.1	7.4
2.9	1.8	6.3	1.9	6.5	1.9	6.8	2.0	7.0	2.1	7.3
3.0	1.8	6.2	1.8	6.4	1.9	6.7	2.0	6.9	2.0	7.2
3.1	1.7	6.1	1.8	6.3	1.9	6.6	2.0	6.8	2.0	7.1
3.2	1.7	6.0	1.8	6.2	1.9	6.5	1.9	6.7	2.0	6.9
3.3	1.7	5.9	1.8	6.1	1.8	6.3	1.9	6.6	2.0	6.8
3.4	1.7	5.8	1.8	6.0	1.8	6.2	1.9	6.5	2.0	6.7
3.5	1.7	5.7	1.7	5.9	1.8	6.1	1.9	6.4	1.9	6.6
3.6	1.7	5.6	1.7	5.8	1.8	6.0	1.9	6.2	1.9	6.5
3.7	1.6	5.5	1.7	5.7	1.8	5.9	1.8	6.1	1.9	6.4
3.8	1.6	5.4	1.7	5.6	1.8	5.8	1.8	6.0	1.9	6.3
3.9	1.6	5.3	1.7	5.5	1.7	5.7	1.8	5.9	1.9	6.1
4.0	1.6	5.2	1.7	5.4	1.7	5.6	1.8	5.8	1.9	6.0

Table 18G. Effluent Limitations – Ammonia Nitrogen, Total (as N) Based on CCC

CV	3.0 ≤ CCC < 3.1	3.0 ≤ CCC < 3.1	3.1 ≤ CCC < 3.2	3.1 ≤ CCC < 3.2	3.2 ≤ CCC < 3.3	3.2 ≤ CCC < 3.3	3.3 ≤ CCC < 3.4	3.3 ≤ CCC < 3.4	3.4 ≤ CCC < 3.5	3.4 ≤ CCC < 3.5
	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL
0.1	3.0	3.5	3.1	3.6	3.2	3.7	3.3	3.9	3.4	4.0
0.2	2.9	4.1	3.0	4.2	3.1	4.3	3.2	4.5	3.3	4.6
0.3	2.9	4.6	3.0	4.8	3.1	4.9	3.2	5.1	3.3	5.2
0.4	2.9	5.2	2.9	5.4	3.0	5.5	3.1	5.7	3.2	5.9
0.5	2.8	5.8	2.9	5.9	3.0	6.1	3.1	6.3	3.2	6.5
0.6	2.8	6.3	2.9	6.5	3.0	6.7	3.1	6.9	3.2	7.1
0.7	2.8	6.7	2.8	7.0	2.9	7.2	3.0	7.4	3.1	7.6
0.8	2.7	7.2	2.8	7.4	2.9	7.6	3.0	7.9	3.1	8.1
0.9	2.7	7.5	2.8	7.8	2.9	8.0	3.0	8.3	3.0	8.5
1.0	2.7	7.8	2.7	8.1	2.8	8.3	2.9	8.6	3.0	8.9
1.1	2.6	8.1	2.7	8.3	2.8	8.6	2.9	8.9	3.0	9.1
1.2	2.6	8.3	2.7	8.5	2.8	8.8	2.8	9.1	2.9	9.4
1.3	2.6	8.4	2.6	8.7	2.7	9.0	2.8	9.3	2.9	9.5
1.4	2.5	8.5	2.6	8.8	2.7	9.1	2.8	9.4	2.9	9.7
1.5	2.5	8.6	2.6	8.9	2.7	9.2	2.7	9.4	2.8	9.7
1.6	2.5	8.6	2.6	8.9	2.6	9.2	2.7	9.5	2.8	9.8
1.7	2.4	8.6	2.5	8.9	2.6	9.2	2.7	9.5	2.8	9.8
1.8	2.4	8.6	2.5	8.9	2.6	9.2	2.7	9.5	2.7	9.7
1.9	2.4	8.6	2.5	8.8	2.5	9.1	2.6	9.4	2.7	9.7
2.0	2.4	8.5	2.4	8.8	2.5	9.1	2.6	9.3	2.7	9.6
2.1	2.3	8.4	2.4	8.7	2.5	9.0	2.6	9.3	2.6	9.5
2.2	2.3	8.3	2.4	8.6	2.5	8.9	2.5	9.2	2.6	9.4
2.3	2.3	8.2	2.4	8.5	2.4	8.8	2.5	9.1	2.6	9.3
2.4	2.3	8.1	2.3	8.4	2.4	8.7	2.5	8.9	2.6	9.2
2.5	2.2	8.0	2.3	8.3	2.4	8.6	2.5	8.8	2.5	9.1
2.6	2.2	7.9	2.3	8.2	2.4	8.4	2.4	8.7	2.5	9.0
2.7	2.2	7.8	2.3	8.0	2.3	8.3	2.4	8.6	2.5	8.8
2.8	2.2	7.7	2.2	7.9	2.3	8.2	2.4	8.4	2.4	8.7
2.9	2.1	7.5	2.2	7.8	2.3	8.0	2.4	8.3	2.4	8.5
3.0	2.1	7.4	2.2	7.7	2.3	7.9	2.3	8.2	2.4	8.4
3.1	2.1	7.3	2.2	7.5	2.2	7.8	2.3	8.0	2.4	8.3
3.2	2.1	7.2	2.1	7.4	2.2	7.6	2.3	7.9	2.4	8.1
3.3	2.1	7.1	2.1	7.3	2.2	7.5	2.3	7.8	2.3	8.0
3.4	2.0	6.9	2.1	7.2	2.2	7.4	2.2	7.6	2.3	7.9
3.5	2.0	6.8	2.1	7.0	2.1	7.3	2.2	7.5	2.3	7.7
3.6	2.0	6.7	2.1	6.9	2.1	7.1	2.2	7.4	2.3	7.6
3.7	2.0	6.6	2.0	6.8	2.1	7.0	2.2	7.2	2.2	7.5
3.8	2.0	6.5	2.0	6.7	2.1	6.9	2.2	7.1	2.2	7.3
3.9	1.9	6.4	2.0	6.6	2.1	6.8	2.1	7.0	2.2	7.2
4.0	1.9	6.2	2.0	6.5	2.1	6.7	2.1	6.9	2.2	7.1

Table 18H. Effluent Limitations – Ammonia Nitrogen, Total (as N) Based on CCC

CV	3.5 ≤ CCC < 3.6 AMEL	3.5 ≤ CCC < 3.6 AWEL	3.6 ≤ CCC < 3.7 AMEL	3.6 ≤ CCC < 3.7 AWEL	3.7 ≤ CCC < 3.8 AMEL	3.7 ≤ CCC < 3.8 AWEL	3.8 ≤ CCC < 3.9 AMEL	3.8 ≤ CCC < 3.9 AWEL	3.9 ≤ CCC < 4.0 AMEL	3.9 ≤ CCC < 4.0 AWEL
	0.1	3.5	4.1	3.6	4.2	3.7	4.3	3.8	4.4	3.9
0.2	3.4	4.7	3.5	4.9	3.6	5.0	3.7	5.1	3.8	5.3
0.3	3.4	5.4	3.5	5.6	3.6	5.7	3.7	5.9	3.8	6.0
0.4	3.3	6.1	3.4	6.2	3.5	6.4	3.6	6.6	3.7	6.8
0.5	3.3	6.7	3.4	6.9	3.5	7.1	3.6	7.3	3.7	7.5
0.6	3.2	7.3	3.3	7.5	3.4	7.7	3.5	7.9	3.6	8.2
0.7	3.2	7.9	3.3	8.1	3.4	8.3	3.5	8.5	3.6	8.8
0.8	3.2	8.4	3.3	8.6	3.4	8.8	3.4	9.1	3.5	9.3
0.9	3.1	8.8	3.2	9.0	3.3	9.3	3.4	9.5	3.5	9.8
1.0	3.1	9.1	3.2	9.4	3.3	9.7	3.4	9.9	3.4	10
1.1	3.1	9.4	3.1	9.7	3.2	10	3.3	10	3.4	10
1.2	3.0	9.6	3.1	9.9	3.2	10	3.3	10	3.4	11
1.3	3.0	9.8	3.1	10	3.2	10	3.2	11	3.3	11
1.4	2.9	9.9	3.0	10	3.1	11	3.2	11	3.3	11
1.5	2.9	10	3.0	10	3.1	11	3.2	11	3.2	11
1.6	2.9	10	3.0	10	3.0	11	3.1	11	3.2	11
1.7	2.8	10	2.9	10	3.0	11	3.1	11	3.2	11
1.8	2.8	10	2.9	10	3.0	11	3.1	11	3.1	11
1.9	2.8	10	2.9	10	2.9	11	3.0	11	3.1	11
2.0	2.8	9.9	2.8	10	2.9	10	3.0	11	3.1	11
2.1	2.7	9.8	2.8	10	2.9	10	3.0	11	3.0	11
2.2	2.7	9.7	2.8	10	2.8	10	2.9	11	3.0	11
2.3	2.7	9.6	2.7	9.9	2.8	10	2.9	10	3.0	11
2.4	2.6	9.5	2.7	9.8	2.8	10	2.9	10	2.9	11
2.5	2.6	9.4	2.7	9.6	2.8	9.9	2.8	10	2.9	10
2.6	2.6	9.2	2.6	9.5	2.7	9.7	2.8	10	2.9	10
2.7	2.5	9.1	2.6	9.3	2.7	9.6	2.8	9.9	2.8	10
2.8	2.5	8.9	2.6	9.2	2.7	9.5	2.7	9.7	2.8	10
2.9	2.5	8.8	2.6	9.0	2.6	9.3	2.7	9.6	2.8	9.8
3.0	2.5	8.7	2.5	8.9	2.6	9.1	2.7	9.4	2.8	9.6
3.1	2.4	8.5	2.5	8.8	2.6	9.0	2.7	9.2	2.7	9.5
3.2	2.4	8.4	2.5	8.6	2.6	8.8	2.6	9.1	2.7	9.3
3.3	2.4	8.2	2.5	8.5	2.5	8.7	2.6	8.9	2.7	9.2
3.4	2.4	8.1	2.4	8.3	2.5	8.5	2.6	8.8	2.6	9.0
3.5	2.3	7.9	2.4	8.2	2.5	8.4	2.6	8.6	2.6	8.9
3.6	2.3	7.8	2.4	8.0	2.5	8.3	2.5	8.5	2.6	8.7
3.7	2.3	7.7	2.4	7.9	2.4	8.1	2.5	8.3	2.6	8.6
3.8	2.3	7.5	2.3	7.8	2.4	8.0	2.5	8.2	2.5	8.4
3.9	2.3	7.4	2.3	7.6	2.4	7.8	2.5	8.1	2.5	8.3
4.0	2.2	7.3	2.3	7.5	2.4	7.7	2.4	7.9	2.5	8.1

Table 18I. Effluent Limitations – Ammonia Nitrogen, Total (as N) Based on CCC

CV	4.0 ≤ CCC < 4.1	4.0 ≤ CCC < 4.1	4.1 ≤ CCC < 4.2	4.1 ≤ CCC < 4.2	4.2 ≤ CCC < 4.3	4.2 ≤ CCC < 4.3	4.3 ≤ CCC < 4.4	4.3 ≤ CCC < 4.4	4.4 ≤ CCC < 4.5	4.4 ≤ CCC < 4.5
	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL
0.1	4.0	4.7	4.0	4.8	4.1	4.9	4.2	5.0	4.3	5.2
0.2	3.9	5.4	4.0	5.6	4.1	5.7	4.2	5.8	4.3	6.0
0.3	3.9	6.2	3.9	6.3	4.0	6.5	4.1	6.6	4.2	6.8
0.4	3.8	6.9	3.9	7.1	4.0	7.3	4.1	7.5	4.2	7.6
0.5	3.8	7.7	3.9	7.9	3.9	8.1	4.0	8.2	4.1	8.4
0.6	3.7	8.4	3.8	8.6	3.9	8.8	4.0	9.0	4.1	9.2
0.7	3.7	9.0	3.8	9.2	3.9	9.4	3.9	9.7	4.0	9.9
0.8	3.6	9.5	3.7	9.8	3.8	10	3.9	10	4.0	11
0.9	3.6	10	3.7	10	3.8	11	3.8	11	3.9	11
1.0	3.5	10	3.6	11	3.7	11	3.8	11	3.9	11
1.1	3.5	11	3.6	11	3.7	11	3.8	12	3.8	12
1.2	3.5	11	3.5	11	3.6	12	3.7	12	3.8	12
1.3	3.4	11	3.5	11	3.6	12	3.7	12	3.8	12
1.4	3.4	11	3.5	12	3.5	12	3.6	12	3.7	12
1.5	3.3	11	3.4	12	3.5	12	3.6	12	3.7	13
1.6	3.3	11	3.4	12	3.5	12	3.5	12	3.6	13
1.7	3.3	11	3.3	12	3.4	12	3.5	12	3.6	13
1.8	3.2	11	3.3	12	3.4	12	3.5	12	3.5	13
1.9	3.2	11	3.3	12	3.3	12	3.4	12	3.5	13
2.0	3.1	11	3.2	12	3.3	12	3.4	12	3.5	12
2.1	3.1	11	3.2	12	3.3	12	3.3	12	3.4	12
2.2	3.1	11	3.2	11	3.2	12	3.3	12	3.4	12
2.3	3.0	11	3.1	11	3.2	12	3.3	12	3.3	12
2.4	3.0	11	3.1	11	3.2	11	3.2	12	3.3	12
2.5	3.0	11	3.0	11	3.1	11	3.2	11	3.3	12
2.6	2.9	11	3.0	11	3.1	11	3.2	11	3.2	12
2.7	2.9	10	3.0	11	3.1	11	3.1	11	3.2	11
2.8	2.9	10	3.0	10	3.0	11	3.1	11	3.2	11
2.9	2.9	10	2.9	10	3.0	11	3.1	11	3.1	11
3.0	2.8	9.9	2.9	10	3.0	10	3.0	11	3.1	11
3.1	2.8	9.7	2.9	10	2.9	10	3.0	10	3.1	11
3.2	2.8	9.6	2.8	9.8	2.9	10	3.0	10	3.0	11
3.3	2.7	9.4	2.8	9.6	2.9	9.9	2.9	10	3.0	10
3.4	2.7	9.2	2.8	9.5	2.8	9.7	2.9	9.9	3.0	10
3.5	2.7	9.1	2.8	9.3	2.8	9.5	2.9	9.8	3.0	10
3.6	2.7	8.9	2.7	9.1	2.8	9.4	2.9	9.6	2.9	9.8
3.7	2.6	8.8	2.7	9.0	2.8	9.2	2.8	9.4	2.9	9.6
3.8	2.6	8.6	2.7	8.8	2.7	9.1	2.8	9.3	2.9	9.5
3.9	2.6	8.5	2.7	8.7	2.7	8.9	2.8	9.1	2.8	9.3
4.0	2.6	8.3	2.6	8.5	2.7	8.7	2.8	9.0	2.8	9.2

Table 18J. Effluent Limitations – Ammonia Nitrogen, Total (as N) Based on CCC

CV	4.5 ≤ CCC < 4.6	4.5 ≤ CCC < 4.6	4.6 ≤ CCC < 4.7	4.6 ≤ CCC < 4.7	4.7 ≤ CCC < 4.8	4.7 ≤ CCC < 4.8	4.8 ≤ CCC < 4.9	4.8 ≤ CCC < 4.9	4.9 ≤ CCC < 5.0	4.9 ≤ CCC < 5.0
	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL
0.1	4.4	5.3	4.5	5.4	4.6	5.5	4.7	5.6	4.8	5.7
0.2	4.4	6.1	4.5	6.2	4.6	6.4	4.7	6.5	4.8	6.6
0.3	4.3	6.9	4.4	7.1	4.5	7.3	4.6	7.4	4.7	7.6
0.4	4.3	7.8	4.4	8.0	4.5	8.1	4.6	8.3	4.7	8.5
0.5	4.2	8.6	4.3	8.8	4.4	9.0	4.5	9.2	4.6	9.4
0.6	4.2	9.4	4.3	9.6	4.4	9.8	4.5	10	4.5	10
0.7	4.1	10	4.2	10	4.3	11	4.4	11	4.5	11
0.8	4.1	11	4.2	11	4.3	11	4.3	11	4.4	12
0.9	4.0	11	4.1	12	4.2	12	4.3	12	4.4	12
1.0	4.0	12	4.1	12	4.2	12	4.2	13	4.3	13
1.1	3.9	12	4.0	12	4.1	13	4.2	13	4.3	13
1.2	3.9	12	4.0	13	4.1	13	4.1	13	4.2	14
1.3	3.8	13	3.9	13	4.0	13	4.1	13	4.2	14
1.4	3.8	13	3.9	13	4.0	13	4.0	14	4.1	14
1.5	3.7	13	3.8	13	3.9	13	4.0	14	4.1	14
1.6	3.7	13	3.8	13	3.9	13	4.0	14	4.0	14
1.7	3.7	13	3.7	13	3.8	14	3.9	14	4.0	14
1.8	3.6	13	3.7	13	3.8	13	3.9	14	3.9	14
1.9	3.6	13	3.7	13	3.7	13	3.8	14	3.9	14
2.0	3.5	13	3.6	13	3.7	13	3.8	14	3.9	14
2.1	3.5	13	3.6	13	3.7	13	3.7	13	3.8	14
2.2	3.5	12	3.5	13	3.6	13	3.7	13	3.8	14
2.3	3.4	12	3.5	13	3.6	13	3.6	13	3.7	13
2.4	3.4	12	3.5	12	3.5	13	3.6	13	3.7	13
2.5	3.3	12	3.4	12	3.5	13	3.6	13	3.6	13
2.6	3.3	12	3.4	12	3.5	12	3.5	13	3.6	13
2.7	3.3	12	3.3	12	3.4	12	3.5	12	3.6	13
2.8	3.2	11	3.3	12	3.4	12	3.5	12	3.5	13
2.9	3.2	11	3.3	12	3.4	12	3.4	12	3.5	12
3.0	3.2	11	3.2	11	3.3	12	3.4	12	3.5	12
3.1	3.1	11	3.2	11	3.3	11	3.4	12	3.4	12
3.2	3.1	11	3.2	11	3.2	11	3.3	11	3.4	12
3.3	3.1	11	3.1	11	3.2	11	3.3	11	3.4	12
3.4	3.1	10	3.1	11	3.2	11	3.3	11	3.3	11
3.5	3.0	10	3.1	10	3.2	11	3.2	11	3.3	11
3.6	3.0	10	3.1	10	3.1	10	3.2	11	3.3	11
3.7	3.0	9.9	3.0	10	3.1	10	3.2	11	3.2	11
3.8	2.9	9.7	3.0	9.9	3.1	10	3.1	10	3.2	11
3.9	2.9	9.5	3.0	9.7	3.0	10	3.1	10	3.2	10
4.0	2.9	9.4	2.9	9.6	3.0	9.8	3.1	10	3.1	10

Table 18K. Effluent Limitations – Ammonia Nitrogen, Total (as N) Based on CCC

CV	5.0 ≤ CCC < 5.1 AMEL	5.0 ≤ CCC < 5.1 AWEL	5.1 ≤ CCC < 5.2 AMEL	5.1 ≤ CCC < 5.2 AWEL	5.2 ≤ CCC < 5.3 AMEL	5.2 ≤ CCC < 5.3 AWEL	5.3 ≤ CCC < 5.4 AMEL	5.3 ≤ CCC < 5.4 AWEL	5.4 ≤ CCC < 5.5 AMEL	5.4 ≤ CCC < 5.5 AWEL
	0.1	4.9	5.9	5.0	6.0	5.1	6.1	5.2	6.2	5.3
0.2	4.9	6.8	5.0	6.9	5.1	7.0	5.2	7.2	5.3	7.3
0.3	4.8	7.7	4.9	7.9	5.0	8.0	5.1	8.2	5.2	8.3
0.4	4.8	8.7	4.9	8.8	4.9	9.0	5.0	9.2	5.1	9.4
0.5	4.7	9.6	4.8	9.8	4.9	10	5.0	10	5.1	10
0.6	4.6	10	4.7	11	4.8	11	4.9	11	5.0	11
0.7	4.6	11	4.7	11	4.8	12	4.9	12	5.0	12
0.8	4.5	12	4.6	12	4.7	12	4.8	13	4.9	13
0.9	4.5	13	4.6	13	4.7	13	4.7	13	4.8	14
1.0	4.4	13	4.5	13	4.6	14	4.7	14	4.8	14
1.1	4.4	13	4.5	14	4.5	14	4.6	14	4.7	15
1.2	4.3	14	4.4	14	4.5	14	4.6	15	4.7	15
1.3	4.3	14	4.3	14	4.4	15	4.5	15	4.6	15
1.4	4.2	14	4.3	14	4.4	15	4.5	15	4.5	15
1.5	4.2	14	4.2	15	4.3	15	4.4	15	4.5	15
1.6	4.1	14	4.2	15	4.3	15	4.4	15	4.4	16
1.7	4.1	14	4.1	15	4.2	15	4.3	15	4.4	16
1.8	4.0	14	4.1	15	4.2	15	4.3	15	4.3	15
1.9	4.0	14	4.1	15	4.1	15	4.2	15	4.3	15
2.0	3.9	14	4.0	14	4.1	15	4.2	15	4.2	15
2.1	3.9	14	4.0	14	4.0	15	4.1	15	4.2	15
2.2	3.8	14	3.9	14	4.0	14	4.1	15	4.1	15
2.3	3.8	14	3.9	14	4.0	14	4.0	15	4.1	15
2.4	3.8	14	3.8	14	3.9	14	4.0	14	4.1	15
2.5	3.7	13	3.8	14	3.9	14	3.9	14	4.0	14
2.6	3.7	13	3.8	13	3.8	14	3.9	14	4.0	14
2.7	3.6	13	3.7	13	3.8	13	3.9	14	3.9	14
2.8	3.6	13	3.7	13	3.7	13	3.8	14	3.9	14
2.9	3.6	13	3.6	13	3.7	13	3.8	13	3.8	14
3.0	3.5	12	3.6	13	3.7	13	3.7	13	3.8	13
3.1	3.5	12	3.6	12	3.6	13	3.7	13	3.8	13
3.2	3.5	12	3.5	12	3.6	12	3.7	13	3.7	13
3.3	3.4	12	3.5	12	3.6	12	3.6	12	3.7	13
3.4	3.4	12	3.5	12	3.5	12	3.6	12	3.7	12
3.5	3.4	11	3.4	12	3.5	12	3.6	12	3.6	12
3.6	3.3	11	3.4	11	3.5	12	3.5	12	3.6	12
3.7	3.3	11	3.4	11	3.4	11	3.5	12	3.6	12
3.8	3.3	11	3.3	11	3.4	11	3.5	11	3.5	12
3.9	3.2	11	3.3	11	3.4	11	3.4	11	3.5	11
4.0	3.2	10	3.3	11	3.3	11	3.4	11	3.5	11

Table 18L. Effluent Limitations – Ammonia Nitrogen, Total (as N) Based on CCC

CV	5.5 ≤ CCC < 5.6 AMEL	5.5 ≤ CCC < 5.6 AWEL	5.6 ≤ CCC < 5.7 AMEL	5.6 ≤ CCC < 5.7 AWEL	5.7 ≤ CCC < 5.8 AMEL	5.7 ≤ CCC < 5.8 AWEL	5.8 ≤ CCC < 5.9 AMEL	5.8 ≤ CCC < 5.9 AWEL	5.9 ≤ CCC < 6.0 AMEL	5.9 ≤ CCC < 6.0 AWEL
	0.1	5.4	6.4	5.5	6.6	5.6	6.7	5.7	6.8	5.8
0.2	5.4	7.4	5.5	7.6	5.6	7.7	5.7	7.9	5.8	8.0
0.3	5.3	8.5	5.4	8.6	5.5	8.8	5.6	9.0	5.7	9.1
0.4	5.2	9.5	5.3	9.7	5.4	9.9	5.5	10	5.6	10
0.5	5.2	11	5.3	11	5.4	11	5.5	11	5.5	11
0.6	5.1	11	5.2	12	5.3	12	5.4	12	5.5	12
0.7	5.0	12	5.1	13	5.2	13	5.3	13	5.4	13
0.8	5.0	13	5.1	13	5.2	14	5.3	14	5.3	14
0.9	4.9	14	5.0	14	5.1	14	5.2	15	5.3	15
1.0	4.9	14	5.0	15	5.0	15	5.1	15	5.2	15
1.1	4.8	15	4.9	15	5.0	15	5.1	16	5.2	16
1.2	4.7	15	4.8	15	4.9	16	5.0	16	5.1	16
1.3	4.7	15	4.8	16	4.9	16	4.9	16	5.0	17
1.4	4.6	16	4.7	16	4.8	16	4.9	16	5.0	17
1.5	4.6	16	4.7	16	4.7	16	4.8	17	4.9	17
1.6	4.5	16	4.6	16	4.7	16	4.8	17	4.9	17
1.7	4.5	16	4.6	16	4.6	16	4.7	17	4.8	17
1.8	4.4	16	4.5	16	4.6	16	4.7	17	4.7	17
1.9	4.4	16	4.5	16	4.5	16	4.6	17	4.7	17
2.0	4.3	16	4.4	16	4.5	16	4.6	16	4.6	17
2.1	4.3	15	4.4	16	4.4	16	4.5	16	4.6	17
2.2	4.2	15	4.3	16	4.4	16	4.5	16	4.5	16
2.3	4.2	15	4.3	15	4.3	16	4.4	16	4.5	16
2.4	4.1	15	4.2	15	4.3	15	4.4	16	4.4	16
2.5	4.1	15	4.2	15	4.2	15	4.3	16	4.4	16
2.6	4.0	14	4.1	15	4.2	15	4.3	15	4.3	16
2.7	4.0	14	4.1	15	4.1	15	4.2	15	4.3	15
2.8	4.0	14	4.0	14	4.1	15	4.2	15	4.2	15
2.9	3.9	14	4.0	14	4.1	14	4.1	15	4.2	15
3.0	3.9	14	4.0	14	4.0	14	4.1	14	4.2	15
3.1	3.8	13	3.9	14	4.0	14	4.1	14	4.1	14
3.2	3.8	13	3.9	13	3.9	14	4.0	14	4.1	14
3.3	3.8	13	3.8	13	3.9	13	4.0	14	4.0	14
3.4	3.7	13	3.8	13	3.9	13	3.9	13	4.0	14
3.5	3.7	12	3.8	13	3.8	13	3.9	13	4.0	13
3.6	3.7	12	3.7	12	3.8	13	3.9	13	3.9	13
3.7	3.6	12	3.7	12	3.8	13	3.8	13	3.9	13
3.8	3.6	12	3.7	12	3.7	12	3.8	13	3.8	13
3.9	3.6	12	3.6	12	3.7	12	3.7	12	3.8	13
4.0	3.5	11	3.6	12	3.7	12	3.7	12	3.8	12

Table 18M. Effluent Limitations – Ammonia Nitrogen, Total (as N) Based on CCC

CV	6.0 ≤ CCC < 6.1	6.0 ≤ CCC < 6.1	6.1 ≤ CCC < 6.2	6.1 ≤ CCC < 6.2	6.2 ≤ CCC < 6.3	6.2 ≤ CCC < 6.3	6.3 ≤ CCC < 6.4	6.3 ≤ CCC < 6.4	6.4 ≤ CCC < 6.5	6.4 ≤ CCC < 6.5
	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL
0.1	5.9	7.0	6.0	7.1	6.1	7.3	6.2	7.4	6.3	7.5
0.2	5.9	8.1	6.0	8.3	6.0	8.4	6.1	8.5	6.2	8.7
0.3	5.8	9.3	5.9	9.4	6.0	9.6	6.1	9.7	6.2	9.9
0.4	5.7	10	5.8	11	5.9	11	6.0	11	6.1	11
0.5	5.6	12	5.7	12	5.8	12	5.9	12	6.0	12
0.6	5.6	13	5.7	13	5.8	13	5.8	13	5.9	13
0.7	5.5	13	5.6	14	5.7	14	5.8	14	5.9	14
0.8	5.4	14	5.5	15	5.6	15	5.7	15	5.8	15
0.9	5.4	15	5.5	15	5.5	16	5.6	16	5.7	16
1.0	5.3	16	5.4	16	5.5	16	5.6	16	5.7	17
1.1	5.2	16	5.3	16	5.4	17	5.5	17	5.6	17
1.2	5.2	17	5.3	17	5.3	17	5.4	17	5.5	18
1.3	5.1	17	5.2	17	5.3	17	5.4	18	5.5	18
1.4	5.1	17	5.1	17	5.2	18	5.3	18	5.4	18
1.5	5.0	17	5.1	17	5.2	18	5.2	18	5.3	18
1.6	4.9	17	5.0	18	5.1	18	5.2	18	5.3	18
1.7	4.9	17	5.0	18	5.0	18	5.1	18	5.2	18
1.8	4.8	17	4.9	17	5.0	18	5.1	18	5.1	18
1.9	4.8	17	4.8	17	4.9	18	5.0	18	5.1	18
2.0	4.7	17	4.8	17	4.9	18	5.0	18	5.0	18
2.1	4.7	17	4.7	17	4.8	17	4.9	18	5.0	18
2.2	4.6	17	4.7	17	4.8	17	4.8	17	4.9	18
2.3	4.6	16	4.6	17	4.7	17	4.8	17	4.9	18
2.4	4.5	16	4.6	17	4.7	17	4.7	17	4.8	17
2.5	4.5	16	4.5	16	4.6	17	4.7	17	4.8	17
2.6	4.4	16	4.5	16	4.6	16	4.6	17	4.7	17
2.7	4.4	16	4.4	16	4.5	16	4.6	16	4.7	17
2.8	4.3	15	4.4	16	4.5	16	4.5	16	4.6	16
2.9	4.3	15	4.3	15	4.4	16	4.5	16	4.6	16
3.0	4.2	15	4.3	15	4.4	15	4.4	16	4.5	16
3.1	4.2	15	4.3	15	4.3	15	4.4	15	4.5	16
3.2	4.1	14	4.2	15	4.3	15	4.4	15	4.4	15
3.3	4.1	14	4.2	14	4.2	15	4.3	15	4.4	15
3.4	4.1	14	4.1	14	4.2	14	4.3	15	4.3	15
3.5	4.0	14	4.1	14	4.2	14	4.2	14	4.3	15
3.6	4.0	13	4.1	14	4.1	14	4.2	14	4.3	14
3.7	4.0	13	4.0	13	4.1	14	4.1	14	4.2	14
3.8	3.9	13	4.0	13	4.0	13	4.1	14	4.2	14
3.9	3.9	13	3.9	13	4.0	13	4.1	13	4.1	14
4.0	3.8	12	3.9	13	4.0	13	4.0	13	4.1	13

Table 18N. Effluent Limitations – Ammonia Nitrogen, Total (as N) Based on CCC

CV	6.5 ≤ CCC < 6.6 AMEL	6.5 ≤ CCC < 6.6 AWEL	6.6 ≤ CCC AMEL	6.6 ≤ CCC AWEL
0.1	6.4	7.6	6.5	7.7
0.2	6.3	8.8	6.4	8.9
0.3	6.3	10	6.4	10
0.4	6.2	11	6.3	11
0.5	6.1	12	6.2	13
0.6	6.0	14	6.1	14
0.7	6.0	15	6.1	15
0.8	5.9	16	6.0	16
0.9	5.8	16	5.9	17
1.0	5.7	17	5.8	17
1.1	5.7	17	5.8	18
1.2	5.6	18	5.7	18
1.3	5.5	18	5.6	19
1.4	5.5	18	5.6	19
1.5	5.4	19	5.5	19
1.6	5.3	19	5.4	19
1.7	5.3	19	5.4	19
1.8	5.2	19	5.3	19
1.9	5.2	19	5.2	19
2.0	5.1	18	5.2	19
2.1	5.1	18	5.1	19
2.2	5.0	18	5.1	18
2.3	4.9	18	5.0	18
2.4	4.9	18	5.0	18
2.5	4.8	17	4.9	18
2.6	4.8	17	4.9	17
2.7	4.7	17	4.8	17
2.8	4.7	17	4.8	17
2.9	4.6	16	4.7	17
3.0	4.6	16	4.7	16
3.1	4.5	16	4.6	16
3.2	4.5	16	4.6	16
3.3	4.4	15	4.5	16
3.4	4.4	15	4.5	15
3.5	4.4	15	4.4	15
3.6	4.3	15	4.4	15
3.7	4.3	14	4.3	14
3.8	4.2	14	4.3	14
3.9	4.2	14	4.3	14
4.0	4.2	14	4.2	14

Table 19A. Effluent Limitations – Ammonia Nitrogen, Total (as N) Based on CMC

CV	0.0 ≤ CMC < 0.5	0.0 ≤ CMC < 0.5	0.5 ≤ CMC < 1.0	0.5 ≤ CMC < 1.0	1.0 ≤ CMC < 1.5	1.0 ≤ CMC < 1.5	1.5 ≤ CMC < 2.0	1.5 ≤ CMC < 2.0	2.0 ≤ CMC < 2.5	2.0 ≤ CMC < 2.5
	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL
0.1	0.43	0.49	0.86	0.97	1.3	1.5	1.7	1.9	2.2	2.4
0.2	0.38	0.47	0.75	0.95	1.1	1.4	1.5	1.9	1.9	2.4
0.3	0.33	0.46	0.67	0.92	1.0	1.4	1.3	1.8	1.7	2.3
0.4	0.30	0.45	0.60	0.90	0.90	1.4	1.2	1.8	1.5	2.3
0.5	0.27	0.44	0.54	0.88	0.81	1.3	1.1	1.8	1.4	2.2
0.6	0.25	0.43	0.50	0.86	0.75	1.3	1.0	1.7	1.2	2.1
0.7	0.23	0.42	0.46	0.84	0.70	1.3	0.93	1.7	1.2	2.1
0.8	0.22	0.41	0.44	0.83	0.65	1.2	0.87	1.7	1.1	2.1
0.9	0.21	0.41	0.41	0.81	0.62	1.2	0.83	1.6	1.0	2.0
1.0	0.20	0.40	0.40	0.80	0.60	1.2	0.79	1.6	0.99	2.0
1.1	0.19	0.39	0.38	0.78	0.57	1.2	0.76	1.6	0.96	2.0
1.2	0.19	0.39	0.37	0.77	0.56	1.2	0.74	1.5	0.93	1.9
1.3	0.18	0.38	0.36	0.76	0.54	1.1	0.72	1.5	0.90	1.9
1.4	0.18	0.38	0.35	0.75	0.53	1.1	0.71	1.5	0.88	1.9
1.5	0.17	0.37	0.35	0.74	0.52	1.1	0.69	1.5	0.87	1.9
1.6	0.17	0.37	0.34	0.74	0.51	1.1	0.68	1.5	0.85	1.8
1.7	0.17	0.36	0.34	0.73	0.50	1.1	0.67	1.5	0.84	1.8
1.8	0.17	0.36	0.33	0.72	0.50	1.1	0.66	1.4	0.83	1.8
1.9	0.16	0.36	0.33	0.71	0.49	1.1	0.66	1.4	0.82	1.8
2.0	0.16	0.35	0.33	0.71	0.49	1.1	0.65	1.4	0.81	1.8
2.1	0.16	0.35	0.32	0.70	0.48	1.1	0.65	1.4	0.81	1.8
2.2	0.16	0.35	0.32	0.70	0.48	1.0	0.64	1.4	0.80	1.7
2.3	0.16	0.35	0.32	0.69	0.48	1.0	0.64	1.4	0.79	1.7
2.4	0.16	0.34	0.32	0.69	0.47	1.0	0.63	1.4	0.79	1.7
2.5	0.16	0.34	0.31	0.68	0.47	1.0	0.63	1.4	0.79	1.7
2.6	0.16	0.34	0.31	0.68	0.47	1.0	0.62	1.4	0.78	1.7
2.7	0.16	0.34	0.31	0.67	0.47	1.0	0.62	1.3	0.78	1.7
2.8	0.15	0.33	0.31	0.67	0.46	1.0	0.62	1.3	0.77	1.7
2.9	0.15	0.33	0.31	0.67	0.46	1.0	0.62	1.3	0.77	1.7
3.0	0.15	0.33	0.31	0.66	0.46	0.99	0.61	1.3	0.77	1.7
3.1	0.15	0.33	0.31	0.66	0.46	0.99	0.61	1.3	0.76	1.6
3.2	0.15	0.33	0.30	0.66	0.46	0.98	0.61	1.3	0.76	1.6
3.3	0.15	0.33	0.30	0.65	0.45	0.98	0.61	1.3	0.76	1.6
3.4	0.15	0.32	0.30	0.65	0.45	0.97	0.60	1.3	0.76	1.6
3.5	0.15	0.32	0.30	0.65	0.45	0.97	0.60	1.3	0.75	1.6
3.6	0.15	0.32	0.30	0.64	0.45	0.96	0.60	1.3	0.75	1.6
3.7	0.15	0.32	0.30	0.64	0.45	0.96	0.60	1.3	0.75	1.6
3.8	0.15	0.32	0.30	0.64	0.45	0.96	0.60	1.3	0.75	1.6
3.9	0.15	0.32	0.30	0.64	0.45	0.95	0.59	1.3	0.74	1.6
4.0	0.15	0.32	0.30	0.63	0.44	0.95	0.59	1.3	0.74	1.6

Table 19B. Effluent Limitations – Ammonia Nitrogen, Total (as N) Based on CMC

CV	2.5 ≤ CMC < 3.0	2.5 ≤ CMC < 3.0	3.0 ≤ CMC < 4.0	3.0 ≤ CMC < 4.0	4.0 ≤ CMC < 5.0	4.0 ≤ CMC < 5.0	5.0 ≤ CMC < 6.0	5.0 ≤ CMC < 6.0	6.0 ≤ CMC < 7.0	6.0 ≤ CMC < 7.0
	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL	AMEL	AWEL
0.1	2.6	2.9	3.5	3.9	4.3	4.9	5.2	5.8	6.0	6.8
0.2	2.3	2.8	3.0	3.8	3.8	4.7	4.5	5.7	5.3	6.6
0.3	2.0	2.8	2.7	3.7	3.3	4.6	4.0	5.5	4.7	6.5
0.4	1.8	2.7	2.4	3.6	3.0	4.5	3.6	5.4	4.2	6.3
0.5	1.6	2.6	2.2	3.5	2.7	4.4	3.3	5.3	3.8	6.2
0.6	1.5	2.6	2.0	3.4	2.5	4.3	3.0	5.2	3.5	6.0
0.7	1.4	2.5	1.9	3.4	2.3	4.2	2.8	5.1	3.2	5.9
0.8	1.3	2.5	1.7	3.3	2.2	4.1	2.6	5.0	3.1	5.8
0.9	1.2	2.4	1.7	3.2	2.1	4.1	2.5	4.9	2.9	5.7
1.0	1.2	2.4	1.6	3.2	2.0	4.0	2.4	4.8	2.8	5.6
1.1	1.1	2.4	1.5	3.1	1.9	3.9	2.3	4.7	2.7	5.5
1.2	1.1	2.3	1.5	3.1	1.9	3.9	2.2	4.6	2.6	5.4
1.3	1.1	2.3	1.4	3.1	1.8	3.8	2.2	4.6	2.5	5.3
1.4	1.1	2.3	1.4	3.0	1.8	3.8	2.1	4.5	2.5	5.3
1.5	1.0	2.2	1.4	3.0	1.7	3.7	2.1	4.5	2.4	5.2
1.6	1.0	2.2	1.4	2.9	1.7	3.7	2.0	4.4	2.4	5.2
1.7	1.0	2.2	1.3	2.9	1.7	3.6	2.0	4.4	2.4	5.1
1.8	1.0	2.2	1.3	2.9	1.7	3.6	2.0	4.3	2.3	5.0
1.9	0.99	2.1	1.3	2.9	1.6	3.6	2.0	4.3	2.3	5.0
2.0	0.98	2.1	1.3	2.8	1.6	3.5	2.0	4.2	2.3	5.0
2.1	0.97	2.1	1.3	2.8	1.6	3.5	1.9	4.2	2.3	4.9
2.2	0.96	2.1	1.3	2.8	1.6	3.5	1.9	4.2	2.2	4.9
2.3	0.95	2.1	1.3	2.8	1.6	3.5	1.9	4.1	2.2	4.8
2.4	0.95	2.1	1.3	2.7	1.6	3.4	1.9	4.1	2.2	4.8
2.5	0.94	2.0	1.3	2.7	1.6	3.4	1.9	4.1	2.2	4.8
2.6	0.94	2.0	1.2	2.7	1.6	3.4	1.9	4.1	2.2	4.7
2.7	0.93	2.0	1.2	2.7	1.6	3.4	1.9	4.0	2.2	4.7
2.8	0.93	2.0	1.2	2.7	1.5	3.3	1.9	4.0	2.2	4.7
2.9	0.92	2.0	1.2	2.7	1.5	3.3	1.8	4.0	2.2	4.7
3.0	0.92	2.0	1.2	2.6	1.5	3.3	1.8	4.0	2.1	4.6
3.1	0.92	2.0	1.2	2.6	1.5	3.3	1.8	4.0	2.1	4.6
3.2	0.91	2.0	1.2	2.6	1.5	3.3	1.8	3.9	2.1	4.6
3.3	0.91	2.0	1.2	2.6	1.5	3.3	1.8	3.9	2.1	4.6
3.4	0.91	1.9	1.2	2.6	1.5	3.2	1.8	3.9	2.1	4.5
3.5	0.90	1.9	1.2	2.6	1.5	3.2	1.8	3.9	2.1	4.5
3.6	0.90	1.9	1.2	2.6	1.5	3.2	1.8	3.9	2.1	4.5
3.7	0.90	1.9	1.2	2.6	1.5	3.2	1.8	3.8	2.1	4.5
3.8	0.89	1.9	1.2	2.6	1.5	3.2	1.8	3.8	2.1	4.5
3.9	0.89	1.9	1.2	2.5	1.5	3.2	1.8	3.8	2.1	4.4
4.0	0.89	1.9	1.2	2.5	1.5	3.2	1.8	3.8	2.1	4.4

Table 19C. Effluent Limitations – Ammonia Nitrogen, Total (as N) Based on CMC

CV	7.0 ≤ CMC < 8.0 AMEL	7.0 ≤ CMC < 8.0 AWEL	8.0 ≤ CMC < 10 AMEL	8.0 ≤ CMC < 10 AWEL	10 ≤ CMC < 12 AMEL	10 ≤ CMC < 12 AWEL
0.1	6.9	7.8	8.6	9.7	10	12
0.2	6.0	7.6	7.5	9.5	9.1	11
0.3	5.3	7.4	6.7	9.2	8.0	11
0.4	4.8	7.2	6.0	9.0	7.2	11
0.5	4.3	7.0	5.4	8.8	6.5	11
0.6	4.0	6.9	5.0	8.6	6.0	10
0.7	3.7	6.7	4.6	8.4	5.6	10
0.8	3.5	6.6	4.4	8.3	5.2	9.9
0.9	3.3	6.5	4.1	8.1	5.0	9.7
1.0	3.2	6.4	4.0	8.0	4.8	9.6
1.1	3.1	6.3	3.8	7.8	4.6	9.4
1.2	3.0	6.2	3.7	7.7	4.4	9.3
1.3	2.9	6.1	3.6	7.6	4.3	9.2
1.4	2.8	6.0	3.5	7.5	4.2	9.0
1.5	2.8	6.0	3.5	7.4	4.2	8.9
1.6	2.7	5.9	3.4	7.4	4.1	8.8
1.7	2.7	5.8	3.4	7.3	4.0	8.7
1.8	2.7	5.8	3.3	7.2	4.0	8.7
1.9	2.6	5.7	3.3	7.1	3.9	8.6
2.0	2.6	5.7	3.3	7.1	3.9	8.5
2.1	2.6	5.6	3.2	7.0	3.9	8.4
2.2	2.6	5.6	3.2	7.0	3.8	8.4
2.3	2.5	5.5	3.2	6.9	3.8	8.3
2.4	2.5	5.5	3.2	6.9	3.8	8.2
2.5	2.5	5.5	3.1	6.8	3.8	8.2
2.6	2.5	5.4	3.1	6.8	3.7	8.1
2.7	2.5	5.4	3.1	6.7	3.7	8.1
2.8	2.5	5.4	3.1	6.7	3.7	8.0
2.9	2.5	5.3	3.1	6.7	3.7	8.0
3.0	2.5	5.3	3.1	6.6	3.7	7.9
3.1	2.4	5.3	3.1	6.6	3.7	7.9
3.2	2.4	5.2	3.0	6.6	3.7	7.9
3.3	2.4	5.2	3.0	6.5	3.6	7.8
3.4	2.4	5.2	3.0	6.5	3.6	7.8
3.5	2.4	5.2	3.0	6.5	3.6	7.7
3.6	2.4	5.1	3.0	6.4	3.6	7.7
3.7	2.4	5.1	3.0	6.4	3.6	7.7
3.8	2.4	5.1	3.0	6.4	3.6	7.7
3.9	2.4	5.1	3.0	6.4	3.6	7.6
4.0	2.4	5.1	3.0	6.3	3.6	7.6

vi. **Applicable to Discharges to Receiving Waters with the MUN Use.** Tables 20A and 20B contain effluent limitations for the following constituents:

- (a) Fluoride (mg/L)
- (b) Manganese, Total ($\mu\text{g/L}$)
- (c) Foaming Agents (Methylene Blue Active Substances or MBAS) ($\mu\text{g/L}$)
- (d) Nitrate Plus Nitrite (as N) (mg/L)
- (e) Nitrite Nitrogen, Total (as N) (mg/L)

For discharges to receiving waters with the MUN use, the following constituents subject to effluent limitations, as identified in the Notice of Applicability from the Executive Officer, shall not exceed the effluent limitations in Tables 20A and 20B below:

Table 20A. Effluent Limitations – Constituents of Concern (Receiving Waters with MUN Use)

CV	Fluoride AMEL (mg/L)	Fluoride AWEL (mg/L)	Manganese, Total AMEL (µg/L)	Manganese, Total AWEL (µg/L)	Foaming Agents (MBAS) AMEL (mg/L)	Foaming Agents (MBAS) AWEL (mg/L)
0.1	2.2	2.4	54	61	0.54	0.61
0.2	2.3	2.9	59	74	0.59	0.74
0.3	2.5	3.5	63	88	0.63	0.88
0.4	2.7	4.1	68	100	0.68	1.0
0.5	2.9	4.7	73	120	0.73	1.2
0.6	3.1	5.4	78	130	0.78	1.3
0.7	3.3	6.0	83	150	0.83	1.5
0.8	3.5	6.6	87	170	0.87	1.7
0.9	3.7	7.2	92	180	0.92	1.8
1.0	3.9	7.8	97	200	0.97	2.0
1.1	4.1	8.4	100	210	1.0	2.1
1.2	4.3	8.9	110	220	1.1	2.2
1.3	4.5	9.4	110	240	1.1	2.4
1.4	4.6	9.9	120	250	1.2	2.5
1.5	4.8	10	120	260	1.2	2.6
1.6	5.0	11	120	270	1.2	2.7
1.7	5.1	11	130	280	1.3	2.8
1.8	5.3	11	130	290	1.3	2.9
1.9	5.4	12	140	300	1.4	3.0
2.0	5.6	12	140	300	1.4	3.0
2.1	5.7	12	140	310	1.4	3.1
2.2	5.8	13	150	320	1.5	3.2
2.3	5.9	13	150	320	1.5	3.2
2.4	6.1	13	150	330	1.5	3.3
2.5	6.2	13	150	330	1.5	3.3
2.6	6.3	14	160	340	1.6	3.4
2.7	6.4	14	160	340	1.6	3.4
2.8	6.5	14	160	350	1.6	3.5
2.9	6.5	14	160	350	1.6	3.5
3.0	6.6	14	170	360	1.7	3.6
3.1	6.7	14	170	360	1.7	3.6
3.2	6.8	15	170	360	1.7	3.6
3.3	6.8	15	170	370	1.7	3.7
3.4	6.9	15	170	370	1.7	3.7
3.5	7.0	15	170	370	1.7	3.7
3.6	7.0	15	180	380	1.8	3.8
3.7	7.1	15	180	380	1.8	3.8
3.8	7.1	15	180	380	1.8	3.8
3.9	7.2	15	180	380	1.8	3.8
4.0	7.2	15	180	380	1.8	3.8

Table 20B. Effluent Limitations – Constituents of Concern (Receiving Waters with MUN Use)

CV	Nitrate Plus Nitrite (as N) AMEL (mg/L)	Nitrate Plus Nitrite (as N) AWEL (mg/L)	Nitrite Nitrogen, Total (as N) AMEL (mg/L)	Nitrite Nitrogen, Total (as N) AWEL (mg/L)
0.1	10	11	1.0	1.1
0.2	10	13	1.0	1.3
0.3	10	14	1.0	1.4
0.4	10	15	1.0	1.5
0.5	10	16	1.0	1.6
0.6	10	17	1.0	1.7
0.7	10	18	1.0	1.8
0.8	10	19	1.0	1.9
0.9	10	20	1.0	2.0
1.0	10	20	1.0	2.0
1.1	10	21	1.0	2.1
1.2	10	21	1.0	2.1
1.3	10	21	1.0	2.1
1.4	10	21	1.0	2.1
1.5	10	21	1.0	2.1
1.6	10	22	1.0	2.2
1.7	10	22	1.0	2.2
1.8	10	22	1.0	2.2
1.9	10	22	1.0	2.2
2.0	10	22	1.0	2.2
2.1	10	22	1.0	2.2
2.2	10	22	1.0	2.2
2.3	10	22	1.0	2.2
2.4	10	22	1.0	2.2
2.5	10	22	1.0	2.2
2.6	10	22	1.0	2.2
2.7	10	22	1.0	2.2
2.8	10	22	1.0	2.2
2.9	10	22	1.0	2.2
3.0	10	22	1.0	2.2
3.1	10	22	1.0	2.2
3.2	10	22	1.0	2.2
3.3	10	21	1.0	2.1
3.4	10	21	1.0	2.1
3.5	10	21	1.0	2.1
3.6	10	21	1.0	2.1
3.7	10	21	1.0	2.1
3.8	10	21	1.0	2.1
3.9	10	21	1.0	2.1
4.0	10	21	1.0	2.1

vii. Aluminum

For receiving waters designated with the MUN use, as identified in the NOA from the Executive Officer, aluminum shall not exceed the effluent limitations in Table 21. Effluent limitations in Table 21 for aluminum are derived from the Secondary MCL for protection of the MUN use. If the MUN use is not applicable or if more stringent 2018 U.S. EPA National Ambient Water Quality Criteria (NAWQC) for protection of freshwater aquatic life are applicable based on the analytical results for dissolved organic carbon, hardness, and pH, aluminum shall not exceed the effluent limitations in Tables 22A through 22I as identified in the NOA from the Executive Officer.

Table 21. Effluent Limitations – Aluminum, Total (Receiving Waters with MUN Use)

CV	Aluminum, Total AMEL (µg/L)	Aluminum, Total AWEL (µg/L)
0.1	220	240
0.2	230	290
0.3	250	350
0.4	270	410
0.5	290	470
0.6	310	540
0.7	330	600
0.8	350	660
0.9	370	720
1.0	390	780
1.1	410	840
1.2	430	890
1.3	450	940
1.4	460	990
1.5	480	1,000
1.6	500	1,100
1.7	510	1,100
1.8	530	1,100
1.9	540	1,200
2.0	560	1,200
2.1	570	1,200
2.2	580	1,300
2.3	590	1,300
2.4	610	1,300
2.5	620	1,300
2.6	630	1,400
2.7	640	1,400
2.8	650	1,400
2.9	650	1,400
3.0	660	1,400
3.1	670	1,400
3.2	680	1,500
3.3	680	1,500
3.4	690	1,500
3.5	700	1,500
3.6	700	1,500
3.7	710	1,500
3.8	710	1,500
3.9	720	1,500
4.0	720	1,500

Table 22A. Effluent Limitations for Aluminum, 0 mg/L ≤ DOC < 1 mg/L

pH	0 ≤ H < 25 AMEL	0 ≤ H < 25 AWEL	25 ≤ H < 50 AMEL	25 ≤ H < 50 AWEL	50 ≤ H < 75 AMEL	50 ≤ H < 75 AWEL	75 ≤ H < 100 AMEL	75 ≤ H < 100 AWEL	100 ≤ H < 150 AMEL	100 ≤ H < 150 AWEL	150 ≤ H < 200 AMEL	150 ≤ H < 200 AWEL	200 ≤ H < 300 AMEL	200 ≤ H < 300 AWEL	300 ≤ H < 400 AMEL	300 ≤ H < 400 AWEL	H > 400 AMEL	H > 400 AWEL
pH < 6.0	27	46	52	90	67	120	79	140	90	160	110	180	120	210	140	240	150	250
6.0 ≤ pH < 6.1	30	52	56	97	71	120	82	140	98	170	110	180	120	210	140	240	150	250
6.1 ≤ pH < 6.2	37	64	66	110	81	140	90	160	110	180	110	200	130	230	150	250	160	270
6.2 ≤ pH < 6.3	46	79	75	130	90	160	98	170	110	200	130	230	150	250	160	280	170	300
6.3 ≤ pH < 6.4	54	93	82	140	98	170	110	200	130	230	140	240	160	270	170	300	180	310
6.4 ≤ pH < 6.5	64	110	98	170	110	200	120	210	140	240	160	270	170	300	190	320	200	340
6.5 ≤ pH < 6.6	76	130	110	200	130	230	140	240	160	270	170	300	190	320	200	350	200	350
6.6 ≤ pH < 6.7	90	160	130	230	150	250	160	270	170	300	190	320	200	350	220	380	230	400
6.7 ≤ pH < 6.8	110	180	150	250	160	280	180	310	200	340	200	350	220	380	240	410	250	420
6.8 ≤ pH < 6.9	120	210	170	300	190	320	200	350	210	370	230	400	250	420	260	450	270	470
6.9 ≤ pH < 7.0	150	250	200	340	210	370	230	400	250	420	250	440	270	470	290	490	290	510
7.0 ≤ pH < 7.2	190	320	240	410	260	450	280	480	290	510	300	520	320	550	340	580	340	580
7.2 ≤ pH < 7.4	240	410	320	550	340	590	360	620	380	650	380	660	400	690	410	710	410	710
7.4 ≤ pH < 7.6	290	510	410	710	440	760	470	810	480	830	490	850	500	860	510	880	520	890
7.6 ≤ pH < 7.8	340	590	480	830	550	950	570	990	610	1,000	620	1,100	630	1,100	640	1,100	640	1,100
7.8 ≤ pH < 8.0	390	670	500	860	600	1,000	650	1,100	700	1,200	750	1,300	760	1,300	780	1,300	790	1,400
8.0 ≤ pH < 8.5	430	740	540	930	600	1,000	600	1,000	650	1,100	700	1,200	750	1,300	800	1,400	850	1,500
8.5 ≤ pH	230	400	210	360	200	340	190	340	180	320	180	310	170	300	170	290	160	280

Table 22B. Effluent Limitations for Aluminum, 1 mg/L ≤ DOC < 2 mg/L

pH	0 ≤ H < 25 AMEL	0 ≤ H < 25 AWEL	25 ≤ H < 50 AMEL	25 ≤ H < 50 AWEL	50 ≤ H < 75 AMEL	50 ≤ H < 75 AWEL	75 ≤ H < 100 AMEL	75 ≤ H < 100 AWEL	100 ≤ H < 150 AMEL	100 ≤ H < 150 AWEL	150 ≤ H < 200 AMEL	150 ≤ H < 200 AWEL	200 ≤ H < 300 AMEL	200 ≤ H < 300 AWEL	300 ≤ H < 400 AMEL	300 ≤ H < 400 AWEL	H > 400 AMEL	H > 400 AWEL
pH < 6.0	50	86	110	180	140	240	160	280	190	320	210	370	250	420	290	490	290	510
6.0 ≤ pH < 6.1	60	100	110	200	150	250	160	280	200	340	220	380	250	440	290	490	300	520
6.1 ≤ pH < 6.2	70	120	120	210	160	270	180	310	200	350	230	400	260	450	290	510	310	540
6.2 ≤ pH < 6.3	90	150	140	240	170	300	190	320	210	370	240	410	270	470	300	520	310	540
6.3 ≤ pH < 6.4	98	170	160	270	190	320	200	350	230	400	250	440	280	480	310	540	330	570
6.4 ≤ pH < 6.5	110	200	170	300	200	340	220	380	250	420	270	470	290	510	320	550	340	580
6.5 ≤ pH < 6.6	130	230	190	320	210	370	240	410	260	450	280	480	310	540	340	580	350	610
6.6 ≤ pH < 6.7	160	270	200	350	240	410	250	440	280	480	290	510	330	570	350	610	370	640
6.7 ≤ pH < 6.8	180	310	230	400	250	440	280	480	290	510	320	550	340	590	370	640	380	660
6.8 ≤ pH < 6.9	200	350	250	440	280	480	300	520	320	550	340	580	360	620	390	680	400	690
6.9 ≤ pH < 7.0	230	400	290	490	310	540	330	570	340	590	360	620	380	660	420	720	430	730
7.0 ≤ pH < 7.2	280	480	340	580	360	620	380	650	390	680	410	710	430	730	450	780	460	790
7.2 ≤ pH < 7.4	370	640	430	730	440	760	450	780	470	810	480	830	490	850	510	880	520	890
7.4 ≤ pH < 7.6	480	830	540	930	550	950	560	960	560	970	570	990	580	1,000	580	1,000	590	1,000
7.6 ≤ pH < 7.8	610	1,100	690	1,200	700	1,200	700	1,200	700	1,200	700	1,200	690	1,200	690	1,200	680	1,200
7.8 ≤ pH < 8.0	750	1,300	820	1,400	900	1,600	900	1,600	820	1,400	820	1,400	820	1,400	820	1,400	810	1,400
8.0 ≤ pH < 8.5	820	1,400	1,000	1,700	1,100	1,900	1,100	2,000	1,100	2,000	1,100	2,000	1,100	2,000	1,100	2,000	1,100	1,800
8.5 ≤ pH	440	770	400	690	380	660	370	640	360	620	340	590	330	580	320	560	320	550

Table 22C. Effluent Limitations for Aluminum, 2 mg/L ≤ DOC < 3 mg/L

pH	0 ≤ H < 25 AMEL	0 ≤ H < 25 AWEL	25 ≤ H < 50 AMEL	25 ≤ H < 50 AWEL	50 ≤ H < 75 AMEL	50 ≤ H < 75 AWEL	75 ≤ H < 100 AMEL	75 ≤ H < 100 AWEL	100 ≤ H < 150 AMEL	100 ≤ H < 150 AWEL	150 ≤ H < 200 AMEL	150 ≤ H < 200 AWEL	200 ≤ H < 300 AMEL	200 ≤ H < 300 AWEL	300 ≤ H < 400 AMEL	300 ≤ H < 400 AWEL	H > 400 AMEL	H > 400 AWEL
pH < 6.0	70	120	150	250	190	320	220	380	260	450	300	520	340	590	390	680	420	720
6.0 ≤ pH < 6.1	80	140	160	270	200	340	230	400	270	470	300	520	350	610	400	690	420	720
6.1 ≤ pH < 6.2	98	170	170	300	210	370	250	420	280	480	310	540	350	610	400	690	420	720
6.2 ≤ pH < 6.3	110	200	190	320	230	400	250	440	290	490	320	550	360	620	400	690	430	730
6.3 ≤ pH < 6.4	130	230	200	350	250	420	270	470	300	520	340	580	370	640	410	710	430	730
6.4 ≤ pH < 6.5	160	270	220	380	260	450	290	490	310	540	340	590	380	650	420	720	430	750
6.5 ≤ pH < 6.6	170	300	240	410	280	480	300	520	330	570	360	620	390	680	430	730	450	780
6.6 ≤ pH < 6.7	200	340	260	450	290	510	320	550	340	590	370	640	410	710	440	760	460	790
6.7 ≤ pH < 6.8	220	380	280	480	310	540	340	580	360	620	380	660	430	730	460	790	470	820
6.8 ≤ pH < 6.9	250	420	310	540	340	580	360	620	380	660	410	710	440	760	470	820	490	850
6.9 ≤ pH < 7.0	280	480	340	580	370	640	380	660	410	710	430	750	470	810	490	850	510	880
7.0 ≤ pH < 7.2	330	570	380	660	410	710	430	730	450	780	470	820	500	860	520	900	530	920
7.2 ≤ pH < 7.4	430	730	470	810	490	850	500	860	520	890	530	920	560	960	570	990	580	1,000
7.4 ≤ pH < 7.6	550	950	580	1,000	590	1,000	600	1,000	600	1,000	610	1,000	620	1,100	640	1,100	640	1,100
7.6 ≤ pH < 7.8	700	1,200	720	1,200	720	1,200	720	1,200	710	1,200	710	1,200	700	1,200	710	1,200	710	1,200
7.8 ≤ pH < 8.0	900	1,600	900	1,600	900	1,600	900	1,600	820	1,400	820	1,400	820	1,400	800	1,400	790	1,400
8.0 ≤ pH < 8.5	1,100	1,900	1,200	2,100	1,200	2,100	1,200	2,100	1,200	2,100	1,100	2,000	1,100	2,000	1,100	1,800	1,100	1,800
8.5 ≤ pH	600	1,000	550	950	500	860	500	860	480	830	470	810	450	780	440	760	430	750

Table 22D. Effluent Limitations for Aluminum, 3 mg/L ≤ DOC < 4 mg/L

pH	0 ≤ H < 25 AMEL	0 ≤ H < 25 AWEL	25 ≤ H < 50 AMEL	25 ≤ H < 50 AWEL	50 ≤ H < 75 AMEL	50 ≤ H < 75 AWEL	75 ≤ H < 100 AMEL	75 ≤ H < 100 AWEL	100 ≤ H < 150 AMEL	100 ≤ H < 150 AWEL	150 ≤ H < 200 AMEL	150 ≤ H < 200 AWEL	200 ≤ H < 300 AMEL	200 ≤ H < 300 AWEL	300 ≤ H < 400 AMEL	300 ≤ H < 400 AWEL	H > 400 AMEL	H > 400 AWEL
pH < 6.0	85	150	180	310	240	410	280	480	330	570	380	650	430	750	490	850	520	900
6.0 ≤ pH < 6.1	95	160	190	320	250	420	290	490	330	570	380	650	430	750	490	850	520	890
6.1 ≤ pH < 6.2	120	210	210	370	260	450	290	510	340	590	380	660	430	750	490	850	520	890
6.2 ≤ pH < 6.3	140	240	230	400	280	480	310	540	350	610	390	680	440	760	490	850	510	880
6.3 ≤ pH < 6.4	160	280	250	420	290	510	320	550	360	620	400	690	440	760	490	850	510	880
6.4 ≤ pH < 6.5	180	310	260	450	300	520	340	580	370	640	410	710	450	780	490	850	520	890
6.5 ≤ pH < 6.6	200	350	280	480	320	550	350	610	380	660	420	720	460	790	510	880	520	900
6.6 ≤ pH < 6.7	230	400	300	520	340	580	370	640	390	680	430	730	470	820	520	890	530	920
6.7 ≤ pH < 6.8	250	440	320	550	360	620	380	660	410	710	440	760	480	830	520	900	540	930
6.8 ≤ pH < 6.9	280	480	340	590	380	660	400	690	430	750	470	810	500	860	540	930	560	960
6.9 ≤ pH < 7.0	310	540	380	650	410	710	430	730	460	790	480	830	520	900	550	950	560	970
7.0 ≤ pH < 7.2	370	640	430	730	450	780	470	810	490	850	520	900	550	950	580	1,000	590	1,000
7.2 ≤ pH < 7.4	460	790	500	860	520	900	530	920	560	960	580	1,000	600	1,000	620	1,100	620	1,100
7.4 ≤ pH < 7.6	580	1,000	610	1,000	610	1,100	620	1,100	630	1,100	650	1,100	660	1,100	670	1,200	670	1,200
7.6 ≤ pH < 7.8	740	1,300	740	1,300	740	1,300	730	1,300	730	1,300	730	1,300	740	1,300	740	1,300	740	1,300
7.8 ≤ pH < 8.0	900	1,600	900	1,600	900	1,600	900	1,600	820	1,400	820	1,400	820	1,400	810	1,400	810	1,400
8.0 ≤ pH < 8.5	1,300	2,300	1,300	2,300	1,200	2,100	1,200	2,100	1,100	2,000	1,100	2,000	1,100	1,800	980	1,700	980	1,700
8.5 ≤ pH	750	1,300	650	1,100	650	1,100	600	1,000	600	1,000	590	1,000	550	950	550	950	550	950

Table 22E. Effluent Limitations for Aluminum, 4 mg/L ≤ DOC < 6 mg/L

pH	0 ≤ H < 25 AMEL	0 ≤ H < 25 AWEL	25 ≤ H < 50 AMEL	25 ≤ H < 50 AWEL	50 ≤ H < 75 AMEL	50 ≤ H < 75 AWEL	75 ≤ H < 100 AMEL	75 ≤ H < 100 AWEL	100 ≤ H < 150 AMEL	100 ≤ H < 150 AWEL	150 ≤ H < 200 AMEL	150 ≤ H < 200 AWEL	200 ≤ H < 300 AMEL	200 ≤ H < 300 AWEL	300 ≤ H < 400 AMEL	300 ≤ H < 400 AWEL	H > 400 AMEL	H > 400 AWEL
pH < 6.0	110	190	220	390	290	510	340	590	410	710	470	820	550	950	620	1,100	660	1,100
6.0 ≤ pH < 6.1	120	210	240	410	300	520	360	620	420	720	470	820	550	950	620	1,100	660	1,100
6.1 ≤ pH < 6.2	150	260	260	450	330	570	370	640	430	730	470	820	540	930	610	1,000	640	1,100
6.2 ≤ pH < 6.3	170	300	280	480	340	580	380	660	430	730	480	830	540	930	600	1,000	620	1,100
6.3 ≤ pH < 6.4	200	340	290	510	350	610	390	680	430	750	480	830	540	930	590	1,000	610	1,100
6.4 ≤ pH < 6.5	220	380	320	550	370	640	400	690	440	760	480	830	530	920	590	1,000	620	1,100
6.5 ≤ pH < 6.6	250	420	340	580	380	650	410	710	450	780	490	850	540	930	600	1,000	620	1,100
6.6 ≤ pH < 6.7	270	470	350	610	390	680	430	730	460	790	500	860	550	950	610	1,000	620	1,100
6.7 ≤ pH < 6.8	290	510	370	640	410	710	440	760	470	820	520	890	560	970	610	1,000	620	1,100
6.8 ≤ pH < 6.9	320	550	390	680	430	750	460	790	500	860	530	920	570	990	610	1,100	630	1,100
6.9 ≤ pH < 7.0	350	610	420	720	450	780	480	830	520	890	550	950	590	1,000	620	1,100	640	1,100
7.0 ≤ pH < 7.2	400	690	470	810	490	850	520	900	550	950	580	1,000	610	1,000	640	1,100	650	1,100
7.2 ≤ pH < 7.4	490	850	540	930	560	960	580	1,000	610	1,000	620	1,100	650	1,100	660	1,100	670	1,200
7.4 ≤ pH < 7.6	610	1,000	630	1,100	640	1,100	660	1,100	670	1,200	680	1,200	700	1,200	700	1,200	710	1,200
7.6 ≤ pH < 7.8	760	1,300	750	1,300	750	1,300	750	1,300	750	1,300	750	1,300	750	1,300	750	1,300	750	1,300
7.8 ≤ pH < 8.0	980	1,700	900	1,600	900	1,600	900	1,600	820	1,400	820	1,400	820	1,400	820	1,400	820	1,400
8.0 ≤ pH < 8.5	1,400	2,400	1,300	2,300	1,200	2,100	1,100	2,000	1,100	2,000	1,100	1,800	980	1,700	980	1,700	980	1,700
8.5 ≤ pH	900	1,500	820	1,400	800	1,400	750	1,300	750	1,300	700	1,200	700	1,200	650	1,100	650	1,100

Table 22F. Effluent Limitations for Aluminum, 6 mg/L ≤ DOC < 8 mg/L

pH	0 ≤ H < 25 AMEL	0 ≤ H < 25 AWEL	25 ≤ H < 50 AMEL	25 ≤ H < 50 AWEL	50 ≤ H < 75 AMEL	50 ≤ H < 75 AWEL	75 ≤ H < 100 AMEL	75 ≤ H < 100 AWEL	100 ≤ H < 150 AMEL	100 ≤ H < 150 AWEL	150 ≤ H < 200 AMEL	150 ≤ H < 200 AWEL	200 ≤ H < 300 AMEL	200 ≤ H < 300 AWEL	300 ≤ H < 400 AMEL	300 ≤ H < 400 AWEL	H > 400 AMEL	H > 400 AWEL
pH < 6.0	130	220	280	480	360	620	430	750	510	880	590	1,000	680	1,200	780	1,300	820	1,400
6.0 ≤ pH < 6.1	140	250	290	510	380	650	440	760	520	890	590	1,000	680	1,200	770	1,300	810	1,400
6.1 ≤ pH < 6.2	180	310	320	550	400	690	450	780	520	890	590	1,000	660	1,100	750	1,300	790	1,400
6.2 ≤ pH < 6.3	210	370	340	590	410	710	460	790	520	900	580	1,000	660	1,100	730	1,300	760	1,300
6.3 ≤ pH < 6.4	240	410	360	620	430	730	470	810	520	900	580	1,000	640	1,100	710	1,200	740	1,300
6.4 ≤ pH < 6.5	260	450	380	650	430	750	470	820	520	900	570	990	630	1,100	700	1,200	740	1,300
6.5 ≤ pH < 6.6	290	490	390	680	440	760	480	830	520	900	570	990	640	1,100	700	1,200	730	1,300
6.6 ≤ pH < 6.7	310	540	410	710	460	790	490	850	530	920	580	1,000	640	1,100	700	1,200	720	1,200
6.7 ≤ pH < 6.8	340	580	430	730	470	810	500	860	550	950	600	1,000	650	1,100	700	1,200	710	1,200
6.8 ≤ pH < 6.9	360	620	440	760	480	830	520	900	560	970	610	1,000	650	1,100	700	1,200	710	1,200
6.9 ≤ pH < 7.0	390	680	470	810	510	880	540	930	580	1,000	610	1,100	660	1,100	700	1,200	710	1,200
7.0 ≤ pH < 7.2	440	760	510	880	550	950	570	990	610	1,000	640	1,100	670	1,200	700	1,200	710	1,200
7.2 ≤ pH < 7.4	520	900	570	990	610	1,000	630	1,100	660	1,100	670	1,200	700	1,200	710	1,200	720	1,200
7.4 ≤ pH < 7.6	640	1,100	660	1,100	680	1,200	700	1,200	700	1,200	720	1,200	730	1,300	740	1,300	740	1,300
7.6 ≤ pH < 7.8	780	1,300	760	1,300	770	1,300	770	1,300	780	1,300	780	1,300	780	1,300	770	1,300	770	1,300
7.8 ≤ pH < 8.0	980	1,700	900	1,600	900	1,600	900	1,600	900	1,600	820	1,400	820	1,400	820	1,400	820	1,400
8.0 ≤ pH < 8.5	1,500	2,500	1,200	2,100	1,100	2,000	1,100	2,000	1,100	1,800	980	1,700	980	1,700	900	1,600	900	1,600
8.5 ≤ pH	1,100	1,900	1,000	1,700	950	1,600	950	1,600	900	1,500	850	1,500	850	1,500	800	1,400	800	1,400

Table 22G. Effluent Limitations for Aluminum, 8 mg/L ≤ DOC < 10 mg/L

pH	0 ≤ H < 25 AMEL	0 ≤ H < 25 AWEL	25 ≤ H < 50 AMEL	25 ≤ H < 50 AWEL	50 ≤ H < 75 AMEL	50 ≤ H < 75 AWEL	75 ≤ H < 100 AMEL	75 ≤ H < 100 AWEL	100 ≤ H < 150 AMEL	100 ≤ H < 150 AWEL	150 ≤ H < 200 AMEL	150 ≤ H < 200 AWEL	200 ≤ H < 300 AMEL	200 ≤ H < 300 AWEL	300 ≤ H < 400 AMEL	300 ≤ H < 400 AWEL	H > 400 AMEL	H > 400 AWEL
pH < 6.0	150	270	320	560	430	730	510	880	600	1,000	700	1,200	800	1,400	900	1,600	980	1,700
6.0 ≤ pH < 6.1	170	290	340	590	440	760	520	890	610	1,000	690	1,200	790	1,400	900	1,600	980	1,700
6.1 ≤ pH < 6.2	210	360	380	650	470	810	530	920	610	1,000	680	1,200	780	1,300	900	1,600	900	1,600
6.2 ≤ pH < 6.3	250	420	390	680	470	820	530	920	600	1,000	670	1,200	750	1,300	820	1,400	900	1,600
6.3 ≤ pH < 6.4	280	480	410	710	480	830	530	920	600	1,000	660	1,100	740	1,300	810	1,400	820	1,400
6.4 ≤ pH < 6.5	300	520	430	730	490	850	540	930	600	1,000	660	1,100	720	1,200	800	1,400	820	1,400
6.5 ≤ pH < 6.6	330	570	430	750	500	860	540	930	590	1,000	650	1,100	720	1,200	790	1,400	820	1,400
6.6 ≤ pH < 6.7	340	590	450	780	510	880	550	950	600	1,000	660	1,100	710	1,200	780	1,300	800	1,400
6.7 ≤ pH < 6.8	370	640	470	810	520	890	560	960	610	1,000	660	1,100	710	1,200	770	1,300	790	1,400
6.8 ≤ pH < 6.9	390	680	480	830	530	920	570	990	620	1,100	660	1,100	710	1,200	760	1,300	780	1,300
6.9 ≤ pH < 7.0	430	730	510	880	560	960	590	1,000	630	1,100	670	1,200	710	1,200	750	1,300	770	1,300
7.0 ≤ pH < 7.2	470	820	540	930	590	1,000	620	1,100	660	1,100	680	1,200	710	1,200	750	1,300	760	1,300
7.2 ≤ pH < 7.4	550	950	610	1,000	640	1,100	660	1,100	690	1,200	700	1,200	730	1,300	750	1,300	760	1,300
7.4 ≤ pH < 7.6	660	1,100	690	1,200	700	1,200	720	1,200	730	1,300	750	1,300	750	1,300	760	1,300	770	1,300
7.6 ≤ pH < 7.8	790	1,400	780	1,300	790	1,400	790	1,400	790	1,400	790	1,400	790	1,400	790	1,400	780	1,300
7.8 ≤ pH < 8.0	980	1,700	900	1,600	900	1,600	900	1,600	900	1,600	820	1,400	820	1,400	820	1,400	810	1,400
8.0 ≤ pH < 8.5	1,400	2,400	1,200	2,100	1,100	2,000	1,100	1,800	1,100	1,800	980	1,700	980	1,700	900	1,600	900	1,600
8.5 ≤ pH	1,300	2,200	1,100	2,000	1,100	1,900	1,100	1,900	1,000	1,800	1,000	1,700	980	1,700	950	1,600	950	1,600

Table 22H. Effluent Limitations for Aluminum, 10 mg/L ≤ DOC < 12 mg/L

pH	0 ≤ H < 25 AMEL	0 ≤ H < 25 AWEL	25 ≤ H < 50 AMEL	25 ≤ H < 50 AWEL	50 ≤ H < 75 AMEL	50 ≤ H < 75 AWEL	75 ≤ H < 100 AMEL	75 ≤ H < 100 AWEL	100 ≤ H < 150 AMEL	100 ≤ H < 150 AWEL	150 ≤ H < 200 AMEL	150 ≤ H < 200 AWEL	200 ≤ H < 300 AMEL	200 ≤ H < 300 AWEL	300 ≤ H < 400 AMEL	300 ≤ H < 400 AWEL	H > 400 AMEL	H > 400 AWEL
pH < 6.0	170	300	360	630	480	830	570	990	680	1,200	790	1,400	900	1,600	1,100	1,800	1,100	2,000
6.0 ≤ pH < 6.1	190	340	380	660	500	860	590	1,000	690	1,200	790	1,400	900	1,600	1,100	1,800	1,100	1,800
6.1 ≤ pH < 6.2	230	400	420	720	520	900	600	1,000	680	1,200	770	1,300	900	1,600	980	1,700	1,100	1,800
6.2 ≤ pH < 6.3	280	480	440	760	530	920	600	1,000	670	1,200	750	1,300	820	1,400	900	1,600	980	1,700
6.3 ≤ pH < 6.4	310	540	460	790	540	930	600	1,000	660	1,100	740	1,300	820	1,400	900	1,600	980	1,700
6.4 ≤ pH < 6.5	340	580	470	810	540	930	600	1,000	660	1,100	720	1,200	790	1,400	900	1,600	900	1,600
6.5 ≤ pH < 6.6	360	620	480	830	550	950	600	1,000	650	1,100	710	1,200	790	1,400	900	1,600	900	1,600
6.6 ≤ pH < 6.7	380	650	490	850	550	950	600	1,000	660	1,100	710	1,200	790	1,400	820	1,400	900	1,600
6.7 ≤ pH < 6.8	400	690	510	880	560	960	610	1,000	660	1,100	710	1,200	770	1,300	820	1,400	820	1,400
6.8 ≤ pH < 6.9	430	730	520	900	570	990	620	1,100	670	1,200	710	1,200	770	1,300	820	1,400	820	1,400
6.9 ≤ pH < 7.0	450	780	540	930	600	1,000	630	1,100	670	1,200	710	1,200	760	1,300	800	1,400	820	1,400
7.0 ≤ pH < 7.2	500	860	570	990	620	1,100	660	1,100	690	1,200	720	1,200	750	1,300	790	1,400	800	1,400
7.2 ≤ pH < 7.4	570	990	640	1,100	670	1,200	700	1,200	710	1,200	740	1,300	750	1,300	790	1,400	800	1,400
7.4 ≤ pH < 7.6	670	1,200	710	1,200	730	1,300	750	1,300	750	1,300	760	1,300	770	1,300	790	1,400	810	1,400
7.6 ≤ pH < 7.8	790	1,400	800	1,400	800	1,400	800	1,400	800	1,400	800	1,400	790	1,400	800	1,400	810	1,400
7.8 ≤ pH < 8.0	980	1,700	900	1,600	900	1,600	900	1,600	900	1,600	820	1,400	820	1,400	820	1,400	820	1,400
8.0 ≤ pH < 8.5	1,400	2,400	1,100	2,000	1,100	1,800	1,100	1,800	980	1,700	980	1,700	900	1,600	900	1,600	900	1,600
8.5 ≤ pH	1,400	2,500	1,300	2,200	1,200	2,100	1,200	2,100	1,200	2,100	1,100	2,000	1,100	1,900	1,000	1,800	1,000	1,800

Table 22I. Effluent Limitations for Aluminum, DOC > 12 mg/L

pH	0 ≤ H < 25 AMEL	0 ≤ H < 25 AWEL	25 ≤ H < 50 AMEL	25 ≤ H < 50 AWEL	50 ≤ H < 75 AMEL	50 ≤ H < 75 AWEL	75 ≤ H < 100 AMEL	75 ≤ H < 100 AWEL	100 ≤ H < 150 AMEL	100 ≤ H < 150 AWEL	150 ≤ H < 200 AMEL	150 ≤ H < 200 AWEL	200 ≤ H < 300 AMEL	200 ≤ H < 300 AWEL	300 ≤ H < 400 AMEL	300 ≤ H < 400 AWEL	H > 400 AMEL	H > 400 AWEL
pH < 6.0	180	310	380	660	510	880	610	1,000	720	1,200	820	1,400	980	1,700	1,100	2,000	1,100	2,000
6.0 ≤ pH < 6.1	200	350	410	710	530	920	620	1,100	720	1,200	820	1,400	980	1,700	1,100	1,800	1,100	2,000
6.1 ≤ pH < 6.2	250	430	440	760	550	950	630	1,100	720	1,200	810	1,400	900	1,600	1,100	1,800	1,100	1,800
6.2 ≤ pH < 6.3	290	490	470	810	560	960	630	1,100	710	1,200	790	1,400	900	1,600	980	1,700	1,100	1,800
6.3 ≤ pH < 6.4	320	550	480	830	560	970	620	1,100	700	1,200	770	1,300	820	1,400	980	1,700	980	1,700
6.4 ≤ pH < 6.5	350	610	490	850	560	970	620	1,100	690	1,200	750	1,300	820	1,400	900	1,600	980	1,700
6.5 ≤ pH < 6.6	370	640	500	860	570	990	620	1,100	680	1,200	750	1,300	820	1,400	900	1,600	900	1,600
6.6 ≤ pH < 6.7	390	680	510	880	570	990	620	1,100	680	1,200	750	1,300	810	1,400	900	1,600	900	1,600
6.7 ≤ pH < 6.8	420	720	520	900	580	1,000	630	1,100	690	1,200	740	1,300	800	1,400	900	1,600	900	1,600
6.8 ≤ pH < 6.9	440	760	540	930	600	1,000	640	1,100	690	1,200	740	1,300	790	1,400	820	1,400	900	1,600
6.9 ≤ pH < 7.0	470	810	560	960	610	1,100	660	1,100	700	1,200	740	1,300	790	1,400	820	1,400	820	1,400
7.0 ≤ pH < 7.2	510	880	590	1,000	640	1,100	670	1,200	700	1,200	740	1,300	770	1,300	800	1,400	820	1,400
7.2 ≤ pH < 7.4	580	1,000	650	1,100	690	1,200	700	1,200	730	1,300	750	1,300	770	1,300	810	1,400	820	1,400
7.4 ≤ pH < 7.6	680	1,200	720	1,200	740	1,300	750	1,300	760	1,300	770	1,300	780	1,300	810	1,400	820	1,400
7.6 ≤ pH < 7.8	800	1,400	800	1,400	810	1,400	810	1,400	800	1,400	800	1,400	800	1,400	820	1,400	820	1,400
7.8 ≤ pH < 8.0	980	1,700	900	1,600	900	1,600	900	1,600	900	1,600	820	1,400	820	1,400	820	1,400	820	1,400
8.0 ≤ pH < 8.5	1,400	2,400	1,100	2,000	1,100	1,800	1,100	1,800	980	1,700	980	1,700	900	1,600	900	1,600	900	1,600
8.5 ≤ pH	1,500	2,700	1,400	2,400	1,300	2,300	1,300	2,200	1,200	2,100	1,200	2,100	1,100	2,000	1,100	1,900	1,100	1,900

viii. **Salinity**

- (a) **Applicable to Dischargers Enrolled Under the Conservative Salinity Permitting Approach of the Salt Control Program**, except as set forth in subdivision (c) below. For receiving waters designated with both the AGR and/or MUN use, the more stringent of the following effluent limitations shall apply:
 - (1) **Discharges to Receiving Waters with the Agricultural Supply (AGR) Beneficial Use, Electrical Conductivity.** The average monthly effluent electrical conductivity shall not exceed 700 µmhos/cm.
 - (2) **Discharges to Receiving Waters with the Municipal and Domestic Supply (MUN) Beneficial Use, Electrical Conductivity.** For a calendar year, the annual average effluent electrical conductivity shall not exceed 900 µmhos/cm.
- (b) **Applicable to Dischargers Enrolled Under the Alternative Salinity Permitting Approach of the Salt Control Program.**

The effluent electrical conductivity concentration shall not exceed the annual average effluent limitation or trigger in Table 23 as follows and as specified in the Notice of Applicability from the Executive Officer:

Table 23. Effluent Limitations or Triggers – Electrical Conductivity at 25°C (EC)

Maximum Annual Average Effluent Electrical Conductivity (µmhos/cm)	Annual Average Effluent Limit or Trigger (µmhos/cm)
0 < EC ≤ 500	630
500 < EC ≤ 600	750
600 < EC ≤ 700	880
700 < EC ≤ 800	1,000
800 < EC ≤ 900	1,100
900 < EC ≤ 1,000	1,300
1,000 < EC ≤ 1,100	1,400
1,100 < EC ≤ 1,200	1,500
1,200 < EC ≤ 1,600	1,600

- (1) **Applicable to Discharges to the Lower San Joaquin River between the Mouth of the Merced River and the Airport Way Bridge Near Vernalis.**

For discharges to the Lower San Joaquin River between the mouth of the Merced River and the Airport Way Bridge near Vernalis, the electrical conductivity effluent limitations, as identified in the Notice of Applicability from the Executive Officer, shall not exceed the effluent limitations in Table 24 below:

Table 24. Effluent Limitations – Electrical Conductivity at 25°C (EC) for Discharges to the Lower San Joaquin River between the Mouth of the Merced River and the Airport Way Bridge Near Vernalis

Parameter	AMEL (µmhos/cm)	Extended Dry Period AMEL for AGR (µmhos/cm)	Extended Dry Period Annual Average Effluent Limitation for MUN (µmhos/cm)
Electrical Conductivity @ 25°Celsius	1,550	2,470	2,200

Table 24 Note:

1. **Extended Dry Period AMEL.** The Extended Dry Period (as defined in the Basin Plan, section 4.5.1.1.2) average monthly effluent limitation is applicable to discharges to receiving waters with the AGR beneficial use.
2. **Extended Dry Period Annual Average Effluent Limitation.** The Extended Dry Period (as defined in the Basin Plan, section 4.5.1.1.2) annual average effluent limitation is applicable to discharges to receiving waters with the MUN use.
 - (c) For dischargers where a site-specific numeric value has been developed and adopted into the Basin Plan as a numeric interpretation of the Basin Plan’s narrative AGR objective, the Board shall continue to apply that value as an effluent limitation.
- ix. **Temperature (Applicable to Discharges in the Sacramento-San Joaquin Delta).** For discharges within the legal boundaries of the Sacramento-San Joaquin Delta, except the City of Lodi White Slough Water Pollution Control Facility, the maximum temperature of the discharge shall not exceed the natural receiving water temperature by more than 20° Fahrenheit (°F) as specified in the Notice of Applicability.
- x. **Methylmercury**
 - (a) **Applicable to the City of Lodi, White Slough Water Pollution Control Facility.** Effective 31 December 2030, the effluent calendar year annual methylmercury load shall not exceed 0.94 grams, in accordance with the Delta Mercury Control Program.
 - (b) **Applicable to the City of Manteca and Dutra Farms, Inc., Wastewater Quality Control Facility.** Effective 31 December 2030, the effluent calendar year annual methylmercury load shall not exceed 0.38 grams, in accordance with the Delta Mercury Control Program.
- xi. **Mercury, Total**
 - (a) **Applicable if Total Maximum Daily Load (TMDL) Planned After Year 2027.** If the Discharger discharges to a receiving water that is listed as impaired for mercury on the CWA 303(d) list of impaired water bodies and the Central Valley Water Board plans to adopt a TMDL after the year 2027, the total annual mass discharge of total mercury shall not exceed the effluent limitation specified in the Notice of Applicability from the

Executive Officer. The performance-based effluent limitation for total mercury shall be determined using Table 25 or the final effluent limitation contained in the Discharger’s individual NPDES permit in which the effluent limitation for total mercury was established, whichever is more stringent.

Table 25. Effluent Limitations – Total Mercury (If TMDL Planned After Year 2027)

Design Average Dry Weather Flow (ADWF)	Annual Mass Loading Limitation (lbs/year) for MEC (µg/L) ≤ 0.001	Annual Mass Loading Limitation (lbs/year) for 0.001 < MEC (µg/L) ≤ 0.01	Annual Mass Loading Limitation (lbs/year) for 0.01 < MEC (µg/L) ≤ 0.05
ADWF < 1 MGD	0.0030	0.030	0.15
1 MGD ≤ ADWF < 5 MGD	0.015	0.15	0.75
5 MGD ≤ ADWF < 10 MGD	0.030	0.30	1.5
10 MGD ≤ ADWF < 15 MGD	0.046	0.46	2.3
15 MGD ≤ ADWF < 20 MGD	0.061	0.61	3.0

xii. **Diazinon and Chlorpyrifos.** For water bodies as specified in Table 3-4 of the Basin Plan for the Sacramento and San Joaquin River Basin, effluent diazinon and chlorpyrifos concentrations shall not exceed the sum of one (1.0) as identified below and as specified in the Notice of Applicability:

(a) Average Monthly Effluent Limitation (AMEL)

$$SAMEL = [(CD\ M-AVG)/0.079 + (CC\ M-AVG)/0.012] \leq 1.0$$

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

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

(b) Average Weekly Effluent Limitation (AWEL)

$$SAWEL = [(CD\ W-AVG)/0.14 + (CC\ W-AVG)/0.021] \leq 1.0$$

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

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

2. Interim Effluent Limitations

a. Mercury, Total

i. **Applicable to the City of Lodi, White Slough Water Pollution Control Facility.** Effective upon issuance of the Notice of Applicability and until 30 December 2030, the effluent calendar year annual total mercury load shall

not exceed 23 grams/year. This interim effluent limitation shall apply in lieu of the final effluent limitation for methylmercury (Section V.A.1.c.x(a)).

- ii. **Applicable to the City of Manteca and Dutra Farms, Inc., Wastewater Quality Control Facility.** Effective upon issuance of the Notice of Applicability and until 30 December 2030, the effluent calendar year annual total mercury load shall not exceed 90 grams/year. This interim effluent limitation shall apply in lieu of the final effluent limitation for methylmercury (Section V.A.1.c.x(b)).
- iii. **Applicable if Total Maximum Daily Load (TMDL) Planned Before Year 2027.** If the Discharger discharges to a receiving water that is listed as impaired for mercury on the CWA 303(d) list of impaired water bodies and the Central Valley Water Board plans to adopt a TMDL before the year 2027, **effective upon issuance of the Notice of Applicability and until this General Order is amended to implement a wasteload allocation adopted as part of a TMDL for mercury**, the total annual mass discharge of total mercury shall not exceed the effluent limitation specified in the Notice of Applicability from the Executive Officer. The performance-based effluent limitation for total mercury shall be determined using Table 26 or the final effluent limitation in which the effluent limitation for total mercury was established, whichever is more stringent.

Table 26. Effluent Limitations – Total Mercury (If TMDL Planned Before Year 2027)

Design Average Dry Weather Flow (ADWF)	Annual Mass Loading Limitation (lbs/year) for MEC (µg/L) ≤ 0.001	Annual Mass Loading Limitation (lbs/year) for 0.001 < MEC (µg/L) ≤ 0.01	Annual Mass Loading Limitation (lbs/year) for 0.01 < MEC (µg/L) ≤ 0.05
ADWF < 1 MGD	0.0030	0.030	0.15
1 MGD ≤ ADWF < 5 MGD	0.015	0.15	0.75
5 MGD ≤ ADWF < 10 MGD	0.030	0.30	1.5
10 MGD ≤ ADWF < 15 MGD	0.046	0.46	2.3
15 MGD ≤ ADWF < 20 MGD	0.061	0.61	3.0

B. Land Discharge Specifications

- 1. **Applicable To Donner Summit Public Utility District Wastewater Treatment Plant and Hammonton Gold Village Wastewater Treatment Plant.** For Donner Summit Public Utility District Wastewater Treatment Plant and Hammonton Gold Village Wastewater Treatment Plant discharges to spray fields and/or spray irrigation and as identified in the NOA, the Discharger shall maintain the following effluent specifications for discharge to the spray field with compliance measured at Monitoring Location SPR-001 as described in the NOA.

- a. As specified in the NOA, the Discharger shall maintain compliance with the effluent specifications in the following table:

Table 27. Land Discharge Specifications

Parameter	Units	Average Monthly	Median
BOD ₅	mg/L	30	--
Total Coliform Organisms	MPN/100 mL	--	23 (7-day median)

- b. The Discharger shall comply with the following specifications as specified in the NOA:
 - i. The monthly average discharge flow shall not exceed the flowrate as specified in the NOA.
 - ii. The discharge of waste classified as “hazardous” as defined in section 2521(a) of Title 23, CCR, is prohibited.
 - iii. The discharge or runoff of effluent from the spray irrigation to surface water drainage courses is prohibited.
 - iv. Discharge to land shall not be performed during rainfall, when measurable snow is on the ground, or when the ground is saturated.
 - v. Objectionable odors originating at the Facility shall not be perceivable beyond the limits of the wastewater treatment and disposal areas.
 - vi. There shall be no standing water in the disposal area 24 hours after effluent is applied.
 - vii. Hydraulic loading of effluent shall be at reasonable rates to prevent off-site runoff.
 - viii. Public contact with effluent shall be precluded through such means as fences, signs, or other acceptable alternatives.
 - ix. The Discharger shall manage land discharge facilities to prevent breeding of mosquitoes. More specifically for:
 - (a) Irrigation Areas
 - (1) All applied irrigation water must infiltrate completely within 24 hours.
 - (2) Ditches not serving as wildlife habitat should be maintained free of emergent, marginal, and floating vegetation.
 - (3) Low-pressure and un-pressurized pipelines and ditches, which are accessible to mosquitoes, shall not be used to store reclaimed water.
 - (b) Ponds
 - (1) An erosion control program should assure that small coves and irregularities are not created around the perimeter of the water surface.
 - (2) Weeds shall be minimized.

- (3) Dead algae, vegetation, and debris shall not accumulate on the water surface.
- (4) The Discharger shall consult and coordinate with the local Mosquito Abatement District to minimize the potential for mosquito breeding as needed to supplement the above measures.
- x. Discharges to the spray irrigation fields shall be managed to minimize erosion. Runoff from the disposal area must be captured and returned to the treatment facilities or spray fields.
- xi. As specified in the NOA, the following buffer zones in Table 28 shall be maintained:

Table 28. Land Application Area Setback Requirements

Category	Setback
Between any watercourse and the disposal areas	50 feet
Between any spring, domestic well or irrigation well and the disposal areas	50 feet
Between edge of use area and all property boundaries	50 feet

- c. Donner Summit Public Utility District Wastewater Treatment Plant and Hammonton Gold Village Wastewater Treatment Plant are not located in a prioritized groundwater basin/sub-basin of the Nitrate Control Program; therefore, Donner Summit Public Utility District Wastewater Treatment Plant and Hammonton Gold Village Wastewater Treatment Plant are not subject to Nitrate Control Program requirements unless directed by the Executive Officer. If Donner Summit Public Utility District Wastewater Treatment Plant or Hammonton Gold Village Wastewater Treatment Plant submit a Notice of Intent to address a material change to their operation that increases the level of nitrate discharged to groundwater, the Executive Officer of the Central Valley Water Board will determine, based on the specific facts of the discharge, whether the discharger should be subject to the Nitrate Control Program and the Board’s Executive Officer will notify the Discharger accordingly.

C. Recycling Specifications

- 1. **Applicable To Dischargers That Produce Recycled Water Under the General Order for Water Recycling Requirements.** If production of recycled water is not regulated by a separate permit, this General Order only regulates the production of recycled water, as specified in the NOA, and does not authorize the distribution or use of recycled water. For Dischargers enrolled under this General Order that also distribute and/or use recycled water, the distribution and/or use of recycled water will be regulated through General Order for Water Recycling Requirements (WQ 2016-0068-DDW) or subsequent General Order for Water Recycling Requirements. When producing Title 22 disinfected tertiary recycled water for use under the State Water Resources Control Board (State Water Board) Water Quality Order WQ 2016-0068-

DDW, the Discharger shall meet the recycling specifications below as specified in the NOA:

- a. Notwithstanding the following requirements, the production of recycled water shall conform to an Engineering Report prepared pursuant to Title 22, section 60323 and approved by the Division of Drinking Water (DDW). Prior to implementing any changes in operations for the production of recycled water, the Discharger shall revise the Title 22 Engineering Report and receive DDW acceptance.
- b. The recycled water shall be at least disinfected tertiary recycled water as defined in Title 22, section 60301.
- c. Wastewater shall be oxidized, coagulated, filtered, and adequately disinfected pursuant to the State Water Board, DDW reclamation criteria, CCR, Title 22, division 4, chapter 3 (Title 22), or equivalent.
- d. Recycled water for reclamation shall not exceed the specifications for Total Coliform Organisms in section V.A.1.a.ii.(c), above and as specified in the NOA, with compliance measured at Monitoring Location UVS-001 (or equivalent location) as described in the NOA.
- e. Recycled water for reclamation shall meet the Filtration System Operating Specifications and the UV Disinfection System Operating Specifications in section VII.C.4.a and b, respectively, as specified in the NOA.

2. Applicable to Donner Summit Public Utility District, Wastewater Treatment Plant

When recycling disinfected tertiary treated wastewater, the Discharger shall meet the specifications below, as specified in the NOA:

- a. Use of reclaimed wastewater is restricted to snowmaking at the Soda Springs Mountain Resort.
- b. Recycled water used for artificial snow making for commercial outdoor use shall be disinfected tertiary recycled water (Title 22, section 60307).
- c. Disinfected tertiary recycled water (Title 22, section 60301.230) shall be filtered wastewater that has been disinfected by a disinfection process that, when combined with the filtration process, has been demonstrated to inactivate and/or remove 99.999 percent of the plaque-forming units of F-specific bacteriophage MS2, or polio virus in the wastewater. A virus that is at least as resistant to disinfection as polio virus may be used for purposes of the demonstration. The median concentration of total coliform bacteria measured in the disinfected effluent does not exceed an MPN of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed and the number of total coliform bacteria does not exceed an MPN of

23 per 100 milliliters in more than one sample in any 30-day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

- d. Filtered wastewater (Title 22, section 60302.320(b)) means an oxidized wastewater that has been passed through a microfiltration, ultrafiltration, nanofiltration, or reverse osmosis membrane so that the turbidity of the filtered wastewater does not exceed 0.2 NTU more than 5 percent of the time within a 24-hour period and does not exceed 0.5 NTU at any time.
- e. Neither the treatment nor the use of reclaimed water shall cause a pollution or nuisance as defined by section 13050 of the Water Code.
- f. The use of reclaimed water shall not cause degradation of groundwater or any water supply.
- g. Reclaimed water shall be managed in conformance with the regulations contained in Title 22, division 4, chapter 3, CCR.
- h. All reclamation equipment, pumps, piping, valves, and outlets shall be appropriately marked to differentiate them from potable facilities. All reclamation distribution system piping shall be purple or adequately wrapped with purple tape.
- i. Perimeter warning signs indicating that reclaimed water is in use shall be posted as prescribed in the Title 22 Engineers Report that is subject to approval by the Central Valley Water Board and the DDW.
- j. Reclaimed water shall not be allowed to escape from the authorized use areas by airborne spray or by surface flow except in minor amounts such as associated with good irrigation or snowmaking practices.
- k. Disinfected tertiary recycled water for snowmaking does not pose a public health threat; therefore, it is unnecessary to regulate snowmelt runoff.
- l. There shall be at least a 10-foot horizontal and 1-foot vertical separation at crossing between all pipelines transporting reclaimed water and those transporting domestic supply, with the domestic supply above the reclaimed water pipeline, unless approved by the DDW. All construction standards for the reclaimed water system shall be submitted to DDW as part of the Title 22 Engineers Report for Reclaimed Water System. The discharge shall not commence use of reclaimed water until DDW has approved the Title 22 Engineers Report for the reclamation system construction and operation.
- m. There shall be no cross-connection between potable water supply and piping containing reclaimed water. Supplementing reclaimed water with potable shall not be allowed except through an air-gap separation, or if approved by the DDW, a reduced pressure principle backflow device.

- n. The reclaimed water piping system shall not include any hose bibs, except at the treatment plant, on hose bibs with appropriate signage.

VI. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

Receiving water limitations are based on water quality objectives contained in the Basin Plans for the Sacramento and San Joaquin River Basins and the Tulare Lake Basin and are a required part of this General Order. Any discharge authorized for coverage under this General Order shall not cause the following in the receiving water as specified in the NOA:

1. **Un-ionized Ammonia (Water Bodies in the Tulare Lake Basin).** Un-ionized ammonia to be present in amounts that adversely affect beneficial uses nor to be present in excess of 0.025 mg/L (as N) in water bodies in the Tulare Lake Basin.
2. **Bacteria (Water Bodies With the Beneficial Use Water Contact Recreation and Not Required to Disinfect to Title 22 or Equivalent Standards).** 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 in water bodies with the beneficial use Water Contact Recreation (REC-1).
3. **Biostimulatory Substances.** Water to contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.
4. **Chemical Constituents.** Chemical constituents to be present in concentrations that adversely affect beneficial uses.
5. **Color.** Discoloration that causes nuisance or adversely affects beneficial uses.
6. **Dissolved Oxygen:**
 - a. **For water bodies outside the Sacramento-San Joaquin Delta and for water bodies in the Tulare Lake Basin:**
 - i. The monthly median of the mean daily dissolved oxygen concentration to fall below 85 percent of saturation in the main water mass
 - ii. The 95-percentile dissolved oxygen concentration to fall below 75 percent of saturation; nor
 - iii. The dissolved oxygen concentration to be reduced below 5.0 for water bodies designated as warm freshwater habitat (WARM);

- iv. The dissolved oxygen concentration to be reduced below 7.0 mg/L at any time for water bodies designated as cold freshwater habitat (COLD) and/or spawning, reproduction, and/or early development (SPWN).
 - b. **For water bodies within the legal boundaries of the Sacramento-San Joaquin Delta**, the dissolved oxygen concentrations shall not be reduced below:
 - i. 7.0 mg/L in the Sacramento River (below the I Street Bridge) and in all Delta waters west of the Antioch Bridge;
 - ii. 6.0 mg/L in the San Joaquin River (between Turner Cut and Stockton, 1 September through 30 November); and
 - iii. 5.0 mg/L in all other Delta waters except those bodies of water which are constructed for special purposes and from which fish have been excluded or where the fishery is not important as a beneficial use.
 - c. **For the Sacramento River from Keswick Dam to Hamilton City**, dissolved oxygen concentrations shall not:
 - i. Be reduced below 9.0 mg/L; nor
 - ii. Fall below 95 percent of saturation when natural conditions lower dissolved oxygen below 9.0 mg/L.
7. **Floating Material.** Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.
8. **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.
9. **pH.**
 - a. **Water Bodies Within the Sacramento and San Joaquin River Basins (except Goose Lake).** The pH to be depressed below 6.5 or raised above 8.5 for water bodies in the Sacramento and San Joaquin River Basins (except Goose Lake).
 - b. **Goose Lake.** The pH to be depressed below 7.5 nor raised above 9.5 within Goose Lake.
 - c. **Water Bodies Within the Tulare Lake Basin.** The pH to be depressed below 6.5, raised above 8.3, nor changed by more than 0.3 units for water bodies in the Tulare Lake Basin. A 1-month averaging period may be applied when calculating the pH change.
10. **Pesticides:**
 - a. **All Water Bodies.**

- i. Pesticides to be present, individually or in combination, in concentrations that adversely affect beneficial uses;
 - ii. Pesticides to be present in bottom sediments or aquatic life in concentrations that adversely affect beneficial uses;
- b. **Water Bodies Within the Sacramento and San Joaquin River Basins.** For water bodies in the Sacramento and San Joaquin River Basins:
- i. 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;
 - ii. Pesticide concentrations to exceed those allowable by applicable antidegradation policies (see State Water Board Resolution No. 68-16 and 40 C.F.R section 131.12.);
 - iii. Pesticide concentrations to exceed the lowest levels technically and economically achievable;
 - iv. **Water Bodies Within the Sacramento and San Joaquin River Basins Designated as MUN.** For water bodies in the Sacramento and San Joaquin River Basins designated as MUN:
 - (a) Pesticides to be present in concentration in excess of the maximum contaminant levels (MCLs) set forth in CCR, Title 22, division 4, chapter 15;
 - (b) Thiobencarb to be present in excess of 1.0 µg/L.
- c. **Water Bodies Within the Tulare Lake Basin.**
- i. **Water Bodies Within the Tulare Lake Basin Designated as COLD.** Total identifiable persistent chlorinated hydrocarbon pesticides to be present in the water column at concentrations detectable within the accuracy of analytical methods prescribed in Standard Methods for the Examination of Water and Wastewater, 18th Edition, or other equivalent methods approved by the Executive Officer for water bodies in the Tulare Lake Basin designated as COLD;
 - ii. **Water Bodies Within the Tulare Lake Basin Designated as MUN.** Pesticides to be present in concentration in excess of the maximum contaminant levels (MCLs) specified in Table 64444-A (Organic Chemicals) of section 64444 of Title 22 of the CCR for water bodies in the Tulare Lake Basin designated as MUN.

11. Radioactivity:

- a. Radionuclides to be present in concentrations that are harmful or deleterious to human, plant, animal, or aquatic life nor that result in the accumulation of

Table 29. Temperature Receiving Water Limitations for Pleasant Grove Creek

Period	Period Maximum (°F)	Period Average (°F)
January and February	69	64
March	70	67
April	74	70
May	78	75
June	81	77
July through September	83	80
October	81	77
November	77	72
December	70	65

Table 29 Notes:

1. **Period Maximum.** The instantaneous maximum not to be exceeded in the period.
2. **Period Average.** The arithmetic average of measurements not to be exceeded in the period.
 - d. **City of Roseville, Dry Creek Wastewater Treatment Plant.** For the City of Roseville, Dry Creek Wastewater Treatment Plant, the discharge shall not cause the following in Dry Creek:
 - i. The natural temperature to be increased by more than 5°F on an annual average. Compliance to be determined based on the difference in temperature at Monitoring Locations RSW-001 and RSW-002.
 - ii. The natural temperature at Monitoring Location RSW-002 to exceed a daily average temperature of 15.6°C (60°F) and a daily maximum temperature of 16.7°C (62°F) between 1 November through 31 March.
 - e. **El Dorado Irrigation District, Deer Creek Wastewater Treatment Plant.** For the El Dorado Irrigation District, Deer Creek Wastewater Treatment Plant, the discharge due to controllable factors shall not cause the temperature at Monitoring Location RSW-002 in Deer Creek to exceed the objectives specified below:

Table 30. Temperature Receiving Water Limitations for Deer Creek

Period	Daily Maximum (°F)	Monthly Average (°F)
January and February	63	58
March	65	60
April	71	64
May	77	69
June	81	74
July through September	81	77
October	77	72
November	73	65
December	65	58

Table 30 Notes:

1. **Daily Maximum.** Maximum not to be exceeded.
2. **Monthly Average.** Defined as a calendar month average.
 - f. **City of Placerville, Hangtown Creek Water Reclamation Facility.** For the City of Placerville, Hangtown Creek Water Reclamation Facility, the annual average ambient temperature to be increased by more than 5°F and the discharge to cause exceedance of the limitations in Table 31 in Hangtown Creek at Monitoring Location RSW-002.

Table 31. Temperature Receiving Water Limitations for Hangtown Creek

Period	Instantaneous Maximum (°F)	Weekly Average (°F)
1 December through 30 April	--	58
1 May through 31 May	--	67
1 June through 15 October	77	72
16 October through 30 November	--	67

- g. **City of Atwater, Regional Wastewater Treatment Facility.** For the City of Atwater, Regional Wastewater Treatment Facility, the discharge shall not cause the temperature, as measured at RSW-002 (location as specified in the Notice of Applicability), to be raised above the following in Peck/Atwater Drain:
 - i. Above 90°F for the months of June, July, August, and September.
 - ii. Above 85°F for the months of April, May, and October;
 - iii. Above 80°F for the month of November; nor
 - iv. Above 77°F for the months of December, January, February, and March.
- h. **City of Merced, Wastewater Treatment Facility.** For the City of Merced, Wastewater Treatment Facility, the discharge shall not cause the following in Hartley Slough:
 - i. The temperature to be increased by more than 5°F on an average annual basis;
 - ii. The daily average temperature to exceed 89°F at any time: nor
 - iii. The average temperature to exceed the following:
 - (a) 77°F from 1 June through 15 June;
 - (b) 76°F from 16 May through 31 May;
 - (c) 75°F from 1 May through 15 May;
 - (d) 74°F from 16 April through 30 April; and
 - (e) 73°F from 1 April through 15 April.

- i. **City of Lodi, White Slough Water Pollution Control Facility.** For the City of Lodi, White Slough Water Pollution Control Facility, the discharge shall not cause an instantaneous temperature measured at RSW 001 of:
 - i. 86°F for the period of May through October; or
 - ii. 80°F for the month of April; or
 - iii. 75°F for the months of March and November; or
 - iv. 68°F for the period of December through February.
- j. **Sacramento River from Shasta Dam to I Street Bridge.** The temperature shall not be elevated above 56°F in the reach from Keswick Dam to Hamilton City nor above 68°F in the reach from Hamilton City to the I Street Bridge during periods when temperature increases will be detrimental to the fishery.

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.
- b. **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, H_0 , shall be used:

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

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

H_a : 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.

- c. **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, H_0 , shall be used:

H_0 : Mean response (ambient water) \leq 0.75 • mean response (control)

And where the following alternative hypothesis, H_a , 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 the Statewide Toxicity Provisions Section IV.B.1.c. 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.

18. **Turbidity.** Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses.

a. **Water Bodies Within the Sacramento and San Joaquin River Basins, except Deer Creek (Source to Cosumnes River).** For water bodies in the Sacramento and San Joaquin River Basins, except Deer Creek (source to Cosumnes River), turbidity:

- i. Shall not exceed 2 Nephelometric Turbidity Units (NTU) where natural turbidity is less than 1 NTU;
- ii. Shall not increase more than 1 NTU where natural turbidity is between 1 and 5 NTUs;
- iii. Shall not increase more than 20 percent where natural turbidity is between 5 and 50 NTUs;
- iv. Shall not increase more than 10 NTU where natural turbidity is between 50 and 100 NTUs; nor
- v. Shall not increase more than 10 percent where natural turbidity is greater than 100 NTUs.

b. **Deer Creek (Source to Cosumnes River).** For Deer Creek (source to Cosumnes River), turbidity:

- i. When the dilution ratio for discharges is less than 20:1:
 - (a) Where natural turbidity is less than 1 NTU, discharges shall not cause the receiving water daily average turbidity to exceed 2 NTUs or daily maximum turbidity to exceed 5 NTUs; and
 - (b) Where natural turbidity is between 1 and 5 NTUs, discharges shall not cause receiving water daily average turbidity to increase more than 1 NTU or daily maximum turbidity to exceed 5 NTUs.
 - (c) Where natural turbidity is between 5 and 50 NTUs, receiving water increases due to the discharge shall not exceed 20 percent;

- (d) Where natural turbidity is between 50 and 100 NTUs, receiving water increases due to the discharge shall not exceed 10 NTUs; and
 - (e) Where natural turbidity is greater than 100 NTUs, receiving water increases due to the discharge shall not exceed 10 percent.
 - ii. Where the dilution ratio for discharges is 20:1 or greater:
 - (a) Where natural turbidity is between 0 and 5 NTUs, increases shall not exceed 1 NTU;
 - (b) Where natural turbidity is between 5 and 50 NTUs, receiving water increases due to the discharge shall not exceed 20 percent;
 - (c) Where natural turbidity is between 50 and 100 NTUs, receiving water increases due to the discharge shall not exceed 10 NTUs; and
 - (d) Where natural turbidity is greater than 100 NTUs, receiving water increases due to the discharge shall not exceed 10 percent.
 - c. **Water Bodies Within the Tulare Lake Basin.** For water bodies in the Tulare Lake Basin, turbidity shall not increase:
 - i. More than 1 NTU where natural turbidity is between 0 and 5 NTUs.
 - ii. More than 20 percent where natural turbidity is between 5 and 50 NTUs.
 - iii. More than 10 NTU where natural turbidity is between 50 and 100 NTUs.
 - iv. More than 10 percent where natural turbidity is greater than 100 NTUs.
- 19. **Salinity (Applicable to discharges to the Sacramento River).** Salinity, based upon previous 10 years of record, shall not exceed:
 - a. More than 230 $\mu\text{mhos/cm}$ (50 percentile) or 235 $\mu\text{mhos/cm}$ (90 percentile) at Knights Landing above Colusa Basin Drain; or
 - b. 240 $\mu\text{mhos/cm}$ (50 percentile) or 340 $\mu\text{mhos/cm}$ (90 percentile) at I Street Bridge.

B. Groundwater Limitations

- 1. As specified in the Notice of Applicability, 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 greater than background quality or applicable groundwater quality objectives, whichever is greater.

VII. PROVISIONS

A. Standard Provisions

1. All Dischargers authorized to discharge under this General Order shall comply with all Standard Provisions included in Attachment D of this General Order.
2. All Dischargers authorized to discharge under this General Order 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, a NOA issued under this General Order may be terminated or modified for cause, including, but not limited to:
 - i. violation of any term or condition contained in this General Order;
 - ii. obtaining a NOA under this General 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.
 - (a) The causes for modification include:
 - (1) **New regulations.** New regulations have been promulgated under section 405(d) of the CWA, or the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued.
 - (2) **Land application plans.** When required by a permit condition to incorporate a land application plan for beneficial reuse of sewage sludge, to revise an existing land application plan, or to add a land application plan.
 - (3) **Change in sludge use or disposal practice.** Under 40 C.F.R 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 General Order, the Central Valley Water Board will revise or modify this General Order in accordance with such toxic effluent standard or prohibition.

All Dischargers authorized to discharge under this General Order shall comply with effluent standards and prohibitions within the time provided in the regulations that establish those standards or prohibitions.

- d. This General 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 this General Order; or
 - ii. Controls any pollutant limited in this General Order.

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

- e. The provisions of this General Order are severable. If any provision of this General Order is found invalid, the remainder of this General Order shall not be affected.
- f. All Dischargers authorized to discharge under this General Order 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 General 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. All Dischargers authorized to discharge under this General Order 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 General Order and the applicable NOA 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. All Dischargers authorized to discharge under this General Order 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 General 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 this General 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 General Order. The schedule of compliance shall, upon approval of the Central Valley Water Board, become a condition of this General 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 VII.A.2.i of this General 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 General 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 General Order and the applicable Notice of Applicability by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.

To assume operation under this General Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Notice of Applicability. The transfer request shall be made 30 days prior to the effective date of the new ownership or operator. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, and the name, address and telephone number of the persons responsible for contact with the Central Valley Water Board. The request must also include a statement that the new owner or operator assumes full responsibility for compliance with this General Order and shall comply with the signatory and certification requirements in the federal Standard Provisions (Attachment D, section V.B). Failure to submit the request shall be considered a discharge without

requirements, a violation of the Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

- o. An NOA issued under Order R5-2017-0085-02 shall continue in force and effect for up to three (3) years after the effective date of the renewed General Order, until the NOA is reissued or the Regional Water Board rescinds the NOA, whichever is sooner.
- p. Failure to comply with provisions or requirements of this General 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.
- q. 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 (Sacramento office), at (530) 224-4845 (Redding office), or at (559) 445-5116 (Fresno office) **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

All Dischargers authorized to discharge under this General Order shall comply with the MRP, and future revisions thereto, in Attachment E of this Order, and as specified in each Discharger's Notice of Applicability from the Executive Officer.

C. Special Provisions

1. Reopener Provisions

- a. Conditions that necessitate a major modification of a permit are described in 40 C.F.R section 122.62, including, but not limited to:
 - i. If new or amended applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA, or amendments thereto, this permit may be reopened and modified in accordance with the new or amended standards.
 - ii. When new information, that was not available at the time of permit issuance, would have justified different permit conditions at the time of issuance.

- b. **Mercury.** The Basin Plans' Delta Mercury Control Program was designed to proceed in two phases. The Delta Mercury Control Program is in Phase 2, and the Central Valley Water Board is conducting a Phase 1 Delta Mercury Control Program Review that considers modification to the Delta Mercury Control Program. This Order may be reopened to address changes to the Delta Mercury Control Program.
- c. **Water Effects Ratios (WER) and Metal Translators.** A default WER of 1.0 has been used in this General Order for calculating criteria for applicable inorganic constituents, except for copper and zinc as listed for Facilities in Table C-2C Site-Specific Water Effect Ratios for Copper and Zinc of Attachment C. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable when developing effluent limitations, except for copper and zinc (City of Grass Valley, Wastewater Treatment Plant).

If a Discharger performs studies to determine discharger-specific WERs (as defined in the SIP and hereinafter site-specific WER) and/or site-specific dissolved-to-total metal translators, this General Order may be reopened to allow effluent limitations to be modified using a site-specific WER or translator for a particular Discharger.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

- a. **Phase 2 Methylmercury Control Study (Reserved).**
- b. **Bis(2-ethylhexyl) Phthalate and/or Cyanide Constituent Study.** If there are indications that the discharge may contain bis(2-ethylhexyl) phthalate and/or cyanide at concentrations that have reasonable potential to cause or contribute to an exceedance of water quality objectives, the Discharger shall comply with the time schedule as specified in the NOA to conduct a study of these constituents' potential effect in surface waters.

3. Best Management Practices and Pollution Prevention

- a. **Pollution Prevention Plan (PPP) for Mercury.** Dischargers within the Sacramento-San Joaquin Delta shall implement a PPP for mercury in accordance with Water Code section 13263.3(d)(3), per the compliance schedule in this Order for methylmercury (section VII.C.7.a), if specified in the NOA. If a PPP for mercury has not been previously submitted, the Discharger shall submit a PPP by the due date in the NOA for Executive Officer approval. If a PPP for mercury has already been submitted, the Discharger is not required to re-submit the PPP but shall continue to implement the PPP. Progress reports shall be submitted annually in accordance with the Monitoring and Reporting Program (Attachment E, section X.D.1). The progress reports shall discuss the effectiveness of the PPP in the reduction of mercury in the discharge, a summary of mercury and methylmercury monitoring results in comparison to applicable effluent limitations, and updates to the PPP including steps taken to address potential compliance issues.

- b. **Salinity Evaluation and Minimization Plan (SEMP) for the Alternative Salinity Permitting Approach.** Dischargers under the Salt Control Program's Alternative Salinity Permitting Approach shall participate in the CV-SALTS Prioritization and Optimization (P&O) Study.

Dischargers under the Alternative Salinity Permitting Approach of the Salt Control Program shall prepare or continue to implement a SEMP to identify and address sources of salinity discharged from the Facility. If applicable, the plan shall be completed and submitted to the Central Valley Water Board by the due date specified in the NOA.

Furthermore, an evaluation of the effectiveness of the SEMP shall be submitted with the NOI as specified in the NOA. The evaluation shall include, at minimum, the calendar annual average concentrations of effluent electrical conductivity during the term of the NOA.

If the average electrical conductivity concentration for any calendar year exceeds the effluent limitation or performance-based electrical conductivity trigger specified in the NOA, the Discharger shall evaluate possible sources of salinity contributing to the exceedance and update the SEMP to include a plan of action to control salinity.

- c. **Pyrethroid Management Plan.** If the Pyrethroid Pesticides Water Column Chemistry Monitoring, as specified in the NOA, results in an exceedance of any acute and/or chronic pyrethroid numeric trigger in Table 4-2 of the Basin Plan, the Discharger shall develop and submit a Pyrethroid Management Plan to the Central Valley Water Board, per the requirements described in Section 4.2.2.4.12 of the Basin Plan, within one year from the date that an exceedance is either identified by the Discharger or Central Valley Water Board staff identifies and notifies the Discharger. If an exceedance is identified, the Discharger shall submit a formal letter notifying the Central Valley Water Board of the exceedance and the Discharger's intent to submit a Pyrethroid Management Plan.

The Pyrethroid Management Plan shall identify management practices to reduce discharges of pyrethroid pesticides, as outlined in Section 4.5.5.2.2.3 of the Basin Plan, and to consider whether there are potential water quality concerns with replacement insecticide products. Dischargers shall begin implementing their pyrethroid management plans within 30 days after receipt of written approval of their management plan. The Pyrethroid Management Plan shall be deemed complete when it can be demonstrated that the acute and chronic pyrethroids triggers are not exceeded in the final effluent and the demonstration is approved by the Executive Officer.

- i. If a Pyrethroid Management Plan is required, the Discharger shall provide mid-term and end-term progress reports, as specified in the NOA, to document the management practices that have been implemented to track the effectiveness of the Pyrethroid Management Plan.

4. Construction, Operation and Maintenance Specifications

- a. **Filtration System Operating Specifications.** The NOA shall specify filtration system operating specifications for Dischargers of tertiary treated wastewater that meet the eligibility criteria in section I.B.4 to ensure the filtration system is operating properly to provide adequate disinfection of the wastewater. As specified in the NOA, the turbidity of the filter effluent measured at Monitoring Location FIL-002 shall not exceed the applicable measurements in i and ii below when discharging to surface water. For Dischargers that periodically do not use coagulation (City of Atwater, Mariposa Public Utility District, and City of Merced), when coagulation is not used, these dischargers shall ensure that the turbidity of the filter influent and effluent measured at Monitoring Locations FIL-001 and FIL-002, respectively, complies with the applicable measurements in iii below.
- i. **Applicable to Granular Media Filtration Systems or Equivalent**
- (a) 2 NTU as a daily average;
 - (b) 5 NTU more than 5 percent of the time within a 24-hour period; and
 - (c) 10 NTU at any time.
- ii. **Applicable to Membrane Filtration Systems or Equivalent**
- (a) 0.2 NTU more than 5 percent of the time within a 24-hour period; and
 - (b) 0.5 NTU at any time.
- iii. **Applicable to Granular Media Filtration Systems or Equivalent When Coagulation Is Not Used (City of Atwater, Mariposa Public Utility District, and the City of Merced)**
- (a) The turbidity of the influent to the filtration unit measured at FIL-001 shall not exceed 5 NTU for more than 15 minutes and never exceed 10 NTU; and
 - (b) The effluent turbidity measured at FIL-002 shall not exceed 2 NTU at any time.
- b. **UV Disinfection System Operating Specifications.** The NOA shall specify UV disinfection system operating specifications for Dischargers of tertiary treated wastewater that meet the eligibility criteria in section I.B.4 that utilize UV disinfection. The UV disinfection system must be operated in accordance with an operations and maintenance program that assures adequate disinfection, and shall meet the following minimum specifications to provide virus inactivation equivalent to Title 22 Disinfected Tertiary Recycled Water, as specified in the NOA, when discharging to surface water. If the Discharger's site-specific UV engineering study specifies dose and transmittance requirements that vary from those listed in VII.C.4.b.i and ii, below, the Discharger shall submit a copy of the UV engineering study with the NOI, and the Notice of Applicability will include alternative dose and transmittance requirements based on the site-specific UV engineering study. The NOA shall also include all applicable requirements received from DDW.

- i. **UV Dose**
 - (a) **Applicable to Granular Media Filtration Systems or Equivalent.**

The minimum hourly average UV dose in the UV reactor shall be 100 millijoules per square centimeter (mJ/cm^2).
 - (b) **Applicable to Membrane Filtration Systems or Equivalent.**

The minimum hourly average UV dose in the UV reactor shall be $80 \text{ mJ}/\text{cm}^2$.
 - ii. **UV Transmittance**
 - (a) **Applicable to Granular Media Filtration Systems or Equivalent.**

The minimum hourly average UV transmittance (at 254 nanometers) in the wastewater measured at Monitoring Location UVS-001 shall not fall below 55 percent.
 - (b) **Applicable to Membrane Filtration Systems or Equivalent.**

The minimum hourly average UV transmittance (at 254 nanometers) in the wastewater measured at Monitoring Location UVS-001 shall not fall below 65 percent.
 - iii. The lamp sleeves and cleaning system components must be visually inspected per the manufacturer's operations manual for physical wear (scoring, solarization, seal leaks, cleaning fluid levels, etc.) and to check the efficacy of the cleaning system.
 - iv. The lamp sleeves must be cleaned periodically as necessary to meet the UV dose requirements.
 - v. Lamps must be replaced per the manufacturer's operations manual, or sooner, if there are indications the lamps are failing to provide adequate disinfection. Lamp age and lamp replacement records must be maintained.
 - vi. The Facility must be operated in accordance with an approved operations and maintenance program that assures adequate disinfection.
- c. **Treatment/Storage Pond.** The NOA shall specify the following applicable pond operating specifications for treatment facilities that include ponds that are used as part of a treatment process and that are not regulated under separate WDRs, whether lined or unlined (e.g., treatment ponds, emergency storage, equalization, polishing):
- i. The discharge of waste classified as "hazardous" as defined in the California Code of Regulations (CCR), title 22, section 66261.1 et seq., is prohibited.
 - ii. No waste constituent shall be released, discharged, or placed where it will cause a violation of the Groundwater Limitations of this General Order and as specified in the NOA.

- iii. Wastewater treatment and storage shall not cause pollution or a nuisance as defined by Water Code section 13050.
- iv. The treatment facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency, except as noted below:
 - (a) **For the City of Atwater;**
 - (1) Any municipal wastewater directed to the Emergency Storage Basin shall be returned to the Facility for treatment as soon as possible, and
 - (2) If there is potential for flooding in Bear Creek, wastewater must be removed from the Emergency Storage Basin prior to the onset of significant precipitation, and no wastewater may be directed to the Emergency Storage Basin for at least 24 hours after cessation of significant precipitation. Significant precipitation is defined as 0.25 inches during a 24-hour period.
- v. Public contact with wastewater shall be precluded through such means as fences, signs, and other acceptable alternatives.
- vi. Objectionable odors originating at this Facility shall not be perceivable beyond the limits of the Facility property at an intensity that creates or threatens to create nuisance conditions.
- vii. If the NOA does not include odor monitoring requirements, then as a means of discerning compliance with specification vi above, as specified in the NOA, the dissolved oxygen (DO) content in the upper one foot of any wastewater treatment or storage pond shall not be less than 1.0 mg/L for three consecutive weekly sampling events. If the DO in any single pond is below 1.0 mg/L for three consecutive sampling events, the Discharger shall report the findings to the Central Valley Water Board in writing within 10 days and shall include a specific plan to resolve the low DO results within 30 days.
- viii. The Discharger shall operate and maintain all ponds sufficiently to protect the integrity of containment dams and berms and prevent overtopping and/or structural failure. Unless a California-registered civil engineer certifies (based on design, construction, and conditions of operation and maintenance) that less freeboard is adequate, the operating freeboard in any pond shall never be less than two feet (measured vertically from the lowest possible point of overflow of the pond levee). As a means of management and to discern compliance with this requirement, the Discharger shall install and maintain in each pond a permanent staff gauge with calibration marks that clearly show the water level at design capacity and enable determination of available operational freeboard.
- ix. On or about **1 October** of each year, available capacity shall at least equal the volume necessary to comply with sections iv and viii above.

- x. All ponds and open containment structures shall be managed to prevent breeding of mosquitoes. Specifically,
 - (a) For earthen facilities, an erosion control program shall be implemented to ensure that small coves and irregularities are not created around the perimeter of the water surface.
 - (b) Weeds shall be minimized through the control of water depth, harvesting, or herbicides.
 - (c) Dead algae, vegetation, and debris shall not accumulate on the water surface.
 - (d) The Discharger shall consult and coordinate with the local Mosquito Abatement District to minimize the potential for mosquito breeding as needed to supplement the above measures.
 - xi. Newly constructed or rehabilitated berms or levees (excluding internal berms that separate ponds or control the flow of water within a pond) shall be designed and constructed under the supervision of a California Registered Civil Engineer.
 - xii. Wastewater contained in any unlined pond shall not have a pH less than 6.0 or greater than 9.0. Short term and temporary fluctuations in pond pH below 6.0 and above 9.0 lasting no more than one week at a time are permitted for operational purposes.
 - xiii. The Discharger shall monitor sludge accumulation in wastewater treatment or storage ponds at least every five years and shall periodically remove sludge as necessary to maintain adequate storage capacity.
- d. **Storm Water Detention Basin Operating Specifications.** The NOA shall specify the following applicable operating specifications storm water detention basins not regulated under a separate Order:
- i. The discharge of storm water to detention basins shall not cause or contribute to violations of groundwater limitations included in section VI.B. of this Order and as specified in the NOA.
 - ii. Storm water detention basins shall be managed to prevent breeding of mosquitoes. 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.

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

a. Pretreatment Requirements

As specified in the NOA, Dischargers with a total design flow greater than 5 MGD and receiving from industrial users pollutants which pass through or interfere with the operation of the POTW or are otherwise subject to pretreatment standards shall comply with the following pretreatment requirements. The NOA may also require compliance with the following requirements for POTWs with a design flow of 5 MGD or less if the nature or volume of the industrial influent, treatment process upsets, violations of POTW effluent limitations, contamination of municipal sludge, or other circumstances warrant in order to prevent interference with the POTW or pass through.

- 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 1 year from the issuance date of the NOA or the effective date of the 40 C.F.R. 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 C.F.R. 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) by the due date specified in the NOA.
- 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.

As specified in the NOA, the Discharger shall comply with the following sludge/biosolids treatment or discharge specifications. Dischargers regulated under separate WDRs for Sludge/Biosolids Treatment or Discharge Specifications will not be subject to the sludge/biosolids treatment or discharge specifications in this General Order.

- 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 VI.B. of this General 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 VI.B. of this General 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 General 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 General Order.

- iii. The Discharger shall comply with section IX.A. Biosolids of the Monitoring and Reporting Program, Attachment E.
 - iv. The onsite sludge/biosolids treatment, processing, and storage for the Facility is described in the Notice of Applicability issued by the Executive Officer. Any proposed change in the onsite treatment, processing, or storage of sludge/biosolids shall be reported to the Executive Officer at least 90 days in advance of the change, and shall not be implemented until written approval by the Executive Officer.
- c. **Resource Recovery from Anaerobically Digestible Material (ADM).** If the Discharger proposes to receive hauled-in ADM for injection into an anaerobic digester for co-digestion, the Discharger shall notify the Central Valley Water Board and develop and implement standard operating procedures (SOPs) for this activity prior to initiation of the hauling. If the Discharger is currently accepting ADM for injection into an anaerobic digester for co-digestion, then within 180 days of issuance of the Notice of Applicability, the Discharger shall develop and implement SOPs for this activity.

The SOPs shall address material handling, including unloading, screening, or other processing prior to anaerobic digestion; transportation; spill prevention; and spill response. In addition, the SOPs shall address avoidance of the introduction of materials that could cause interference, pass-through, or upset of the treatment processes; avoidance of prohibited material; vector control; odor control; operation and maintenance; and the disposition of any solid waste segregated from introduction to the digester. The Discharger shall train its staff on the SOPs and shall maintain records for a minimum of five years for each load received, describing the hauler, waste type, and quantity received. In addition, the Discharger shall maintain records for a minimum of five years for the disposition, location, and quantity of cumulative pre-digestion-segregated solid waste hauled off-site. For Dischargers that do not currently retain records for a minimum of five years, the five-year minimum record retention is applicable two years from the effective date of the NOA.

6. Other Special Provisions

- a. **Disinfection Requirements.** For Dischargers of tertiary treated wastewater that meet the eligibility criteria in section I.B.4, wastewater shall be oxidized, coagulated, filtered, and adequately disinfected consistent with the State Water Board, Division of Drinking Water (DDW) reclamation criteria, CCR, Title 22, division 4, chapter 3, (Title 22), or equivalent.

7. Compliance Schedules

- a. **Methylmercury for the City of Lodi, White Slough Water Pollution Control Facility; and City of Manteca and Dutra Farms, Inc., Wastewater Quality Control Facility.** This Order requires compliance with the final effluent limitations for methylmercury for Dischargers in the Sacramento-San Joaquin Delta **by 31 December 2030**. If a Discharger to the Sacramento-San Joaquin Delta cannot readily comply with final effluent limitations for methylmercury, those Dischargers shall comply with the following time schedule, as specified in the NOA, to ensure compliance with the final effluent limitations:

Table 32. Methylmercury Compliance Schedule

Task	Due Date
i. Prepare and Implement PPP for Mercury (per Section VII.C.3.a as specified in the NOA)	Within 3 months of issuance of the Notice of Applicability (if a PPP has not been previously submitted)
Phase 2	--
v. Annual Progress Reports: The Discharger shall submit annual progress reports on pollution minimization activities implemented and evaluation of their effectiveness, including a summary of total mercury and methylmercury monitoring results.	30 January, annually
vi. Implement Methylmercury Control Programs: Following Phase 1 the Central Valley Water Board will conduct a Phase 1 Delta Mercury Control Program Review that considers: modification of methylmercury goals, objectives, allocations, final compliance date, etc.	To Be Determined
vii. Full Compliance	31 December 2030

VIII. COMPLIANCE DETERMINATION

A. BOD₅ and TSS Effluent Limitations (Sections V.A.1.a.i and V.A.1.a.ii). Compliance with the final effluent limitations for BOD₅ and TSS required in Waste Discharge Requirements sections V.A.1.a.i and V.A.1.a.ii shall be ascertained by 24-hour composite samples. Compliance with effluent limitations required in Waste Discharge Requirements sections V.A.1.a.i(b) and V.A.1.a.ii(b) for percent removal shall be calculated using the arithmetic mean of BOD₅ and TSS in effluent samples collected over a monthly period as a percentage of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period.

B. Aluminum Effluent Limitations (Section V.A.1.c.vii). Compliance with the final effluent limitations for aluminum based on aquatic life criteria can be demonstrated using either total or acid-soluble (inductively coupled plasma/atomic emission spectrometry or inductively coupled plasma/mass spectrometry) analysis methods, as supported by U.S. EPA’s Ambient Water Quality Criteria for Aluminum document (EPA 440/5-86-008), or other standard methods that exclude aluminum silicate particles as approved by the Executive Officer.

C. Secondary Maximum Contaminant Level Effluent Limitations (Section V.A.1.c.vi and Section V.A.1.c.vii). Compliance with the final effluent limitations for aluminum and manganese based on the Secondary MCL can be demonstrated with samples that have been passed through a 1.5-micron filter.

D. Total Mercury Mass Loading Effluent Limitations (Section V.A.1.c.xi and V.A.2.a). The procedures for calculating mass loadings are as follows:

1. 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 mercury load for the individual calendar months. Calculation of the monthly mercury load shall be conducted as follows:
 - a. If mercury measurements are made at least monthly during a calendar year, 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.
 - b. If data is only collected for one month during a calendar quarter, the mass load for each individual calendar month within the calendar quarter shall be determined using the average of all concentration data collected for the one month and the total monthly flow for each individual calendar month. (e.g., the average mercury effluent concentration in December was 0.044 µg/L and the total monthly flow was 129 MG. Mercury monitoring data was not collected in October and November; the total monthly flows of the individual months were 60 MG and 84 MG, respectively. Therefore, the total pollutant mass load for the calendar quarter equates to 0.1 lbs/quarter (0.022 lbs/month + 0.031 lbs/month + 0.047 lbs/month).
 - c. If data is only collected for two months during a calendar quarter, the mass load for each of those individual calendar months shall be determined using the corresponding average of all concentration data collected that month and the corresponding total monthly flow for that month. The total pollutant mass load for the remaining month within the calendar quarter shall be determined using the average of all concentration data collected that calendar quarter and the corresponding total monthly flow for that month. (e.g., the average monthly mercury concentrations in July and August were 0.0004 µg/L and 0.00034 µg/L and the total monthly flows were 35 MG and 31 MG, respectively. The average monthly mercury concentration for September was calculated to be 0.00037 µg/L and the total monthly flow was 30 MG. Therefore, the total pollutant mass load for the calendar quarter equates to 0.00022 lbs/quarter (0.00012 lbs/month + 0.000088 lbs/month + 0.000093 lbs/month).
 - d. If data is only collected one month during a calendar year, the total mass load for each of the individual months of the calendar year shall be determined using the average concentration data for the one month and the total monthly flow for each individual calendar month.

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.

E. Average Dry Weather Flow Prohibition (Section IV.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).

F. Total Coliform Organisms Effluent Limitations (V.A.1.a.i(c) and V.A.1.a.ii(c)). 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 23 MPN/100 mL (Section V.A.1.a.i(c)(1)) or 2.2 MPN/100 mL (Section V.A.1.a.ii(c)(1)), as specified in the NOA, the Discharger will be considered out of compliance.

G. Total Residual Chlorine Effluent Limitations (Section V.A.1.c.iii). 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).

H. Mass Effluent Limitations. The mass effluent limitations based on Effluent Limitations V.A.1.c.v for ammonia and as specified in the NOA are based on the permitted average dry weather flow and calculated as follows:

$$\text{Mass (lbs/day)} = \text{Flow (MGD)} \times \text{Concentration (mg/L)} \times 8.34 \text{ (conversion factor)}$$

If the effluent flow exceeds the permitted average dry weather flow during wet-weather seasons, the effluent mass limitations specified in the NOA shall not apply.

I. 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 or 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 (as described in section 2.4.5.1), the discharger shall **not** be deemed out of compliance.

J. Dissolved Oxygen Receiving Water Limitation (Section VI.A.6). Receiving water monitoring is required in the Monitoring and Reporting Program (Attachment E) and as specified in the NOA and is sufficient to evaluate the impacts of the discharge and compliance with this General Order. Receiving water monitoring data, measured at Monitoring Locations RSW-001 and RSW-002 or additional receiving water monitoring locations as specified in the NOA, will be used to determine compliance with sections VI.A.6.a.iii, VI.A.6.a.iv, VI.A.6.a.v, VI.A.6.a.vi, VI.A.6.b.i, VI.A.6.b.ii, and VI.A.6.b.iii of the

dissolved oxygen receiving water limitation to ensure the discharge does not cause the dissolved oxygen concentrations in the receiving water to be reduced below the receiving water limitation specified in the NOA 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 sections VI.A.6.a.i, VI.A.6.a.ii, and/or VI.A.6.a.vi.

K. Whole Effluent Toxicity Effluent Limitations or Triggers.

The discharge is subject to determination of “pass” or “fail” from acute and chronic whole effluent toxicity tests using the Test of Significant Toxicity (TST) statistical t-test approach described in Section IV.B.1.c of the Statewide Toxicity Provisions.

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

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

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

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

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

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

1. Acute Whole Effluent Toxicity

- a. **Acute Whole Effluent Toxicity MDEL (Section V.A.1.c.i(a)).** If the result of a routine acute 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.
- b. **Acute Whole Effluent Toxicity MMEL (Section V.A.1.c.i(b)).** If a routine acute 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 the routine test and 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.

2. Chronic Whole Effluent Toxicity

- a. **Chronic Whole Effluent Toxicity MDEL (Section V.A.1.c.i(a)).** If the result of a routine chronic whole effluent toxicity test, using the TST statistical approach, is a “fail” at the IWC measured in the test and the percent effect for either sublethal or survival endpoint, whichever is the endpoint of the most sensitive species as identified in the NOA, is greater than or equal to 50 percent, the Discharger will be deemed out of compliance with the MDEL.
 - b. **Chronic Whole Effluent Toxicity MMEL (Section V.A.1.c.i(b)).** If the result of a routine 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 the routine test and 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.
- L. Chlorpyrifos and Diazinon Effluent Limitations (Section V.A.1.c.xii).** Compliance shall be determined by calculating the sum (S), as provided in this Order. Analytical results that are reported as “non-detectable” concentrations are to be considered equal to zero.
- M. Temperature Effluent Limitation (Section V.A.1.c.ix).** Compliance with the final effluent limitations for temperature shall be determined by comparing (a) the average of effluent monitoring results measured at Monitoring Location EFF-001 during the 24-hour period starting at 12:00 a.m. measured on the same day as the receiving water monitoring results with (b) the daily average temperature of the receiving water measured at Monitoring Location RSW-001.
- N. Use of Delta Regional Monitoring Program and Other Receiving Water Data to Determine Compliance with Receiving Water Limitations.** For Dischargers in the Sacramento-San Joaquin Delta, Delta Regional Monitoring Program data and other receiving water monitoring data that is not specifically required to be conducted by the Discharger under this permit will not be used directly to determine that the discharge is in violation of this Order. The Discharger may, however, conduct any site-specific receiving water monitoring deemed appropriate by the Discharger that is not conducted by the Delta Regional Monitoring Program and submit that monitoring data. As described in section VIII of Attachment E, such data may be used, if scientifically defensible, in conjunction with other receiving water data, effluent data, receiving water flow data, and other pertinent information to determine whether or not a discharge is in compliance with this General Order and the Notice of Applicability.
- O. Period Average, Calendar Month Average, and Annual Average (Section VI.A.16).** Period average shall be the arithmetic average of all measurements taken during the period indicated. Calendar month average shall be the arithmetic average of all measurements taken during the month(s) indicated. Annual average shall be the arithmetic average of all measurements taken during the calendar year.
- P. Turbidity Receiving Water Limitation (Section VI.A.18).** A 1-month averaging period may be used when determining compliance with the turbidity receiving water limitations.

Q. 20:1 Dilution of Wastewater in Amador Lake (Section IV.G). Compliance with Prohibition IV.G. will be determined in December of each year from the harmonic mean of annual inflows into Amador Lake, excluding effluent discharged to Jackson Creek, and using the current year's average dry weather flow discharged to Jackson Creek to estimate the percentage of effluent in Amador Lake. The annual inflows into Amador Lake, excluding effluent discharged to Jackson Creek, will be comprised of upstream Jackson Creek flow, estimated runoff into Amador Lake, rainfall into Amador Lake, and Lake Pardee water transferred into Amador Lake. The harmonic mean, which is the lowest estimate of the central tendency of a dataset, has been chosen to conservatively estimate dilution in Amador Lake.

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

$$\text{Arithmetic mean} = \mu = \Sigma x / n$$

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 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 NOA), 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.

Effect Concentration (EC)

A point estimate of the toxicant concentration that would cause an observable adverse effect (e.g. death, immobilization, or serious incapacitation) in a given percent of the test organisms,

calculated from a continuous model (e.g. Probit Model). EC25 is a point estimate of the toxicant concentration that would cause an observable adverse effect in 25 percent of the test organisms.

Effluent Concentration Allowance (ECA)

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

Enclosed Bays

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

Endpoint

An effect that is measured in a toxicity study. Endpoints in toxicity tests may include, but are not limited to survival, reproduction, and growth. 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 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 Calendar Month

A period of time from a day of one month to the day before the corresponding day of the next month if the corresponding day exists, or if not to the last day of the next month (e.g., from January 1 to January 31, from June 15 to July 14, or from January 31 to February 27).

Toxicity Calendar Quarter

A period of time defined as three consecutive toxicity calendar months (e.g., from January 1 to March 31, from June 15 to October 14, or from September 10 to December 9).

Toxicity Calendar Year

A period of time defined as twelve consecutive toxicity calendar months (e.g., from January 1 to December 31, from June 15 to June 14 of the following year, or from September 10 to September 9 of the following year).

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 – NOTICE OF INTENT
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION**

NOTICE OF INTENT

**TO COMPLY WITH THE TERMS OF
GENERAL ORDER R5-2023-0025
NPDES CAG585001
FOR
MUNICIPAL WASTEWATER DISCHARGERS THAT MEET
OBJECTIVES/CRITERIA AT THE POINT OF DISCHARGE TO SURFACE WATER**

To obtain coverage under this General Order, which also serves as the National Pollutant Discharge Elimination System (NPDES) Permit, the Discharger must submit a complete Notice of Intent including the following applicable requirements on official letterhead. Additional information may be requested by the Central Valley Regional Water Quality Control Board (Central Valley Water Board) for a specific discharge.

ALL DISCHARGERS. The following items shall be submitted by all Dischargers applying for coverage under this General Order.

1. Fee Requirements

- Provide the applicable fees.** Information regarding the [current fee schedule](http://www.waterboards.ca.gov/resources/fees) (<http://www.waterboards.ca.gov/resources/fees>) and [how to make a payment](https://www.waterboards.ca.gov/make_a_payment) (https://www.waterboards.ca.gov/make_a_payment) by check or credit card is available online. Checks must be made payable to the State Water Resources Control Board.

2. Discharger Information

- Legal name, address, contact person, and phone number for the Facility, Facility Owner, Facility Property Owner, and Facility Operator (agency or business, not a person).

3. Facility Information

- Identification of existing waste discharge requirement order number(s) and NPDES permit number, if applicable;
- Description of plans for growth and/or expansion of facilities, or other modifications, for the next 5 years (complete section 8 if you are requesting an increase in the permitted flow associated with a facility expansion);
- Description of recent upgrades and upgrades anticipated during the next 5 years;
- Description of operational changes or issues resulting from effluent violations and/or plant upset(s), if any, during the last 5 years;

- Indication whether the Facility has reached, or will reach within the next 5 years, 75% of the hydraulic and treatment capacity of its treatment and disposal facilities; and
- Name of receiving water and nearest major downstream water body.
- Facility location site map. The Facility location site map should include the following:
 - The location of the Facility
 - The treatment system
 - Discharge points
 - The receiving water
 - Groundwater monitoring wells, if applicable
- Flow schematic diagram. The flow schematic diagram must be legible and annotated with all treatment components from the influent through to the point of discharge and including flows to and from emergency storage ponds and storage of sludge.
- Assessor Parcel Number for the Facility and the Facility's Discharge Point(s).
- Longitude and latitude of the Facility and the Facility's Discharge Point(s).
- Current design flow and actual flow.
- If applicable, an evaluation of the effectiveness of the Salinity Evaluation and Minimization Plan.

4. Pretreatment Program

- Do you have a pretreatment program approved by the Central Valley Water Board?
- Yes - Provide a description of recent and proposed changes to your pretreatment program and industrial users in your service area.
 - No.

LOW VOLUME DISCHARGERS.

The following items shall be submitted by low volume Dischargers requesting an exception to priority pollutant sampling requirements in section IX.G of the Monitoring and Reporting Program (MRP).

5. Exception for Priority Pollutant Sampling Requirements

- Provide justification that the discharge will have no significant adverse impact on water quality.

EXISTING DISCHARGERS.

The following items shall be submitted by existing Dischargers applying for coverage under this General Order.

6. Wastewater Sampling and Analysis Requirements for Existing Dischargers

Is additional representative data for the effluent and/or receiving water available that the Discharger would like to be considered that has not been reported in the California Integrated Water Quality System (CIWQS) during the last 3 years?

- Yes - Provide the analytical data from the laboratory.
- No.

Is the existing discharge from a facility that has undergone a major upgrade for which there is not 3 years of representative data available and the effluent has not been analyzed for the priority pollutants and other constituents of concern listed in Table E-14 in accordance with the specifications in section IX.G of the Monitoring and Reporting Program (Attachment E)?

- Yes - Provide estimated data for the proposed effluent and for the priority pollutants and other constituents of concern listed in section IX.G of the Monitoring and Reporting Program (Attachment E).
- No.

NEW ENROLLEES.

The following items shall be submitted by new enrollees applying for coverage under this General Order.

7. Wastewater Sampling and Analysis Requirements for New Enrollees

- If the proposed new discharge is from an operational facility (e.g., a facility that currently discharges to land) and it is feasible to collect a representative sample of the proposed effluent, collect a sample of the proposed effluent and analyze it for the priority pollutants and other constituents of concern listed in Table E-14 in accordance with the specifications in section IX.G of the Monitoring and Reporting Program (Attachment E). Provide the analytical data from the laboratory.

If the proposed new discharge is from a new facility for which construction and startup has not been completed, or a representative sample of the proposed discharge cannot otherwise be collected, provide an engineering report estimating the character of the effluent for the priority pollutants and other constituents of concern listed in Table E-14 of the Monitoring and Reporting Program (Attachment E). (Note that sampling will be required within 18 months for a new facility that is fully operational at the time of the issuance of the Notice of Applicability or within 21 months following completion of construction of a new facility that is not fully operational at the time of the issuance of the Notice of Applicability).

- Collect a sample of the upstream receiving water and analyze it for the priority pollutants and other constituents of concern listed in Table E-14 in accordance with the specifications in section IX.G of the Monitoring and Reporting Program (Attachment E). Provide the analytical data from the laboratory.

NEW AND EXPANDING DISCHARGERS.

The following items shall be submitted by Dischargers requesting new or expanding discharges under this General Order.

8. Antidegradation Analysis

- Provide an antidegradation analysis meeting the requirements of 40 C.F.R. 131.12 and State Water Board Resolution No. 68-16, "Statement of Policy With Respect to Maintaining High Quality of Waters in California". See Administrative Procedures Update (APU) 90-004 for additional guidance.
- Provide a feasibility study for wastewater disposal, regionalization, and recycled water alternatives.

ULTRAVIOLET LIGHT (UV) DISINFECTION DISCHARGERS.

The following items shall be submitted by Dischargers that use UV disinfection.

9. UV Disinfection System Information

Are you requesting site-specific UV disinfection system operating specifications in lieu of the specification in Special Provisions VII.C.4.b.i and ii?

- Yes - Provide a copy of the site-specific engineering study and a copy of the approval letter from the State Water Board, Division of Drinking Water (DDW).
- No - You are not required to provide any additional information regarding the UV disinfection system.

Do you use chlorine within the treatment system for cleaning and/or maintenance purposes?

- Yes - Provide a description of chlorine use and demonstration that chlorine use is managed properly.
- No.

10. Salt Control Program Information

Has a Notice of Intent for the Salt Control Program been submitted to the Central Valley Water Board?

Yes – Please provide a date of submittal of the Salt Control Program Notice of Intent.

No.

If yes, please indicate if a decision has been made regarding the Alternative Salinity Permitting Approach or the Conservative Salinity Permitting Approach.

Yes – Alternative Salinity Permitting Approach

Yes – Conservative Salinity Permitting Approach

No.

11. CERTIFICATION

“I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to ensure 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 or imprisonment.”

A. Printed Name: _____

B. Signature: _____ C. Date: _____

D. Title: _____

ATTACHMENT C – SCREENING LEVELS

I. SCREENING LEVELS FOR PRIORITY POLLUTANTS

To determine the priority pollutants requiring effluent limitations, the Central Valley Water Board will conduct a reasonable potential analysis (RPA) utilizing the effluent and ambient background data as discussed in section V.C.2.b of the Fact Sheet (Attachment F), the screening levels in Tables C-1 and Tables C-2A through C-2C for hardness-dependent metals, and the procedures specified in section 1.3 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP).

The Central Valley Water Board will identify the maximum effluent concentration (MEC) and maximum background (B) concentration for each priority pollutant and compare this information to the applicable screening level in Tables C-1 and Tables C-2A through C-2C for hardness-dependent metals, which represents the most stringent applicable water quality criterion (C) from the CTR and Basin Plan. Section 1.3 of the SIP establishes three triggers for a finding of reasonable potential:

Trigger 1. If the MEC is greater than C, there is reasonable potential, and the Notice of Applicability from the Executive Officer will specify effluent limitations for the pollutant.

Trigger 2. If B is greater than C, and the pollutant is detected in the effluent (MEC > ND), there is reasonable potential, and the Notice of Applicability from the Executive Officer will specify effluent limitations for the pollutant.

Trigger 3. After a review of other available and relevant information, the Central Valley Water Board may decide that an effluent limitation is required, and the Notice of Applicability from the Executive Officer will specify effluent limitations for the pollutant. Such additional information may include, but is not limited to: the facility type, the discharge type, solids loading analyses, lack of dilution, history of compliance problems, potential toxic impact of the discharge, fish tissue residue data, water quality and beneficial uses of the receiving water, CWA 303(d) listing for the pollutant, and the presence of endangered or threatened species or their critical habitat.

For priority pollutants that exhibit reasonable potential to cause or contribute to a water quality criterion/objective, the Executive Officer shall indicate the applicable effluent limitations from section V.A.1.b of this General Order in the Notice of Applicability.

Table C-1. Screening Levels for Priority Pollutants

CTR #	Parameter	Units	Screening Level (Based on MUN)	Screening Level (Based on No MUN)
1	Antimony, Total	µg/L	6	4300
2	Arsenic, Total	µg/L	10	150
3	Beryllium, Total	µg/L	4	--

CTR #	Parameter	Units	Screening Level (Based on MUN)	Screening Level (Based on No MUN)
4	Cadmium, Total	µg/L	See Table C-2A	See Table C-2A
5a	Chromium (III)	µg/L	See Table C-2A	See Table C-2A
5b	Chromium (VI)	µg/L	11	11
6	Copper, Total	µg/L	See Table C-2A	See Table C-2A
7	Lead, Total	µg/L	See Table C-2A	See Table C-2A
8	Mercury, Total	µg/L	See Note 4	See Note 4
9	Nickel, Total	µg/L	See Table C-2A	See Table C-2A
10	Selenium, Total	µg/L	5.0	5.0
11	Silver, Total	µg/L	See Table C-2A	See Table C-2A
12	Thallium, Total	µg/L	1.7	6.3
13	Zinc, Total	µg/L	See Table C-2A	See Table C-2A
14	Cyanide, Total (as CN)	µg/L	5.2	5.2
15	Asbestos	MFL	7	--
16	2,3,7,8-TCDD (Dioxin)	µg/L	1.30E-08	1.40E-08
17	Acrolein	µg/L	320	780
18	Acrylonitrile	µg/L	0.059	0.66
19	Benzene	µg/L	1	71
20	Bromoform	µg/L	4.3	360
21	Carbon Tetrachloride	µg/L	0.25	4.4
22	Chlorobenzene	µg/L	70	21,000
23	Chlorodibromomethane	µg/L	0.41	34
24	Chloroethane	µg/L	--	--
25	2-Chloroethylvinyl Ether	µg/L	--	--
26	Chloroform	µg/L	60	2000
27	Dichlorobromomethane	µg/L	0.56	46
28	1,1-Dichloroethane	µg/L	5	--
29	1,2-Dichloroethane	µg/L	0.38	99
30	1,1-Dichloroethylene	µg/L	0.057	3.2
31	1,2-Dichloropropane	µg/L	0.52	39
32	1,3-Dichloropropylene	µg/L	0.5	1,700
33	Ethylbenzene	µg/L	300	29,000
34	Methyl Bromide	µg/L	48	4,000
35	Methyl Chloride	µg/L	--	--
36	Methylene Chloride	µg/L	4.7	1,600
37	1,1,2,2-Tetrachloroethane	µg/L	0.17	11
38	Tetrachloroethylene	µg/L	0.8	8.85
39	Toluene	µg/L	150	200,000
40	1,2-Trans-Dichloroethylene	µg/L	10	140,000
41	1,1,1-Trichloroethane	µg/L	200	--
42	1,1,2-Trichloroethane	µg/L	0.60	42
43	Trichloroethylene	µg/L	2.7	81
44	Vinyl Chloride	µg/L	0.5	525

CTR #	Parameter	Units	Screening Level (Based on MUN)	Screening Level (Based on No MUN)
45	2-Chlorophenol	µg/L	120	400
46	2,4-Dichlorophenol	µg/L	93	790
47	2,4-Dimethylphenol	µg/L	540	2,300
48	2-Methyl-4,6-Dinitrophenol	µg/L	13.4	765
49	2,4-Dinitrophenol	µg/L	70	14,000
50	2-Nitrophenol	µg/L	--	--
51	4-Nitrophenol	µg/L	--	--
52	3-Methyl-4-Chlorophenol	µg/L	--	--
53	Pentachlorophenol	µg/L	0.28	8.2
54	Phenol	µg/L	21,000	4,600,000
55	2,4,6-Trichlorophenol	µg/L	2.1	6.5
56	Acenaphthene	µg/L	1,200	2,700
57	Acenaphthylene	µg/L	--	--
58	Anthracene	µg/L	9,600	110,000
59	Benidine	µg/L	0.00012	0.00054
60	Benzo(a)Anthracene	µg/L	0.0044	0.049
61	Benzo(a)Pyrene	µg/L	0.0044	0.049
62	Benzo(b)Fluoranthene	µg/L	0.0044	0.049
63	Benzo(ghi)Perylene	µg/L	--	--
64	Benzo(k)Fluoranthene	µg/L	0.0044	0.049
65	Bis(2-Chloroethoxy)Methane	µg/L	--	--
66	Bis(2-Chloroethyl)Ether	µg/L	0.031	1.4
67	Bis(2-Chloroisopropyl)Ether	µg/L	1,400	170,000
68	Bis(2-Ethylhexyl)Phthalate	µg/L	1.8	5.9
69	4-Bromophenyl Phenyl Ether	µg/L	--	--
70	Butylbenzyl Phthalate	µg/L	3,000	5,200
71	2-Chloronaphthalene	µg/L	1,700	4,300
72	4-Chlorophenyl Phenyl Ether	µg/L	--	--
73	Chrysene	µg/L	0.0044	0.049
74	Dibenzo(a,h)Anthracene	µg/L	0.0044	0.049
75	1,2-Dichlorobenzene	µg/L	600	17,000
76	1,3-Dichlorobenzene	µg/L	400	2,600
77	1,4-Dichlorobenzene	µg/L	5	2,600
78	3,3-Dichlorobenzidine	µg/L	0.04	0.077
79	Diethyl Phthalate	µg/L	23,000	120,000
80	Dimethyl Phthalate	µg/L	313,000	2,900,000
81	Di-n-Butyl Phthalate	µg/L	2,700	12,000
82	2,4-Dinitrotoluene	µg/L	0.11	9.1
83	2,6-Dinitrotoluene	µg/L	--	--
84	Di-n-Octyl Phthalate	µg/L	--	--
85	1,2-Diphenylhydrazine	µg/L	0.040	0.54
86	Fluoranthene	µg/L	300	370

CTR #	Parameter	Units	Screening Level (Based on MUN)	Screening Level (Based on No MUN)
87	Fluorene	µg/L	1,300	14,000
88	Hexachlorobenzene	µg/L	0.00075	0.00077
89	Hexachlorobutadiene	µg/L	0.44	50
90	Hexachlorocyclopentadiene	µg/L	50	17,000
91	Hexachloroethane	µg/L	1.9	8.9
92	Indeno(1,2,3-cd) Pyrene	µg/L	0.0044	0.049
93	Isophorone	µg/L	8.4	600
94	Naphthalene	µg/L	--	--
95	Nitrobenzene	µg/L	17	1,900
96	N-Nitrosodimethylamine	µg/L	0.00069	8.1
97	N-Nitrosodi-n-Propylamine	µg/L	0.005	1.4
98	N-Nitrosodiphenylamine	µg/L	5.0	16
99	Phenanthrene	µg/L	--	--
100	Pyrene	µg/L	960	11,000
101	1,2,4-Trichlorobenzene	µg/L	5	--
102	Aldrin	µg/L	0.00013	0.00014
103	alpha-BHC	µg/L	0.0039	0.013
104	beta-BHC	µg/L	0.014	0.046
105	gamma-BHC (Lindane)	µg/L	0.019	0.063
106	delta-BHC	µg/L	--	--
107	Chlordane	µg/L	0.00057	0.00059
108	4,4-DDT	µg/L	0.00059	0.00059
109	4,4-DDE	µg/L	0.00059	0.00059
110	4,4-DDD	µg/L	0.00083	0.00084
111	Dieldrin	µg/L	0.00014	0.00014
112	alpha-Endosulfan	µg/L	0.056	0.056
113	beta-Endosulfan	µg/L	0.056	0.056
114	Endosulfan Sulfate	µg/L	110	240
115	Endrin	µg/L	0.036	0.036
116	Endrin Aldehyde	µg/L	0.76	0.81
117	Heptachlor	µg/L	0.00021	0.00021
118	Heptachlor Epoxide	µg/L	0.00010	0.00011
119-125	PCBs sum	µg/L	0.00017	0.00017
126	Toxaphene	µg/L	0.0002	0.0002

Table C-1 Notes:

- Parameters** shall be analyzed using the analytical methods described in 40 C.F.R Part 136 and in accordance with the General Monitoring Provisions contained in section I of the Monitoring and Reporting Program (Attachment E).
- Hardness-Dependent Metals (Cadmium, Chromium (III), Copper, Lead, Nickel, Silver, and Zinc).** For hardness-dependent metal screening levels, see Table C-2A below. For the City of Grass Valley WWTP, see Tables C-2B.

3. **Chromium (III) and Chromium (VI).** Total Chromium may be sampled as a substitute for Chromium (III) and Chromium (VI) for the purpose of comparing with the specified screening level.
4. **Mercury, Total.** The Central Valley Water Board will conduct the RPA for mercury by comparing the maximum effluent concentration to the applicable screening level for mercury, total, which is 0.05 µg/L based on MUN and 0.051 µg/L based on no MUN. The Central Valley Water Board will also conduct an RPA in accordance with the procedures described in the Final 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, Section IV.D.2 by comparing the maximum calendar annual average mercury concentration for effluent and receiving water to the applicable screening level as follows. For the protection of commercial and sport fishing (COMM), tribal tradition and culture (CUL), wildlife habitat (WILD), and marine habitat (MAR) beneficial uses, the screening level of 12 ng/L of total mercury for flowing water bodies (e.g., rivers, creeks, streams, and waters with tidal mixing) or 4 ng/L of total mercury for slow-moving water bodies (e.g., lagoons, closed estuaries, and marshes) shall apply.
5. **Polychlorinated Biphenyls Sum (PCBs Sum).** The screening level for the PCBs sum applies to the sum of PCB Aroclors 1242, 1254, 1221, 1232, 1248, 1260, and 1016.

II. SCREENING LEVELS FOR PRIORITY POLLUTANT HARDNESS-DEPENDENT METALS

The Central Valley Water Board will conduct an RPA in accordance with the procedures described in section I, above. The screening levels contained in Table C-2A are based on hardness in mg/L as CaCO₃. For waters with hardness concentrations less than 100 mg/L, screening levels have been segmented into 5 mg/L increments. For waters with hardness concentrations greater than or equal to 100 mg/L but less than 200 mg/L, screening levels have been segmented into 20 mg/L increments. For waters with hardness concentrations greater than or equal to 200 mg/L but less than 400 mg/L, screening levels have been segmented into 50 mg/L increments. For each segment the mid-point of the segment was used to determine the corresponding screening level. For waters with lowest observed hardness concentrations greater than or equal to 400 mg/L, a hardness value of 400 mg/L was used to determine the corresponding screening level. The hardness used to select the appropriate screening level shall be determined in accordance with section V.C.2.e of the Fact Sheet (Attachment F).

The applicable screening levels for copper and zinc from Table C-2A shall be multiplied by the site-specific water effect ratios (WERs) in Table C-2C of this General Order for the specified Dischargers.

For the City of Grass Valley, Wastewater Treatment Plant, the screening levels for copper and zinc in Table C-2B shall apply in lieu of those in Table C-2A.

Table C-2A. Screening Levels for Hardness-Dependent Metals

Hardness in mg/L	Cadmium, Total (µg/L)	Chromium (III), Total (µg/L)	Copper, Total (µg/L)	Lead, Total (µg/L)	Nickel, Total (µg/L)	Silver, Total (µg/L)	Zinc, Total (µg/L)
0 ≤ H < 5	0.14	10	0.40	0.029	2.3	0.0071	5.3
5 ≤ H < 10	0.32	25	1.0	0.12	5.8	0.047	13
10 ≤ H < 15	0.48	38	1.6	0.23	9	0.11	21
15 ≤ H < 20	0.63	50	2.1	0.35	12	0.2	27
20 ≤ H < 25	0.76	61	2.6	0.48	15	0.31	34
25 ≤ H < 30	0.89	72	3.1	0.62	18	0.44	40
30 ≤ H < 35	1.0	82	3.6	0.76	20	0.59	46
35 ≤ H < 40	1.1	93	4	0.91	23	0.75	52
40 ≤ H < 45	1.3	100	4.5	1.1	25	0.93	58
45 ≤ H < 50	1.4	110	4.9	1.2	28	1.1	64
50 ≤ H < 55	1.5	120	5.4	1.4	30	1.3	69
55 ≤ H < 60	1.6	130	5.8	1.6	33	1.6	75
60 ≤ H < 65	1.7	140	6.2	1.7	35	1.8	80
65 ≤ H < 70	1.8	150	6.7	1.9	37	2.1	86
70 ≤ H < 75	1.9	160	7.1	2.1	40	2.3	91
75 ≤ H < 80	2.0	170	7.5	2.3	42	2.6	97
80 ≤ H < 85	2.1	180	7.9	2.5	44	2.9	100
85 ≤ H < 90	2.2	190	8.3	2.7	47	3.2	110
90 ≤ H < 95	2.3	190	8.7	2.9	49	3.5	110
95 ≤ H < 100	2.4	200	9.1	3.1	51	3.9	120
100 ≤ H < 120	2.7	220	10	3.6	57	4.8	130
120 ≤ H < 140	3	260	12	4.4	65	6.4	150
140 ≤ H < 160	3.4	290	13	5.3	74	8.2	170
160 ≤ H < 180	3.7	320	15	6.3	82	10	190
180 ≤ H < 200	4.1	350	16	7.2	90	12	210
200 ≤ H < 250	4.7	400	19	8.9	100	16	240
250 ≤ H < 300	5.4	470	22	12	120	23	280
300 ≤ H < 350	6.2	540	26	14	140	31	330
350 ≤ H < 400	7	610	29	17	160	39	370
H ≥ 400	7.3	640	30	19	170	44	390

Table C-2B. Screening Levels for Copper and Zinc for City of Grass Valley WWTP

Hardness in mg/L	Copper, Total ($\mu\text{g/L}$)	Zinc, Total ($\mu\text{g/L}$)
$0 \leq H < 5$	2.8	9.0
$5 \leq H < 10$	7.6	23
$10 \leq H < 15$	12	35
$15 \leq H < 20$	16	47
$20 \leq H < 25$	19	58
$25 \leq H < 30$	23	69
$30 \leq H < 35$	26	76
$35 \leq H < 40$	30	89
$40 \leq H < 45$	33	99
$45 \leq H < 50$	37	110
$50 \leq H < 55$	40	120
$55 \leq H < 60$	43	130
$60 \leq H < 65$	46	140
$65 \leq H < 70$	49	150
$70 \leq H < 75$	53	160
$75 \leq H < 80$	56	170
$80 \leq H < 85$	59	170
$85 \leq H < 90$	62	180
$90 \leq H < 95$	65	190
$95 \leq H < 100$	68	200
$100 \leq H < 120$	75	220
$120 \leq H < 140$	87	260
$140 \leq H < 160$	98	290
$160 \leq H < 180$	110	320
$180 \leq H < 200$	120	350
$200 \leq H < 250$	140	410
$250 \leq H < 300$	160	180
$300 \leq H < 350$	190	560
$350 \leq H < 400$	210	630
$H \geq 400$	230	660

Table C-2C. Site-Specific Water Effect Ratios for Copper and Zinc

Discharger	Order / NPDES Permit of Adopted WER	Site-Specific WER for Copper	Site-Specific WER for Zinc
City of Auburn, Wastewater Treatment Plant	R5-2016-0038 / CA0077712	3.52	--
Donner Summit Public Utility District, Wastewater Treatment Plant	R5-2015-0068 / CA0081621	2.72	--
City of Galt, Wastewater Treatment Plant and Reclamation Facility	R5-2015-0123 / CA0081434	15	--
City of Grass Valley, Wastewater Treatment Plant	R5-2016-0012 / CA0079898	6.49	1.70
Cutler-Orosi Joint Powers Wastewater Authority, Wastewater Treatment Facility	R5-2013-0047-01 / CA0081485	3.1	--
El Dorado Irrigation District, Deer Creek Wastewater Treatment Plant	R5-2014-0081 / CA0078662	9.7	1.7
El Dorado Irrigation District, El Dorado Hills Wastewater Treatment Plant	R5-2013-0003 / CA0078671	8.05	--
United Auburn Indian Community, Thunder Valley Wastewater Treatment Plant	R5-2015-0077 / CA0084697	24.5	--
United States Department of the Interior, National Park Service, Yosemite National Park, El Portal Wastewater Treatment Facility	R5-2014-0068 / CA0081759	2.0	--
City of Placerville, Hangtown Creek Water Reclamation Facility	R5-2017-0085-01 / CAG585001	--	1.7
City of Clovis, Sewage Treatment and Water Reuse Facility	R5-2023-0025 / CAG585001	18	1.79
City of Jackson, Wastewater Treatment Plant	R5-2018-0036 / CA0079391	5.0	--

III. SCREENING LEVELS FOR OTHER CONSTITUENTS OF CONCERN

To determine the constituents requiring effluent limitations, the Central Valley Water Board will conduct an RPA utilizing the effluent and ambient background data as discussed in section V.C.2.b of the Fact Sheet (Attachment F), the screening levels in Table C-3, and the constituent-specific procedures specified in section V.C.3.b of the Fact Sheet (Attachment F).

For waters with the MUN use, the Central Valley Water Board will conduct the RPA for aluminum, chloride, fluoride, iron, manganese, methylene blue active substances (MBAS or foaming agents), and electrical conductivity by comparing the maximum observed calendar year annual average effluent concentration to the screening level. The Central Valley Water Board will conduct the RPA for nitrite by comparing the maximum effluent nitrite concentration to the screening level.

Table C-3. Screening Levels for Non-Priority Pollutant Constituents and Parameters of Concern

Constituent/Parameter	Units	Screening Levels (Based on MUN)	Screening Levels (Based on No MUN)
Aluminum, Total	µg/L	200	See Tables C-4A through C-4I
Chloride	mg/L	250	--
Iron, Total	µg/L	300	--
Fluoride, Total	mg/L	2	--
Foaming Agents (MBAS)	mg/L	0.5	--
Manganese, Total	µg/L	50	--
Nitrite Nitrogen, Total (as N)	mg/L	1	--
Electrical Conductivity @ 25°C	µmhos/cm	1,600	--

Table C-3 Notes:

- 1. Constituents/Parameters** shall be analyzed using the analytical methods described in 40 C.F.R Part 136 and in accordance with the General Monitoring Provisions contained in section I of the Monitoring and Reporting Program (Attachment C).
- 2. Aluminum, Total.** Using data for dissolved organic carbon, pH, and hardness, discharges required to sample and analyze for aluminum will be compared to whichever is more stringent between the criteria specified in Tables C-4A through C-4I. The Central Valley Water Board will evaluate reasonable potential of the effluent compared to the screening level based on MUN for aluminum based on an annual average, which can be demonstrated with samples that have been passed through a 1.5-micron filter.
- 3. Iron, Total and Manganese, Total.** MUN Criteria is based on the Secondary Maximum Contaminant Levels for taste and odor. The Central Valley Water Board will evaluate reasonable potential of the effluent compared to the screening level for the MUN beneficial use for iron and manganese based on an annual average, which can be demonstrated with samples that have been passed through a 1.5-micron filter.

A. Aluminum Screening Levels.

The screening levels contained in Tables C-4A through C-4I are based on pH, dissolved organic carbon (DOC), and hardness (H). For discharges with hardness concentrations less than 100 mg/L, screening levels have been segmented into 25 mg/L increments. For discharges with hardness concentrations greater than or equal to 100 mg/L but less than 200 mg/L, screening levels have been segmented into 50 mg/L increments. For discharges with hardness concentrations greater than or equal to 200 mg/L but less than 400 mg/L, screening levels have been segmented into 100 mg/L increments. For each hardness segment, the mid-point of the segment was used to determine the corresponding screening level.

Screening levels have also been segmented into increments based on pH. For discharges with pH greater than or equal to 6.5 SU but less than 7.0 SU, screening levels have been segmented 0.1 SU increments. For discharges with pH greater than or

equal to 7.0 SU but less than 8.0 SU, screening levels have been segmented into 0.2 increments. For discharges with pH greater than or equal to 8.0 SU but less than 8.5 SU, screening levels have been segmented into 0.5 increments. The water quality objectives for pH for is 6.5 SU to 8.5 SU discharges within the Sacramento San Joaquin Basin and 6.5 SU to 8.3 SU for discharges within the Tulare Lake Basin. However, the pH criterion for Goose Lake is 7.5 to 9.5. Screening levels for pH greater than 8.5 SU are applicable for discharges to Goose Lake only and are calculated using the maximum pH of 9.5 SU. For each pH segment, the mid-point of the segment was used to determine the corresponding screening level. Each Table C-4A through C-4I represents a range of DOC, for which, the mid-point was used to determine the corresponding screening level.

If the applicable criterion from Tables C-3A through C-3I is more stringent than the Secondary MCL of 200 µg/L for aluminum in Table C-3 for receiving waters with the MUN use, then the appropriate calculated screening level from Table C-4A through C-4I shall be used in lieu of the Secondary MCL. Evaluation of aluminum in comparison to the screening levels in Tables C-3A through C-3I can be demonstrated using either total or acid-soluble (inductively coupled plasma/atomic emission spectrometry or inductively coupled plasma/mass spectrometry) analysis methods, as supported by U.S. EPA's Ambient Water Quality Criteria for Aluminum document (EPA 440/5-86-008), or other methods that exclude aluminum silicate particles as approved by the Executive Officer.

Table C-4A. Screening Levels for Aluminum, Total – 0 mg/L ≤ DOC < 1 mg/L

pH	0 ≤ H < 25	25 ≤ H < 50	50 ≤ H < 75	75 ≤ H < 100	100 ≤ H < 150	150 ≤ H < 200	200 ≤ H < 300	300 ≤ H < 400	H > 400
pH < 6.0	36	64	82	96	110	130	150	170	180
6.0 ≤ pH < 6.1	39	69	87	100	120	130	150	170	180
6.1 ≤ pH < 6.2	47	80	99	110	130	140	160	180	190
6.2 ≤ pH < 6.3	56	91	110	120	140	160	180	200	210
6.3 ≤ pH < 6.4	66	100	120	140	160	170	190	210	220
6.4 ≤ pH < 6.5	78	120	140	150	170	190	210	230	240
6.5 ≤ pH < 6.6	93	140	160	170	190	210	230	250	250
6.6 ≤ pH < 6.7	110	160	180	190	210	230	250	270	280
6.7 ≤ pH < 6.8	130	180	200	220	240	250	270	290	300
6.8 ≤ pH < 6.9	150	210	230	250	260	280	300	320	330
6.9 ≤ pH < 7.0	180	240	260	280	300	310	330	350	360
7.0 ≤ pH < 7.2	230	290	320	340	360	370	390	410	410
7.2 ≤ pH < 7.4	310	390	420	440	460	470	490	500	500
7.4 ≤ pH < 7.6	400	500	540	570	590	600	610	620	630
7.6 ≤ pH < 7.8	450	640	680	700	740	760	770	780	780
7.8 ≤ pH < 8.0	490	690	800	860	890	910	930	950	960
8.0 ≤ pH < 8.5	540	660	730	780	840	900	1,000	1,100	1,100
8.5 ≤ pH	290	260	250	240	230	230	220	210	210

Table C-4B. Screening Levels for Aluminum, Total – 1 mg/L ≤ DOC < 2 mg/L

pH	0 ≤ H < 25	25 ≤ H < 50	50 ≤ H < 75	75 ≤ H < 100	100 ≤ H < 150	150 ≤ H < 200	200 ≤ H < 300	300 ≤ H < 400	H > 400
pH < 6.0	70	130	170	200	230	260	300	350	360
6.0 ≤ pH < 6.1	78	140	180	200	240	270	310	350	370
6.1 ≤ pH < 6.2	92	150	190	220	250	280	320	360	380
6.2 ≤ pH < 6.3	110	170	210	230	260	290	330	370	380
6.3 ≤ pH < 6.4	120	190	230	250	280	310	340	380	400
6.4 ≤ pH < 6.5	140	210	240	270	300	330	360	390	410
6.5 ≤ pH < 6.6	160	230	260	290	320	340	380	410	430
6.6 ≤ pH < 6.7	190	250	290	310	340	360	400	430	450
6.7 ≤ pH < 6.8	220	280	310	340	360	390	420	450	470
6.8 ≤ pH < 6.9	250	310	340	370	390	410	440	480	490
6.9 ≤ pH < 7.0	280	350	380	400	420	440	470	510	520
7.0 ≤ pH < 7.2	340	410	440	460	480	500	520	550	560
7.2 ≤ pH < 7.4	450	520	540	550	570	590	600	620	630
7.4 ≤ pH < 7.6	590	660	670	680	690	700	710	710	720
7.6 ≤ pH < 7.8	750	840	850	850	850	850	840	840	830
7.8 ≤ pH < 8.0	960	1,000	1,100	1,100	1,000	1,000	1,000	1,000	990
8.0 ≤ pH < 8.5	1,000	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,300
8.5 ≤ pH	560	500	480	460	450	430	420	410	400

Table C-4C. Screening Levels for Aluminum, Total – 2 mg/L ≤ DOC < 3 mg/L

pH	0 ≤ H < 25	25 ≤ H < 50	50 ≤ H < 75	75 ≤ H < 100	100 ≤ H < 150	150 ≤ H < 200	200 ≤ H < 300	300 ≤ H < 400	H > 400
pH < 6.0	95	180	230	270	320	370	420	480	510
6.0 ≤ pH < 6.1	110	190	240	280	330	370	430	490	510
6.1 ≤ pH < 6.2	120	210	260	300	340	380	430	490	510
6.2 ≤ pH < 6.3	140	230	280	310	350	390	440	490	520
6.3 ≤ pH < 6.4	160	250	300	330	370	410	450	500	520
6.4 ≤ pH < 6.5	190	270	320	350	380	420	460	510	530
6.5 ≤ pH < 6.6	210	290	340	370	400	440	480	520	550
6.6 ≤ pH < 6.7	240	320	360	390	420	450	500	540	560
6.7 ≤ pH < 6.8	270	340	380	410	440	470	520	560	580
6.8 ≤ pH < 6.9	300	380	410	440	470	500	540	580	600
6.9 ≤ pH < 7.0	340	410	450	470	500	530	570	600	620
7.0 ≤ pH < 7.2	400	470	500	520	550	580	610	640	650
7.2 ≤ pH < 7.4	520	570	600	610	630	650	680	700	710
7.4 ≤ pH < 7.6	670	710	720	730	730	740	760	780	780
7.6 ≤ pH < 7.8	860	880	880	880	870	870	860	870	870
7.8 ≤ pH < 8.0	1,100	1,100	1,100	1,100	1,000	1,000	1,000	980	970
8.0 ≤ pH < 8.5	1,500	1,500	1,500	1,500	1,500	1,400	1,400	1,300	1,300
8.5 ≤ pH	760	680	650	630	610	590	570	550	540

Table C-4D. Screening Levels for Aluminum, Total – 3 mg/L ≤ DOC < 4 mg/L

pH	0 ≤ H < 25	25 ≤ H < 50	50 ≤ H < 75	75 ≤ H < 100	100 ≤ H < 150	150 ≤ H < 200	200 ≤ H < 300	300 ≤ H < 400	H > 400
pH < 6.0	120	220	290	340	400	460	530	600	640
6.0 ≤ pH < 6.1	130	230	300	350	400	460	530	600	630
6.1 ≤ pH < 6.2	150	260	320	360	420	470	530	600	630
6.2 ≤ pH < 6.3	170	280	340	380	430	480	540	600	620
6.3 ≤ pH < 6.4	200	300	360	390	440	490	540	600	620
6.4 ≤ pH < 6.5	220	320	370	410	450	500	550	600	630
6.5 ≤ pH < 6.6	250	340	390	430	470	510	560	620	640
6.6 ≤ pH < 6.7	280	370	410	450	480	520	580	630	650
6.7 ≤ pH < 6.8	310	390	440	470	500	540	590	640	660
6.8 ≤ pH < 6.9	340	420	470	490	530	570	610	660	680
6.9 ≤ pH < 7.0	380	460	500	520	560	590	640	670	690
7.0 ≤ pH < 7.2	450	520	550	570	600	640	670	710	720
7.2 ≤ pH < 7.4	560	610	640	650	680	710	730	760	760
7.4 ≤ pH < 7.6	710	740	750	760	770	790	810	820	820
7.6 ≤ pH < 7.8	900	900	900	890	890	890	900	900	900
7.8 ≤ pH < 8.0	1,100	1,100	1,100	1,100	1,000	1,000	1,000	990	990
8.0 ≤ pH < 8.5	1,600	1,600	1,500	1,500	1,400	1,400	1,300	1,200	1,200
8.5 ≤ pH	930	830	790	770	740	720	700	670	670

Table C-4E. Screening Levels for Aluminum, Total – 4 mg/L ≤ DOC < 6 mg/L

pH	0 ≤ H < 25	25 ≤ H < 50	50 ≤ H < 75	75 ≤ H < 100	100 ≤ H < 150	150 ≤ H < 200	200 ≤ H < 300	300 ≤ H < 400	H > 400
pH < 6.0	140	280	360	420	500	580	670	760	800
6.0 ≤ pH < 6.1	160	290	370	440	510	580	670	760	800
6.1 ≤ pH < 6.2	190	320	400	450	520	580	660	740	780
6.2 ≤ pH < 6.3	210	340	410	470	520	590	660	730	760
6.3 ≤ pH < 6.4	240	360	430	480	530	590	660	720	750
6.4 ≤ pH < 6.5	270	390	450	490	540	590	650	720	760
6.5 ≤ pH < 6.6	300	410	460	500	550	600	660	730	760
6.6 ≤ pH < 6.7	330	430	480	520	560	610	670	740	760
6.7 ≤ pH < 6.8	360	450	500	540	580	630	690	740	760
6.8 ≤ pH < 6.9	390	480	530	560	610	650	700	750	770
6.9 ≤ pH < 7.0	430	510	550	590	630	670	720	760	780
7.0 ≤ pH < 7.2	490	570	600	640	670	710	740	780	790
7.2 ≤ pH < 7.4	600	660	680	710	740	760	790	810	820
7.4 ≤ pH < 7.6	740	770	780	800	820	830	850	860	870
7.6 ≤ pH < 7.8	930	920	910	910	920	920	920	920	920
7.8 ≤ pH < 8.0	1,200	1,100	1,100	1,100	1,000	1,000	1,000	1,000	1,000
8.0 ≤ pH < 8.5	1,700	1,600	1,500	1,400	1,400	1,300	1,200	1,200	1,200
8.5 ≤ pH	1,100	1,000	980	950	920	890	860	830	820

Table C-4F. Screening Levels for Aluminum, Total – 6 mg/L ≤ DOC < 8 mg/L

pH	0 ≤ H < 25	25 ≤ H < 50	50 ≤ H < 75	75 ≤ H < 100	100 ≤ H < 150	150 ≤ H < 200	200 ≤ H < 300	300 ≤ H < 400	H > 400
pH < 6.0	180	340	440	530	620	720	830	950	1,000
6.0 ≤ pH < 6.1	200	360	460	540	630	720	830	940	990
6.1 ≤ pH < 6.2	230	390	490	550	630	720	810	910	960
6.2 ≤ pH < 6.3	260	420	500	560	640	710	800	890	930
6.3 ≤ pH < 6.4	290	440	520	570	640	710	780	870	900
6.4 ≤ pH < 6.5	320	460	530	580	640	700	770	860	900
6.5 ≤ pH < 6.6	350	480	540	590	640	700	780	860	890
6.6 ≤ pH < 6.7	380	500	560	600	650	710	780	850	880
6.7 ≤ pH < 6.8	410	520	570	610	670	730	790	850	870
6.8 ≤ pH < 6.9	440	540	590	640	690	740	790	850	870
6.9 ≤ pH < 7.0	480	570	620	660	710	750	800	850	870
7.0 ≤ pH < 7.2	540	620	670	700	740	780	820	850	870
7.2 ≤ pH < 7.4	640	700	740	770	800	820	850	870	880
7.4 ≤ pH < 7.6	780	800	830	850	860	880	890	900	900
7.6 ≤ pH < 7.8	950	930	940	940	950	950	950	940	940
7.8 ≤ pH < 8.0	1,200	1,100	1,100	1,100	1,100	1,000	1,000	1,000	1,000
8.0 ≤ pH < 8.5	1,800	1,500	1,400	1,400	1,300	1,200	1,200	1,100	1,100
8.5 ≤ pH	1,400	1,300	1,200	1,200	1,100	1,100	1,100	1,000	1,000

Table C-4G. Screening Levels for Aluminum, Total – 8 mg/L ≤ DOC < 10 mg/L

pH	0 ≤ H < 25	25 ≤ H < 50	50 ≤ H < 75	75 ≤ H < 100	100 ≤ H < 150	150 ≤ H < 200	200 ≤ H < 300	300 ≤ H < 400	H > 400
pH < 6.0	200	400	520	620	730	850	980	1,100	1,200
6.0 ≤ pH < 6.1	230	420	540	630	740	840	970	1,100	1,200
6.1 ≤ pH < 6.2	270	460	570	650	740	830	950	1,100	1,100
6.2 ≤ pH < 6.3	300	480	580	650	730	820	920	1,000	1,100
6.3 ≤ pH < 6.4	340	500	590	650	730	810	900	990	1,000
6.4 ≤ pH < 6.5	370	520	600	660	730	800	880	980	1,000
6.5 ≤ pH < 6.6	400	530	610	660	720	790	880	960	1,000
6.6 ≤ pH < 6.7	420	550	620	670	730	800	870	950	980
6.7 ≤ pH < 6.8	450	570	630	680	740	800	870	940	970
6.8 ≤ pH < 6.9	480	590	650	700	760	810	870	930	950
6.9 ≤ pH < 7.0	520	620	680	720	770	820	870	920	940
7.0 ≤ pH < 7.2	580	660	720	760	800	830	870	910	930
7.2 ≤ pH < 7.4	670	740	780	810	840	860	890	910	930
7.4 ≤ pH < 7.6	800	840	860	880	890	910	920	930	940
7.6 ≤ pH < 7.8	960	950	960	970	970	960	960	960	950
7.8 ≤ pH < 8.0	1,200	1,100	1,100	1,100	1,100	1,000	1,000	1,000	990
8.0 ≤ pH < 8.5	1,700	1,500	1,400	1,300	1,300	1,200	1,200	1,100	1,100
8.5 ≤ pH	1,600	1,500	1,400	1,400	1,300	1,300	1,200	1,200	1,200

Table C-4H. Screening Levels for Aluminum, Total – 10 mg/L ≤ DOC < 12 mg/L

pH	0 ≤ H < 25	25 ≤ H < 50	50 ≤ H < 75	75 ≤ H < 100	100 ≤ H < 150	150 ≤ H < 200	200 ≤ H < 300	300 ≤ H < 400	H > 400
pH < 6.0	230	460	590	700	830	960	1,100	1,300	1,400
6.0 ≤ pH < 6.1	260	470	610	720	840	960	1,100	1,300	1,300
6.1 ≤ pH < 6.2	300	510	640	730	830	940	1,100	1,200	1,300
6.2 ≤ pH < 6.3	340	540	650	730	820	920	1,000	1,100	1,200
6.3 ≤ pH < 6.4	380	560	660	730	810	900	1,000	1,100	1,200
6.4 ≤ pH < 6.5	410	570	660	730	800	880	970	1,100	1,100
6.5 ≤ pH < 6.6	440	590	670	730	790	870	970	1,100	1,100
6.6 ≤ pH < 6.7	460	600	670	730	800	870	960	1,000	1,100
6.7 ≤ pH < 6.8	490	620	680	740	810	870	940	1,000	1,000
6.8 ≤ pH < 6.9	520	640	700	760	820	870	940	1,000	1,000
6.9 ≤ pH < 7.0	550	660	730	770	820	870	930	980	1,000
7.0 ≤ pH < 7.2	610	700	760	800	840	880	920	960	980
7.2 ≤ pH < 7.4	700	780	820	850	870	900	920	960	980
7.4 ≤ pH < 7.6	820	870	890	910	920	930	940	970	990
7.6 ≤ pH < 7.8	970	980	980	980	980	980	970	980	990
7.8 ≤ pH < 8.0	1,200	1,100	1,100	1,100	1,100	1,000	1,000	1,000	1,000
8.0 ≤ pH < 8.5	1,700	1,400	1,300	1,300	1,200	1,200	1,100	1,100	1,100
8.5 ≤ pH	1,800	1,700	1,600	1,500	1,500	1,500	1,500	1,400	1,400

Table C-4I. Screening Levels for Aluminum, Total – DOC > 12 mg/L

pH	0 ≤ H < 25	25 ≤ H < 50	50 ≤ H < 75	75 ≤ H < 100	100 ≤ H < 150	150 ≤ H < 200	200 ≤ H < 300	300 ≤ H < 400	H > 400
pH < 6.0	240	480	620	740	880	1,000	1,200	1,400	1,400
6.0 ≤ pH < 6.1	270	500	650	760	880	1,000	1,200	1,300	1,400
6.1 ≤ pH < 6.2	320	540	670	770	880	990	1,100	1,300	1,300
6.2 ≤ pH < 6.3	350	570	680	770	870	970	1,100	1,200	1,300
6.3 ≤ pH < 6.4	390	590	690	760	850	940	1,000	1,200	1,200
6.4 ≤ pH < 6.5	430	600	690	760	840	920	1,000	1,100	1,200
6.5 ≤ pH < 6.6	450	610	700	760	830	910	1,000	1,100	1,100
6.6 ≤ pH < 6.7	480	620	700	760	830	910	990	1,100	1,100
6.7 ≤ pH < 6.8	510	640	710	770	840	900	980	1,100	1,100
6.8 ≤ pH < 6.9	540	660	730	780	840	900	970	1,000	1,100
6.9 ≤ pH < 7.0	570	680	750	800	850	900	960	1,000	1,000
7.0 ≤ pH < 7.2	620	720	780	820	860	900	940	980	1,000
7.2 ≤ pH < 7.4	710	790	840	860	890	910	940	990	1,000
7.4 ≤ pH < 7.6	830	880	900	920	930	940	950	990	1,000
7.6 ≤ pH < 7.8	980	980	990	990	980	980	980	1,000	1,000
7.8 ≤ pH < 8.0	1,200	1,100	1,100	1,100	1,100	1,000	1,000	1,000	1,000
8.0 ≤ pH < 8.5	1,700	1,400	1,300	1,300	1,200	1,200	1,100	1,100	1,100
8.5 ≤ pH	1,900	1,700	1,700	1,600	1,600	1,600	1,500	1,500	1,400

IV. SCREENING LEVELS FOR AMMONIA

The Central Valley Water Board finds the discharges covered by this General Order have reasonable potential for ammonia and effluent limitations are required. The screening levels in Tables C-5A through C-5C and C-6A through C-6B shall be used to determine the appropriate effluent limitations for ammonia from Tables 18A through 19C of this General Order, which shall be specified in the Notice of Applicability.

A. Acute Criterion (CMC)

The Central Valley Water Board will determine the 1-hour criterion maximum concentration (CMC or acute criterion) based on the maximum permitted pH or on the maximum observed effluent pH, whichever is lower and paired temperature. The Central Valley Water Board will evaluate site-specific information to determine the presence or absence of salmonids in the receiving water, including the applicability of the cold freshwater habitat (COLD). If the Central Valley Water Board determines that salmonids are present or potentially present in the receiving water, the screening level shall be selected from Table C-5A. If the Central Valley Water Board determines that the salmonids are not present in the receiving water, the screening level shall be selected from Tables C-5B and Table C-5C. See section V.A.1.c.iv of this General Order for the applicable effluent limitations for pH.

Table C-5A. Screening Levels for Ammonia – Acute Criterion (CMC) Salmonids Present

pH	0 < °C ≤ 23	23 < °C ≤ 24	24 < °C ≤ 25	25 < °C ≤ 26	26 < °C ≤ 27	27 < °C ≤ 28	28 < °C ≤ 29	29 < °C ≤ 30
	7.0	24.1	23.2	21.3	19.6	18.1	16.6	15.3
7.1	21.9	21.1	19.4	17.9	16.5	15.2	13.9	12.8
7.2	19.7	19.0	17.5	16.1	14.8	13.6	12.5	11.5
7.3	17.5	16.8	15.5	14.3	13.1	12.1	11.1	10.2
7.4	15.3	14.8	13.6	12.5	11.5	10.6	9.75	8.98
7.5	13.3	12.8	11.8	10.8	9.97	9.17	8.44	7.77
7.6	11.4	10.9	10.1	9.27	8.53	7.85	7.23	6.65
7.7	9.64	9.278	8.540	7.86	7.24	6.66	6.13	5.64
7.8	8.11	7.799	7.18	6.61	6.08	5.60	5.15	4.74
7.9	6.77	6.509	5.99	5.51	5.08	4.67	4.30	3.96
8.0	5.62	5.402	4.97	4.58	4.21	3.88	3.57	3.28
8.1	4.64	4.464	4.11	3.78	3.48	3.20	2.95	2.71
8.2	3.83	3.680	3.39	3.12	2.87	2.64	2.43	2.24
8.3	3.15	3.029	2.79	2.57	2.36	2.17	2.00	1.84
8.4	2.59	2.495	2.30	2.11	1.95	1.79	1.65	1.52
8.5	2.14	2.058	1.89	1.74	1.60	1.48	1.36	1.25
8.6	1.77	1.703	1.57	1.44	1.33	1.22	1.13	1.04
8.7	1.47	1.417	1.30	1.20	1.10	1.02	0.936	0.861
8.8	1.23	1.185	1.09	1.00	0.924	0.851	0.783	0.721
8.9	1.04	1.000	0.920	0.847	0.780	0.718	0.661	0.608
9.0	0.885	0.851	0.783	0.721	0.664	0.611	0.562	0.517

Table C-5B. Screening Levels for Ammonia – Acute Criterion (CMC) Salmonids Absent

pH	0 < °C ≤ 20	21 °C	22 °C	23°C	24°C	25°C
7.0	30.6	29.7	27.4	25.2	23.2	21.3
7.1	27.8	27.1	24.9	22.9	21.1	19.4
7.2	25.0	24.3	22.4	20.6	19.0	17.5
7.3	22.2	21.6	19.9	18.3	16.8	15.5
7.4	19.5	18.9	17.4	16.0	14.8	13.6
7.5	16.9	16.4	15.1	13.9	12.8	11.8
7.6	14.4	14.0	12.9	11.9	10.9	10.1
7.7	12.2	11.9	11.0	10.1	9.28	8.54
7.8	10.3	10.0	9.21	8.47	7.80	7.18
7.9	8.58	8.35	7.68	7.07	6.51	5.99
8.0	7.12	6.93	6.38	5.87	5.40	4.97
8.1	5.89	5.72	5.27	4.85	4.46	4.11
8.2	4.85	4.72	4.34	4.00	3.68	3.39
8.3	4.00	3.88	3.58	3.29	3.03	2.79
8.4	3.29	3.20	2.94	2.71	2.49	2.30
8.5	2.71	2.64	2.43	2.24	2.06	1.89
8.6	2.25	2.18	2.01	1.85	1.70	1.57
8.7	1.87	1.82	1.67	1.54	1.42	1.30
8.8	1.56	1.52	1.40	1.29	1.19	1.09
8.9	1.32	1.28	1.18	1.09	1.00	0.920
9.0	1.12	1.09	1.00	0.924	0.851	0.783

Table C-5C. Screening Levels for Ammonia – Acute Criterion (CMC) Salmonids Absent

pH	26°C	27°C	28°C	29°C	30°C
7.0	19.6	18.1	16.6	15.3	14.1
7.1	17.9	16.5	15.2	13.9	12.8
7.2	16.1	14.8	13.6	12.5	11.5
7.3	14.3	13.1	12.1	11.1	10.2
7.4	12.5	11.5	10.6	9.75	8.98
7.5	10.8	9.97	9.17	8.44	7.77
7.6	9.27	8.53	7.85	7.23	6.65
7.7	7.86	7.24	6.66	6.13	5.64
7.8	6.61	6.08	5.60	5.15	4.74
7.9	5.51	5.08	4.67	4.30	3.96
8.0	4.58	4.21	3.88	3.57	3.28
8.1	3.78	3.48	3.20	2.95	2.71
8.2	3.12	2.87	2.64	2.43	2.24
8.3	2.57	2.36	2.17	2.00	1.84
8.4	2.11	1.95	1.79	1.65	1.52
8.5	1.74	1.60	1.48	1.36	1.25
8.6	1.44	1.33	1.22	1.13	1.04
8.7	1.20	1.10	1.02	0.936	0.861

pH	26°C	27°C	28°C	29°C	30°C
8.8	1.00	0.924	0.851	0.783	0.721
8.9	0.847	0.780	0.718	0.661	0.608
9.0	0.721	0.664	0.611	0.562	0.517

B. Chronic Criterion (CCC)

The Central Valley Water Board will determine the 30-day criterion continuous concentration (CCC or chronic criterion) based on downstream receiving water pH and temperature data. If at least monthly paired pH and temperature receiving water data are available, the CCC will be determined by selecting a CCC from Tables C-6A and C-6B for each day when paired data are available, calculating a rolling 30-day average CCC, and selecting the minimum observed 30-day CCC. If sufficient paired receiving water data are not available, the CCC will be selected from Tables C-6A and C-6B using the maximum observed pH and 30-day average temperature of the downstream receiving water.

Table C-6A. Screening Levels for Ammonia – Chronic Criterion (CCC)

pH	0°C °C ≤ 13	14°C	15°C	16°C	17°C	18°C	19°C	20°C	21°C
6.5	6.49	5.53	5.18	4.86	4.55	4.27	4.00	3.75	3.52
6.6	6.39	5.44	5.10	4.78	4.49	4.21	3.94	3.70	3.47
6.7	6.27	5.34	5.01	4.69	4.40	4.13	3.87	3.63	3.40
6.8	6.13	5.22	4.89	4.59	4.30	4.03	3.78	3.54	3.32
6.9	5.96	5.07	4.76	4.46	4.18	3.92	3.67	3.44	3.23
7.0	5.75	4.90	4.59	4.31	4.04	3.79	3.55	3.33	3.12
7.1	5.52	4.70	4.40	4.13	3.87	3.63	3.40	3.19	2.99
7.2	5.25	4.47	4.19	3.93	3.68	3.45	3.24	3.03	2.85
7.3	4.94	4.21	3.95	3.70	3.47	3.25	3.05	2.86	2.68
7.4	4.61	3.92	3.68	3.45	3.23	3.03	2.84	2.67	2.50
7.5	4.25	3.62	3.39	3.18	2.98	2.80	2.62	2.46	2.30
7.6	3.87	3.30	3.09	2.90	2.72	2.55	2.39	2.24	2.10
7.7	3.48	2.97	2.78	2.61	2.44	2.29	2.15	2.01	1.89
7.8	3.10	2.64	2.47	2.32	2.17	2.04	1.91	1.79	1.68
7.9	2.72	2.32	2.17	2.04	1.91	1.79	1.68	1.58	1.48
8.0	2.37	2.02	1.89	1.77	1.66	1.56	1.46	1.37	1.28
8.1	2.04	1.74	1.63	1.53	1.43	1.34	1.26	1.18	1.11
8.2	1.75	1.49	1.39	1.31	1.23	1.15	1.08	1.01	0.947
8.3	1.48	1.26	1.18	1.11	1.04	0.976	0.915	0.858	0.804
8.4	1.26	1.07	1.00	0.940	0.881	0.826	0.775	0.726	0.681
8.5	1.06	0.903	0.847	0.794	0.744	0.698	0.654	0.613	0.575
8.6	0.895	0.762	0.715	0.670	0.628	0.589	0.552	0.518	0.486
8.7	0.757	0.645	0.605	0.567	0.532	0.498	0.467	0.438	0.411
8.8	0.643	0.548	0.514	0.482	0.452	0.423	0.397	0.372	0.349
8.9	0.550	0.468	0.439	0.411	0.386	0.362	0.339	0.318	0.298
9.0	0.473	0.403	0.378	0.354	0.332	0.311	0.292	0.274	0.257

Table C-6B. Screening Levels for Ammonia – Chronic Criterion (CCC)

pH	22°C	23°C	24°C	25°C	26°C	27°C	28°C	29°C	30°C
6.5	3.30	3.09	2.90	2.72	2.55	2.39	2.24	2.10	1.97
6.6	3.25	3.05	2.86	2.68	2.51	2.35	2.21	2.07	1.94
6.7	3.19	2.99	2.80	2.63	2.46	2.31	2.17	2.03	1.90
6.8	3.12	2.92	2.74	2.57	2.41	2.26	2.12	1.98	1.86
6.9	3.03	2.84	2.66	2.50	2.34	2.19	2.06	1.93	1.81
7.0	2.92	2.74	2.57	2.41	2.26	2.12	1.99	1.86	1.75
7.1	2.80	2.63	2.47	2.31	2.17	2.03	1.91	1.79	1.67
7.2	2.67	2.50	2.34	2.20	2.06	1.93	1.81	1.70	1.59
7.3	2.51	2.36	2.21	2.07	1.94	1.82	1.71	1.60	1.50
7.4	2.34	2.20	2.06	1.93	1.81	1.70	1.59	1.49	1.40
7.5	2.16	2.03	1.90	1.78	1.67	1.56	1.47	1.38	1.29
7.6	1.97	1.84	1.73	1.62	1.52	1.43	1.34	1.25	1.17
7.7	1.77	1.66	1.56	1.46	1.37	1.28	1.20	1.13	1.06
7.8	1.58	1.48	1.38	1.30	1.22	1.14	1.07	1.00	0.940
7.9	1.38	1.30	1.22	1.14	1.07	1.00	0.940	0.882	0.827
8.0	1.20	1.13	1.06	0.993	0.931	0.873	0.818	0.767	0.719
8.1	1.04	0.973	0.912	0.855	0.802	0.752	0.705	0.661	0.620
8.2	0.887	0.832	0.780	0.731	0.686	0.643	0.603	0.565	0.530
8.3	0.754	0.707	0.663	0.622	0.583	0.546	0.512	0.480	0.450
8.4	0.638	0.598	0.561	0.526	0.493	0.462	0.434	0.406	0.381
8.5	0.539	0.505	0.474	0.444	0.417	0.391	0.366	0.343	0.322
8.6	0.455	0.427	0.400	0.375	0.352	0.330	0.309	0.290	0.272
8.7	0.385	0.361	0.339	0.317	0.298	0.279	0.262	0.245	0.230
8.8	0.327	0.307	0.288	0.270	0.253	0.237	0.222	0.208	0.195
8.9	0.279	0.262	0.246	0.230	0.216	0.202	0.190	0.178	0.167
9.0	0.241	0.226	0.212	0.198	0.186	0.174	0.163	0.153	0.144

V. SCREENING LEVELS FOR SITE-SPECIFIC WATER BODIES

The Central Valley Water Board will also conduct an RPA for any constituent with site-specific water quality objectives applicable to the receiving water body listed in the Basin Plans, as follows:

A. Basin Plan for the Sacramento and San Joaquin River Basins

1. Table 3-1: Trace Element Water Quality Objectives

- a. **Screening Levels for Discharges to the Sacramento River and Its Tributaries Above the State Highway 32 Bridge at Hamilton City.** For dischargers seeking authorization to discharge under this General Order to the Sacramento River and its tributaries above the State Highway 32 Bridge at Hamilton City, the Central Valley Water Board will conduct an RPA in accordance with the procedures described in section I, above. The screening levels for total

recoverable zinc contained in Table C-7 are based on hardness in mg/L as calcium carbonate (CaCO₃). For waters with hardness concentrations less than 100 mg/L, screening levels have been segmented into 5 mg/L increments. For waters with hardness concentrations greater than or equal to 100 mg/L but less than 180 mg/L, screening levels have been segmented into 20 mg/L increments. For waters with lowest observed hardness concentrations greater than or equal to 180 mg/L, a hardness value of 180 mg/L was used to determine the corresponding screening level. The hardness used to select the appropriate screening level shall be determined in accordance with section V.C.2.e of the Fact Sheet (Attachment F).

Table C-7. Screening Levels for Zinc for Discharges to the Sacramento River and Its Tributaries Above the State Highway 32 Bridge at Hamilton City – Hardness (H) 0 to ≥ 180 mg/L

Hardness (H) in mg/L	Screening Level for Zinc in µg/L
0 ≤ H < 5	1.6
5 ≤ H < 10	4.0
10 ≤ H < 15	6.1
15 ≤ H < 20	8.1
20 ≤ H < 25	9.9
25 ≤ H < 30	12
30 ≤ H < 35	13
35 ≤ H < 40	15
40 ≤ H < 45	17
45 ≤ H < 50	18
50 ≤ H < 55	20
55 ≤ H < 60	22
60 ≤ H < 65	23
65 ≤ H < 70	25
70 ≤ H < 75	26
75 ≤ H < 80	28
80 ≤ H < 85	29
85 ≤ H < 90	31
90 ≤ H < 95	32
95 ≤ H < 100	34
100 ≤ H < 120	37
120 ≤ H < 140	43
140 ≤ H < 160	48
160 ≤ H < 180	53
180 ≤ H	56

VI. TOXICITY

A. Screening for Acute Toxicity

1. If acute toxicity testing is required and any of the acute aquatic toxicity tests result in a “fail” at the IWC or any of the acute aquatic toxicity tests have a percent effect at the IWC greater than 10 percent, then the discharge has reasonable potential for acute toxicity and numeric acute toxicity effluent limitations will be included in the NOA.

B. Screening for Chronic Toxicity

1. The Central Valley Water Board will evaluate whole effluent chronic toxicity testing results for dischargers that are less than 5 MGD and not required to have a pretreatment program. If there are one or more fails under the TST approach or the percent effect exceeds 10 percent at the IWC, then the discharge has reasonable potential for chronic toxicity and numeric chronic toxicity effluent limitations will be included in the NOA.

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/) (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/). (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.1 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 activity regulated by this General Order after the expiration date of this General Order, the Discharger must reapply for and obtain a new Notice of Applicability under the replacement General Order before it expires. A NOI submitted within three years of the expiration date of this General Order shall also serve as a request for coverage under any reissued order (NPDES CAG585001). (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 in accordance with the following:
 - a. For a corporation, all permit applications shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 C.F.R. section 122.22(a)(1).)
 - b. For a partnership or sole proprietorship, all permit applications shall be signed by a general partner or the proprietor, respectively. (40 C.F.R. section 122.22(a)(2).)
 - c. For a municipality, state, federal, or other public agency, all permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA). (40 C.F.R. section 122.22(a)(3).)
3. All reports required by this Order and other information requested by the Central Valley Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. section 122.22(b)(1));

- b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. section 122.22(b)(2)); and
 - c. The written authorization is submitted to the Central Valley Water Board and State Water Board. (40 C.F.R. section 122.22(b)(3).)
 4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Central Valley Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. section 122.22(c).)
 5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

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

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. section 122.41(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Central Valley Water Board or State Water Board for reporting the results of monitoring, sludge use, or disposal practices. As of 21 December 2016, all reports and forms must be submitted electronically to the

initial recipient, defined in Standard Provisions – Reporting V.J, and comply with 40 C.F.R. part 3, section 122.22, and 40 C.F.R. part 127. (40 C.F.R. section 122.41(l)(4)(i).)

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

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

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

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

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

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

F. Planned Changes

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

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

G. Anticipated Noncompliance

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

H. Other Noncompliance

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

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Central Valley Water Board, State Water Board, or U.S. EPA, the

Discharger shall promptly submit such facts or information. (40 C.F.R. section 122.41(l)(8).)

J. Initial Recipient for Electronic Reporting Data

The owner, operator, or the duly authorized representative is required to electronically submit NPDES information specified in appendix A to 40 C.F.R. part 127 to the appropriate initial recipient, as determined by U.S. EPA, and as defined in 40 C.F.R. section 127.2(b). U.S. EPA will identify and publish the list of initial recipients on its website and in the Federal Register, by state and by NPDES data group [see 40 C.F.R. section 127.2(c)]. U.S. EPA will update and maintain this listing. (40 C.F.R. section 122.41(l)(9).)

VI. STANDARD PROVISIONS – ENFORCEMENT

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

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

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

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

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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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. Applicable monitoring and reporting requirements shall be specified in the NOA.

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 General 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 dissolved oxygen (DO), electrical conductivity, pH, residual chlorine, turbidity, and temperature, 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 dissolved oxygen (DO), electrical conductivity, pH, residual chlorine, turbidity, and temperature 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. For Major Dischargers.** Each Major 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 and as specified in the NOA.
- I.** The results of all monitoring required by this General Order shall be reported to the Central Valley Water Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order. Unless otherwise specified, discharge flows shall be reported in terms of the monthly average and the daily maximum discharge flows.
- J.** Some facilities may have multiple discharge points, ponds, receiving waters, or other monitoring locations. Site-specific monitoring requirements will be included in the NOA. Dischargers with multiple discharge points will have additional monitoring locations and requirements that will be specified in the NOA.

II. MONITORING LOCATIONS

Each Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this General Order as applicable and specified in the NOA. Each applicable monitoring location shall be defined in the NOA. Additional discharge points and/or monitoring locations may be specified in the NOA from the Executive Officer following the naming conventions used in Table E-1 below:

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	INF-001	Influent. A location where a representative sample of the Facility influent can be collected prior to any additives, treatment processes, and plant return flows.
001	EFF-001	Effluent. A location where a representative sample of the effluent can be collected prior to discharging to surface water.
--	RSW-001	Upstream Receiving Water. A location in the receiving water, upstream of the discharge point.
--	RSW-002	Downstream Receiving Water. A location in the receiving water, downstream of the discharge point.
--	LND-001	Discharge to Land. For Dischargers utilizing spray fields and/or spray irrigation, a location where a representative sample of treated effluent can be collected prior to land application.
--	REC-001	Discharge to Reclamation. For producers of recycled water, a location where a representative sample of treated effluent can be collected prior to discharge to the reclamation system.
--	RGW-001	Groundwater. Groundwater Monitoring Well as defined in the NOA.
--	BIO-001	Biosolids. A location where a representative sample of the biosolids can be obtained.
--	PND-001	Ponds. A location where a representative sample from equalization, storage, and treatment ponds can be obtained.
--	FIL-001	Filtration Influent. A location where a representative sample of the influent to the filtration system can be obtained.
--	FIL-002	Filtration Effluent. A location where a representative sample of the effluent from the filtration system can be obtained.

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	UVS-001	Ultraviolet Light (UV) Disinfection System. For Dischargers utilizing UV disinfection systems, a location where a representative sample of wastewater can be collected upstream or downstream of the UV disinfection system.
--	SPL-001	Municipal Water Supply. A location where a representative sample of the municipal supply water can be obtained. If this is impractical, water quality data provided by the water supplier(s) may be used.

Table E-1 Note:

- All Monitoring Points.** Additional discharge and/or monitoring points may be added following the naming conventions used in Table E-1, above.
- Influent.** For the City of Placerville, monitoring location INF-001 is located at the composite sampler after the grit chamber and before the Parshall flume.
- Effluent.** Dischargers enrolled under this General Order having more than one discharge point must comply with effluent limitations and monitoring requirements at each discharge point.
- Filtration Influent and Filtration Effluent.** Applicable only to Dischargers of tertiary treated wastewater that meet the eligibility criteria in section I.B.4 of this General Order.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

- Each Discharger shall monitor influent to the Facility at Monitoring Location INF-001 as specified in the NOA. The Executive Officer may specify in the NOA alternate sample types and/or monitoring frequencies than those listed in Table E-2 below. If there was no discharge to receiving water during the designated monitoring period, monitoring is not required for that period. If there was no discharge, the Discharger shall state so in the monthly SMR.

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency for Major Dischargers	Minimum Sampling Frequency for Minor Dischargers
Flow	MGD	Meter	Continuous	Continuous
Biochemical Oxygen Demand, 5-day @ 20°Celsius (BOD5)	mg/L	24-hour Composite	1/Week	2/Month
Total Suspended Solids (TSS)	mg/L	24-hour Composite	1/Week	2/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 and as specified in the NOA:
 - a. **Applicable to all parameters.** Parameters 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. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 C.F.R part 136 allowed sample type.
 - b. **Sample Type and Frequency.** If monitoring is required in the NOA, the listed sample types and frequencies are required unless otherwise specified in the NOA.
 - c. **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.
 - d. **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. Each Discharger shall monitor treated domestic wastewater at Monitoring Location EFF-001 (see also General Monitoring Provision J) for the applicable constituents identified in the NOA. Not all Dischargers enrolled under this General Order will be required to monitor all the constituents listed in Table E-3. The specific monitoring requirements for a Discharger enrolled under this General Order will be contained in the Discharger’s NOA. The Executive Officer may specify in the NOA alternate sample types and/or more frequent monitoring frequencies than those listed in Table E-3 below. If there was no discharge to receiving water during the designated monitoring period, monitoring is not required for that period. If there was no discharge, the Discharger shall state so in the monthly SMR. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level.

Table E-3. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	MGD	Meter	Continuous
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	24-hr Composite	1/Week
Biochemical Oxygen Demand (5-day @ 20°C)	Percent removal	Calculate	1/Month
Total Suspended Solids	mg/L	24-hr Composite	1/Week

Parameter	Units	Sample Type	Minimum Sampling Frequency
Total Suspended Solids	Percent Removal	Calculate	1/Month
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Month
Ammonia Nitrogen, Total (as N)	lbs/day	Calculate	1/Month
Dissolved Oxygen	mg/L	Grab	2/Month
Dissolved Organic Carbon	mg/L	Grab	1/Quarter
Hardness, Total (as CaCO ₃)	mg/L	Grab	1/Quarter
pH	standard units	Grab	1/Week
Temperature	°F	Grab	1/Week
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Quarter
Total Dissolved Solids	mg/L	Grab	1/Quarter
Total Coliform Organisms	MPN/100m L	Grab	1/Week
Un-ionized Ammonia Nitrogen, Total as Nitrogen (N)	mg/L	Grab	1/Month
Chlorine, Total Residual	mg/L	Meter	Continuous
Chlorine, Total Residual	mg/L	Grab	1/Day
Foaming Agents (MBAS)	µg/L	Grab	1/Quarter
Aluminum, Total	µg/L	Grab	1/Quarter
Boron	mg/L	Grab	1/Quarter
Chloride	mg/L	Grab	1/Quarter
Fluoride, Total	µg/L	Grab	1/Quarter
Iron, Total	µg/L	Grab	1/Quarter
Manganese, Total	µg/L	Grab	1/Quarter
Mercury, Methyl	µg/L	Grab	1/Quarter
Molybdenum	µg/L	Grab	1/Quarter
Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Month
Nitrite Nitrogen (as N)	mg/L	Grab	1/Month
Nitrate plus Nitrite (as N)	mg/L	Grab	1/Month
Nitrogen, Total (as N)	mg/L	Grab	1/Week
Persistent Chlorinated Hydrocarbon Pesticides	µg/L	Grab	1/Quarter
Phosphorus, Total (as P)	mg/L	Grab	1/Month
Tributyltin	µg/L	Grab	1/Quarter
Alachlor	µg/L	Grab	1/Quarter
Atrazine	µg/L	Grab	1/Quarter
Bentazon	µg/L	Grab	1/Quarter
Carbofuran	µg/L	Grab	1/Quarter
Chlorpyrifos	µg/L	Grab	1/Year
2,4-D	µg/L	Grab	1/Quarter
2,4,5-TP (Silvex)	µg/L	Grab	1/Quarter

Parameter	Units	Sample Type	Minimum Sampling Frequency
Dalapon	µg/L	Grab	1/Quarter
Diazinon	µg/L	Grab	1/Year
Di(2-ethylhexyl)adipate	µg/L	Grab	1/Quarter
Dinoseb	µg/L	Grab	1/Quarter
Diquat	µg/L	Grab	1/Quarter
Endothal	µg/L	Grab	1/Quarter
Ethylene Dibromide (EDB)	µg/L	Grab	1/Quarter
Methoxychlor	µg/L	Grab	1/Quarter
Molinate (Ordram)	µg/L	Grab	1/Quarter
Oxamyl	µg/L	Grab	1/Quarter
Picloram	µg/L	Grab	1/Quarter
Simazine (Princep)	µg/L	Grab	1/Quarter
Thiobencarb	µg/L	Grab	1/Quarter
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	µg/L	Grab	1/Quarter
1,2-Dichloroethene (cis and trans DCE)	µg/L	Grab	1/Quarter
1,2-Dibromo-3-Chloropropane (DBCP)	µg/L	Grab	1/Quarter
1,2,3-Trichloropropane (TCP)	µg/L	Grab	1/Quarter
1,3-Butadiene	µg/L	Grab	1/Quarter
1,3-Dichloropropene (cis and trans)	µg/L	Grab	1/Quarter
2-Butanone (Methyl ethyl ketone or MEK)	µg/L	Grab	1/Quarter
2-Chloroethylvinyl ether	µg/L	Grab	1/Quarter
2-Hexanone (Methyl n-butyl ketone)	µg/L	Grab	1/Quarter
3-Methyl-4-Chlorophenol	µg/L	Grab	1/Quarter
Acetone	µg/L	Grab	1/Quarter
Carbon Disulfide	µg/L	Grab	1/Quarter
Chloromethane (Methyl chloride)	µg/L	Grab	1/Quarter
MTBE (Methyl tertiary butyl ether)	µg/L	Grab	1/Quarter
Stoddard Solvent	µg/L	Grab	1/Quarter
Styrene	µg/L	Grab	1/Quarter
Trichlorofluoromethane (Freon 11)	µg/L	Grab	1/Quarter
Xylenes	µg/L	Grab	1/Quarter
Antimony, Total	µg/L	Grab	1/Quarter
Arsenic, Total	µg/L	Grab	1/Quarter
Beryllium, Total	µg/L	Grab	1/Quarter
Cadmium, Total	µg/L	Grab	1/Quarter
Chromium (III)	µg/L	Grab	1/Quarter
Chromium (VI)	µg/L	Grab	1/Quarter
Copper, Total	µg/L	Grab	1/Quarter
Lead, Total	µg/L	Grab	1/Quarter
Mercury, Total	µg/L	Grab	1/Year
Nickel, Total	µg/L	Grab	1/Quarter
Selenium, Total	µg/L	Grab	1/Quarter

Parameter	Units	Sample Type	Minimum Sampling Frequency
Silver, Total	µg/L	Grab	1/Quarter
Thallium, Total	µg/L	Grab	1/Quarter
Zinc, Total	µg/L	Grab	1/Quarter
Cyanide, Total (as CN)	µg/L	Grab	1/Quarter
Asbestos	MFL	Grab	1/Quarter
2,3,7,8-TCDD	µg/L	Grab	1/Quarter
Acrolein	µg/L	Grab	1/Quarter
Acrylonitrile	µg/L	Grab	1/Quarter
Benzene	µg/L	Grab	1/Quarter
Bromoform	µg/L	Grab	1/Quarter
Carbon Tetrachloride (Freon 10)	µg/L	Grab	1/Quarter
Chlorobenzene	µg/L	Grab	1/Quarter
Chlorodibromomethane	µg/L	Grab	1/Month
Chloroethane	µg/L	Grab	1/Quarter
2-Chloroethylvinyl Ether	µg/L	Grab	1/Quarter
Chloroform	µg/L	Grab	1/Quarter
Dichlorobromomethane	µg/L	Grab	1/Quarter
1,1-Dichloroethane (DCA)	µg/L	Grab	1/Quarter
1,2-Dichloroethane (DCA)	µg/L	Grab	1/Quarter
1,1-Dichloroethylene (DCE)	µg/L	Grab	1/Quarter
1,2-Dichloropropane	µg/L	Grab	1/Quarter
1,3-Dichloropropylene	µg/L	Grab	1/Quarter
Ethylbenzene	µg/L	Grab	1/Quarter
Methyl Bromide (Bromomethane)	µg/L	Grab	1/Quarter
Methyl Chloride (Chloromethane)	µg/L	Grab	1/Quarter
Methylene Chloride (Dichloromethane)	µg/L	Grab	1/Quarter
1,1,2,2-Tetrachloroethane	µg/L	Grab	1/Quarter
Tetrachloroethylene (PCE)	µg/L	Grab	1/Quarter
Toluene	µg/L	Grab	1/Quarter
1,2-Trans-Dichloroethylene (DCE)	µg/L	Grab	1/Quarter
1,1,1-Trichloroethane (TCA)	µg/L	Grab	1/Quarter
1,1,2-Trichloroethane (TCA)	µg/L	Grab	1/Quarter
Trichloroethylene (TCE)	µg/L	Grab	1/Quarter
Vinyl Chloride (Chloroethene)	µg/L	Grab	1/Quarter
2-Chlorophenol	µg/L	Grab	1/Quarter
2,4-Dichlorophenol	µg/L	Grab	1/Quarter
2,4-Dimethylphenol	µg/L	Grab	1/Quarter
2-Methyl-4,6-Dinitrophenol	µg/L	Grab	1/Quarter
2,4-Dinitrophenol	µg/L	Grab	1/Quarter
2-Nitrophenol	µg/L	Grab	1/Quarter
4-Nitrophenol	µg/L	Grab	1/Quarter
3-Methyl-4-Chlorophenol	µg/L	Grab	1/Quarter
Pentachlorophenol (PCP)	µg/L	Grab	1/Quarter

Parameter	Units	Sample Type	Minimum Sampling Frequency
Phenol	µg/L	Grab	1/Quarter
2,4,6-Trichlorophenol	µg/L	Grab	1/Quarter
Acenaphthene	µg/L	Grab	1/Quarter
Acenaphthylene	µg/L	Grab	1/Quarter
Anthracene	µg/L	Grab	1/Quarter
Benzidine	µg/L	Grab	1/Quarter
Benzo(a)Anthracene	µg/L	Grab	1/Quarter
Benzo(a)Pyrene	µg/L	Grab	1/Quarter
Benzo(b)Fluoranthene	µg/L	Grab	1/Quarter
Benzo(ghi)Perylene	µg/L	Grab	1/Quarter
Benzo(k)Fluoranthene	µg/L	Grab	1/Quarter
Bis(2-Chloroethoxy)Methane	µg/L	Grab	1/Quarter
Bis(2-Chloroethyl)Ether	µg/L	Grab	1/Quarter
Bis(2-Chloroisopropyl)Ether	µg/L	Grab	1/Quarter
Bis(2-Ethylhexyl)Phthalate	µg/L	Grab	1/Quarter
4-Bromophenyl Phenyl Ether	µg/L	Grab	1/Quarter
Butylbenzyl Phthalate	µg/L	Grab	1/Quarter
2-Chloronaphthalene	µg/L	Grab	1/Quarter
4-Chlorophenyl Phenyl Ether	µg/L	Grab	1/Quarter
Chrysene	µg/L	Grab	1/Quarter
Dibenzo(a,h)Anthracene	µg/L	Grab	1/Quarter
1,2-Dichlorobenzene	µg/L	Grab	1/Quarter
1,3-Dichlorobenzene	µg/L	Grab	1/Quarter
1,4-Dichlorobenzene	µg/L	Grab	1/Quarter
3,3-Dichlorobenzidine	µg/L	Grab	1/Quarter
Diethyl Phthalate	µg/L	Grab	1/Quarter
Dimethyl Phthalate	µg/L	Grab	1/Quarter
Di-n-Butyl Phthalate	µg/L	Grab	1/Quarter
2,4-Dinitrotoluene	µg/L	Grab	1/Quarter
2,6-Dinitrotoluene	µg/L	Grab	1/Quarter
Di-n-Octyl Phthalate	µg/L	Grab	1/Quarter
1,2-Diphenylhydrazine	µg/L	Grab	1/Quarter
Fluoranthene	µg/L	Grab	1/Quarter
Fluorene	µg/L	Grab	1/Quarter
Hexachlorobenzene	µg/L	Grab	1/Quarter
Hexachlorobutadiene	µg/L	Grab	1/Quarter
Hexachlorocyclopentadiene	µg/L	Grab	1/Quarter
Hexachloroethane	µg/L	Grab	1/Quarter
Indeno(1,2,3-cd)Pyrene	µg/L	Grab	1/Quarter
Isophorone	µg/L	Grab	1/Quarter
Naphthalene	µg/L	Grab	1/Quarter
Nitrobenzene	µg/L	Grab	1/Quarter
N-Nitrosodimethylamine	µg/L	Grab	1/Quarter

Parameter	Units	Sample Type	Minimum Sampling Frequency
N-Nitrosodi-n-Propylamine	µg/L	Grab	1/Quarter
N-Nitrosodiphenylamine	µg/L	Grab	1/Quarter
Phenanthrene	µg/L	Grab	1/Quarter
Pyrene	µg/L	Grab	1/Quarter
1,2,4-Trichlorobenzene	µg/L	Grab	1/Quarter
Aldrin	µg/L	Grab	1/Quarter
alpha-BHC (benzene hexachloride)	µg/L	Grab	1/Quarter
beta-BHC (benzene hexachloride)	µg/L	Grab	1/Quarter
gamma-BHC (benzene hexachloride or lindane)	µg/L	Grab	1/Quarter
delta-BHC (benzene hexachloride)	µg/L	Grab	1/Quarter
Chlordane	µg/L	Grab	1/Quarter
4,4'-DDT	µg/L	Grab	1/Quarter
4,4'-DDE	µg/L	Grab	1/Quarter
4,4'-DDD	µg/L	Grab	1/Quarter
Dieldrin	µg/L	Grab	1/Quarter
alpha-Endosulfan	µg/L	Grab	1/Quarter
beta-Endosulfan	µg/L	Grab	1/Quarter
Endosulfan Sulfate	µg/L	Grab	1/Quarter
Endrin	µg/L	Grab	1/Quarter
Endrin Aldehyde	µg/L	Grab	1/Quarter
Heptachlor	µg/L	Grab	1/Quarter
Heptachlor Epoxide	µg/L	Grab	1/Quarter
Polychlorinated Biphenyls (PCBs)	µg/L	Grab	1/Quarter
Toxaphene	µg/L	Grab	1/Quarter

2. **Table E-3 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-3 and as specified in the NOA:
- Applicable to all parameters.** Parameters 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. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 C.F.R part 136 allowed sample type.
 - Sample Type and Frequency.** If monitoring is required in the NOA, the listed sample types and frequencies are required unless otherwise specified in the NOA. If monitoring is required in the NOA and no frequency is specified in this General Order, then the monitoring frequency shall be specified in the NOA from the Executive Officer.
 - 24-hour composite samples** shall be collected from a 24-hour flow proportional composite.

- d. **Grab Sample.** 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.
- e. **Handheld Field Meter.** A handheld field meter may be used for **dissolved oxygen, electrical conductivity, residual chlorine, temperature, turbidity, and residual chlorine**, 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 and/or un-ionized ammonia** sample collection.
- g. **Whole Effluent Toxicity. Ammonia and/or un-ionized ammonia** samples shall be collected concurrently with whole effluent toxicity monitoring.
- h. **Total Residual Chlorine** must be monitored using an analytical method that is sufficiently sensitive to measure at the permitted level of 0.01 mg/L. If chlorine is used to maintain treatment process equipment but not for disinfection, total residual chlorine monitoring is required at a minimum of once per day on each day chlorine is used. In addition, the Discharger shall monitor chlorine residual for three consecutive days after each day chlorine is used to maintain treatment process equipment. Monitoring is not required for the use of chlorinated potable water for filter backwashing. When chlorine or chlorine-containing products are not used to maintain treatment process equipment, the Discharger shall so state in the monthly self-monitoring report. After a calendar year following the effective date of the permit, total chlorine residual data will be reviewed to determine if continued monitoring is warranted. The Discharger may discontinue chlorine monitoring once a calendar year of non-detects is established.
- i. **Hardness** samples shall be collected concurrently with metals samples.
- j. **Aluminum.** Compliance with the final effluent limitations based on aquatic life criteria for aluminum can be demonstrated using either total or acid-soluble (inductively coupled plasma/atomic emission spectrometry or inductively coupled plasma/mass spectrometry) analysis methods, as supported by U.S. EPA's Ambient Water Quality Criteria for Aluminum document (EPA 440/5-86-008), or other standard methods that exclude aluminum silicate particles as approved by the Executive Officer. Compliance with the final effluent limitations for aluminum based on the Secondary MCL can be demonstrated with samples that have been passed through a 1.5-micron filter.
- k. **Total Mercury and Methylmercury.** Unfiltered methylmercury 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 U.S. EPA Water Quality Criteria Levels, for collection of equipment blanks

(section 9.4.4.2). The analysis of methylmercury and total mercury shall be by U.S. EPA method 1630 and 1631 (Revision E), respectively, with a maximum **reporting limit of 0.05 ng/L for methylmercury and 0.5 ng/L for total mercury.**

- l. **Total Coliform Organisms.** Samples for total coliform organisms may be collected at any point following disinfection.
- m. **Peracetic acid** residual monitoring is only required when peracetic acid is used in the disinfection process.
- n. **Priority Pollutants.** For all priority pollutant constituents listed in Table E-3, 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).
- o. **Bis (2-ethylhexyl) 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.
- p. **Persistent Chlorinated Hydrocarbon Pesticides** shall include: aldrin, dieldrin, chlordane, endrin, endrin aldehyde, heptachlor, heptachlor epoxide, hexachlorocyclohexane (alpha-BHC, beta-BHC, delta-BHC, and gamma-BHC or lindane), endosulfan (alpha and beta), endosulfan sulfate, toxaphene, 4,4'DDD, 4,4'DDE, and 4,4'DDT.
- q. **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.
- r. **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.
- s. **Dissolved Organic Carbon monitoring** shall be conducted concurrently with aluminum, hardness, and pH sampling.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity Testing

The Discharger shall meet the following acute toxicity testing requirements as specified in the NOA:

1. **Instream Waste Concentration (IWC) for Acute Toxicity.** The acute toxicity IWC is 100 percent effluent.

2. **Routine Monitoring Frequency.** Major and minor Dischargers that demonstrate reasonable potential for acute aquatic toxicity shall perform routine acute toxicity testing once per toxicity calendar quarter where there is expected to be at least 15 days of discharge to the receiving water, concurrent with effluent ammonia sampling. The Executive Officer may specify alternate monitoring frequencies in the Notice of Applicability.
3. **Toxicity Calendar Month**
 - a. **For less frequent than monthly,** the toxicity calendar month is defined as the period of time beginning on the day of the initiation of the routine monitoring to the day before the corresponding day of the next month if the corresponding day exists, or if not to the last day of the next month (e.g., from January 1 to January 31, from June 15 to July 14, or from January 31 to February 27).
 - b. **For monthly routine monitoring,** the toxicity calendar month is defined as either:
 - i. The period of time beginning on the 1st day of the month to the last day of the same month (e.g., from June 1 to June 30); or
 - ii. The period of time beginning on the day of the month as specified in the NOA to the day before the corresponding day of the next month if the corresponding day exists (e.g., from June 15 to July 14).
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. **Additional Routine Monitoring Tests for TRE Determination, Applicable to Discharges With Numeric Acute Toxicity Limits and Routine Monitoring Less Frequent Than Monthly.** In order to determine if a TRE is necessary, an additional routine monitoring test is required when there is one violation of the acute toxicity MDEL or MMEL, but not two violations in a single toxicity calendar month. This additional routine monitoring test is not required if the Discharger is already conducting a TRE. This additional routine monitoring test shall be initiated within two weeks after the toxicity calendar month in which the MMEL or MDEL violation occurred. The toxicity calendar month of the violation and the toxicity calendar month of the additional routine monitoring shall be considered “successive toxicity calendar months” for purposes of determining whether a TRE is required. This additional routine monitoring test is also used for compliance purposes, and could result in the need to conduct MMEL compliance testing per Section V.A.4 above.

6. **Sample Types.** Each Discharger may use flow-through or static renewal testing. For static renewal testing, the samples shall be flow proportional 24-hour composites or grab samples, as specified in the Notice of Applicability, and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at Monitoring Location EFF-001 or as specified in the Notice of Applicability.
7. **Test Species.** The test species shall be fathead minnows (*Pimephales promelas*) or rainbow trout (*Oncorhynchus mykiss*), as specified in the Notice of Applicability.
8. **Methods.** The acute toxicity testing samples shall be analyzed using EPA-821-R-02-012, Fifth Edition or methods identified in the Code of Federal Regulations, title 40, part 136, or other U.S. EPA-approved methods. Temperature, total residual chlorine, and pH shall be recorded at the time of sample collection. No pH adjustment may be made unless approved by the Executive Officer.
9. **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.
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 calendar month in which the toxicity test that was not completed was required to be initiated, even if the new toxicity test is initiated in a subsequent month. The new toxicity test for routine monitoring or MMEL compliance tests, as applicable, and any MMEL compliance tests required to be conducted due to the results of the new toxicity test shall be used to determine compliance with the effluent limitations for the calendar month in which the toxicity test that was not completed was required to be initiated. The new toxicity test and any MMEL compliance tests required to be conducted due to the results of the new toxicity test shall not be used.

If it is determined that any specific monitoring event 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, the Discharger is not required to initiate the specific monitoring event in the required time period if the Discharger promptly initiates, and ultimately completes a replacement test.

B. Chronic Toxicity Testing

The Discharger shall meet the following chronic toxicity testing requirements as specified in the NOA:

1. **Instream Waste Concentration (IWC) for Chronic Toxicity.** The chronic toxicity IWC is 100 percent effluent.
2. **Routine Monitoring Frequency.**

- a. **Applicable to Discharges Less Than or Equal to 1 MGD.** The Discharger shall perform routine chronic toxicity testing **twice per toxicity calendar year** in years in which there is expected to be at least 15 days of discharge to the receiving water in at least one toxicity calendar quarter.
- b. **Applicable to Discharges Greater Than 1 MGD and Less Than 5 MGD.** The Discharger shall perform routine chronic toxicity testing **once per toxicity calendar quarter** in quarters in which there is expected to be at least 15 days of discharge to the receiving water. While the Discharger is conducting a toxicity reduction evaluation the routine monitoring may be reduced to two (2) tests per toxicity calendar year.
- c. **Applicable to Discharges Greater Than or Equal to 5 MGD.** The Discharger shall perform routine chronic toxicity testing **once per toxicity calendar month** in months in which there is expected to be at least 15 days of discharge to the receiving water. While the Discharger is conducting a Toxicity Reduction Evaluation the routine monitoring may be reduced to two (2) tests per toxicity calendar year.
- d. **Reduction In Routine Monitoring.** Routine monitoring frequency may be reduced if the following conditions during the prior five consecutive years are met:
 - i. The Chronic Toxicity MDEL and MMEL, if applicable, have not been violated; and
 - ii. The toxicity requirements as specified in this MRP and the NOA have been followed; and
 - iii. A minimum of ten chronic aquatic toxicity tests have been conducted at the IWC or at a concentration of effluent higher than the IWC, all chronic aquatic toxicity test data are analyzed or reanalyzed using the TST, and no chronic aquatic toxicity test resulted in a "fail" at the IWC or, if the aquatic toxicity test was not conducted at the IWC, at a concentration of effluent higher than the IWC.

3. Toxicity Calendar Month.

- a. **For monitoring frequency less than monthly,** the toxicity calendar month is defined as the period of time beginning on the day of the initiation of the routine monitoring to the day before the corresponding day of the next month if the corresponding day exists, or if not to the last day of the next month (e.g., from January 1 to January 31, from June 15 to July 14, or from January 31 to February 27).
- b. **For monthly routine monitoring,** the toxicity calendar month, as specified in the NOA, is defined as either:

- i. The period of time beginning on the 1st day of the month to the last day of the same month (e.g., from June 1 to June 30); or
 - ii. The period of time beginning on the day of the month as specified in the NOA to the day before the corresponding day of the next month if the corresponding day exists (e.g., from June 15 to July 14).
4. **Chronic Toxicity MMEL Compliance Testing or MMET 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 or MMET tests, as specified in the NOA, shall be completed. The chronic toxicity MMEL compliance tests or MMET 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 or MMET test results in a “fail” at the IWC, then the second chronic toxicity MMEL compliance test or MMET test is unnecessary and is waived.
5. **Additional Routine Monitoring Tests for TRE Determination**
 - a. **Applicable to Discharges With Numeric Chronic Toxicity Limits and Routine Monitoring Less Frequent Than Monthly.** In order to determine if a TRE is necessary, an additional routine monitoring test is required when there is one violation of the chronic toxicity MDEL or MMEL, but not two violations in a single toxicity calendar month. This additional routine monitoring test is not required if the Discharger is already conducting a TRE. This additional routine monitoring test shall be initiated within two weeks after the toxicity calendar month in which the MMEL or MDEL violation occurred. The toxicity calendar month of the violation and the toxicity calendar month of the additional routine monitoring shall be considered “successive toxicity calendar months” for purposes of determining whether a TRE is required. This additional routine monitoring test is also used for compliance purposes, and could result in the need to conduct MMEL compliance testing per Section V.B.4 above.
 - b. **Applicable to Discharges Without Numeric Chronic Toxicity Limits and Routine Monitoring Less Frequent Than Monthly.** In order to determine if a TRE is necessary, an additional routine monitoring test is required when one chronic toxicity MDET or MMET is not met, but not two in a single toxicity calendar month. The toxicity calendar month in which the MMET or MDET was not met and the toxicity calendar month of the additional routine monitoring shall be considered “successive toxicity calendar months” for purposes of determining whether a TRE is required. This additional routine monitoring test could result in the need to conduct MMET tests per Section V.B.4 above.
6. **Sample Volumes.** Adequate sample volumes shall be collected to provide renewal water to complete the test in the event that the discharge is intermittent.
7. **Test Species.** Chronic toxicity testing measures sublethal (e.g., reduced growth, reproduction) and/or lethal effects to test organisms exposed to an effluent

compared to that of the control organisms. The Discharger shall conduct chronic toxicity tests with one of the following species that is the most sensitive, as specified in the NOA:

- a. The cladoceran, water flea, *Ceriodaphnia dubia* (survival and reproduction test);
- b. The fathead minnow, *Pimephales promelas* (larval survival and growth test); and
- c. The green alga, *Pseudokirchneriella subcapitata* (growth test).

If the Discharger is required to conduct three-species chronic toxicity tests to determine the most sensitive species, the results for the test species that is specified to be the most sensitive species in accordance with a rotating single species testing schedule as specified in the NOA may be used to determine compliance with the applicable chronic toxicity effluent limitation or trigger.

The “next appropriate species” is a species in Table 1 of the Statewide Toxicity Provisions in the same test method classification (e.g., chronic aquatic toxicity test methods, acute aquatic toxicity test method), in the same salinity classification (e.g., freshwater or marine), and in the same taxon as the most sensitive species. When there are no other species in Table 1 in the same taxon as the most sensitive species (e.g., freshwater chronic toxicity tests), the “next appropriate species” is the species exhibiting the highest percent effect at the IWC tested in the species sensitivity screening other than the most sensitive species. The Executive Officer shall have discretion to allow the temporary use of the next appropriate species as the most sensitive species when the Discharger submits documentation and the Executive Officer determines that the Discharger has encountered unresolvable test interference or cannot secure a reliable supply of test organisms.

8. **Test Methods.** Discharger shall conduct the chronic toxicity tests on effluent samples at the instream waste concentration for the discharge in accordance with species and test methods in Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA/821/R02/013, 2002; Table IA, 40 C.F.R. part 136).
9. **Dilution and Control Water.** Dilution water and control water shall be 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.
10. **Test Failure.** If the effluent chronic toxicity test does not meet all test acceptability criteria (TAC) specified in the referenced test method in EPA/821-R-02-013, the Discharger must conduct a Replacement Test as soon as possible, as specified in subsection B.11, below.
11. **Replacement Test.** When a required toxicity test for routine monitoring, MMET tests, 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, MMET tests, or MMEL compliance tests, as applicable, for the calendar month in which the toxicity test that was not completed was required to be initiated, even if the new toxicity test is initiated in a subsequent month. The new toxicity test for routine monitoring, MMET tests, or MMEL compliance tests, as applicable, and any MMET tests or MMEL compliance tests required to be conducted due to the results of the new toxicity test shall be used to determine compliance with the effluent limitations for the calendar month in which the toxicity test that was not completed was required to be initiated. The new toxicity test and any MMET tests or MMEL compliance tests required to be conducted due to the results of the new toxicity test shall not be used.

If it is determined that any specific monitoring event 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, the Discharger is not required to initiate the specific monitoring event in the required time period if the Discharger promptly initiates, and ultimately completes a replacement test.

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

1. The discharge is subject to determination of "pass" or "fail" from an acute toxicity test or a chronic toxicity test using the Test of Significant Toxicity (TST) statistical t-test approach described in Section IV.B.1.c of the Statewide Toxicity Provisions.
2. The null hypothesis (Ho) for the TST statistical approach is:

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

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

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

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

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

D. WET Testing Notification Requirements. Each Discharger shall notify the Central Valley Water Board of test results exceeding the acute toxicity effluent limitation, chronic

toxicity effluent limitation, chronic toxicity monitoring target, or monitoring trigger, as specified in the NOA, as soon as the Discharger learns of the exceedance, but no later than 24-hours after receipt of the monitoring results.

E. WET Testing Reporting Requirements.

Each Discharger shall submit the full laboratory report for all toxicity testing and, if applicable, progress reports on TRE investigations, as attachments to CIWQS for the reporting period (e.g., monthly, quarterly, semi-annually or annually) and provide the data (i.e., “pass”/“fail”) in the PET tool for uploading into CIWQS. The laboratory report shall include:

1. The valid toxicity test results for the TST statistical approach, reported as “pass” or “fail” and “Percent Effect” at the IWC for the discharge, the dates of sample collection and initiation of each toxicity test, all results for effluent parameters monitored concurrently with the toxicity test(s).
2. The statistical analysis used in Section IV.B.1.c of the Statewide Toxicity Provisions.
3. Statistical program (e.g., TST calculator, CETIS, etc.) output results, including graphical plots, for each toxicity test.

F. Most Sensitive Species Screening

The species sensitivity screening or rescreening to re-evaluate the most sensitive species shall be conducted as follows and specified in the NOA and the results submitted with the Notice of Intent.

1. **Frequency of Testing for Species Sensitivity Screening.** If the Discharger has not conducted a species sensitivity screening in the past 15 years, issuance or re-issuance of the NOA is to address toxicity, or the effluent used in the species sensitivity screening is no longer representative of the effluent, the species sensitivity screening shall be conducted with the following frequencies, as specified in the NOA:
 - a. **Applicable to Continuous Dischargers.** Species sensitivity screening for chronic toxicity shall include, at a minimum, chronic WET testing for four consecutive toxicity 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 100 percent effluent.
 - b. **Applicable to Non-Continuous Dischargers.** Species sensitivity screening for chronic toxicity shall include, at a minimum, chronic WET testing conducted quarterly for 1-year in each quarter in which there is expected to be at least 15 days of discharge using the water flea (*Ceriodaphnia dubia*), fathead minnow (*Pimephales promelas*), and green alga (*Pseudokirchneriella subcapitata*). If the discharge occurs in one quarter for the year, two sets of testing shall be conducted within the same quarter. The tests shall be performed at an IWC of 100 percent effluent.

2. **Determination of Most Sensitive Species.** The Central Valley Water Board will determine the most sensitive species from the water flea (*Ceriodaphnia dubia*), fathead minnow (*Pimephales promelas*), and green alga (*Pseudokirchneriella subcapitata*) using the following procedure. 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.

The “next appropriate species” is a species in Table 1 of the Statewide Toxicity Provisions in the same test method classification (e.g., chronic aquatic toxicity test methods, acute aquatic toxicity test method), in the same salinity classification (e.g., freshwater or marine), and in the same taxon as the most sensitive species. When there are no other species in Table 1 in the same taxon as the most sensitive species (e.g., freshwater chronic toxicity tests), the “next appropriate species” is the species exhibiting the highest percent effect at the IWC tested in the species sensitivity screening other than the most sensitive species. The Executive Officer shall have discretion to allow the temporary use of the next appropriate species as the most sensitive species when the Discharger submits documentation and the Executive Officer determines that the Discharger has encountered unresolvable test interference or cannot secure a reliable supply of test organisms. The most sensitive species shall be used for chronic toxicity testing for the remainder of the permit term. A Discharger may use the four most recent tests conducted prior to receiving a NOA for use in determining the most sensitive species, if the tests were conducted in a manner sufficient to make such determination.

If the most sensitive species is not able to be determined from the species sensitivity screening discussed above, the Discharger shall rotate the test species as the most sensitive species every toxicity calendar year as follows and specified in the NOA:

- a. *Ceriodaphnia dubia* (survival and reproduction test) for the remainder of the toxicity calendar year the NOA is issued;
- b. *Pimephales promelas* (larval survival and growth test) for the entire toxicity calendar year following the toxicity calendar year the NOA is issued;
- c. *Pseudokirchneriella subcapitata* (growth test) for the entire toxicity calendar year of the second year following the toxicity calendar year the NOA is issued; and
- d. Cycling back to *Ceriodaphnia dubia* (survival and reproduction test) after *Pseudokirchneriella subcapitata* (growth test) and through the same rotation.

If a single test exhibits toxicity, demonstrated by a test that results in a “fail” using the TST statistical approach, then the species used in that test shall be established as the most sensitive species until the next NOA reissuance.

G. Toxicity Reduction Evaluations (TRE)

Reports for TREs or a Toxicity Evaluation Study shall be submitted in accordance with the schedule contained in the Discharger’s approved TRE Workplan, or as amended by the Discharger’s TRE Action Plan.

1. TRE Targets (Applicable to Dischargers Without Chronic Toxicity Effluent Limitations)

a. **Chronic Whole Effluent Toxicity Median Monthly Effluent Target (MMET).** No more than one chronic aquatic toxicity test with the most sensitive species initiated in a toxicity calendar month shall result in a “fail” at the IWC for any endpoint.

b. Chronic Whole Effluent Toxicity Maximum Daily Effluent Target (MDET)

i. **If the most sensitive species is the water flea (*Ceriodaphnia dubia*) or fathead minnow (*Pimephales promelas*)**

No chronic aquatic toxicity test with the most sensitive species shall result in a “fail” at the 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.

ii. **If the most sensitive species is Green alga (*Pseudokirchneriella subcapitata*)**

No chronic aquatic toxicity test with the most sensitive species shall result in a “fail” at the IWC for the sub-lethal endpoint measured in the test and a percent effect for the sub-lethal endpoint greater than or equal to 50 percent.

2. **TRE Implementation. For Dischargers with toxicity effluent limitations,** the Discharger is required to initiate a TRE when there is any combination of two or more toxicity MDEL or MMEL violations within a single toxicity calendar month or within two successive toxicity calendar months. **For Dischargers with chronic toxicity effluent triggers,** the Discharger is required to initiate a TRE when there is any combination of two or more chronic toxicity MDETs or MMETs that are not met within a single toxicity calendar month or within two successive toxicity calendar months. In addition, **for all Dischargers,** if other information indicates toxicity (e.g., results of additional monitoring, results of monitoring at a higher concentration than the IWC, fish kills, intermittent recurring toxicity), the Central Valley Water Board may require a TRE. A TRE may also be required when there is no effluent available to complete a routine monitoring test, MMET compliance 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.

Within 30 days of the test result that triggered the TRE, the Discharger shall submit to the Executive Officer a TRE Action Plan 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.
3. **TRE Work Plan Guidance.** 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 NOA. If the Executive Officer does not disapprove the work plan within 60 days, the work plan shall become effective. The TRE Work Plan shall outline the procedures for identifying the source(s) of and reducing or eliminating effluent toxicity. The TRE Work Plan must be of adequate detail to allow the Discharger to immediately initiate a TRE and shall be developed in accordance with U.S. EPA guidance as discussed below.
- a. Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants, EPA/833-B-99/002, August 1999.
 - b. Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TREs), EPA/600/2-88/070, April 1989.
 - c. Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures, Second Edition, EPA 600/6-91/003, February 1991.
 - d. Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I, EPA/600/6-91/005F, May 1992.
 - e. Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity, Second Edition, EPA/600/R-92/080, September 1993.
 - f. Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity, Second Edition, EPA 600/R-92/081, September 1993.

- g. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, EPA-821-R-02-012, October 2002.
- h. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA-821-R-02-013, October 2002.
- i. Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, March 1991.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

A. Monitoring Location LND-001

- 1. **Applicable to Donner Summit Public Utility District Wastewater Treatment Plant and Hammonton Gold Village Wastewater Treatment Plant.** Dischargers to spray fields and/or spray irrigation shall monitor the discharge to the land application area at Monitoring Location LND-001, as specified in the NOA, in accordance with Table E-4 and the testing requirements described in section VI.A.2 below:

Table E-4. Land Discharge Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	MGD	Meter	Continuous
BOD ₅	mg/L	24-hour Composite	1/Month
pH	standard units	Grab or Meter	--
Total Coliform Organisms	MPN/100 mL	Grab	1/Month
Total Suspended Solids	mg/L	24-Hour Composite	--
Electrical Conductivity	µmhos/cm	Grab	--

- 2. **Table E-4 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-4 and as specified in the NOA:
 - a. **Applicable to all parameters.** Parameters 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. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 C.F.R part 136 allowed sample type.
 - b. **Sample Type and Frequency.** If monitoring is required in the NOA, the listed sample types and frequencies are required unless otherwise specified in the NOA. If monitoring is required in the NOA and no frequency is specified in this General Order, then the monitoring frequency shall be specified in the Notice of Applicability from the Executive Officer.

- c. **24-hour composite** samples shall be collected from a 24-hour flow proportional composite.
- d. **Grab Sample.** 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.
- e. **Handheld Field Meter.** A handheld field meter may be used for **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.

VII. RECYCLING MONITORING REQUIREMENTS

A. Monitoring Location REC-001

- 1. The Discharger shall monitor the discharge to the reclamation system at REC-001 in accordance with Table E-5, as specified in the NOA, and the testing requirements described in section VII.A.2 below:

Table E-5 Recycled Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	MGD	Meter	Continuous
Total Coliform Organisms	MPN/100 mL	Grab	1/Day
Turbidity	NTU	Meter	Continuous

- 2. **Table E-5 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-5 and as specified in the NOA:
 - a. **Applicable to all parameters.** Parameters 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. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 C.F.R part 136 allowed sample type.
 - b. **Grab Sample.** 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.

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Monitoring Location RSW-001 and RSW-002

Each Discharger shall implement the Receiving Water Monitoring Requirements in Attachment E, section VIII.A of this Order unless the Discharger elects to participate in the Delta Regional Monitoring Program as detailed in Attachment E, section VIII.4.

1. Each Discharger, except the Calaveras County Water District, Copper Cove Wastewater Reclamation Facility and the Nevada County Sanitation District No. 1, Cascade Shores Wastewater Treatment Plant, shall monitor the receiving water at Monitoring Locations RSW-001 and RSW-002 (see also General Monitoring Provision J) for the constituents identified in the NOA in accordance with Table E-6 and the testing requirements described in section VIII.A.2 below. If there was no discharge to the receiving water during the designated monitoring period, monitoring is not required during that period. If there is no upstream flow in the receiving water during the designated monitoring period, monitoring is not required at RSW-001 during that period. Whenever monitoring is not required, the Discharger shall state so in the monthly SMR. The Executive Officer may specify in the NOA alternate sample types and/or monitoring frequencies than those listed in Table E-6 below.

Table E-6. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency for Major Dischargers	Minimum Sampling Frequency for Minor Dischargers
pH	standard units	Grab	1/Month	1/Quarter
Dissolved Organic Carbon (DOC)	mg/L	Grab	1/Quarter	1/Quarter
Dissolved Oxygen	mg/L	Grab	1/Month	1/Quarter
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Quarter	1/Quarter
Hardness, Total (as CaCO ₃)	mg/L	Grab	1/Quarter	1/Quarter
Temperature	°C	Grab	1/Month	1/Quarter
Total Dissolved Solids	mg/L	Grab	1/Quarter	1/Quarter
Turbidity	NTU	Grab	1/Month	1/Quarter
Un-ionized Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Quarter	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 and as specified in the NOA:
 - a. **Applicable to all parameters.** Parameters 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. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 C.F.R part 136 allowed sample type.

- b. **Sample Type and Frequency.** If monitoring is required in the NOA, the listed sample types and frequencies are required unless otherwise specified in the NOA. If monitoring is required in the NOA and no frequency is specified in this General Order, then the monitoring frequency shall be specified in the Notice of Applicability from the Executive Officer.
 - c. **Grab Sample.** 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.
 - d. **Handheld Field Meter.** A handheld field meter may be used for **dissolved oxygen, electrical conductivity, pH, turbidity, and temperature**, 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. **Dissolved Organic Carbon monitoring** shall be conducted concurrently with hardness and pH sampling.
3. In conducting the receiving water sampling as specified in the NOA, a log shall be kept of the receiving water conditions throughout the reach bounded by the upstream receiving water monitoring location (RSW-001 or otherwise specified in the NOA) and the respective downstream receiving water monitoring location (RSW-002 or otherwise specified in the NOA) when discharging to the receiving water. 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.

4. **Dischargers Electing to Participate in the Delta Regional Monitoring Program.**

In lieu of conducting the individual monitoring specified in Attachment E, section VIII.A.1 through VIII.A.3 of this Order, Dischargers located within the legal boundaries of the Sacramento–San Joaquin River Delta may elect to participate in the Delta Regional Monitoring Program. Dischargers may choose to conduct all or part of the receiving water monitoring through the Delta Regional Monitoring Program. If a Discharger elects to participate in the Delta Regional Monitoring Program, it shall continue to submit receiving water data for temperature. At a minimum, the results from one representative upstream receiving water temperature sample shall be submitted annually for the month of January. The temperature data shall be submitted in the January self-monitoring report and will be used to determine compliance with the temperature effluent limitation. Temperature data may be collected by the Discharger for this purpose or the Discharger may submit representative temperature data from the Delta Regional Monitoring Program or other appropriate monitoring programs (e.g., Department of Water Resources, United States Geological Survey).

If a Discharger elects to cease all or part of the individual receiving water monitoring and instead participates in the Delta Regional Monitoring Program, the Discharger shall submit a letter signed by an authorized representative informing the Board that the Discharger will participate in the Delta Regional Monitoring Program, and the date on which individual receiving water monitoring required under Attachment E, section VIII.A will cease, or be modified, and specific monitoring locations and constituent combinations that will no longer be conducted individually. Written approval of the Discharger's request, by the Executive Officer, is required prior to discontinuing part or all of individual receiving water monitoring. Approval by the Executive Officer is not required prior to participating in the Delta Regional Monitoring Program.

If a Discharger participates in the Delta Regional Monitoring Program in lieu of conducting individual receiving water monitoring, the Discharger shall continue to participate in the Delta Regional Monitoring Program until such time as the Discharger informs the Board that participation in the Delta Regional Monitoring Program will cease and individual monitoring is reinstated. Receiving water monitoring under Attachment E, section VIII.A, is not required under this Order so long as the Discharger adequately supports the Delta Regional Monitoring Program. If the Discharger fails to adequately support the Delta Regional Monitoring Program, as defined by the Delta Regional Monitoring Program Steering Committee, the Discharger shall reinstate individual receiving water monitoring under Attachment E, section VIII.A, upon written notice from the Executive Officer. During participation in the Delta Regional Monitoring Program, the Discharger may conduct and submit any or part of the receiving water monitoring included in this Monitoring and Reporting Program that is deemed appropriate by the Discharger.

Delta Regional Monitoring Program data are not intended to be used directly to represent either upstream or downstream water quality for purposes of determining compliance with this Permit. Delta Regional Monitoring Program monitoring stations are established generally as "integrator sites" to evaluate the combined impacts on water quality of multiple discharges into the Delta; Delta Regional Monitoring

Program monitoring stations would not normally be able to identify the source of any specific constituent but would be used to identify water quality issues needing further evaluation. Delta Regional Monitoring Program monitoring data, along with individual Discharger data, may be used to help establish background receiving water quality for reasonable potential analyses in an NPDES permit after evaluation of the applicability of the data for that purpose. Delta Regional Monitoring Program data, as with all environmental monitoring data, can provide an assessment of water quality at a specific place and time that can be used in conjunction with other information, such as other receiving water monitoring data, spatial and temporal distribution and trends of receiving water data, effluent data from the Discharger's discharge and other point and non-point source discharges, receiving water flow volume, speed and direction, and other information to determine the likely source or sources of a constituent that resulted in exceedance of a receiving water quality objective.

During the period of participation in the Delta Regional Monitoring Program, the Discharger shall continue to report any individually conducted receiving water monitoring data in the Electronic Self-Monitoring Reports (eSMR) according to the Monitoring and Reporting Program. In addition:

- With each submitted eSMR, the Discharger's eSMR cover letter shall state that the Discharger is participating in the Delta Regional Monitoring Program in lieu of conducting the individual receiving water monitoring program required by the permit.
- With each annual report, the Discharger shall attach a copy of the letter originally submitted to the Central Valley Water Board describing the monitoring location(s) and constituent combinations that will no longer be conducted individually.

B. Monitoring Location RGW-001

1. If the Discharger is not covered by a separate WDRs, groundwater monitoring may be required for dischargers with unlined ponds or as specified in the NOA.
2. 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 and shall be sampled and analyzed according to the schedule below. All samples shall be collected using approved EPA methods. Water table elevations shall be calculated to determine groundwater gradient and direction of flow, as specified in the NOA.
3. Prior to sampling, the groundwater elevations shall be measured and the wells shall be purged of at least three well volumes until temperature, pH, and electrical conductivity have stabilized. Depth to groundwater shall be measured to the nearest 0.01 feet. As specified in the NOA, the Discharger shall conduct groundwater monitoring at RGW-001, any other groundwater monitoring wells specified in the NOA, and any new groundwater monitoring wells in accordance with Table E-7 and the testing requirements described in section VIII.B.4 below:

Table E-7. Groundwater Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Depth to Groundwater	±0.01 feet	Measurement	2/Year
Groundwater Elevation	±0.01 feet	Calculated	2/Year
Gradient	feet/feet	Calculated	2/Year
Gradient Direction	Degrees	Calculated	2/Year
Electrical Conductivity @ 25°C	µmhos/cm	Grab	2/Year
Total Dissolved Solids	mg/L	Grab	2/Year
pH	standard units	Grab	2/Year
Total Coliform Organisms	MPN/100 mL	Grab	2/Year
Total Nitrogen	mg/L	Grab	2/Year
Nitrate Nitrogen, Total (as N)	mg/L	Grab	2/Year
Ammonia (as NH ₄)	mg/L	Grab	2/Year
Total Kjeldahl Nitrogen	mg/L	Grab	2/Year
Dissolved Oxygen	mg/L	Grab	1/Quarter
Standard Minerals	µg/L	Grab	2/Year

4. **Table E-7 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-7 and as specified in the NOA:
 - a. **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.
 - b. **Applicable to all parameters.** Parameters 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. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 C.F.R part 136 allowed sample type.
 - c. **Sample Type and Frequency.** If monitoring is required in the NOA, the listed sample types and frequencies are required unless otherwise specified in the NOA. If monitoring is required in the NOA and no frequency is specified in this General Order, then the monitoring frequency shall be specified in the Notice of Applicability from the Executive Officer.
 - d. **Grab Sample.** 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.
 - e. **Handheld Field Meter.** A handheld field meter may be used for **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. **Standard minerals** shall include the following applicable parameters, in totals: boron, calcium, iron, magnesium, potassium, sodium, chloride, manganese, phosphorus, total alkalinity (including alkalinity series), and hardness, and include verification that the analysis is complete (i.e., cation/anion balance). Samples for iron and manganese may be passed through a 1.5-micron filter for comparison to the respective Secondary MCLs.
5. **Groundwater and Monitoring Well Annual Report.** As specified in the NOA, an annual report shall be submitted that includes:
 - a. All of the monitoring well and groundwater monitoring data (parameters in Table E-7) collected during the previous calendar year summarized in a table that includes the parameter name, unit, sample date, qualifier, sample result, laboratory method detection limitation, laboratory reporting limitation, and the analytical method used.
 - b. A brief written description of any groundwater investigation and sampling work completed for the year.
 - c. A site map showing the location and surveyed elevation (to the nearest one-hundredth of a foot above mean sea level) of the monitoring wells.
 - d. The current direction of groundwater flow.

IX. OTHER MONITORING REQUIREMENTS

A. Biosolids

1. Monitoring Location BIO-001

- a. As specified in the Notice of Applicability, Dischargers shall conduct biosolids monitoring as specified below. Dischargers with biosolids monitoring required under separate WDRs will not be subject to these specifications, but biosolids to meet pretreatment requirements under Reporting Requirement D.5 shall still apply.
- b. A composite sample of sludge shall be collected at Monitoring Location BIO-001 in accordance with EPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989, and tested as follows:
 - i. Dischargers with a flow less than 1.0 MGD shall monitor for the metals listed in Title 22 annually.
 - ii. Dischargers with flows between 1 MGD and 5 MGD shall monitor for the metals listed in Title 22 annually and for priority pollutants (excluding asbestos) once during the permit term.

- iii. Dischargers with flows between 5 MGD and 10 MGD shall monitor for the metals listed in Title 22 quarterly and the priority pollutants (excluding asbestos) annually.
- iv. Dischargers with flows greater than 10 MGD shall monitor for the priority pollutants (excluding asbestos) quarterly.
- c. 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. Ponds

1. Monitoring Location PND-001

- a. For all basins or ponds specified in the Notice of Applicability, the Discharger shall keep a log regarding the use of the basin(s). In particular, the Discharger shall record the following when any type of wastewater is directed to the basin:
 - i. The date(s) when the wastewater is directed to the basin;
 - ii. The type(s) of wastewater (e.g., untreated due to plant upset, tertiary treated, etc.) directed to the basin;
 - iii. The total volume of wastewater directed to the basin (volume may be estimated); and,
 - iv. The daily freeboard in the basin.
- b. **For unlined basins or ponds**, the Discharger shall monitor equalization, storage, and treatment ponds at Monitoring Location PND-001 (see also General Monitoring Provision J) and any other pond monitoring locations in accordance with Table E-8 and the testing requirements described in section IX.B.2 below as identified in the Notice of Applicability. When equalization or storage ponds hold wastewater for less than seven consecutive days, monitoring shall not be required. If monitoring is not required, the Discharger shall so state in the SMR. The Executive Officer may specify in the Notice of Applicability additional pond monitoring locations, alternate sample types, and/or alternate monitoring frequencies than those listed in Table E-8 below:

Table E-8. Pond Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling
Dissolved Oxygen	mg/L	Grab	1/Quarter

Parameter	Units	Sample Type	Minimum Sampling
pH	standard units	Grab	1/Quarter
Odors	--	Grab	1/Month
Freeboard	Tenths of feet	Measured	1/Week
Pond Elevation	Tenths of feet	Measured	1/Week
Storage Reservoir Volume	Millions of gallons	Measured	1/Week
Boron, Total	µg/L	Grab	1/Quarter
Calcium, Total	mg/L	Grab	1/Quarter
Iron, Total	µg/L	Grab	1/Quarter
Manganese, Total	µg/L	Grab	1/Quarter
Magnesium, Total	mg/L	Grab	1/Quarter
Potassium, Total	mg/L	Grab	1/Quarter
Sodium, Total	mg/L	Grab	1/Quarter
Bromide, Total	mg/L	Grab	1/Quarter
Chloride, Total	mg/L	Grab	1/Quarter
Fluoride, Total	mg/L	Grab	1/Quarter
Phosphorus, Total	mg/L	Grab	1/Quarter
Sulfate, Total	mg/L	Grab	1/Quarter
Electrical Conductivity @ 25°C	µg/L	Grab	1/Quarter
Standard Minerals	mg/L	Grab	1/Quarter
Total Alkalinity	mg/L as Calcium Carbonate (CaCO ₃)	Grab	1/Quarter
Total Hardness	mg/L as CaCO ₃	Grab	1/Quarter

2. **Table E-8 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-8 and as specified in the NOA:
 - 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. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 C.F.R part 136 allowed sample type.
 - b. **Sample Type and Frequency.** If monitoring is required in the NOA, the listed sample types and frequencies are required unless otherwise specified in the NOA.

- c. **Grab Sample.** 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.
- 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. **Total Alkalinity** includes Carbonate as CaCO₃, Bicarbonate as CaCO₃, and Hydroxide as CaCO₃.
- f. **Standard minerals** shall include the following applicable parameters, in totals: boron, calcium, iron, magnesium, potassium, sodium, chloride, manganese, phosphorus, total alkalinity (including alkalinity series), and hardness, and include verification that the analysis is complete (i.e., cation/anion balance). Samples for iron and manganese may be passed through a 1.5-micron filter for comparison to the respective Secondary MCLs.

C. Municipal Water Supply

- 1. **Monitoring Location SPL-001.** As specified in the NOA, Dischargers shall monitor the municipal water supply at Monitoring Location SPL-001 in accordance with Table E-9 and the testing requirements described in section IX.C.2. below. The Executive Officer may specify in the Notice of Applicability alternate sample types and/or monitoring frequency than that listed in Table E-9 below.

Table E-9. Municipal Water Supply Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling
Electrical Conductivity @ 25°Celsius	µmhos/cm	Grab	1/Year

- 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 and as specified in the NOA:
 - 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. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 C.F.R part 136 allowed sample type.
 - b. If the water supply is from more than one source, the **electrical conductivity** shall be reported as a weighted average and include copies of supporting calculations.

- c. **Sample Type and Frequency.** If monitoring is required in the NOA, the listed sample types and frequencies are required unless otherwise specified in the NOA.
- d. **Grab Sample.** 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.
- e. **Handheld Field Meter.** A handheld field meter may be used for electrical conductivity provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

D. Filtration System

- 1. **Monitoring Locations FIL-001 and FIL-002.** When discharging to surface water, each Discharger of tertiary treated wastewater that meets the eligibility criteria in section I.B.4 of this General Order shall monitor the filtration system at the effluent of the tertiary treatment filters (Monitoring Location FIL-002 or as specified in the NOA) when discharging to surface water in accordance with Table E-10 and the testing requirements described in section IX.D.2, unless otherwise specified in the NOA by the Executive Officer. Filtration system monitoring is not required for dischargers producing Title 22 disinfected tertiary recycled water pursuant to General Order (section V.C) for reclamation if production is regulated by a separate permit.

When coagulation is not used (City of Atwater, Mariposa Public Utility District, and the City of Merced):

- a. The Discharger shall also monitor at Monitoring Location FIL-001.
- b. The Discharger shall indicate in their monthly self-monitoring report which days coagulation was used.

Table E-10. Filtration System Monitoring Requirements

Parameter	Units	Sample Type	Monitoring Location	Minimum Sampling Frequency
Turbidity	NTU	Meter	FIL-002	Continuous

- 2. **Table E-10 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-10 and as specified in the NOA:
 - a. **Turbidity.** Turbidity 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. In addition, if requested by the Discharger, the sample

type may be modified by the Executive Officer to another 40 C.F.R part 136 allowed sample type.

- b. **Continuous analyzers.** If analyzers are taken out of operation for routine maintenance activities and no continuous measurements are available from a redundant meter, the Discharger shall divert flow to another filtration device or to storage to the extent feasible. If the Discharger is not able to divert away from the analyzer, the Discharger shall report documented routine meter maintenance activities including date, time of day, and duration, in which the analyzer(s) is not in operation and no continuous measurements are available from a redundant meter. If analyzer(s) fail to provide continuous monitoring for more than two hours and influent and/or effluent from the disinfection process is not diverted for retreatment, the Discharger shall obtain and report hourly manual and/or grab sample results.
- c. **Turbidity Reporting.** Report daily average and maximum turbidity. If maximum daily turbidity exceeds 5 NTU (for granular filtration systems or equivalent) or 0.2 NTU (for membrane filtration systems or equivalent), include the total amount of time that turbidity exceeded these levels.

E. Ultraviolet Light (UV) Disinfection System

1. Monitoring Locations UVS-001

- a. When discharging to surface water, each Discharger utilizing a UV disinfection system shall monitor the UV disinfection system at Monitoring Location UVS-001 in accordance with Table E-11 and the testing requirements described in section IX.E.2, unless otherwise specified in the NOA by the Executive Officer. UV disinfection system monitoring is not required for dischargers producing Title 22 disinfected tertiary recycled water pursuant to General Order (section V.C) for reclamation if production is regulated by a separate permit.

Table E-11. UV Disinfection System Monitoring Requirements

Parameter	Units	Sample Type	Monitoring Location	Minimum Sampling Frequency
Flow	MGD	Meter	UVS-001	Continuous
Number of UV banks in operation	Number	Observation	N/A	Continuous
UV Transmittance	Percent (%)	Meter	UVS-001	Continuous
UV Dose	mJ/cm ²	Calculated	N/A	Continuous
Total Coliform Organisms	MPN/100 mL	Grab	UVS-001	1/Week

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

- a. If specified in the Notice of Applicability, flow monitoring at EFF-001 may be used to satisfy the UVS-001 flow monitoring requirement, provided flow was not diverted or added between UVS-001 and EFF-001.
- b. **Total Coliform Organisms.** Total Coliform Organisms 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. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 C.F.R part 136 allowed sample type.
- c. **Continuous analyzers.** If analyzers are taken out of operation for routine maintenance activities and no continuous measurements are available from a redundant meter, the Discharger shall divert flow to another disinfection channel or to storage to the extent feasible. If the Discharger is not able to divert away from the analyzer, the Discharger shall report documented routine meter maintenance activities including date, time of day, and duration, in which the analyzer(s) is not in operation and no continuous measurements are available from a redundant meter. If analyzer(s) fail to provide continuous monitoring for more than two hours and influent and/or effluent from the disinfection process is not diverted for retreatment, the Discharger shall obtain and report hourly manual and/or grab sample results. The Discharger shall not decrease power settings or reduce the number of UV lamp banks in operation, or reduce the tertiary filtration, while the continuous analyzers are out of service and water is being disinfected.
- d. **UV Banks.** Report daily minimum number of UV banks in operation.
- e. **UV Transmittance.** Report daily minimum hourly average UV transmittance. The minimum hourly average transmittance shall consist of the lowest average transmittance recorded over an hour of a day when flow is being discharged. If the system does not operate for an entire hour interval on a given day or if effluent flow is not discharged for an entire hour, the transmittance will be averaged based on the actual operation time when discharges are occurring.
- f. **UV Dose.** Report daily minimum hourly average UV dose and daily average UV dose. The minimum hourly average dose shall consist of the lowest hourly average dose provided in any channel that had at least one bank of lamps operating during the hour interval. For channels that did not operate for the entire hour interval, the dose will be averaged based on the actual operation time.

F. Pyrethroid Pesticides Monitoring (Applicable to Discharges Greater Than or Equal to 1 MGD and not within the Tulare Lake Basin)

1. **Water Column Chemistry Monitoring Requirements.** For facilities discharging greater than or equal to 1 MGD, the Discharger shall conduct effluent and receiving water baseline monitoring in accordance with Table E-12 as specified in the NOA. While discharging to surface water, quarterly monitoring shall be conducted for one year, as specified in the NOA, in the same quarter as 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-12.

The monitoring shall be conducted in the effluent at monitoring location EFF-001, the downstream receiving water at monitoring location RSW-002, or as identified in the NOA, and any additional effluent discharge point and its respective downstream receiving water monitoring location and the results of such monitoring 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 and methods validated by the 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) (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. A Discharger may provide existing monitoring data to demonstrate that these study requirements have been fulfilled, which requires confirmation by the Executive Officer when issuing the NOA.

Table E-12. Pyrethroid Pesticides Monitoring

Parameter	CAS Number	Sample 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	--

Parameter	CAS Number	Sample Units	Sample Type	Analytical Method	Reporting Level
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-12 Notes:

- 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](#).

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

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

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

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),

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

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

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

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

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

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

Table E-13. Pyrethroid Pesticide Partition Coefficients

Pyrethroid Pesticide	Receiving water KOC (L/kg)	Receiving water KDOC (L/kg)	Effluent KOC (L/kg)	Effluent KDOC (L/kg)
Bifenthrin	4,228,000	1,737,127	15,848,932	800,000
Cyfluthrin	3,870,000	2,432,071	3,870,000	2,432,071
Cypermethrin	3,105,000	762,765	6,309,573	200,000
Esfenvalerate	7,220,000	1,733,158	7,220,000	1,733,158
Lambda-cyhalothrin	2,056,000	952,809	7,126,428	200,000
Permethrin	6,075,000	957,703	10,000,000	200,000

- Water Column Toxicity Monitoring Requirements.** When discharging to the receiving water, 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 (SWAMP) Quality Assurance Program Plan (SWRCB, 2018). When feasible, the Discharger shall use the Southern California Coastal Water Research Project (SCCWRP) guidance (Schiff and Greenstein, 2016) on test organism age and size for *Hyalella azteca*.

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

Quarterly monitoring shall be conducted for one year concurrent with the Pyrethroid Pesticides Water Column Chemistry Monitoring (see section IX.G of this MRP for specific dates) as specified in the NOA. Downstream receiving water monitoring shall be conducted at downstream monitoring location RSW-002, or as specified in the NOA, when discharging to the receiving water and the results of such monitoring shall 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 results in an exceedance of any prohibition numeric trigger, the Discharger shall submit a formal letter notifying the Central Valley Water Board of the exceedance and the Discharger's intent to submit a Pyrethroid Management Plan. The Pyrethroid Management Plan, as outlined in Section VII.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. 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 Pyrethroid Pesticides Monitoring.

G. Effluent and Receiving Water Characterization

The Discharger shall perform Effluent and Receiving Water Characterization as described in this section.

1. Monitoring Frequency

The Executive Officer may specify more frequent monitoring in the NOA, including for those Dischargers requesting an exemption to the monitoring requirements for priority pollutants per Section 1.3, Step 8 of the SIP. The results of such monitoring shall be submitted to the Central Valley Water Board with the monthly SMRs. Each individual monitoring event shall provide representative sample results for each effluent discharge point and its respective upstream receiving water as specified in the NOA.

- a. **Effluent Sampling.** Samples shall be collected from the effluent (Monitoring Location EFF-001) at minimum twice during the permit term, with all the sampling completed during the 2nd year after the effective date of the NOA or as specified in the NOA, and analyzed for the constituents listed in Table E-14, below. Each sampling event shall be conducted a minimum of 60 days apart. 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 per the SSM Rule (see also General Monitoring Provision F).
- b. **Receiving Water Sampling.** Samples shall be collected from the upstream receiving water (Monitoring Location RSW-001) at minimum once during the permit term, with all the sampling completed during the 2nd year after the

effective date of the NOA or as specified in the NOA, and analyzed for the constituents listed in Table E-14, below. If a Discharger is participating in the Delta Regional Monitoring Program, the receiving water portion of this section is not required according to section VIII of the MRP and section VIII.D.1.b of the Fact Sheet. However, the Discharger shall conduct, at minimum, one representative ambient background characterization monitoring event for priority pollutant constituents (Appendix A to 40 C.F.R. part 423) during the term of this General Order. Data from the Delta Regional Monitoring Program may be utilized to characterize the receiving water in the permit renewal. The Discharger may request that the Regional Monitoring Program perform sampling and laboratory analysis to address all or a portion of the monitoring under this Characterization Monitoring with the understanding that the Discharger will provide funding to the Regional Monitoring Program sufficient to reimburse all of the costs of this additional effort. Alternatively, the Discharger may conduct any site-specific receiving water monitoring deemed appropriate by the Discharger and submit that monitoring data with this Characterization Monitoring. In general, monitoring data from samples collected in the immediate vicinity of the discharge will be given greater weight in permitting decisions than receiving water monitoring data collected at greater distances from the discharge point. Receiving water sampling shall be performed at approximately the same time and on the same date as the effluent sampling events.

2. **Analytical Methods.** Constituents shall be collected and analyzed consistent with the Discharger's Analytical Methods Report (MRP, X.D.3) 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 NOA that the Discharger can use to satisfy this requirement. The certification form shall be submitted electronically via CIWQS submittal by the due date specified in the NOA.
4. The Discharger shall conduct effluent and receiving water characterization monitoring in accordance with Table E-14 and the testing requirements described in section IX.G.5 below and as specified in the NOA.

Table E-14. Effluent and Receiving Water Characterization Monitoring**VOLATILE ORGANICS**

CTR Number	Volatile Organic Parameters	CAS Number	Units	Effluent Sample Type
25	2-Chloroethyl vinyl Ether	110-75-8	µg/L	Grab
17	Acrolein	107-02-8	µg/L	Grab
18	Acrylonitrile	107-13-1	µg/L	Grab
19	Benzene	71-43-2	µg/L	Grab
20	Bromoform	75-25-2	µg/L	Grab
21	Carbon Tetrachloride	56-23-5	µg/L	Grab
22	Chlorobenzene	108-90-7	µg/L	Grab
24	Chloroethane	75-00-3	µg/L	Grab
26	Chloroform	67-66-3	µg/L	Grab
35	Methyl Chloride	74-87-3	µg/L	Grab
23	Dibromochloromethane	124-48-1	µg/L	Grab
27	Dichlorobromomethane	75-27-4	µg/L	Grab
36	Methylene Chloride	75-09-2	µg/L	Grab
33	Ethylbenzene	100-41-4	µg/L	Grab
89	Hexachlorobutadiene	87-68-3	µg/L	Grab
34	Methyl Bromide (Bromomethane)	74-83-9	µg/L	Grab
94	Naphthalene	91-20-3	µg/L	Grab
38	Tetrachloroethylene (PCE)	127-18-4	µg/L	Grab
39	Toluene	108-88-3	µg/L	Grab
40	trans-1,2-Dichloroethylene	156-60-5	µg/L	Grab
43	Trichloroethylene (TCE)	79-01-6	µg/L	Grab
44	Vinyl Chloride	75-01-4	µg/L	Grab
21	Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	Grab
41	1,1,1-Trichloroethane	71-55-6	µg/L	Grab
42	1,1,2-Trichloroethane	79-00-5	µg/L	Grab
28	1,1-Dichloroethane	75-34-3	µg/L	Grab
30	1,1-Dichloroethylene (DCE)	75-35-4	µg/L	Grab
31	1,2-Dichloropropane	78-87-5	µg/L	Grab
32	1,3-Dichloropropylene	542-75-6	µg/L	Grab
37	1,1,2,2-Tetrachloroethane	79-34-5	µg/L	Grab
101	1,2,4-Trichlorobenzene	120-82-1	µg/L	Grab
29	1,2-Dichloroethane	107-06-2	µg/L	Grab
75	1,2-Dichlorobenzene	95-50-1	µg/L	Grab
76	1,3-Dichlorobenzene	541-73-1	µg/L	Grab
77	1,4-Dichlorobenzene	106-46-7	µg/L	Grab

SEMI-VOLATILE ORGANICS

CTR Number	Semi-Organic Volatile Parameters	CAS Number	Units	Effluent Sample Type
60	Benzo(a)Anthracene	56-55-3	µg/L	Grab

CTR Number	Semi-Organic Volatile Parameters	CAS Number	Units	Effluent Sample Type
85	1,2-Diphenylhydrazine	122-66-7	µg/L	Grab
45	2-Chlorophenol	95-57-8	µg/L	Grab
46	2,4-Dichlorophenol	120-83-2	µg/L	Grab
47	2,4-Dimethylphenol	105-67-9	µg/L	Grab
49	2,4-Dinitrophenol	51-28-5	µg/L	Grab
82	2,4-Dinitrotoluene	121-14-2	µg/L	Grab
55	2,4,6-Trichlorophenol	88-06-2	µg/L	Grab
83	2,6-Dinitrotoluene	606-20-2	µg/L	Grab
50	2-Nitrophenol	88-75-5	µg/L	Grab
71	2-Chloronaphthalene	91-58-7	µg/L	Grab
78	3,3-Dichlorobenzidine	91-94-1	µg/L	Grab
62	Benzo(b)Fluoranthene	205-99-2	µg/L	Grab
52	4-Chloro-3-methylphenol	59-50-7	µg/L	Grab
48	2-Methyl-4,6-Dinitrophenol	534-52-1	µg/L	Grab
51	4-Nitrophenol	100-02-7	µg/L	Grab
69	4-Bromophenyl Phenyl Ether	101-55-3	µg/L	Grab
72	4-Chlorophenyl Phenyl Ether	7005-72-3	µg/L	Grab
56	Acenaphthene	83-32-9	µg/L	Grab
57	Acenaphthylene	208-96-8	µg/L	Grab
58	Anthracene	120-12-7	µg/L	Grab
59	Benzidine	92-87-5	µg/L	Grab
61	Benzo(a)Pyrene	50-32-8	µg/L	Grab
63	Benzo(ghi)Perylene	191-24-2	µg/L	Grab
64	Benzo(k)Fluoranthene	207-08-9	µg/L	Grab
65	Bis (2-Chloroethoxy) Methane	111-91-1	µg/L	Grab
66	Bis (2-Chloroethyl) Ether	111-44-4	µg/L	Grab
67	Bis (2-Chloroisopropyl) Ether	108-60-1	µg/L	Grab
68	Bis(2-Ethylhexyl) Phthalate	117-81-7	µg/L	Grab
70	Butylbenzyl Phthalate	85-68-7	µg/L	Grab
73	Chrysene	218-01-9	µg/L	Grab
81	Di-n-butyl Phthalate	84-74-2	µg/L	Grab
84	Di-n-Octyl Phthalate	117-84-0	µg/L	Grab
74	Dibenzo(a,h)anthracene	53-70-3	µg/L	Grab
79	Diethyl Phthalate	84-66-2	µg/L	Grab
80	Dimethyl Phthalate	131-11-3	µg/L	Grab
86	Fluoranthene	206-44-0	µg/L	Grab
87	Fluorene	86-73-7	µg/L	Grab
88	Hexachlorobenzene	118-74-1	µg/L	Grab
90	Hexachlorocyclopentadiene	77-47-4	µg/L	Grab
91	Hexachloroethane	67-72-1	µg/L	Grab
92	Indeno(1,2,3-cd) Pyrene	193-39-5	µg/L	Grab
93	Isophorone	78-59-1	µg/L	Grab
98	N-Nitrosodiphenylamine	86-30-6	µg/L	Grab

CTR Number	Semi-Organic Volatile Parameters	CAS Number	Units	Effluent Sample Type
96	N-Nitrosodimethylamine	62-75-9	µg/L	Grab
97	N-Nitrosodi-n-Propylamine	621-64-7	µg/L	Grab
95	Nitrobenzene	98-95-3	µg/L	Grab
53	Pentachlorophenol (PCP)	87-86-5	µg/L	Grab
99	Phenanthrene	85-01-8	µg/L	Grab
54	Phenol	108-95-2	µg/L	Grab
100	Pyrene	129-00-0	µg/L	Grab

INORGANICS

CTR Number	Inorganic Parameters	CAS Number	Units	Effluent Sample Type
NL	Aluminum	7429-90-5	µg/L	24-hour Composite
1	Antimony, Total	7440-36-0	µg/L	24-hour Composite
2	Arsenic, Total	7440-38-2	µg/L	24-hour Composite
15	Asbestos	1332-21-4	µg/L	24-hour Composite
3	Beryllium, Total	7440-41-7	µg/L	24-hour Composite
4	Cadmium, Total	7440-43-9	µg/L	24-hour Composite
5a	Chromium, Total	7440-47-3	µg/L	24-hour Composite
6	Copper, Total	7440-50-8	µg/L	24-hour Composite
14	Iron, Total	7439-89-6	µg/L	24-hour Composite
7	Lead, Total	7439-92-1	µg/L	24-hour Composite
8	Mercury, Total	7439-97-6	µg/L	Grab
NL	Mercury, Methyl	22967-92-6	µg/L	Grab
NL	Manganese, Total	7439-96-5	µg/L	24-hour Composite
9	Nickel, Total	7440-02-0	µg/L	24-hour Composite
10	Selenium, Total	7782-49-2	µg/L	24-hour Composite
11	Silver, Total	7440-22-4	µg/L	24-hour Composite
12	Thallium, Total	7440-28-0	µg/L	24-hour Composite
13	Zinc, Total	7440-66-6	µg/L	24-hour Composite

NON-METALS/MINERALS

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

PESTICIDES/PCBs/DIOXINS

CTR Number	Pesticide/PCB/Dioxin Parameters	CAS Number	Units	Effluent Sample Type
110	4,4-DDD	72-54-8	µg/L	24-hour Composite
109	4,4-DDE	72-55-9	µg/L	24-hour Composite
108	4,4-DDT	50-29-3	µg/L	24-hour Composite
112	alpha-Endosulfan	959-98-8	µg/L	24-hour Composite
103	alpha-BHC (Benzene hexachloride)	319-84-6	µg/L	24-hour Composite
102	Aldrin	309-00-2	µg/L	24-hour Composite
113	beta-Endosulfan	33213-65-9	µg/L	24-hour Composite
104	beta-BHC (Benzene hexachloride)	319-85-7	µg/L	24-hour Composite
107	Chlordane	57-74-9	µg/L	24-hour Composite
106	delta-BHC (Benzene hexachloride)	319-86-8	µg/L	24-hour Composite
111	Dieldrin	60-57-1	µg/L	24-hour Composite
114	Endosulfan Sulfate	1031-07-8	µg/L	24-hour Composite
115	Endrin	72-20-8	µg/L	24-hour Composite
116	Endrin Aldehyde	7421-93-4	µg/L	24-hour Composite
117	Heptachlor	76-44-8	µg/L	24-hour Composite
118	Heptachlor Epoxide	1024-57-3	µg/L	24-hour Composite
105	gamma-BHC (Benzene hexachloride or Lindane)	58-89-9	µg/L	24-hour Composite
119	Polychlorinated Biphenyl (PCB) 1016	12674-11-2	µg/L	24-hour Composite
120	PCB 1221	11104-28-2	µg/L	24-hour Composite
121	PCB 1232	11141-16-5	µg/L	24-hour Composite
122	PCB 1242	53469-21-9	µg/L	24-hour Composite
123	PCB 1248	12672-29-6	µg/L	24-hour Composite
124	PCB 1254	11097-69-1	µg/L	24-hour Composite
125	PCB 1260	11096-82-5	µg/L	24-hour Composite
126	Toxaphene	8001-35-2	µg/L	24-hour Composite
16	2,3,7,8-TCDD (Dioxin)	1746-01-6	mg/L	24-hour Composite

CONVENTIONAL PARAMETERS

CTR Number	Conventional Parameters	CAS Number	Units	Effluent Sample Type
NL	pH	--	SU	Grab
NL	Temperature	--	°C	Grab

NON-CONVENTIONAL PARAMETERS

CTR Number	Nonconventional Parameters	CAS Number	Units	Effluent Sample Type
NL	Foaming Agents (MBAS)	MBAS	mg/L	24-hour Composite
NL	Hardness (as CaCO ₃)	471-34-1	mg/L	Grab
NL	Specific Conductance (Electrical Conductivity or EC)	EC	µmhos/cm	24-hour Composite

CTR Number	Nonconventional Parameters	CAS Number	Units	Effluent Sample Type
NL	Total Dissolved Solids (TDS)	TDS	mg/L	24-hour Composite
NL	Dissolved Organic Carbon (DOC)	DOC	mg/L	24-hour Composite

NUTRIENTS

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

OTHER CONSTITUENTS OF CONCERN

CTR Number	Other Constituents of Concern	CAS Number	Units	Effluent Sample Type
NL	1,2,3-Trichloropropane (TCP)	96-18-4	µg/L	Grab
NL	Trichlorofluoromethane	75-69-4	µg/L	Grab
NL	1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	µg/L	Grab
NL	Styrene	100-42-5	µg/L	Grab
NL	Xylenes	1330-20-7	µg/L	Grab
NL	Barium	7440-39-3	µg/L	24-hour Composite
NL	Fluoride	16984-48-8	mg/L	24-hour Composite
NL	Molybdenum	7439-98-7	µg/L	24-hour Composite
NL	Tributyltin	688-73-3	µg/L	24-hour Composite
NL	Alachlor	15972-60-8	µg/L	24-hour Composite
NL	Atrazine	1912-24-9	µg/L	24-hour Composite
NL	Bentazon	25057-89-0	µg/L	24-hour Composite
NL	Carbofuran	1563-66-2	µg/L	24-hour Composite
NL	2,4-D	94-75-7	µg/L	24-hour Composite
NL	Dalapon	75-99-0	µg/L	24-hour Composite
NL	1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	µg/L	24-hour Composite
NL	Di(2-ethylhexyl)adipate	103-23-1	µg/L	24-hour Composite
NL	Dinoseb	88-85-7	µg/L	24-hour Composite
NL	Diquat	85-00-7	µg/L	24-hour Composite
NL	Endothal	145-73-3	µg/L	24-hour Composite
NL	Ethylene Dibromide (EDB)	106-93-4	µg/L	24-hour Composite
NL	Methoxychlor	72-43-5	µg/L	24-hour Composite
NL	Molinate (Ordran)	2212-67-1	µg/L	24-hour Composite
NL	Oxamyl	23135-22-0	µg/L	24-hour Composite
NL	Picloram	1918-02-1	µg/L	24-hour Composite
NL	Simazine (Princep)	122-34-9	µg/L	24-hour Composite
NL	Thiobencarb	28249-77-6	µg/L	24-hour Composite
NL	2,4,5-TP (Silvex)	93-72-1	µg/L	24-hour Composite

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

5. **Table E-14 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-14 and as specified in the NOA:
 - 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 or quarter, as required in the NOA, **with the exception of** dissolved organic carbon and hardness which shall be sampled concurrently with the characterization monitoring in this section.
 - e. **Concurrent Sampling.** Effluent and receiving water sampling shall be conducted 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-14.
 - 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 Methylmercury.** Unfiltered methylmercury 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 methylmercury and total mercury shall be by U.S. EPA method 1630 and 1631 (Revision E), respectively, with a maximum reporting limit of 0.05 ng/L for methylmercury 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 N).** 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.
- j. **Aluminum.** Aluminum can be tested by using either total or acid-soluble (inductively coupled plasma/atomic emission spectrometry or inductively coupled plasma/mass spectrometry) analysis methods, as supported by U.S. EPA's Ambient Water Quality Criteria for Aluminum document (EPA 440/5-86-008), or other methods that exclude aluminum silicate particles as approved by the Executive Officer for comparison with the 2018 U.S. EPA NAWQC for protection of freshwater aquatic life criterion aquatic life criteria. For comparison to the Secondary MCL, aluminum samples may be passed through a 1.5-micron filter.
- l. **Iron and Manganese.** Iron and manganese samples may be passed through a 1.5-micron filter for comparison with the Secondary MCL.
- m. **Other Constituents of Concern.** Monitoring for parameters under "Other Constituents of Concern" is only required if the discharge is within the legal boundaries of the Sacramento-San Joaquin Delta, or as specified in the Notice of Applicability.

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 Dischargers subject to 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.

- Monitoring frequencies may be adjusted by the Executive Officer to a less frequent basis if a Discharger makes a request and the request is backed by statistical trends of monitoring data submitted.

B. Self-Monitoring Reports (SMRs)

- Dischargers 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/) (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.
- Dischargers shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit monthly SMRs including the results of all required monitoring using U.S. EPA-approved 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.
- Monitoring periods and reporting for all required monitoring shall begin on the effective date of the NOA and completed according to the following schedule, or as otherwise specified in the NOA:

Table E-15. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period	SMR Due Date
Continuous	All	Submit with monthly SMR
1/Day	(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	Sunday through Saturday	Submit with monthly SMR
2/Week	Sunday through Saturday	Submit with monthly SMR
3/Week	Sunday through Saturday	Submit with monthly SMR
1/Month	1st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
1/Quarter	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	1 January through 30 June 1 July through 31 December	1 August 1 February of following year
1/Year	1 January through 31 December	1 February of following year

4. **Reporting Protocols.** Dischargers 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.

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

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

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ. The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (\pm a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

- c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.
 - d. Dischargers are to instruct laboratories to establish calibration standards so that the Minimum Level (ML) value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.
5. **Multiple Sample Data.** When determining compliance with an AMEL, AWEL, or MDEL 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. **Dischargers shall submit SMRs** in accordance with the following requirements:

- a. Dischargers shall submit all monitoring data within CIWQS as much as possible. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall contact the CIWQS help desk (CIWQS@waterboards.ca.gov) to request that capability be added in CIWQS for entry of the data within the system. Prior to creation of this a capability in CIWQS, the Discharger shall electronically submit the data in a tabular format as an attachment.
 - b. Each 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.
 - c. Each 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; explain all unusual results, and/or events which affect interpretation of the results; and discuss the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated, a description of the violation and corrective actions taken. For Dischargers required to submit SMRs via CIWQS, (1) the cover letter must be uploaded directly into CIWQS and (2) violations must be entered into CIWQS under the Violations tab for the reporting period in which the violation occurred in addition to them being identified in the cover letter.
 - d. Each 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 or as otherwise specified in the NOA. Bench sheets are not required but should be available upon request by Regional Board staff.
7. Each Discharger shall submit the SMRs calculations and reports in accordance with the following requirements, as applicable:
- a. **Calendar Annual Average Limitations.** For Dischargers subject to effluent limitations specified as “calendar annual average” (electrical conductivity), Dischargers shall report the calendar annual average in the December SMR. The annual average shall be calculated as the average of the samples gathered for the calendar year.
 - b. **Mass Loading Limitations.** For ammonia, Dischargers shall calculate and report the average weekly and average monthly mass loading (lbs/day) in the SMRs. The mass loading shall be calculated as follows:

$$\text{Mass (lbs/day)} = \text{Flow (MGD)} \times \text{Concentration (mg/L)} \times 8.34 \text{ (conversion factor)}$$

When calculating daily mass loading, the daily average flow and constituent concentration shall be used. The weekly average constituent concentration and total weekly flow shall be used for average weekly mass loading. The monthly average constituent concentration and total monthly flow shall be used for average monthly mass loading.

- c. **Removal Efficiency (BOD₅ and TSS).** Dischargers shall calculate and report the percent removal of BOD₅ and TSS in the SMRs. The percent removal shall be calculated as specified in section VIII.A of the Limitations and Discharge Requirements.
- d. **Total Coliform Organisms Effluent Limitations.** Dischargers 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 VIII.E of the Limitations and Discharge Requirements.
- e. **Dissolved Oxygen Receiving Water Limitations.** Major Dischargers shall report monthly and minor Dischargers shall report quarterly in the SMR the dissolved oxygen concentrations in the effluent (e.g. - Monitoring Location EFF-001) and respective upstream and downstream receiving water locations (e.g. - Monitoring Location RSW-001 and RSW-002), as specified in the NOA.
- f. **Turbidity Receiving Water Limitations.** Dischargers shall calculate and report the turbidity increase in the receiving water applicable to the natural turbidity condition specified in section VI.A.18 of the Limitations and Discharge Requirements.
- g. **Temperature Effluent Limitation.** For every day receiving water temperature samples collected at Monitoring Location RSW-001, Dischargers subject to effluent limitations for temperature at section V.A.1.c.ix shall calculate and report the difference between the effluent and upstream receiving water based on the difference in the daily average temperature at Monitoring Location EFF-001 and temperature of grab samples collected at Monitoring Location RSW-001 or any additional effluent and upstream receiving water monitoring location, as specified in the NOA.
- h. **Temperature Receiving Water Limitations.** Where receiving water temperature limitations apply, Dischargers shall calculate and report the temperature increase in the receiving water based on the difference in temperature at the upstream and downstream receiving water monitoring locations (e.g. - Monitoring Locations RSW-001 and RSW-002, respectively), except as specified in section VI.A.16, for the City of Roseville (Pleasant Grove Wastewater Treatment Plant, Dry Creek Wastewater Treatment Plant), the El Dorado Irrigation District (Deer Creek Wastewater Treatment Plant), the City of Placerville (Hangtown Creek Water Reclamation Facility), the City of Atwater (Regional Wastewater Treatment Facility), the City of Merced (Wastewater Treatment Facility), and the City of Lodi (White Slough Water Pollution Control Facility).

- i. **Chlorpyrifos and Diazinon Effluent Limitations.** Dischargers subject to effluent limitations for diazinon and chlorpyrifos in section V.A.1.c.xii of this General Order shall calculate and report the value of SAMEL and SAWEL for the effluent, using the equation in section V.A.1.c.xii and consistent with the Compliance Determination Language in section VIII.K of the Limitations and Discharge Requirements.
- j. **Total Calendar Annual Mass Loading Mercury Effluent Limitations.** Dischargers subject to mass loading effluent limitations for total mercury in section V.A.1.c.xi or section V.A.2.a shall calculate and report the total calendar annual mercury mass loading for the effluent in the December SMR. The total calendar year annual mass loading shall be calculated as specified in section VIII.C of the Limitations and Discharge Requirements.
- k. **Amador Lake Percent Effluent (Compliance with the 20:1 Dilution Ratio).** The City of Jackson shall calculate and report the percent effluent in Amador Lake in the December SMR. The percent effluent in Amador Lake shall be calculated as described in section VIII.P of the Waste Discharge Requirements.

C. Discharge Monitoring Reports (DMRs)

1. **For Major Dischargers**, as designated in the NOA, DMRs are U.S. EPA reporting requirements. The Discharger shall electronically certify and submit DMRs together with SMRs using Electronic Self-Monitoring Reports module eSMR 2.5 or any upgraded version. Electronic DMR submittal will be in addition to electronic SMR submittal. [Information about electronic DMR submittal](http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring/) (http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring/) is available on the Internet.
2. **Minor Dischargers**, as designated in the NOA, are excepted from submitting DMRs under these requirements. However, at any time during the term of this permit, the State Water Board or Central Valley Water Board may notify such a discharger to electronically submit DMRs, at which time this exception will no longer apply.

D. Other Reports

1. **Special Study Reports and Progress Reports.** As specified in the Special Provisions contained in section VII of the Limitations and Discharge Requirements, special study and progress reports shall be submitted in accordance with the following reporting requirements. At minimum, the progress reports shall include a discussion of the status of final compliance, whether the Discharger is on schedule to meet the final compliance date, and the remaining tasks to meet the final compliance date. Special Study Reports and Progress Reports reporting requirements will be specified by the Executive Officer in the NOA.
2. Each Discharger shall report the results of any special studies, acute and chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions – VII.C. Each applicable Discharger shall report the progress in

satisfaction of compliance schedule dates specified in Special Provisions – VII.C.7. The Discharger shall submit reports with the first monthly SMR scheduled to be submitted on or immediately following the report due date.

3. **Analytical Methods Report.** The Discharger shall complete and submit an Analytical Methods Report, electronically via CIWQS submittal, by the due date specified in the NOA. The Analytical Methods Report shall include the following for each constituent to be monitored in accordance with this General Order and the NOA: 1) applicable water quality objective, 2) reporting level (RL), 3) method detection limit (MDL), and 4) analytical method. The analytical methods for the constituents monitored in effluent and receiving water 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 NOA 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.
4. **Annual Operations Report.** By **1 February** of each year, Dischargers shall submit a written report to the Central Valley Water Board, electronically via CIWQS submittal, containing the following by the due date specified in the NOA:
 - 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. Dischargers 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.

5. **Recycled Water Policy Annual Reports.** In accordance with Section 3 of the Water Quality Control Policy for Recycled Water (Recycled Water Policy) and as specified in the NOA, 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/) (<https://geotracker.waterboards.ca.gov/>). Information for setting up and using the GeoTracker system can be found in the *ESI Guide for Responsible Parties* document on the State Water Board's website for [Electronic Submittal of Information](https://www.waterboards.ca.gov/ust/electronic_submittal/index.html) (https://www.waterboards.ca.gov/ust/electronic_submittal/index.html).

The annual report to GeoTracker must include volumetric reporting of the items listed in Section 3.2 of the [Recycled Water Policy](https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2018/121118_7_final_amendment_oal.pdf) (https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2018/121118_7_final_amendment_oal.pdf). A pdf of the upload confirmation from GeoTracker for the Recycled Water Policy Annual Report shall be uploaded into CIWQS annually as specified in the NOA, to demonstrate compliance with this reporting requirement.

6. **Annual Pretreatment Reporting Requirements.** Dischargers subject to pretreatment program requirements 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 pretreatment 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.

If the Discharger has multiple wastewater treatment plants subject to annual pretreatment reporting requirements, the Discharger may combine annual pretreatment reporting requirements for their facilities. If the reports for multiple facilities are combined, then the Discharger shall note so in its transmittal letter accompanying the submission of the annual report for each facility.

An annual report shall be submitted by the due date in the NOA and include the following items as specified by the Executive Officer in the NOA:

- a. A summary of analytical results from representative sampling of the POTWs 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 as specified in the NOA. The Discharger is not required to sample and analyze for asbestos. The Discharger shall submit the results of the annual priority pollutant scan electronically to the Central Valley Water Board using the State Water Board's CIWQS Program Website.

Sludge shall be sampled during the same 24-hour period and analyzed for the same pollutants as the influent and effluent sampling and analysis. The sludge

analyzed shall be a **composite sample of a minimum of 12 discrete samples taken at equal time intervals over the 24-hour period**. Wastewater and sludge sampling and analysis shall be performed as specified in the NOA. 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. If specified in the NOA, a report describing the compliance status of each SIU characterized by the descriptions in items iii through vii above shall be submitted for each calendar quarter by the first day of the second month following the end of the quarter. The report shall identify the specific compliance status of each such SIU and shall also identify the compliance status of the POTW with regards to audit/pretreatment compliance inspection requirements. If none of the aforementioned conditions exist, at a minimum, a letter indicating that all industries are in compliance and no violations or changes to the pretreatment program have occurred during the quarter must be submitted. The information required in the fourth quarter report shall be included as part of the annual report due by the annual date specified in the NOA. This quarterly reporting requirement shall commence upon issuance of the NOA.
- g. 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.
- h. 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.
- i. A brief description of any programs the POTW implements to reduce pollutants from nondomestic users that are not classified as SIUs;
- k. 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;
- l. A summary of the annual pretreatment budget, including the cost of pretreatment program functions and equipment purchases; and
- m. 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).
- n. 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

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

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

This General 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

A. Background

In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act) was amended to provide that the discharge of pollutants to waters of the United States from any point source is effectively prohibited unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit.

On 22 September 1989, the United States Environmental Protection Agency (U.S. EPA) granted the State of California, through the State Water Resources Control Board (State Water Board) and the Regional Water Quality Control Boards (Regional Water Boards), the authority to issue general NPDES permits pursuant to 40 Code of Federal Regulations (C.F.R.) parts 122 and 123.

40 C.F.R. section 122.28 provides for issuance of general permits to regulate a category of point sources if the sources involve the same or substantially similar types of operations; discharge the same type of waste; require the same type of effluent limitations or operating conditions; require similar monitoring; and are more appropriately regulated under a general order rather than individual orders.

B. General Criteria

The General Order is designed to allow owners and operators (hereafter Dischargers) of municipal wastewater treatment facilities to discharge to surface waters of the United States as long as the discharge meets water quality objectives/criteria at the point of discharge. These facilities may be publicly owned treatment works (POTWs), as defined at 40 C.F.R. section 403.3, or privately owned treatment works, as defined at 40 C.F.R. section 122.2. This General Order covers major and minor discharges and does not specify eligibility criteria for flow.

II. DISCHARGE DESCRIPTION

A. Eligible Discharges

The municipal wastewater treatment facilities to be covered by this General Order receive and treat primarily municipal and domestic sewage (i.e., waste and wastewater

from humans or household operations), but may also receive and treat septage, commercial and industrial wastewater, storm water, and dry-weather diversions from municipal separate storm sewer (MS4) systems. This General Order does not authorize discharges to surface waters directly from septic tanks or discharges that are comprised solely of non-municipal wastewater (e.g., commercial wastewater, industrial wastewater, or storm water).

This General Order covers municipal wastewater treatment facilities that provide secondary, advanced secondary, or tertiary treatment. Secondary treatment facilities are defined as those meeting the secondary treatment regulations at 40 C.F.R. part 133. Secondary treatment processes generally include a combination of physical and biological treatment to remove biodegradable organics and suspended solids. Advanced secondary facilities provide additional treatment beyond secondary (e.g., filtration). Tertiary facilities are defined as those providing filtration and disinfection equivalent to the levels required by the State Water Resources Control Board (State Water Board), Division of Drinking Water (DDW) reclamation criteria at California Code of Regulations (CCR), Title 22, division 4, chapter 3, (Title 22). This General Order does not cover discharges that do not receive, at a minimum, secondary treatment (e.g., primary treatment, equivalent-to-secondary treatment).

This General Order covers municipal wastewater treatment facilities that provide disinfection using either chlorine or ultraviolet light (UV), but does not cover facilities that provide disinfection using alternative disinfection methods (e.g., ozonation or pasteurization).

B. Screening Levels

Attachment C contains screening levels based on water quality objectives/criteria. The most restrictive criteria are necessary because this Order is a general order covering discharges to all surface waters in the Central Valley of California. If municipal and domestic supply (MUN) is a beneficial use of the surface water, then the most restrictive human health-based criteria are used. If MUN is not a beneficial use, then the most restrictive human health-based criteria are not necessary. If the aquatic life criteria are more restrictive than the human health-based criteria, then the aquatic life criteria are used.

Upon receipt of a Notice of Intent for coverage under this General Order, the Central Valley Water Board will conduct a reasonable potential analysis (RPA) using the screening levels in Attachment C in accordance with the procedures detailed in section V.C.3 of this Fact Sheet. If the RPA indicates that the discharge has reasonable potential to cause or contribute to an exceedance of applicable water quality objectives/criteria for parameters for which effluent limitations are established in section V.A of this General Order, and the Discharger is capable of complying with the water quality objectives/criteria and associated effluent limitations at the point of discharge, without consideration of dilution credits (i.e., end-of-pipe), then the Discharger will be enrolled under this General Order and the Executive Officer shall indicate the applicable effluent limitations in the Notice of Applicability. A Discharger not currently meeting the water quality objectives/criteria and associated effluent limitations

but in the process of implementing upgrades that will enable compliance under a compliance schedule in this General Order or a separate enforcement order (e.g., Time Schedule Order or Cease and Desist Order) may be enrolled under this General Order.

III. NOTIFICATION REQUIREMENTS

The Notice of Intent, as shown in Attachment B, is intended to provide the Central Valley Water Board with information necessary for a determination of suitability for coverage under this General Order. The information required to be completed in the Notice of Intent in Attachment B meets the requirements established at 40 C.F.R. section 122.28(b)(2) and satisfies the requirements for a report of waste discharge (ROWD) established by Water Code section 13260. Water Code section 13260 requires a ROWD to start the application process for all waste discharge requirements (WDRs) and NPDES permits, except for general WDRs or general NPDES permits that use the Notice of Intent to comply or specify the use of an alternative application form designed for the permit. Submittal of the Notice of Intent replaces the requirement of discharges to provide U.S. EPA Application Forms 1 and 2A. The requirement to provide a single application form represents a less burdensome procedure for applicants and the Central Valley Water Board, while requiring submittal of all necessary information pursuant to NPDES regulations at 40 C.F.R. section 122.28(b)(2) and Water Code section 13260.

Dischargers seeking coverage under this General Order are required to submit a complete Notice of Intent, as detailed in Attachment B, which includes:

A. Requirements for All Dischargers

1. The appropriate first annual fee as required by Title 23 of the CCR, Division 3, Chapter 9, Article 1. Information regarding the [current fee schedule](http://www.waterboards.ca.gov/resources/fees) (<http://www.waterboards.ca.gov/resources/fees>) and [how to make a payment](https://www.waterboards.ca.gov/make_a_payment) (https://www.waterboards.ca.gov/make_a_payment) by check or credit card is available online. (Checks must be made payable to the State Water Resources Control Board.)
2. Discharger information listed in section 2 of Attachment B.
3. A facility description on official letterhead that includes the items listed in section 3 of Attachment B.
4. Pretreatment program information, if applicable.

B. Additional Requirements for Specific Dischargers

1. **Low Volume Dischargers.** Section 1.3, Step 8 of the SIP reads, in part, “The RWQCB shall require periodic monitoring (at least once prior to the issuance and reissuance of a permit) for pollutants for which criteria or objectives apply and for which no effluent limitations have been established; however, the RWQCB may choose to exempt low volume discharges, determined to have no significant adverse impact on water quality, from this monitoring requirement.” Section IX.G of the Monitoring and Reporting Program requires effluent monitoring for priority pollutants

at minimum twice during the permit term and receiving water monitoring for priority pollutants at minimum once during the permit term. Low volume Dischargers may qualify for an exception to the sampling requirements for some or all of the priority pollutants, provided the Discharger can sufficiently justify that the discharge will have no significant adverse impact on water quality. Dischargers seeking an exception to the sampling requirements for priority pollutants must submit justification as part of the Notice of Intent. If the Central Valley Water Board finds that the justification is not sufficient to grant an exception to the sampling requirements, the Discharger will be required to analyze the discharge for all priority pollutants as part of the Effluent and Receiving Water Characterization Study required in section IX.G of the Monitoring and Reporting Program (Attachment E).

2. **Existing Dischargers.** Dischargers currently regulated under an existing individual NPDES permit (“existing Dischargers”) may provide additional representative data for the effluent and/or receiving water that they wish to be considered that has not been reported in the California Integrated Water Quality System (CIWQS) during the last 3 years, if available. If an existing Discharger has completed a major upgrade to their existing facility for which representative data is not available from the upgraded facility or the upgrades have not been completed, the Discharger shall provide estimated data for the proposed effluent and receiving water and for the priority pollutants and other constituents of concern listed in section IX.G of the Monitoring and Reporting Program (Attachment E). The Discharger will be required to sample the effluent and report the analytical results for the priority pollutants and other constituents of concern listed in section IX.G of the Monitoring and Reporting Program (Attachment E) within 18 months for an upgraded facility that is fully operational at the time of the issuance of the Notice of Applicability or within 21 months following completion of construction of the upgrades to the existing facility.
3. **New Enrollees.** New enrollees shall provide either analytical results (if the proposed new discharge is from an operational facility) or estimated data (if the proposed new discharge is from a new facility for which construction and startup has not been completed) for the proposed effluent and receiving water for the priority pollutants and other constituents of concern listed in section IX.G of the Monitoring and Reporting Program (Attachment E). If estimated data are provided, the Discharger will be required to sample the effluent and report the analytical results for the priority pollutants and other constituents of concern listed in section IX.G of the Monitoring and Reporting Program (Attachment E) within 18 months for a new facility that is fully operational at the time of the issuance of the Notice of Applicability or within 21 months following completion of construction of a new facility that is not fully operational at the time of the issuance of the Notice of Applicability.
4. **New or Increased Discharge.** Dischargers requesting a new discharge or expanding facility capacity beyond their current permitted average dry weather flow shall provide an antidegradation analysis and a feasibility analysis for wastewater disposal, regionalization, and recycled water alternatives.

The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16 ("Statement of Policy with Respect to Maintaining High Quality of Waters in California"). Resolution No. 68-16 requires that existing water quality be maintained until it has been demonstrated that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial uses, and will not result in water quality loss than that prescribed in State policies. Additionally, Resolution No. 68-16 requires that any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters be required to meet WDRs that result in the best practicable treatment or control of the discharge necessary to assure that a pollution or nuisance will not occur and the highest water quality consistent with maximum benefit to the people of the State will be maintained. The antidegradation analysis shall be developed in accordance with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16 and guidance in Administrative Procedures Update (APU) No. 90-004, Antidegradation Policy Implementation for NPDES Permitting.

Pursuant to section 2, Article X, California Constitution, and Water Code section 275, on preventing waste and unreasonable use of waters of the state, the Central Valley Water Board encourages, wherever practicable, water conservation and/or re-use of wastewater. Therefore, to obtain coverage under this General Order, Dischargers are required to evaluate their wastewater disposal, regionalization, and recycled water alternatives.

5. **UV Disinfection Dischargers.** Dischargers that use UV disinfection shall provide a copy of the site-specific engineering study and DDW approval letter if requesting site-specific UV disinfection system operating specifications in lieu of the specification in Special Provisions VII.C.4.b.i and ii. Dischargers that use UV disinfection shall also provide a description of chlorine use and demonstration that chlorine use is managed properly if chlorine is used within the treatment system for cleaning and/or maintenance purposes.

IV. 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 General Order serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This General 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 municipal wastewater treatment facilities that meet water quality objectives/criteria at the point of discharge, as described herein, to surface waters.

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA, (commencing with section 21100) of Division 13 of the Public Resources Code. Additionally, the adoption of land discharge requirements and/or Title 22 water reclamation requirements for Donner Summit Public Utility District Wastewater Treatment Plant and Hammonton Gold Village Wastewater Treatment Plant 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 General Order specifically implement the applicable Water Quality Control Plans.
 - a. **Basin Plan.** The Central Valley Water Board adopted a Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fifth Edition, May 2018 and Tulare Lake Basin, Third Edition, May 2018 (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this General Order implement the Basin Plans. The Basin Plans identify the typical beneficial uses as follows: municipal and domestic supply; agricultural irrigation; stock watering; process supply; service supply; hydropower supply; water contact recreation; canoeing and rafting recreation; other non-contact water recreation; commercial and sport fishing; tribal tradition and culture; warm freshwater aquatic habitat; cold freshwater habitat; warm fish migration habitat; cold fish migration habitat; warm and cold spawning habitat; wildlife habitat; navigation; rare, threatened, or endangered species habitat; groundwater recharge; and freshwater replenishment. The Basin Plan at section 2.1 for water bodies in the Sacramento and San Joaquin Basin and section 2 for water bodies in the Tulare Lake Basin states that the beneficial uses of any specifically identified water body generally apply to its tributary streams. The Notice of Applicability from the Executive Officer shall specify the specific beneficial uses applicable to the receiving water.

The Basin Plans implement 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. On 16 April 2015, the Central Valley Water Board adopted Resolution No. R5-2015-0022, Amendment to the Water Quality Control Plan for the Sacramento and San Joaquin River Basins to Remove the Municipal and Domestic Supply (MUN) Beneficial Use in Twelve Constructed and/or Modified Water Bodies in the Sacramento River Basin that Receive Treated Municipal Wastewater from the Cities of Biggs, Colusa, Live Oak, or Willows, which became effective on 21 April 2016. Per Resolution No. R5-2015-0022, the Basin Plan was amended to provide an exception to State Water Board Resolution 88-63 for the water bodies listed in Table F-1.

Table F-1. Water Bodies That Meet Drinking Water Policy (Resolution 88-63) Exceptions

County	Water Body Name	Description	Approximate Starting Location GIS Coordinates (WGS84 Datum)	Approximate Ending Location GIS Coordinates (WGS84 Datum)
Butte	Cherokee Canal	Cherokee Canal runs southwest from the Richvale area (near Nelson Shippee Road) to Butte Creek, west of the City of Live Oak.	(39.537741, -121.707079)	(39.285685, -121.921656)
Butte	Lateral K	Lateral K is part of Reclamation District 833 and starts near 8th Street in the City of Biggs and travels southwest past the City of Bigg’s Wastewater Treatment Plant to the Main Drainage Canal.	(39.421894, -121.71297)	(39.406837, -121.725361)
Butte	Main Drainage Canal	The Main Drainage Canal (also known as the Main Drain C) is part of Reclamation District 833 and starts on the south end of the City of Biggs near Trent Street and runs southwest to the Cherokee Canal.	(39.41041, -121.704258)	39.327924, -121.882067
Colusa	New Ditch (2011)	New Ditch (2011) starts near the south end of the Colusa Wastewater Treatment Plant and runs south, parallel to the unnamed tributary, until the two water bodies join near the effluent outfall and weir.	(39.180224, -122.031358)	(39.174267, -122.031274)
Colusa	Powell Slough	Powell Slough begins just north of Highway 20, downstream of Hopkins Slough, and Approximate GIS Coordinates (WGS84 Datum) runs south until its confluence with the Colusa Basin Drain.	(39.211133, -122.062955)	(39.161267, -122.038445)
Colusa	Sulphur Creek	Lower two miles from Schoolhouse Canyon to its confluence with Little Bear Creek.	(39.035631, -122.437619)	(39.040144, -122.408168)
Colusa	unnamed tributary (to Powell Slough)	Unnamed tributary to Powell Slough starts near Will S. Green Avenue and runs west and southwest to Powell Slough.	(39.188028, -122.02328)	(39.166857, -122.034722)

County	Water Body Name	Description	Approximate Starting Location GIS Coordinates (WGS84 Datum)	Approximate Ending Location GIS Coordinates (WGS84 Datum)
Glenn	Ag Drain C	Glenn-Colusa Irrigation District's Ag Drain C (segments also known as North Fork Logan Creek and Logan Creek) runs southeast from Highway 5 near Highway 99W through the Sacramento Wildlife Refuge to the Colusa Basin Drain.	(39.498519, -122.199216)	(39.356401, -122.082675)
Sutter	East Interceptor Canal	The East Interceptor Canal starts at Pease Road and runs west until it meets the Wadsworth Canal.	(39.170745, -121.670588)	(39.171003, -121.727014)
Sutter	Lateral 1	Lateral 1 is part of Reclamation District 777 and starts near the City of Live Oak's Wastewater Treatment Plant and runs south and west to the Western Intercepting Canal.	(39.257501, -121.678718)	(39.201348, -121.696329)
Sutter	Lateral 2	Lateral 2 is part of Reclamation District 777. It starts on the south end of the City of Live Oak near Treatment Plant Access Road and runs south and then west past the City of Live Oak's Treatment Plant outfall until it meets Lateral 1.	(39.264739, -121.669314)	(39.257501, -121.678718)
Sutter	Cherokee Canal	Western Interceptor Canal is under shared management between Reclamation District 777 and Reclamation District 2056. It starts south of Sanders Road and runs south until it meets the East Interceptor Canal.	(39.201248, -121.696329)	(39.17092, -121.695374)
Sutter	Lateral K	The Wadsworth Canal starts just north of Butte House Road and runs southwest until it meets the Sutter Bypass.	(39.171003, -121.727014)	(39.113605, -121.768985)

On 6 June 2014, the Central Valley Water Board adopted Resolution No. R5-2014-0074, Amendments to the Water Quality Control Plan for the Sacramento and San Joaquin River Basins and the Water Quality Control Plan for the Tulare Lake Basin to Add Policies for Variances from Surface Water Quality Standards for Point Source Dischargers, Variance Program for Salinity, and Exception from

Implementation of Water Quality Objectives for Salinity, which became effective under the Clean Water Act on 8 July 2016 upon approval by U.S. EPA.

- 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.
- c. **Bay-Delta Plan.** The Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan) was adopted in May 1995 by the State Water Board superseding the 1991 Bay-Delta Plan. The Bay-Delta Plan identifies the beneficial uses of the estuary and includes objectives for flow, salinity, and endangered species protection.

On 1 June 2011, the Superior Court for Sacramento County entered a judgment and peremptory writ of mandate in the matter of City of Tracy v. State Water Resources Control Board (Case No; 34-2009-8000-392-CUWM-GDS), ruling that the South Delta salinity objectives shall not apply to the City of Tracy and other municipal dischargers in the South Delta area pending reconsideration of the South Delta salinity objectives under Water Code §13241 and adoption of a proper program of implementation under Water Code §13242 that includes municipal dischargers. The State Water Board is currently considering new salinity and flow objectives in the South Delta that will address the court order. Therefore, at the time this Order was adopted the South Delta salinity objectives were not applicable to the Discharger.

The State Water Board adopted Decision 1641 (D-1641) on 29 December 1999 and revised on 15 March 2000. D-1641 implements flow objectives for the Bay-Delta Estuary, approves a petition to change points of diversion of the Central Valley Project and the State Water Project in the Southern Delta, and approves a petition to change places of use and purposes of use of the Central Valley Project. The requirements within this General Order are consistent with the Bay-Delta Plan.

- d. **Thermal Plan.** The State Water Board adopted the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan) on 7 January 1971 and amended this plan on 18 September 1975. This plan contains temperature objectives for surface waters. The Thermal Plan is applicable to the discharges from municipal wastewater treatment facilities in the Sacramento-San Joaquin Delta. For the purposes of the Thermal Plan, these discharges are considered to be an Existing Discharge of Elevated Temperature Waste to an Estuary, as defined in the Thermal Plan. Therefore, Dischargers in the Sacramento-San

Joaquin Delta must meet the water quality objective at Section 5.A(1) of the Thermal Plan, which requires compliance with the following:

- i. The maximum temperature shall not exceed the natural receiving water temperature by more than 20°F.
- ii. Elevated temperature waste discharges either individually or combined with other discharges shall not create a zone, defined by water temperatures of more than 1°F above natural receiving water temperature, which exceeds 25 percent of the cross-sectional area of a main river channel at any point.
- iii. No discharge shall cause a surface water temperature rise greater than 4°F above the natural temperature of the receiving waters at any time or place.
- iv. Additional limitations shall be imposed when necessary to assure protection of beneficial uses.

Requirements of this General Order implement the Thermal Plan.

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 General Order implement the Statewide Toxicity Provisions, which supersede section 4 of 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 Antidegradation Policy). The State Antidegradation Policy is deemed to incorporate the federal antidegradation

policy where the federal policy applies under federal law. The State Antidegradation 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 Antidegradation 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 General 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 the Facilities covered under this General Order. Therefore, a reasonable potential analysis based on information from EPCRA cannot be conducted. Based on information from EPCRA, there is no reasonable potential to cause or contribute to an excursion above any numeric water quality objectives included within the Basin Plan or in any State Water Board plan,

so no effluent limitations are included in this permit pursuant to Water Code section 13263.6(a).

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

9. **Storm Water Requirements.** U.S. EPA promulgated federal regulations for storm water on 16 November 1990 in 40 C.F.R. parts 122, 123, and 124. The NPDES Industrial Storm Water Program regulates storm water discharges from wastewater treatment facilities. Wastewater treatment plants are applicable industries under the storm water program and are obligated to comply with the federal regulations. The State Water Board does not require wastewater treatment facilities with design flows less than 1 MGD to obtain coverage under the Water Quality Order 2014-0057-DWQ, NPDES General Permit No. CAS000001, General Permit for Storm Water Discharges Associated with Industrial Activities (Industrial Storm Water General Permit). The Industrial Storm Water General Permit also does not require facilities to obtain coverage if discharges of storm water are regulated under another individual or general NPDES permit adopted by the State Water Board or Regional Water Board (Finding I.B.20). This General Order includes storm water detention basin operating specifications for Dischargers that use storm water detention basins not regulated under a separate Order. This Order does not authorize discharges of storm water to waters of the United States.

10. **Statewide General Waste Discharge Requirements 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 2023. The General Order requires public agencies that own or operate sanitary sewer systems with greater than 1 mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all sanitary sewer overflows (SSOs), among other requirements and prohibitions.

The Discharger is subject to the requirements of, and must comply with, State Water Board Order WQ 2022-0103-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems and any subsequent order.

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

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

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 11 May 2022 U.S. EPA gave final approval to California's 2020-2022 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 Basin Plan for the Tulare Lake Basin states, "Additional treatment beyond minimum federal requirements will be imposed on dischargers to [WQLSs]. Point source dischargers will be assigned or allocated a maximum allowable load of critical pollutants." Impaired waters do not fully support beneficial uses.

Many water bodies in the Central Valley Region are listed on the 303(d) list as impaired for mercury. The Central Valley Water Board is in the process of developing TMDLs for these water bodies. In order to limit mercury loads to current levels until TMDLs can be established, this General Order requires performance-based effluent limitations for Dischargers proposing to discharge to water bodies that are impaired for mercury. If the Central Valley Water Board plans to adopt a TMDL after the year 2027 this Order includes a final effluent limitation for total mercury. If the Central Valley Water Board plans to adopt a TMDL before the year 2027 (i.e., within the term of this General Order), this General Order includes an interim effluent limitation for total mercury effective until this General Order is amended to implement a wasteload allocation (WLA) adopted as part of a TMDL for mercury.

2. **Total Maximum Daily Loads (TMDLs).** U.S. EPA requires the Central Valley Water Board to develop TMDLs for each 303(d) listed pollutant and water body combination. The Central Valley Water Board has adopted several TMDLs for water bodies in the Central Valley Region. Of these, the Central Valley Water Board finds that the following TMDLs are applicable to Dischargers to be covered by this General Order:
 - a. **Sacramento-San Joaquin Delta Methylmercury TMDL.** This TMDL is applicable to Dischargers within the legal boundaries of the Sacramento-San Joaquin Delta (see Appendix 43 of the Basin Plan for the Sacramento and San Joaquin River Basins for a list of Delta waterways subject to the TMDL). The TMDL establishes WLAs for methylmercury for point source discharges in Table 4-16 of the Basin Plan for the Sacramento and San Joaquin River Basins.

- b. **Sacramento-San Joaquin Delta Diazinon and Chlorpyrifos TMDL.** This TMDL is applicable to Dischargers within the legal boundaries of the Sacramento-San Joaquin Delta (see Appendix 42 of the Basin Plan for the Sacramento and San Joaquin River Basins for a list of Delta waterways subject to the TMDL). The TMDL establishes WLAs for diazinon and chlorpyrifos in Section 4.5.5.3 of the Basin Plan for the Sacramento and San Joaquin River Basins.
 - c. **Sacramento and Feather Rivers Diazinon and Chlorpyrifos TMDL.** This TMDL is applicable to Dischargers to the Sacramento River and Feather River. The TMDL establishes WLAs for diazinon and chlorpyrifos in Section 4.5.5.1 of the Basin Plan for the Sacramento and San Joaquin River Basins.
 - d. **San Joaquin River Basin Diazinon and Chlorpyrifos TMDL.** This TMDL is applicable to Dischargers to the San Joaquin River and its tributaries downstream of the major dams and reservoirs. The TMDL establishes WLAs for diazinon and chlorpyrifos in Section 4.5.5.2 of the Basin Plan for the Sacramento and San Joaquin River Basins.
3. The 303(d) listings and TMDLs have been considered in the development of this General Order. A pollutant-by-pollutant evaluation of each pollutant of concern is described in V.C.3 of this Fact Sheet.

E. Other Plans, Policies 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.

V. 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 IV.A (No discharge or application of waste other than that described in this General Order).** This prohibition is based on Water Code section 13260 that requires filing of a ROWD before discharges can occur, except for general WDRs or general NPDES permits that use the Notice of Intent to comply or specify the use of an alternative application form designed for the permit. Dischargers seeking authorization to discharge under this General Order are required to submit a Notice of Intent for the waste discharges described in this General Order; therefore, discharge of wastes, other than those described in section I.A and meeting the eligibility criteria in section I.B of this General Order are prohibited.
2. **Prohibition IV.B (No bypasses or overflow of untreated wastewater, except under the conditions at 40 C.F.R section 122.41(m)(4)).** As stated in section I.G of Attachment D, Standard Provisions, this Order prohibits bypass from any portion of the treatment facility. Federal regulations, 40 C.F.R. section 122.41(m), define “bypass” as the intentional diversion of waste streams from any portion of a treatment facility. This section of the federal regulations, 40 C.F.R. section 122.41(m)(4), prohibits bypass unless it is unavoidable to prevent loss of life, personal injury, or severe property damage. In considering the Regional Water Board’s prohibition of bypasses, the State Water Board adopted a precedential decision, Order No. WQO 2002-0015, which cites the federal regulations, 40 C.F.R. section 122.41(m), as allowing bypass only for essential maintenance to assure efficient operation.
3. **Prohibition IV.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 IV.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 IV.E (Average Dry Weather Flow).** This prohibition is based on the design average dry weather flow treatment capacity rating for the Facility, as specified in the Notice of Applicability, and ensures the Facility is operated within its treatment capacity. Flow is not a pollutant; therefore, including a discharge prohibition in lieu of a site-specific effluent limit for flow, which is an equivalent level of regulation, is not less stringent because compliance with flow as a discharge prohibition will be calculated the same way.
6. **Prohibition IV.F (Maintain dilution ratio of 20:1 or greater in Amador Lake).** This prohibition is based on the Division of Drinking Water (DDW) recommendation that discharges from wastewater treatment plants to municipal water supplies maintain a minimum of 20:1 dilution, in order to ensure the protection of the downstream domestic beneficial use of Jackson Creek and public health. This prohibition prohibits the discharge of wastewater to Jackson Creek when a minimum dilution of 20:1 is not provided by Amador Lake, located downstream of Discharge Point 001.

This prohibition is in effect until DDW notifies the Central Valley Water Board that all customers have been provided an acceptable drinking water source.

The Jackson Valley Irrigation District (JVID) primarily delivers non-potable irrigation water, some of which is effluent from the Discharger, from Lake Amador to customers in the Jackson Valley area of western Amador County for irrigation and agricultural purposes. JVID customers include the Lake Amador Recreation Area (LARA), located at Lake Amador, and The Oaks Community Association (TOCA), located approximately 1.5 miles downstream of Lake Amador in the Buena Vista township of Jackson Valley. DDW has determined that Lake Amador water is not suitable for drinking water purposes. Therefore, in 2014, JVID, as required by DDW, began working on a grant-funded construction project to replace Lake Amador source water for treatment with a new source water from the Mokelumne River diverted out of nearby Pardee Reservoir.

The first phase of the construction (\$2 million) was completed in 2014. That included the piping of new Mokelumne source water from Pardee Reservoir and the building of a new 175 gallon per minute treatment plant located at Lake Amador. JVID completed its Phase #2 pipeline construction project (\$10 million) in 2021. Phase #2 consisted of the installation of approximately 14 miles of treated water distribution lines to 162 JVID customers, the Lake Amador Recreation Area, and TOCA. The primary raw water source for treatment for this newly built system comes from JVID's Mokelumne River source water diverted from Lake Pardee. JVID does have the ability to use Lake Amador in the event of emergencies as a secondary raw water source for treatment. In addition, approximately 26 JVID customers are still being supplied bottled drinking water by JVID. A future Phase 2c pipeline project is planned to begin in 2024 that will supply potable water to these outlying customers. The remaining 26 residences would require up to 6-miles of new treated water distribution lines; therefore, to supply these residents with a treated drinking water source, JVID plans to begin using the \$3 million of contingency funds from its Phase #2 Prop 1 grant to connect them to the Mokelumne River source water. With the uncertainty of removing all raw water domestic users from JVID's irrigation system, DDW has indicated that it would like the 20:1 dilution requirement to remain in place until all JVID customers are receiving treated potable water.

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. Discharges from privately-owned treatment works must meet minimum federal technology-based requirements based on best professional judgement (BPJ) in accordance with 40 C.F.R. section 125.3.

a. POTWs

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

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

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

b. Privately-Owned Treatment Works

The CWA requires that technology-based effluent limitations be established based on several levels of controls:

- i. Best practicable treatment control technology (BPT) represents the average of the best existing performance by well-operated facilities within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.
- ii. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.
- iii. Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD₅, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering a two-part reasonableness test. The first test compares the relationship between the costs of attaining a reduction in effluent discharge and the resulting benefits. The second test examines the cost and level of reduction of pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources. Effluent limitations must be reasonable under both tests.
- iv. New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is

to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires U.S. EPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and 40 C.F.R. section 125.3 authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the Central Valley Water Board must consider specific factors outlined in 40 C.F.R. section 125.3.

ELGs are not available for privately-owned treatment works, and the secondary treatment standards at 40 C.F.R. part 133 are not directly applicable to privately-owned treatment works. Therefore, this General Order includes technology-based effluent limitations for privately-owned treatment works for BOD₅, TSS, and pH equivalent to the secondary treatment standards based on BPJ pursuant to 40 C.F.R. section 125.3, which meet the requirements for BPT and BCT. In establishing these limitations, the Central Valley Water Board considered the factors specified in 40 C.F.R. section 125.3(d). Coverage under this General Order is limited to municipal wastewater treatment facilities that receive and treat primarily municipal and domestic sewage (i.e., waste and wastewater from humans or household operations). The privately-owned treatment works that may be covered under this General Order treat wastewater similar in nature to that treated by POTWs and employ similar treatment systems. Existing control equipment and facilities are practicable and capable of meeting these limitations. The cost of complying with these limitations is reasonable given that privately-owned treatment works enrolled under this General Order are expected to be able to comply without modifying their existing operations. No process changes will be necessary; therefore, no non-water quality impacts are foreseeable. The limitations are similar to those for secondary treatment of municipal wastewater; therefore, the cost is comparable to those for a comparable POTW.

2. Applicable Technology-Based Effluent Limitations

- a. **BOD₅ and TSS.** Federal regulations at 40 C.F.R. part 133, establish the minimum weekly and monthly average level of effluent quality attainable by secondary treatment at 30 mg/L and 45 mg/L, respectively, for BOD₅ and TSS. This General Order includes an average monthly effluent limitation (AMEL) of 30 mg/L and average weekly effluent limitation (AWEL) of 45 mg/L based on the secondary treatment standards for Dischargers of secondary treated wastewater that meet the eligibility criteria in section I.B.3 of this General Order. A maximum daily effluent limitation (MDEL) of 60 mg/L for BOD₅ 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.

As discussed in section V.C.3.b.x(b) of this Fact Sheet, this Order requires WQBELs for BOD₅ and TSS that are more stringent than the secondary

treatment standards for Dischargers of tertiary treated wastewater that meet the eligibility criteria in section I.B.4 of this General Order.

In addition to the concentration-based effluent limitations described above, 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 General Order contains a limitation requiring an average of 85 percent removal of BOD₅ and TSS over each calendar month, which is applicable to all Dischargers. This General Order also contains Water Quality Based Effluent Limitations (WQBELs) that are equal to or more stringent than the secondary technology-based treatment described in 40 C.F.R part 133 when Title 22 (or equivalent) disinfection or advanced secondary is required (See section V.C.3.b.x(b) of the Fact Sheet for a discussion on Pathogens which includes WQBELs for BOD₅ and TSS).

- 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 General Order, however, requires more stringent WQBELs for pH to comply with the Basin Plan’s water quality objectives for pH.

Table F-2. Summary of Technology-based Effluent Limitations

Parameter	Units	Effluent Limitations
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	AMEL 30 AWEL 45 MDEL 60
Biochemical Oxygen Demand (5-day @ 20°C)	% Removal	AMEL 85
pH	standard units	Instantaneous Max 6.0 Instantaneous Min 9.0
Total Suspended Solids	mg/L	AMEL 30 AWEL 45 MDEL 60
Total Suspended Solids	% Removal	AMEL 85

Table F-2 Notes:

1. Note that more stringent WQBELs for pH are applicable and are established as final effluent limitations in this General Order (see section V.C.3.b.xi of this Fact Sheet).
2. Note that more stringent WQBELs for BOD₅ and TSS are applicable to Dischargers of tertiary treated wastewater that meet the eligibility criteria in section I.B.4 of this General Order.

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. This General Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements that are necessary to meet applicable water quality standards for Dischargers of tertiary treated wastewater that meet the eligibility criteria in section I.B.4 of this General Order. The rationale for these requirements, which consist of tertiary treatment or equivalent requirements, is discussed in section V.C.3.b.x(b) of this Fact Sheet.

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.

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 (see discussion at section IV.C.1.a of this Fact Sheet).

The Basin Plan for the Sacramento and San Joaquin River Basins 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 Basin Plan for the Tulare Lake Basin on page 2-1 states: "Protection and enhancement of beneficial uses of water against quality degradation is a basic requirement of water quality planning under the Porter-Cologne Water Quality

Control Act. In setting water quality objectives, the Regional Water Board must consider past, present, and probable future beneficial uses of water.” and with respect to disposal of wastewaters states that “...use of waters for disposal of wastewaters is not included as a beneficial use...and are subject to regulation as activities that may harm protected 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 C.F.R 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.** The discharges described in this General Order may potentially discharge to any surface waters in the Central Valley. Refer to IV.C.1.a above for a complete description of the receiving water beneficial uses. This General Order contains both effluent limitations based on the MUN use and effluent limitations when the MUN use does not apply.
- b. **Effluent and Ambient Background Data.** Upon receipt of a Notice of Intent for coverage under this General Order, the Central Valley Water Board will conduct an RPA for the discharge based on “all available, valid, relevant, representative data and information, as determined by the Central Valley Water Board” in accordance with section 1.2 of the SIP. Based on the results of the RPA, the Notice of Applicability will specify the effluent limitations applicable to a specific Discharger. In selecting the effluent and ambient background data to be used for the RPA for a specific Discharger, the Central Valley Water Board will consider the following:
 - i. **Sources and Age of Data.** For Dischargers currently regulated under an existing individual NPDES permit, the Central Valley Water Board will conduct the RPA using effluent and receiving water monitoring data obtained from the California Integrated Water Quality System (CIWQS) and submitted in accordance with section 6 of the Notice of Intent (Attachment B). The Central Valley Water Board will use effluent and receiving water monitoring data collected within 3 years of the date of the Notice of Intent, except where a major facility upgrade was completed within the last 3 years and effluent monitoring data collected prior to the upgrade is not representative of effluent

water quality or where no monitoring data for a parameter was collected during the last 3 years.

For new enrollees, the RPA will be based on either actual or estimated effluent data and receiving water sampling submitted in section 7 of the Notice of Intent (Attachment B). If the proposed new discharge is from an operational facility (e.g., a facility that currently discharges to land) and it is feasible to collect a representative sample of the proposed effluent, section 7 of the Notice of Intent requires the Discharger to collect a sample of the proposed effluent and analyze it for priority pollutants and other constituents of concern. If the proposed new discharge is from a new facility for which construction and startup has not been completed, or a representative sample of the proposed discharge cannot otherwise be collected, section 7 of the Notice of Intent requires the Discharger to provide an engineering report estimating the character of the effluent for priority pollutants and other constituents of concern. In such cases, the Notice of Applicability will require effluent sampling to be conducted within 18 months for a new facility that is fully operational at the time of the issuance of the Notice of Applicability, or within 21 months following completion of construction of a new facility that is not fully operational at the time of the issuance of the Notice of Applicability.

- ii. **Inappropriate or Insufficient Data.** Section 1.2 of the SIP states, “The RWQCB shall have discretion to consider if any data are inappropriate or insufficient for use in implementing this Policy. Instances where such consideration is warranted include, but are not limited to, the following: evidence that a sample has been erroneously reported or is not representative of effluent or ambient receiving water quality; questionable quality control/quality assurance practices; and varying seasonal conditions.” Consistent with section 1.2 of the SIP, the Central Valley Water Board will not use data that are inappropriate or insufficient for purposes of the RPA, including where sample contamination or other issues are documented in a laboratory report or where documentation is available indicating that samples were collected under conditions that are not characteristic of the discharge.
- iii. **Estimated Data.** Based on the following considerations, the Central Valley Water Board will not use estimated (i.e., j-flagged or detected but not quantified [DNQ]) data.

SIP Section 2.4.2 states that the Minimum Level (ML) is the lowest quantifiable concentration in a sample based on the proper application of all method-based analytical procedures and the absence of any matrix interferences.

- (a) Required MLs are listed in Appendix 4 of the SIP. Where more than one ML is listed in Appendix 4, the discharger may select any one of the cited analytical methods for compliance determination. The selected ML used for compliance determination is referred to as the Reporting Level (RL).

- (b) An RL can be lower than the ML in Appendix 4 only when the discharger agrees to use a RL that is lower than the ML listed in Appendix 4. In general, the Central Valley Water Board does not have any agreements with any Dischargers potentially eligible for coverage under this General Order to use a RL lower than the listed ML.
- (c) SIP Section 1.2 requires that the Regional Board use all available, valid, relevant, representative data and information, as determined by the Regional Board, to implement the SIP. SIP Section 1.2 further states that the Regional Board has the discretion to consider if any data are inappropriate or insufficient for use in implementing the SIP.
- (d) Data reported below the ML indicates the data may not be valid due to possible matrix interferences during the analytical procedure.
- (e) Further, SIP Section 2.4.5 (Compliance Determination) supports the insufficiency of data reported below the ML or RL. In part it states, "Dischargers shall be deemed out of compliance with an effluent limitation, for reporting and administrative enforcement purposes, if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the RL." Thus, if submitted data are below the RL, that data cannot be used to determine compliance with effluent limitations.
- (f) Data reported below the ML are not considered valid data for use in determining Reasonable Potential. Therefore, in accordance with Section 1.2 of the SIP, the Central Valley Water Board has determined that data reported below the ML are inappropriate and insufficient to be used to determine reasonable potential.
- (g) In implementing its discretion, the Central Valley Water Board is not finding that reasonable potential does not exist; rather the Central Valley Water Board cannot make such a determination given the invalid data. Therefore, the Central Valley Water Board will require additional monitoring for such constituents until such time a determination can be made in accordance with the SIP policy.

Section 1.3, Step 8 of the SIP allows the Central Valley Water Board to require additional monitoring for a pollutant in place of an effluent limitation if data are unavailable or insufficient. Instead of limitations, additional monitoring may be established in the Notice of Applicability if determined necessary by the Central Valley Water Board. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard, the Notice of Intent may be modified by adding an appropriate effluent limitation.

- c. **Assimilative Capacity/Mixing Zone.** The effluent limitations for discharges covered by this General Order are calculated assuming no dilution. Because this General Order is intended to serve as a general order and covers discharges to all surface waters in the Central Valley, the effluent limitations established pursuant to this General Order are established to achieve the most protective

water quality objective for the surface water beneficial uses in the Central Valley. Therefore, it is assumed there is no assimilative capacity and no dilution credits have been granted for effluent limitations.

An exception to this assumption may be applied based on the demonstration of a mixing zone in accordance with section 1.4.2 of the SIP and an approved mixing zone study demonstrating compliance with water quality objectives in the receiving water as prescribed in the Basin Plans. This exception process for effluent limitations is more appropriate for an individual order, and would not be appropriate for a general order that should be protective of most stringent water quality objectives and beneficial uses. If a Discharger requests that a dilution credit be included in the computation of an effluent limitation, an individual order will be required. However, if no dilution credit is proposed, the discharge may be eligible for coverage under this General Order.

- d. **Conversion Factors.** The CTR contains aquatic life criteria for arsenic, cadmium, chromium III, chromium VI, copper, lead, nickel, silver, and zinc which are presented in dissolved concentrations. U.S. EPA recommends conversion factors (also referred to as translators) to translate dissolved concentrations to total concentrations. The default U.S. EPA conversion factors contained in Appendix 3 of the SIP were used to convert the applicable dissolved criteria to total recoverable criteria, except for copper and zinc for the City of Grass Valley, Wastewater Treatment Plant.

In the individual NPDES permit for the City of Grass Valley, Wastewater Treatment Plant (Order R5-2016-0012, NPDES CA0079898), the Central Valley Water Board approved the use site-specific translators for copper and zinc based on the February 2008 Development and Selection of Translators for Copper, Lead, and Zinc in Wolf Creek and September 2008 Infeasibility Report. Consistent with the individual NPDES permit, this General Order allows for the acute and chronic CTR criteria and associated effluent limitations (if necessary) for copper and zinc to be calculated with the following translators for the City of Grass Valley, Wastewater Treatment Plant:

Table F-3. Metal Translators for City of Grass Valley, Wastewater Treatment Plant

Parameter	Acute Translator (1/fD)	Chronic Translator (1/fD)
Copper	1.05	1.19
Zinc	1.03	1.19

- 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.

When issuing Notices of Applicability, the Central Valley Water Board will determine criteria for hardness-dependent metals based on the hardness of the receiving water (actual ambient hardness) as required by the SIP and the CTR. This General Order includes effluent limitations for cadmium, copper, chromium III, lead, nickel, silver, and zinc which are dependent on water hardness. The CTR expresses the criteria for these metals through equations where the hardness of the receiving water is a variable. To simplify the permitting process for this General Order, it was necessary that fixed hardness values be used in these equations.

The Central Valley Water Board will determine the effluent limitations applicable to each Discharger using the representative hardness and the appropriate table of limits (see Tables 6 through 9, Tables 10A through 10F, Tables 11A through 11F, and Tables 12A through 12F) of this General Order. Tables 6 through 9 contain effluent limitations for cadmium, chromium, nickel, and silver based on a coefficient of variation of 0.6 with ranges of hardness between 0 mg/L and 400 mg/L. Tables 10A through 10F, Tables 11A through 11F, and Tables 12A through 12F, contain effluent limitations for copper, lead, and zinc based on a coefficient of variation of 0.1 through 4.0 with ranges of hardness between 0 mg/L and 400 mg/L.

3. Determining the Need for WQBELs

Effluent limitations must be established for discharges that have the reasonable potential to exceed water quality standards. Since this is a General Order for municipal wastewater treatment facilities, the Central Valley Water Board evaluated the pollutants with applicable effluent limitations in individual NPDES permits for Dischargers that are potentially eligible for coverage under this General Order in order to identify the parameters of concern in these discharges. This General Order includes effluent limitations for the parameters of concern identified through this analysis. Screening levels are established in Attachment C of this General Order for all priority pollutants and other constituents of concern based on the most protective water quality objectives/criteria. Upon receipt of a Notice of Intent for coverage under this General Order, the Central Valley Water Board will conduct an RPA for the discharge using the effluent and ambient background data as discussed in section V.C.2.b of this Fact Sheet, the screening levels in Attachment C, and the RPA procedures discussed below. Based on the results of the RPA, the Notice of Applicability will specify the effluent limitations applicable to a specific Discharger.

a. Priority Pollutants

Attachment C includes screening levels for all priority pollutants. For waters with the MUN use, the screening levels are based on the most stringent of the CTR criteria for protection of human health for waters from which both water and organisms are consumed, CTR criteria for protection of aquatic life, and MCLs. For waters without the MUN use, the screening levels are based on the most stringent of the CTR criteria for protection of human health for waters from which organisms only are consumed and the CTR criteria for protection of aquatic life.

Several priority pollutants do not have applicable CTR criteria or MCLs. Water quality limits have been developed that could be used to interpret narrative Basin Plan objectives for several of these pollutants, including chloroethane, methyl chloride, 2 nitrophenol, 4-nitrophenol, 3-methyl-4-chlorophenol, 4-bromophenyl phenyl ether, 2,6-dinitrotoluene, naphthalene, and delta-BHC. However, analysis of dilution, proximity of downstream diversions, and other factors is required in order to determine the applicability of interpreting the narrative objective for these pollutants based on water quality limits. This type of analysis is beyond the scope of this General Order. In addition to these pollutants, several priority pollutants have no CTR criteria, MCLs, or alternative water quality limits to interpret narrative Basin Plan objectives. These pollutants include 2-chloroethylvinyl ether, acenaphthylene, benzo(ghi)perylene, bis(2 chloroethoxy)methane, 4-chlorophenyl phenyl ether, di-n-octyl phthalate, and phenanthrene. If detectable concentrations of these pollutants are present in the discharge, additional effluent and ambient receiving water monitoring may be established, as specified in the Notice of Applicability from the Executive Officer. The additional monitoring would be used to determine if the discharge is adversely impacting a beneficial use (i.e., violating the receiving water limitation in section VI.A.4 of this General Order). If the discharge is found to be adversely affecting beneficial uses, the Central Valley Water Board would take the appropriate enforcement actions, terminate coverage for the discharge under this General Order, and/or take other actions to resolve the violation.

To conduct the RPA for priority pollutants, the Central Valley Water Board will use the effluent and ambient background data as discussed in section V.C.2.b of this Fact Sheet, the screening levels in Attachment C, and the procedures specified in section 1.3 of the SIP.

Based on the evaluation of pollutants with applicable effluent limitations in individual NPDES permits for Dischargers that are potentially eligible for coverage under this General Order, the Central Valley Water Board has identified the following priority pollutants of concern that are currently in discharges from municipal wastewater treatment plants: arsenic, bis (2 ethylhexyl) phthalate, chlorodibromomethane, copper, cyanide, dichlorobromomethane, lead, tetrachloroethylene, selenium, thallium, and zinc. This General Order includes effluent limitations for these priority pollutants of concern and effluent limitations based on a coefficient of variation of 0.6 for all other priority pollutants. Based on the RPA results for a specific Discharger, the Notice of Applicability will specify effluent limitations for those priority pollutants present in the discharge at concentrations that exhibit reasonable potential to cause or contribute to an exceedance of water quality objectives/criteria. The applicable water quality objectives/criteria for the priority pollutants of concern in discharges from municipal wastewater treatment plants are as follows:

- i. **Arsenic.** The CTR includes maximum 1-hour average and 4-day average criteria of 340 µg/L and 150 µg/L, respectively, for total recoverable arsenic for the protection of freshwater aquatic life, which is applicable for all water bodies. DDW has adopted a Primary MCL for arsenic of 10 µg/L, which is

applicable for waters with the MUN use through the Basin Plans' chemical constituent objective.

Table 3-1 of the Basin Plan for the Sacramento and San Joaquin River Basins includes a site-specific objective of 10 µg/L for dissolved arsenic in the Sacramento-San Joaquin Delta. Using the default U.S. EPA acute translator of 1, the objective is 10 µg/L as total recoverable. The Central Valley Water Board has identified the following Dischargers located in the Sacramento-San Joaquin Delta as being potentially eligible for coverage under this General Order: City of Lodi, White Slough Water Pollution Control Facility; and City of Manteca and Dutra Farms, Inc., Wastewater Quality Control Facility. This General Order includes a screening level in Attachment C and effluent limitations in section V.A.1.b.iii of this General Order for total recoverable arsenic based on the site-specific objective, which are applicable to discharges within the Sacramento-San Joaquin Delta.

- ii. **Bis (2 ethylhexyl) Phthalate.** 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, which is applicable for waters with the MUN use. The CTR includes a criterion of 5.9 µg/L for bis (2 ethylhexyl) phthalate for the protection of human health for waters from which organisms only are consumed, which is applicable for waters without the MUN use. DDW has adopted a Primary MCL for bis (2-ethylhexyl) phthalate of 4 µg/L, which is applicable for waters with the MUN use through the Basin Plans' chemical constituent objective.

Bis (2-ethylhexyl) phthalate is a common contaminant of sample containers, sampling apparatus, an analytical equipment, and sources of detected bis (2 ethylhexyl) phthalate may be from plastics used for sampling or analytical equipment. In conducting the RPA for bis (2-ethylhexyl) phthalate, the Central Valley Water Board will not utilize data that are known to be the result of sample contamination issues (e.g., where the laboratory report shows that the pollutant was detected in the method blank or where the Discharger documents a known source of the pollutant in the sample, such as plastic tubing in composite samplers). Where required, Dischargers shall conduct monitoring for bis (2-ethylhexyl) phthalate using clean sampling techniques to assure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected contaminant.

- iii. **Chlorodibromomethane.** The CTR includes a criterion of 0.41 µg/L for chlorodibromomethane for the protection of human health for waters from which both water and organisms are consumed, which is applicable for waters with the MUN use. The CTR includes a criterion of 34 µg/L for chlorodibromomethane for the protection of human health for waters from which organisms only are consumed, which is applicable for waters without the MUN use.
- iv. **Cyanide.** The CTR includes maximum 1-hour average and 4-day average criteria of 22 µg/L and 5.2 µg/L, respectively, for cyanide for the protection of

freshwater aquatic life, which is applicable for all water bodies. The CTR includes a criterion of 700 µg/L for cyanide for the protection of human health for waters from which both water and organisms are consumed, which is applicable for waters with the MUN use. The CTR includes a criterion of 220,000 µg/L for cyanide for the protection of human health for waters from which organisms only are consumed, which is applicable for waters without the MUN use. DDW has adopted a Primary MCL for cyanide of 150 µg/L, which is applicable for waters with the MUN use through the Basin Plans' chemical constituent objective.

Table 3-1 of the Basin Plan for the Sacramento and San Joaquin River Basins includes a site-specific objective of 10 µg/L for cyanide in the Sacramento-San Joaquin Delta. The Central Valley Water Board has identified the following Dischargers located in the Sacramento-San Joaquin Delta as being potentially eligible for coverage under this General Order: City of Lodi, White Slough Water Pollution Control Facility; and City of Manteca and Dutra Farms, Inc., Wastewater Quality Control Facility. This General Order includes a screening level in Attachment C and effluent limitations in section V.A.1.b.iii of this General Order for cyanide based on the site-specific objective, which are applicable to discharges within the Sacramento-San Joaquin Delta.

- v. **Dichlorobromomethane.** 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, which is applicable for waters with the MUN use. The CTR includes a criterion of 46 µg/L for dichlorobromomethane for the protection of human health for waters from which organisms only are consumed, which is applicable for waters without the MUN use.
- vi. **Metals, Hardness-Dependent.** The California Toxics Rule (CTR) includes hardness-dependent criteria for the protection of freshwater aquatic life for cadmium, chromium III, copper, lead, nickel, silver, and zinc. See the discussion regarding hardness, above. DDW has adopted Primary MCLs for cadmium, lead, and nickel of 5 µg/L, 15 µg/L, and 100 µg/L, respectively, for the protection of human health.

This General Order specifies screening levels for hardness-dependent metals (see Attachment C) and contains effluent limitations for hardness-dependent metals based on the criteria discussed above in section V.C.2.e of this Fact Sheet. This General Order also contains effluent limitations for cadmium, lead, or nickel for instances where the Primary MCL is more stringent than the hardness-dependent criteria. Based on the monitoring requirements, if the proposed discharge contains concentrations of hardness-dependent metals above the screening level, the NOA may include effluent limitations for hardness-dependent metals. Additional effluent limitations based on a wider range of coefficients of variation are also contained in this General Order for the following hardness-dependent metals:

- (a) **Copper.** The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for copper. Attachment C includes screening levels for copper based on the CTR aquatic life criteria for multiple increments of hardness between 0 mg/L and 400 mg/L. The Central Valley Water Board will determine the hardness to be used to select the appropriate screening level in accordance with the approach detailed in section V.C.2.e of this Fact Sheet. If the discharge exhibits reasonable potential to cause or contribute to an exceedance of water quality objectives/criteria for copper, the same hardness will be used to determine the appropriate effluent limitations for copper from section V.A.1.b.ii of this General Order, which shall be specified in the Notice of Applicability.

The CTR aquatic life criteria for copper are presented in dissolved concentrations, as 1-hour acute criteria and 4-day chronic criteria. As discussed in section V.C.2.d of this Fact Sheet, U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. In the absence of site-specific translators, the default U.S. EPA translators were used to calculate the screening levels and effluent limitations for copper. For the City of Grass Valley, Wastewater Treatment Plant, this General Order allows for the acute and chronic CTR criteria and associated effluent limitations (if necessary) for copper to be calculated using site-specific translators. If a Discharger performs studies to determine a site-specific translator, this General Order may be reopened to allow effluent limitations to be modified for that Discharger.

The CTR aquatic life criteria are also expressed as a function of the water effect ratio (WER). In the absence of a site-specific WER, a default WER of 1 was used to calculate the screening levels and effluent limitations for copper. The Central Valley Water Board has approved site-specific WERs for the following Dischargers (see Table F-5). This General Order allows for the CTR criteria and associated effluent limitations (if necessary) for copper to be calculated using the site-specific WERs for these Dischargers. If a Discharger performs studies to determine a site-specific WER, this General Order may be reopened to allow effluent limitations to be modified for that Discharger.

Table F-4. Site-Specific Water Effect Ratios for Copper and Zinc

Discharger	Order / NPDES Permit of Adopted WER	Site-Specific WER for Copper	Site-Specific WER for Zinc
City of Auburn, Wastewater Treatment Plant	R5-2016-0038 / CA0077712	3.52	--
Donner Summit Public Utility District, Wastewater Treatment Plant	R5-2015-0068 / CA0081621	2.72	--
City of Galt, Wastewater Treatment Plant and Reclamation Facility	R5-2015-0123 / CA0081434	15	--

Discharger	Order / NPDES Permit of Adopted WER	Site-Specific WER for Copper	Site-Specific WER for Zinc
City of Grass Valley, Wastewater Treatment Plant	R5-2016-0012 / CA0079898	6.49	1.70
Cutler-Orosi Joint Powers Wastewater Authority, Wastewater Treatment Facility	R5-2013-0047-01 / CA0081485	3.1	--
El Dorado Irrigation District, Deer Creek Wastewater Treatment Plant	R5-2014-0081 / CA0078662	9.7	1.7
El Dorado Irrigation District, El Dorado Hills Wastewater Treatment Plant	R5-2013-0003 / CA0078671	8.05	--
United Auburn Indian Community, Thunder Valley Wastewater Treatment Plant	R5-2015-0077 / CA0084697	24.5	--
United States Department of the Interior, National Park Service, Yosemite National Park, El Portal Wastewater Treatment Facility	R5-2014-0068 / CA0081759	2.0	--
City of Placerville, Hangtown Creek Water Reclamation Facility	R5-2017-0085-01 / CAG585001	--	1.7
City of Clovis, Sewage Treatment and Water Reuse Facility	R5-2023-0025 / CAG585001	18	1.79
City of Jackson, Wastewater Treatment Plant	R5-2018-0036 / CA0079391	5.0	--

The CTR includes a criterion of 1,300 µg/L for copper for the protection of human health for waters from which both water and organisms are consumed, which is applicable for waters with the MUN use. DDW has adopted a Secondary MCL for copper of 1,000 µg/L, which is applicable for waters with the MUN use through the Basin Plans’ chemical constituent objective.

Table 3-1 of the Basin Plan for the Sacramento and San Joaquin River Basins includes a site-specific objective of 10 µg/L for dissolved copper in the Sacramento-San Joaquin Delta. Using the default U.S. EPA acute translator of 0.96, the objective is 10.4 µg/L as total recoverable. The Central Valley Water Board has identified the following Dischargers located in the Sacramento-San Joaquin Delta as being potentially eligible for coverage under this General Order: City of Lodi, White Slough Water Pollution Control Facility; and City of Manteca and Dutra Farms, Inc., Wastewater Quality Control Facility. This General Order includes a screening level in Attachment C and effluent limitations in section V.A.1.b.iii of this General Order for total recoverable copper based on the site-specific objective, which are applicable to discharges within the Sacramento-San Joaquin Delta.

- (b) **Lead.** The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for lead. Attachment C includes screening levels for

lead based on the CTR aquatic life criteria for multiple increments of hardness between 0 mg/L and 400 mg/L. The Central Valley Water Board will determine the hardness to be used to select the appropriate screening level in accordance with the approach detailed in section V.C.2.e of this Fact Sheet. If the discharge exhibits reasonable potential to cause or contribute to an exceedance of water quality objectives/criteria for lead, the same hardness will be used to determine the appropriate effluent limitations for lead from section V.A.1.b.ii of this General Order, which shall be specified in the Notice of Applicability.

The CTR aquatic life criteria for lead are presented in dissolved concentrations, as 1-hour acute criteria and 4-day chronic criteria. As discussed in section V.C.2.d of this Fact Sheet, U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. In the absence of site-specific translators, the default U.S. EPA translators were used to calculate the screening levels and effluent limitations for lead. If a Discharger performs studies to determine a site-specific translator, this General Order may be reopened to allow effluent limitations to be modified for that Discharger.

The CTR aquatic life criteria are also expressed as a function of the WER. In the absence of a site-specific WER, a default WER of 1 was used to calculate the screening levels and effluent limitations for lead. If a Discharger performs studies to determine a site-specific WER, this General Order may be reopened to allow effluent limitations to be modified for that Discharger.

DDW has adopted a Primary MCL for lead of 15 µg/L, which is applicable for waters with the MUN use through the Basin Plans' chemical constituent objective.

- (c) **Zinc.** The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for zinc. Attachment C includes screening levels for zinc based on the CTR aquatic life criteria for multiple increments of hardness between 0 mg/L and 400 mg/L. The Central Valley Water Board will determine the hardness to be used to select the appropriate screening level in accordance with the approach detailed in section V.C.2.e of this Fact Sheet. If the discharge exhibits reasonable potential to cause or contribute to an exceedance of water quality objectives/criteria for zinc, the same hardness will be used to determine the appropriate effluent limitations for zinc from section V.A.1.b.ii of this General Order, which shall be specified in the Notice of Applicability.

The CTR aquatic life criteria for zinc are presented in dissolved concentrations, as 1-hour acute criteria and 4-day chronic criteria. As discussed in section V.C.2.d of this Fact Sheet, U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. In the absence of site-specific translators, the default U.S.

EPA translators were used to calculate the screening levels and effluent limitations for zinc. For the City of Grass Valley, Wastewater Treatment Plant, this General Order allows for the acute and chronic CTR criteria and associated effluent limitations (if necessary) for zinc to be calculated using site-specific translators. If a Discharger performs studies to determine a site-specific translator, this General Order may be reopened to allow effluent limitations to be modified for that Discharger.

The CTR aquatic life criteria are also expressed as a function of the WER. In the absence of a site-specific WER, a default WER of 1 was used to calculate the screening levels and effluent limitations for zinc. The Central Valley Water Board has approved site-specific WERs for the above Dischargers (see Table F-5). This General Order allows for the CTR criteria and associated effluent limitations (if necessary) for zinc to be calculated using the site-specific WERs for these Dischargers. If a Discharger performs studies to determine a site-specific WER, this General Order may be reopened to allow effluent limitations to be modified for that Discharger.

DDW has adopted a Secondary MCL for zinc of 5,000 µg/L, which is applicable for waters with the MUN use through the Basin Plans' chemical constituent objective.

Table 3-1 of the Basin Plan for the Sacramento and San Joaquin River Basins includes a site-specific objective of 100 µg/L for dissolved zinc in the Sacramento-San Joaquin Delta. Using the default U.S. EPA acute translator of 0.978, the objective is 102 µg/L as total recoverable. The Central Valley Water Board has identified the following Dischargers located in the Sacramento-San Joaquin Delta as being potentially eligible for coverage under this General Order: City of Lodi, White Slough Water Pollution Control Facility; and City of Manteca and Dutra Farms, Inc., Wastewater Quality Control Facility. This General Order includes a screening level in Attachment C and effluent limitations in section V.A.1.b.iii of this General Order for total recoverable zinc based on the site-specific objective, which are applicable to discharges within the Sacramento-San Joaquin Delta.

- vii. **Tetrachloroethylene.** The CTR includes a criterion of 0.8 µg/L for tetrachloroethylene for the protection of human health for waters from which both water and organisms are consumed, which is applicable for waters with the MUN use. The CTR includes a criterion of 8.85 µg/L for tetrachloroethylene for the protection of human health for waters from which organisms only are consumed, which is applicable for waters without the MUN use. DDW has adopted a Primary MCL for tetrachloroethylene of 5 µg/L, which is applicable for waters with the MUN use through the Basin Plans' chemical constituent objective.

- viii. **Selenium.** The CTR includes maximum 1-hour average and 4-day average criteria of 20 µg/L and 5 µg/L, respectively, for selenium for the protection of freshwater aquatic life, which are applicable for all water bodies. This General Order includes a screening level in Attachment C. This General Order also includes effluent limitations in section V.A.1.b.i for selenium based on the CTR criteria, which are applicable to all water bodies.
- ix. **Thallium.** The CTR includes a criterion of 1.7 µg/L for thallium for the protection of human health for waters from which both water and organisms are consumed. This General Order includes screening levels in Attachment C. This General Order also includes effluent limitations in section V.A.1.b.i for thallium based on the CTR criterion for the protection of human health for waters from which both water and organisms are consumed, which are applicable to water bodies with MUN use.

b. Other Constituents of Concern

Attachment C includes screening levels for several other constituents of concern. For waters with the MUN use, the screening levels are based on the most stringent Basin Plan numeric and narrative objectives (including those for protection of drinking water supplies) and MCLs. For waters without the MUN use, the screening levels are based on the most stringent Basin Plan numeric and narrative objectives (excluding those for protection of drinking water supplies).

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. For other constituents of concern, the Central Valley Water Board is not restricted to one particular RPA method. The Central Valley Water Board has used its judgment in determining the appropriate method for conducting the RPA for other constituents of concern in this General Order. To conduct the RPA for other constituents of concern, the Central Valley Water Board will use the effluent and ambient background data as discussed in section V.C.2.b, the screening levels in Attachment C, and the pollutant-specific procedures detailed in this section.

Based on the evaluation of pollutants with applicable effluent limitations in individual NPDES permits for Dischargers that are potentially eligible for coverage under this General Order, the Central Valley Water Board has identified the following other constituents of concern in discharges from municipal wastewater treatment plants: aluminum, ammonia, chlorine residual, diazinon and chlorpyrifos, fluoride, manganese, mercury and methylmercury, methylene blue active substances (MBAS or foaming agents), nitrate plus nitrite, nitrite, pathogens, pH, salinity, settleable solids and temperature. This General Order

includes effluent limitations for these other constituents of concern. Based on the RPA results for a specific Discharger, the Notice of Applicability will specify effluent limitations for those other constituents of concern present in the discharge at concentrations that exhibit reasonable potential to cause or contribute to an exceedance of water quality objectives/criteria. The applicable water quality objectives/criteria for the other constituents of concern in discharges from municipal wastewater treatment plants are as follows:

- i. **Aluminum.** The State Water Board Division of Drinking Water (DDW) has established Secondary Maximum Contaminant Levels (MCLs) to assist public drinking water systems in managing their drinking water for public welfare considerations, such as taste, color, and odor. The Secondary MCL for aluminum is 200 µg/L for protection of the MUN use. The Basin Plan requires compliance with Secondary MCLs on an annual average basis.

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

Applicable Water Quality Objectives. The Central Valley Water Board will evaluate site-specific information for each Discharger to determine the applicability of the 2018 U.S. EPA NAWQC for protection of freshwater aquatic life criterion to a receiving water, including effluent and receiving water pH, DOC, and hardness data and site-specific study information.

DDW has established Secondary MCLs to assist public drinking water systems in managing their drinking water for aesthetic conditions such as taste, color, and odor. The Secondary MCL for aluminum is 200 µg/L for protection of the MUN beneficial use. Title 22 requires compliance with Secondary MCLs on an annual average basis.

The applicable screening levels and effluent limitations shall be applied as follows:

- (a) If the Central Valley Water Board determines that the 2018 U.S. EPA NAWQC criterion is not applicable to a receiving water with the MUN use, the screening level and associated effluent limitations (if applicable) will be based on the Secondary MCL of 200 µg/L. The Secondary MCL is derived from human welfare considerations (e.g., taste, odor, laundry staining), not for toxicity. Secondary MCLs are drinking water standards contained in Title 22 of the California Code of Regulations. Title 22 requires compliance with these standards on an annual average basis, when sampling at least quarterly. To be consistent with how compliance with the standards is determined, the Central Valley Water Board will conduct the RPA for

aluminum for this scenario by comparing the maximum observed calendar year annual average effluent aluminum concentration to the screening level.

- (b) If the Central Valley Water Board determines that the 2018 U.S. EPA NAWQC criterion is applicable to a receiving water, the screening level and associated effluent limitations (if applicable) will be based on the 2018 U.S. EPA NAWQC (regardless of the applicability of the MUN use) if it is more stringent than the Secondary MCL where applicable. The Central Valley Water Board will conduct the RPA for aluminum for this scenario by comparing the maximum observed effluent aluminum concentration to the screening level.
- ii. **Ammonia.** 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.

U.S. EPA found that as pH increased, both the acute and chronic toxicity of ammonia increased. Salmonids were more sensitive to acute toxicity effects than other species. However, while the acute toxicity of ammonia was not influenced by temperature, it was found that invertebrates and young fish experienced increasing chronic toxicity effects with increasing temperature. The recommended criteria for waters where salmonids are present and absent, and early life stages are present, have been used in this General Order. In determining the appropriate acute criterion, the Central Valley Water Board will evaluate site-specific information to determine the presence or absence of salmonids in the receiving water, including the applicability of the cold freshwater habitat (COLD).

This General Order covers facilities that treat domestic wastewater. Untreated domestic wastewater contains ammonia in concentrations that, without treatment, would be harmful to fish and would violate the Basin Plan narrative toxicity objective if discharged to the receiving water. Reasonable potential therefore exists and effluent limitations are required for all Dischargers covered by this General Order.

In order to protect against the worst-case short-term exposure of an organism, Attachment C includes screening levels based on the acute criterion (CMC) using pH values between 7.0 and 9.0. The screening level applicable to each Discharger shall be determined based on the maximum permitted pH or on the maximum observed effluent pH, whichever is lower. The CMC will be selected from Tables C-5A and C-5C of Attachment C using the maximum observed pH and 30-day average temperature of the downstream receiving water. This screening level shall be used to determine the appropriate effluent limitations for ammonia from Tables 19A through 19C of this General Order, which shall be specified in the Notice of Applicability.

Attachment C includes screening levels based on the chronic criterion (30-day CCC) for a range of pH and temperatures. The Central Valley Water Board will determine the applicable screening level based on downstream receiving water pH and temperature data. If at least monthly paired pH and temperature receiving water data are available, the CCC will be determined by selecting a CCC from Tables C-6A and C-6B of Attachment C for each day when paired data are available, calculating a rolling 30-day average CCC, and selecting the minimum observed 30-day CCC. If sufficient paired receiving water data are not available, the CCC will be selected from Tables C-6A and C-6B of Attachment C using the maximum observed pH and 30-day average temperature of the downstream receiving water. The selected screening level from Attachment C shall be used to determine the appropriate effluent limitations for ammonia from Tables 18A through 18N of this General Order, which shall be specified in the Notice of Applicability.

- iii. **Chlorine Residual.** 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.

If used in the treatment process, 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.

This General Order covers facilities that may use chlorine for disinfection, which is extremely toxic to aquatic organisms. For Dischargers that use chlorine disinfection, the existing chlorine use and the potential for chlorine to be discharged provides the basis for the eligible discharges to have a reasonable potential to cause or contribute to an instream excursion above the NAWQC.

- iv. **Diazinon and Chlorpyrifos.** The Central Valley Water Board completed a TMDL for diazinon and chlorpyrifos in the Sacramento – San Joaquin Delta, Sacramento and Feather Rivers, and the San Joaquin River and amended the Basin Plan for the Sacramento and San Joaquin River Basins to include diazinon and chlorpyrifos WLAs and water quality objectives.

Chapter 3 (Water Quality Objectives) of the Basin Plan for the Sacramento and San Joaquin River Basins includes site-specific numeric objectives for diazinon and chlorpyrifos in these water bodies and Chapter 4 (Implementation) identifies the requirements to meet the additive formula for the additive toxicity of diazinon and chlorpyrifos.

The Basin Plan states that "The Waste Load Allocations (WLA) for all NPDES-permitted dischargers...shall not exceed the sum (S) of one (1) as defined below.

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

Where:

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

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

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

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

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

The water quality objectives for chlorpyrifos are 0.025 µg/L as a 1-hour average (acute) and 0.015 µg/L as a 4-day average (chronic), not to be exceeded more than once in a 3-year period. The water quality objectives for diazinon are 0.16 µg/L as a 1-hour average (acute) and 0.10 µg/L as a 4-day average (chronic), not to be exceeded more than once in a 3-year period.

Due to the TMDL for diazinon and chlorpyrifos in the Sacramento-San Joaquin Delta, Sacramento and Feather Rivers, and the San Joaquin River, WQBELs for these constituents are required for discharges to these water bodies. The TMDL WLA applies to all NPDES dischargers to these water bodies and will serve as the basis for WQBELs.

- v. **Fluoride.** DDW has adopted a Primary MCL for fluoride of 2,000 µg/L, which is applicable for waters with the MUN use through the Basin Plans' chemical constituent objective. Primary MCLs are drinking water standards contained in Title 22 of the California Code of Regulations. Title 22 requires compliance with these standards on an annual average basis, when sampling at least quarterly. To be consistent with how compliance with the standards is determined, the Central Valley Water Board will conduct the RPA for fluoride for waters with the MUN use by comparing the maximum observed calendar year annual average effluent fluoride concentration to the screening level. This Order does not include screening levels or effluent limitations for fluoride for waters without the MUN use.
- vi. **Manganese.** DDW has adopted a Secondary MCL for manganese of 50 µg/L, which is applicable for waters with the MUN use through the Basin Plans' chemical constituent objective. The Secondary MCL is derived from human welfare considerations (e.g., taste, odor, laundry staining), not for toxicity. Secondary MCLs are drinking water standards contained in Title 22 of the California Code of Regulations. Title 22 requires compliance with these standards on an annual average basis, when sampling at least quarterly. To be consistent with how compliance with the standards is determined, the Central Valley Water Board will conduct the RPA for manganese for waters with the MUN use by comparing the maximum observed calendar year annual average effluent manganese concentration to the screening level. This Order does not include screening levels or effluent limitations for manganese for waters without the MUN use.
- vii. **Mercury and Methylmercury**
 - (a) **Applicable to Discharges in the Sacramento-San Joaquin Delta.** The Basin Plan for the Sacramento and San Joaquin River Basins contains fish tissue objectives for all Delta waterways listed in Appendix 43 of the Basin Plan that states "...the average methylmercury concentrations shall not exceed 0.08 and 0.24 mg methylmercury/kg, wet weight, in muscle tissue of trophic level 3 and 4 fish, respectively (150-500 mm total length.) The average methylmercury concentrations shall not exceed 0.03 mg methylmercury/kg, wet weight, in whole fish less than 50 mm in length".

The Delta Mercury Control Program contains aqueous methylmercury WLAs that are calculated to achieve these fish tissue objectives. Methylmercury reductions are assigned to dischargers with concentrations of methylmercury greater than 0.06 mg/L (the concentration of methylmercury in water to meet the fish tissue objective). Table 4-16 of the Basin Plan specifies the WLAs for methylmercury for NPDES dischargers in the Delta. The Central Valley Water Board has identified the following Dischargers located in the Sacramento-San Joaquin Delta as being potentially eligible for coverage under this General Order: City of Lodi, White Slough Water Pollution Control Facility; and City of Manteca and Dutra Farms, Inc., Wastewater Quality Control Facility. This General Order includes effluent limitations for methylmercury for these facilities based on the WLAs in the Basin Plan, which shall apply to these facilities upon issuance of a Notice of Applicability from the Executive Officer.

- (b) **Applicable to 303(d)-Listed Water Bodies.** Many water bodies in the Central Valley Region are listed on the 303(d) list as impaired for mercury. The Central Valley Water Board is in the process of developing TMDLs for these water bodies. In order to limit mercury loads to current levels until TMDLs can be established, this General Order requires effluent performance-based effluent limitations for Dischargers proposing to discharge to water bodies that are impaired for mercury. If the Central Valley Water Board plans to adopt a TMDL after the year 2027, this Order includes a final effluent limitation for total mercury. If the Central Valley Water Board plans to adopt a TMDL before the year 2027 (i.e., within the term of this General Order), this General Order includes an interim effluent limitation for total mercury effective until this General Order is amended to implement a WLA adopted as part of a TMDL for mercury.
- viii. **Methylene Blue Active Substances (MBAS or Foaming Agents).** DDW has adopted a Secondary MCL for MBAS of 0.5 mg/L, which is applicable for waters with the MUN use through the Basin Plans' chemical constituent objective. The Secondary MCL is derived from human welfare considerations (e.g., taste, odor, laundry staining), not for toxicity. Secondary MCLs are drinking water standards contained in Title 22 of the California Code of Regulations. Title 22 requires compliance with these standards on an annual average basis, when sampling at least quarterly. To be consistent with how compliance with the standards is determined, the Central Valley Water Board will conduct the RPA for MBAS for waters with the MUN use by comparing the maximum observed calendar year annual average effluent MBAS concentration to the screening level. This Order does not include screening levels or effluent limitations for MBAS for waters without the MUN use.
- ix. **Nitrate and Nitrite.** DDW has adopted Primary MCLs for the protection of human health for nitrite and nitrate that are equal to 1 mg/L and 10 mg/L (measured as nitrogen), respectively. DDW has also adopted a Primary MCL of 10 mg/L for the sum of nitrate and nitrite, measured as nitrogen.

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

This General Order covers facilities that treat domestic wastewater. Untreated domestic wastewater contains ammonia in concentrations that, if untreated, will be harmful to fish and will violate the Basin Plans' narrative toxicity objective. Inadequate or incomplete treatment may result in the discharge of nitrate and/or nitrite to the receiving stream in concentrations that may exceed the Primary MCL and would violate the Basin Plan's narrative chemical constituents' objective. 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 all Dischargers to waters with the MUN use.

Attachment C includes a screening level and section V.A.1.c.vi of this General Order includes effluent limitations for nitrite based on the Primary MCL for discharges to waters with the MUN use. If the maximum effluent nitrite concentration exceeds the screening level in Attachment C, then effluent limitations for nitrite will be specified in the Notice of Applicability.

x. **Pathogens**

(a) **Secondary Treatment Requirements.** 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.

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. Although the Discharger provides disinfection, inadequate or incomplete disinfection creates the potential for pathogens to be discharged. Therefore, the Central Valley Water Board finds the discharge has reasonable potential for pathogens and WQBELs are required.

Pursuant to guidance from DDW, this General 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 for Dischargers of secondary treated wastewater that meet the eligibility criteria in section I.B.3 of this General Order. These coliform limits are imposed to protect the beneficial uses of the receiving water, including public health through contact recreation, agricultural supply, and drinking water pathways.

- (b) **Tertiary Treatment Requirements.** DDW has developed reclamation criteria, CCR, Division 4, Chapter 3 (Title 22), for the reuse of wastewater. Title 22 requires that for spray irrigation of food crops, parks, playgrounds, schoolyards, and other areas of similar public access, wastewater be adequately disinfected, oxidized, coagulated, clarified, and filtered, and that the effluent total coliform levels not exceed 2.2 MPN/100 mL as a 7-day median; 23 MPN/100 mL, not to be exceeded more than once in a 30-day period; and 240 MPN/100 mL, at any time.

Title 22 is not directly applicable to surface waters; however, the Central Valley Water Board finds the stringent disinfection criteria are appropriate since the undiluted effluent may be used for the irrigation of food crops and/or for body-contact water recreation. Coliform organisms are intended as an indicator of the effectiveness of the entire treatment train and the effectiveness of removing other pathogens.

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. To protect the beneficial uses of receiving waters with the municipal and domestic supply, water contact recreation, and agricultural irrigation supply beneficial uses that, at times, have less than 20:1 dilution, the Central Valley Water Board finds that the wastewater must be disinfected and adequately treated to prevent disease. Although the Dischargers covered by this General Order provide disinfection, inadequate or incomplete disinfection creates the potential for pathogens to be discharged. Therefore, the Central Valley Water Board finds the discharge has reasonable potential for pathogens and WQBELs are required.

In accordance with the requirements of Title 22, this Order includes effluent limitations for total coliform organisms of 2.2 MPN/100 mL as a 7-day median; 23 MPN/100 mL, not to be exceeded more than once in a 30-day period; and 240 MPN/100 mL as an instantaneous maximum for Dischargers of tertiary treated wastewater that do not receive 20:1 dilution at all times or that are otherwise required to provide tertiary treatment (e.g., where DDW has made a site-specific recommendation that tertiary treatment in addition to 20:1 dilution is necessary or where tertiary treatment has been required to comply with State and Federal antidegradation requirements).

The tertiary treatment process, or equivalent, is capable of reliably treating wastewater to a turbidity level of 2 nephelometric turbidity units (NTU) as a daily average. Failure of the filtration system such that virus removal is impaired would normally result in increased particles in the effluent, which result in higher effluent turbidity. Turbidity has a major advantage for monitoring filter performance. Coliform testing, by comparison, is not

conducted continuously and requires several hours, to days, to identify high coliform concentrations. Therefore, to ensure compliance with the DDW recommended Title 22 disinfection criteria, weekly average specifications are impracticable for turbidity.

For granular media filtration systems or equivalent, this General Order includes operational specifications for turbidity of 2 NTU as a daily average; 5 NTU, not to be exceeded more than 5 percent of the time within a 24-hour period; and 10 NTU as an instantaneous maximum. **For membrane filtration systems or equivalent**, this General Order includes operational specifications for turbidity of 0.2 NTU, not to be exceeded more than 5 percent of the time within a 24-hour period; and 0.5 NTU as an instantaneous maximum.

This General Order also contains effluent limitations for BOD₅, total coliform organisms, and TSS and requires a tertiary level of treatment, or equivalent, necessary to protect the beneficial uses of the receiving water. The Central Valley Water Board has previously considered the factors in Water Code section 13241 in establishing these requirements for the existing Dischargers with individual NPDES permits that are potentially eligible for coverage under this General Order.

Final WQBELs for BOD₅ and TSS are also required based on the technical capability of the tertiary process. The tertiary treatment standards for BOD₅ and TSS are indicators of the effectiveness of the tertiary treatment process. The principal design parameter for wastewater treatment plants is the daily BOD₅ and TSS loading rates and the corresponding removal rate of the system. The application of tertiary treatment processes results in the ability to achieve lower levels for BOD₅ and TSS than the technology-based secondary standards. Therefore, this General Order requires AMELs for BOD₅ and TSS of 10 mg/L, which is technically based on the capability of a tertiary system.

In addition to the average weekly and average monthly effluent limitations, a maximum daily effluent limitation for BOD₅ and TSS is included in the Order to ensure that the treatment works are not organically overloaded and operate in accordance with design capabilities. For some facilities, the Central Valley Water Board has also established a 90 percent removal limitation for BOD₅ and TSS, which is more stringent than the secondary treatment standards. In accordance with anti-backsliding requirements, this General Order specifies that 90 percent removal limitations be retained from a Discharger's current permit, if applicable.

- xi. **pH.** The Sacramento and San Joaquin River Basin Plan and the Tulare Lake Basin Plan contain the following pH water quality objectives:

- (a) The pH of all discharges within the Sacramento and San Joaquin River Basins (except Goose Lake in Modoc County) shall at all times be within the range of 6.5 and 8.5.
- (b) The pH of all discharges to Goose Lake in Modoc County shall at all times be within the range of 7.5 and 9.5.
- (c) The pH of all discharges within the Tulare Lake Basin shall at all times be within the range of 6.5 and 8.3.

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 Plans’ numeric objective for pH in the receiving water. Therefore, reasonable potential exists for pH and WQBELs are required for all Dischargers covered under this General Order.

This General Order does not contain screening levels for pH. However, this General Order does contain effluent limitations for pH based on the criteria discussed above. The maximum instantaneous pH effluent limitation may be lower than the respective maximum pH water quality objective as specified in the NOA based on the Discharger’s operational pH.

- xii. **Salinity.** 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-5, below, contains various recommended levels for EC or TDS, sulfate, and chloride.

Table F-5. Salinity Water Quality Criteria/Objectives

Parameters	Secondary MCL Recommended Level	Secondary MCL Upper Level	Secondary MCL Short-term Maximum	U.S. EPA NAWQC
EC (µmhos/cm) or TDS (mg/L)	EC 900 or TDS 500	EC 1,600 or TDS 1,000	EC 2,200 or TDS 1,500	N/A
Sulfate (mg/L)	250	500	600	N/A
Chloride (mg/L)	250	500	600	860 1-hour / 230 4-day

Table F-5 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 $\mu\text{mhos/cm}$ as a recommended level, 1600 $\mu\text{mhos/cm}$ as an upper level, and 2200 $\mu\text{mhos/cm}$ 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.
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.

Attachment C includes a screening level for electrical conductivity of 1600 $\mu\text{mhos/cm}$ based on the Secondary MCL. The Secondary MCL is derived from human welfare considerations (e.g., taste, odor, laundry staining), not for toxicity. Secondary MCLs are drinking water standards contained in Title 22 of the California Code of Regulations. Title 22 requires compliance with these standards on an annual average basis, when sampling at least quarterly. To be consistent with how compliance with the standards is determined, the Central Valley Water Board will conduct the RPA for salinity for waters with the MUN use in the Sacramento and San Joaquin River Basins by comparing the maximum observed calendar year annual average effluent electrical conductivity concentration to the screening level.

Electrical conductivity is an indicator parameter for salinity, and controlling electrical conductivity should ensure compliance with objectives for other salinity parameters. Therefore, this Order does not include effluent limitations for chloride, sulfate, or total dissolved solids. This General Order also requires water supply monitoring, as specified in the Notice of Applicability, to evaluate the relative contribution of salinity from the source water to the effluent.

Table 3-6 of the Basin Plan for the Sacramento and San Joaquin River Basins includes a site-specific objective of 1,550 $\mu\text{mhos/cm}$ for electrical conductivity for the Lower San Joaquin River between the mouth of the Merced River and the Airport Way Bridge near Vernalis with exceptions for Extended Dry Periods (as defined in the Basin Plan, section 4.5.1.1.2) when

concentrations shall not exceed 2,470 $\mu\text{mhos/cm}$ (as a 30-day running average) and 2,200 $\mu\text{mhos/cm}$ (as an annual average using at a minimum the previous four quarterly samples). This General Order includes a screening level in Attachment C and effluent limitations in section V.A.1.c.viii of this General Order for electrical conductivity based on the site-specific objective, which are applicable to discharges to the Lower San Joaquin River between the mouth of the Merced River and the Airport Way Bridge near Vernalis.

Salt Control Program

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. This General Order requires the Discharger to submit of a Notice of Intent for the Salt Control Program stating intent to meet requirements of either compliance pathway.

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.

- (a) **Alternative Salinity Permitting Approach.** For Dischargers stating intent to meet the Alternative Salinity Permitting Approach, this General Order requires participation in the Salinity P&O Study. Additionally, the Notice of Applicability will specify implementation of a Salinity Evaluation and Minimization Plan and a performance-based effluent limitation or trigger for EC consistent with the Alternative Salinity Permitting Approach based on the maximum observed calendar year annual average effluent concentration.
- (b) **Conservative Salinity Permitting Approach.** For Dischargers stating intent to meet the Conservative Salinity Permitting Approach, this General Order includes conservative salinity limits for EC of 700 $\mu\text{mhos/cm}$ with AGR use as a monthly average or 900 $\mu\text{mhos/cm}$ for MUN use as an annual average, whichever water quality objective is more stringent, unless a site-specific numeric value has been developed and adopted into the Basin Plan as a numeric interpretation of the Basin Plan's narrative AGR objective. For facilities with a site-specific value, the Board shall continue to apply that value as an effluent limitation.

- xiii. **Settleable Solids.** For inland surface waters, the Basin Plans state that “[w]ater shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.” The Central Valley Water Board finds that the discharge of secondary treated wastewater has a reasonable potential to cause or contribute to an excursion above the Basin Plans’ narrative objective for settleable solids, which are applicable to discharges from secondary treatment facilities.
- xiv. **Temperature.** The Thermal Plan requires that, “The maximum temperature shall not exceed the natural receiving water temperature by more than 20°F.” This General Order covers facilities that treat domestic wastewater. Treated domestic wastewater is an elevated temperature waste, which could cause or threaten to cause the receiving water temperature to exceed temperature objectives established in the Thermal Plan. Therefore, reasonable potential exists for temperature, and to ensure compliance with the Thermal Plan, WQBELs are required for Dischargers in the Sacramento-San Joaquin Delta.

4. WQBEL Calculations

- a. This General Order includes WQBELs for aluminum, ammonia, arsenic, bis (2-ethylhexyl) phthalate, BOD5, chlorine residual, chlorodibromomethane, copper, cyanide, diazinon and chlorpyrifos, dichlorobromomethane, electrical conductivity, fluoride, lead, manganese, MBAS, mercury, methylmercury, nitrate plus nitrite, nitrite, pH, selenium, settleable solids, temperature, tetrachloroethylene, total coliform organisms, TSS, thallium, and zinc. The general methodology for calculating WQBELs based on the different criteria/objectives is described in subsections V.C.4.b through e, below.
- 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:

$$ECA = C + D(C - B) \text{ where } C > B, \text{ and}$$

$$ECA = C \text{ where } C \leq B$$

where:

ECA = effluent concentration allowance

D = dilution credit

C= the priority pollutant criterion/objective

B= the ambient background concentration.

According to the SIP, the ambient background concentration (B) in the equation above shall be the observed maximum with the exception that an ECA calculated from a priority pollutant criterion/objective that is intended to protect human health from carcinogenic effects shall use the arithmetic mean concentration of the ambient background samples. For ECAs based on MCLs, which implement the Basin Plans’ chemical constituents objective and are applied as annual

averages, an arithmetic mean is also used for B due to the long-term basis of the criteria.

- 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 (see Attachment G), 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 (see Attachment G).

Effluent limitations for electrical conductivity for the Conservative Salinity Permitting Approach are set to the water quality objective for AGR as a monthly average and for MUN as an annual average. For the Alternative Salinity Permitting Approach annual performance-based effluent limitations are calculated by multiplying the highest value of maximum annual average effluent electrical conductivity range by an uncertainty factor of 25 percent to include future increases due to water conservation efforts.

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

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

where:

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

5. Whole Effluent Toxicity (WET)

The Statewide Toxicity Provisions contain toxicity provisions, including numeric objectives for acute and chronic aquatic toxicity that are applicable to Dischargers enrolled under this General Order unless otherwise specified in the NOA.

As specified in the NOA, an exemption for insignificant dischargers may be implemented on a site-specific basis. If exempt from the Statewide Toxicity Provisions, toxicity water quality objectives shall be included in the NOA as receiving water limitations and routine monitoring shall be as specified in the NOA.

- a. **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.

- i. **RPA.** This General Order is for municipal wastewater dischargers that meet criteria at the point of discharge to surface water; therefore, no dilution has been granted for acute whole effluent toxicity, and the instream waste concentration (IWC) is 100 percent effluent. If chronic toxicity testing is determined by the Central Valley Water Board to not be adequately protective of acute toxicity (e.g. - fish kills or intermittent recurring toxicity) and the Discharger is required to conduct acute whole effluent toxicity testing, the Central Valley Water Board will conduct the RPA for acute toxicity by reviewing acute whole effluent toxicity test data submitted by the Discharger. If the review of acute whole effluent toxicity data results in at least one test result that fails the Test of Significant Toxicity (TST), then the discharge has reasonable potential to cause or contribute to an exceedance of the Statewide Toxicity Provisions aquatic toxicity numeric objectives, and water quality-based effluent limits for acute toxicity are required under this General Order, which shall be specified in the Notice of Applicability.
- ii. **WQBELs.** If the Discharger has reasonable potential to cause or contribute to an instream exceedance of the Statewide Toxicity Provisions aquatic toxicity numeric objectives, as determined by section V.C.5.a.i above, this General Order requires the following effluent limitations, as specified in the Notice of Applicability:
 - (a) **Acute Whole Effluent Toxicity MDEL.** No acute aquatic toxicity test with the most sensitive species shall result in a “fail” at the Instream Waste Concentration (IWC) and a percent effect greater than or equal to 50 percent.
 - (b) **Acute Whole Effluent Toxicity MMEL.** No more than one acute aquatic toxicity tests with the most sensitive species initiated in a toxicity calendar month shall result in a “fail” at the Instream Waste Concentration (IWC).
- b. **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) \leq 0.75 • mean response (control)

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

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

Attainment of the water quality objective is demonstrated by conducting chronic aquatic toxicity testing and rejecting this null hypothesis in accordance with the Test of Significant Toxicity (TST) statistical approach described in Section III.B.3 of the Statewide Toxicity Provisions. 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.

- i. **RPA.** This General Order is for municipal wastewater dischargers that meet criteria at the point of discharge to surface water; therefore, no dilution has been granted for chronic whole effluent toxicity, and the instream waste concentration (IWC) for chronic toxicity testing is 100 percent effluent.

For Dischargers with an average dry weather flow less than 5 MGD or Dischargers that are not required to have a pretreatment program, the Central Valley Water Board will conduct the RPA for chronic toxicity by reviewing chronic whole effluent toxicity test data submitted by the Discharger at an instream waste concentration of 100% or as specified in this General Order. If the review of the chronic whole effluent toxicity test data results in at least one test that fails the Test of Significant Toxicity (TST) or has a percent effect of greater than 10 percent at the IWC, then the discharge has a reasonable potential to cause or contribute to an exceedance of the Statewide Toxicity Provisions aquatic toxicity numeric objectives and water quality-based effluent limits for chronic toxicity are required under this General Order, which shall be specified in the Notice of Applicability.

For Dischargers with an average dry weather flow greater than or equal to 5 MGD and required to have a pretreatment program by the terms of 40 C.F.R. § 403.8(a), per the Statewide Toxicity Provisions a reasonable potential analysis for chronic toxicity is not required and water quality-based effluent limits for chronic toxicity are required under this General Order, which shall be specified in the Notice of Applicability.

- ii. **WQBELs.** If the Discharger has reasonable potential to cause or contribute to an instream exceedance of the Statewide Toxicity Provisions aquatic toxicity numeric objectives, as determined by section V.C.5.b.i above, this General Order requires the following effluent limitations, as specified in the Notice of Applicability:

- (a) **Chronic Whole Effluent Toxicity Median Monthly Effluent Limitation (MMEL).** No more than one chronic aquatic toxicity test with the most sensitive species initiated in a toxicity calendar month shall result in a “fail” at the IWC for any endpoint.

- (b) **Chronic Whole Effluent Toxicity Maximum Daily Effluent Limitation (MDEL).**

- (1) **Most Sensitive Species Includes the Survival Endpoint.** No chronic aquatic toxicity test with the most sensitive species 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.

- (2) **Most Sensitive Species Does Not Include the Survival Endpoint.** No chronic aquatic toxicity test with the most sensitive species shall result in a “fail” at the Instream Waste Concentration (IWC) for the sub-lethal endpoint measured in the test and a percent effect for the survival endpoint greater than or equal to 50 percent.

D. Final Effluent Limitation Considerations

1. Mass-based Effluent Limitations

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.

Mass-based effluent limitations have been established in this General Order for ammonia TSS because it is an oxygen demanding substance. Except for the pollutants listed above, mass-based effluent limitations are not included in this Order for pollutant parameters for which effluent limitations are based on water quality objectives and criteria that are concentration-based.

Mass-based effluent limitations shall be calculated and specified in the Notice of Applicability based upon the design average dry weather flow.

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 priority pollutants, average weekly effluent limitations have been replaced with maximum daily effluent limitations in accordance with section 1.4 of the SIP. Furthermore for BOD₅, chlorine residual, pH, and TSS, 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 specified in the NOA for an existing Discharger shall be at least as stringent as the effluent limitations in the Discharger's individual NPDES permit or NOA, except where the relaxation and removal of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

- a. **CWA section 402(o)(1) and 303(d)(4).** CWA section 402(o)(1) prohibits the establishment of less stringent water quality-based effluent limits "except in compliance with Section 303(d)(4)." CWA section 303(d)(4) has two parts:

paragraph (A) which applies to nonattainment waters and paragraph (B) which applies to attainment waters.

- i. For waters where standards are not attained, CWA section 303(d)(4)(A) specifies that any effluent limit based on a TMDL or other WLA may be revised only if the cumulative effect of all such revised effluent limits based on such TMDLs or WLAs will assure the attainment of such water quality standards.
- ii. For attainment waters, CWA section 303(d)(4)(B) specifies that a limitation based on a water quality standard may be relaxed where the action is consistent with the antidegradation policy.

For the purposes of meeting either of the exceptions above, a receiving water shall be considered an attainment water if the receiving water is not listed as impaired on the 303(d) list for the constituent. The exceptions in section 303(d)(4) address both waters in attainment with water quality standards and those not in attainment, i.e. waters on the section 303(d) impaired waters list.

- b. **CWA section 402(o)(2).** CWA section 402(o)(2) provides several exceptions to the anti-backsliding regulations. The Notice of Applicability may remove or relax effluent limitations where the removal or relaxation complies with any of these exceptions.

One of these exceptions, CWA 402(o)(2)(B)(i), allows a renewed, reissued, or modified permit to contain a less stringent effluent limitation for a pollutant if information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance. Updated information that may be used to satisfy this exception include updated effluent and receiving water monitoring data collected subsequent to the adoption date of the individual NPDES permit that indicates that the discharge no longer exhibits reasonable potential to cause or contribute to an exceedance of water quality objectives/criteria, or construction of facility upgrades during the term of the individual NPDES permit that altered the character of the wastewater with regard to the pollutant (e.g., removal of effluent limitations for chlorine residual for a facility that converted from chlorine disinfection to UV disinfection during the permit term).

- c. **Flow.** General Order Order R5-2017-0085-02 included flow as an effluent limit as specified in issued NOAs. Compliance with the flow limit was calculated using the average daily flow over three consecutive dry weather months. Flow is not a pollutant; therefore, a discharge prohibition has been retained in lieu of an effluent limitation in this General Order, which is an equivalent level of regulation. This General Order is not less stringent because compliance with flow as a discharge prohibition will be calculated the same way as the previous General Order and as specified in the NOA. Flow as a discharge prohibition adequately

regulates eligible dischargers, does not allow for an increase in the discharge of pollutants, and does not constitute backsliding.

4. Antidegradation Policies

a. Surface Water.

This General Order specifies that effluent flow prohibitions specified in the Notice of Applicability shall not exceed the permitted flow rates in a Discharger's individual NPDES permit or Notice of Applicability in the absence of an approved antidegradation analysis. For Dischargers not requesting an increase in flow, this General Order will not allow for an increase in flow or mass of pollutants to the receiving water. Therefore, a complete antidegradation analysis is not necessary where no increase in flow is requested. 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. The permitted discharge is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.

For new Dischargers and existing Dischargers requesting an increase in flow from those specified in their individual NPDES permit or existing Notice of Applicability under the Municipal General Order, the Notice of Intent (Attachment B) requires an antidegradation analysis meeting the requirements of 40 C.F.R. 131.12 and State Water Board Resolution No. 68-16, "Statement of Policy With Respect to Maintaining High Quality of Waters in California". See Administrative Procedures Update (APU) 90 004 for additional guidance. A Notice of Applicability will not be issued to a Discharger if the discharge is not consistent with antidegradation requirements.

This General Order removes maximum daily effluent limitations for dischargers of tertiary treated water and mass-based effluent limitations for BOD₅ and TSS based on 40 CFR Part 122.45 (d) and (f). The removal of maximum daily and mass-based effluent limits for BOD₅ and TSS will not result in a decrease in the level of treatment or control, or a reduction in water quality. Furthermore, both concentration-based AMELs and AWELs remain for BOD₅ and TSS, as well as an average dry weather flow prohibition that limits the amount of flow that can be discharged to the receiving water during dry weather months. The combination of concentration-based effluent limits and a flow prohibition in this General Order, and as specified in the NOA, are equivalent to mass-based effluent limitations, which were redundant limits contained in the previous General Order by multiplying the concentration-based effluent limits and permitted average dry weather flow by a conversion factor to determine the mass-based effluent limitations. The Central Valley Water Board finds that the removal of maximum daily and mass-based effluent limits for BOD₅ and TSS does not result in an

allowed increase in pollutants or any additional degradation of the receiving water. Thus, the removal of maximum daily and mass-based effluent limits for BOD₅ and TSS is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and the State Antidegradation Policy.

This General Order also allows for the removal or relaxation of existing effluent limitations for constituents, as specified in the Notice of Applicability, in which updated monitoring data demonstrate that the effluent does not cause or contribute to an exceedance of the applicable water quality criteria or objectives in the receiving water. The Central Valley Water Board finds that the removal or relaxation of the effluent limitations will not result in an allowed increase in pollutants or any additional degradation of the receiving water. Thus, the removal or relaxation of effluent limitations is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16.

- i. **Salt Control Program, Conservative Pathway.** This General Order requires all wastewater dischargers to submit a Notice of Intent for the Salt Control Program to determine the applicability of either the Alternative or Conservative Pathway under the Salt Control Program or whether the discharge already consistently applies with water quality objectives for salinity.

Discharges with an average monthly electrical conductivity concentration less than 700 µmhos/cm or an average annual electrical conductivity concentration less than 900 µmhos/cm for receiving waters with the AGR or MUN beneficial use, respectively, may enroll under the Conservative Pathway of the Salt Control Program. The Central Valley Water Board finds that discharges below the respective water quality objective and enrolling in the Conservative Pathway may produce minor effects which will not result in significant reduction of water quality since permitted discharges are considered relatively pollutant-free and pose a low or limited threat to water quality. Specific findings from the antidegradation analysis shall be summarized in the NOA.

Discharges permitted under this General Order are consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and the State Antidegradation Policy. For discharges below the respective water quality objective of 700 µmhos/cm or 900 µmhos/cm for receiving waters with the AGR or MUN beneficial use and above the receiving water electrical conductivity concentration, this General Order provides for an increase in the volume and mass of pollutants discharged, as specified in the NOA. The increase will not cause a violation of water quality objectives or significant impacts on aquatic life. Any change in water quality that is expected to occur as a result of the issuance of this General Order will be consistent with the maximum benefit to the people of the state and will not unreasonably affect present and anticipated beneficial uses. Furthermore, compliance with the

requirements in this General Order will result in the use of best practicable treatment or control of the discharge.

b. Groundwater

The State Antidegradation Policy requires the Board to issue waste discharge requirements that maintain the high quality of those waters unless it finds that any degradation of water quality (1) will be consistent with maximum benefit to the people of the state; (2) will not unreasonably affect present or probable future beneficial uses of such water; and (3) will not result in water quality less than prescribed in water quality control plans or policies. In addition, the waste discharge requirements must require that discharges to high quality waters are subject to the best practicable treatment or control necessary to assure that no pollution or nuisance will occur and the highest water quality consistent with the maximum benefit to the people of the State will be maintained.

Given the significant variation in conditions over the broad geographic scope covered by this General Order, application of the antidegradation requirements must account for the fact that at least some of the groundwaters into which discharges will occur are high quality waters for some constituents. This General Order specifies that effluent flow prohibitions specified in the Notice of Applicability shall not exceed the permitted flow rates in a Discharger's individual NPDES permit or Notice of Applicability in the absence of an approved antidegradation analysis. For Dischargers not requesting an increase in flow, this General Order will not allow for an increase in flow or mass of pollutants to the groundwater. The Order requires compliance with applicable groundwater limitations or background concentrations where the discharge could have the reasonable potential to cause or contribute to an exceedance of groundwater limitations or background concentrations. This General Order also includes land application requirements for certain facilities, specific monitoring requirements, pond operating specifications, sludge and biosolid specifications, and compliance with the CV SALTS Basin Plan Amendment. To the extent site-specific requirements or monitoring are necessary—such as for facilities with unlined ponds, basins, sludge lagoons, sludge drying beds, or sludge storage areas that are planned for long-term use—these will be addressed through additional regulatory requirements. Compliance with the General Order requirements will result in the use of best practicable treatment or control to prevent impacts to groundwater. To the extent there is limited degradation of high-quality waters despite implementation of these requirements, the limited degradation is consistent with the maximum benefit to the people of the state. Accordingly, the permitted discharge is consistent with State Water Board Resolution No. 68-16.

For new Dischargers and existing Dischargers requesting an increase in flow from those specified in their individual NPDES permit or existing Notice of Applicability under the Municipal General Order, the Notice of Intent (Attachment B) requires an antidegradation analysis meeting the requirements of State Water Board Resolution No. 68-16, "Statement of Policy With Respect to Maintaining High Quality of Waters in California," to be addressed in the Notice of

Applicability. A Notice of Applicability will not be issued to a Discharger if the discharge is not consistent with antidegradation requirements.

This General Order includes discharges to a spray field for Donner Summit Public Utility District Wastewater Treatment Plant and Hammonton Gold Village Wastewater Treatment Plant. Domestic wastewater contains constituents such as specific conductivity, pathogens, nitrates, organics, and oxygen demanding substances (BOD). Percolation from the spray field may result in an increase in the concentration of these constituents in groundwater.

The State Antidegradation 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:

- i. The degradation will not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives;
- ii. The degradation will not unreasonably affect present and anticipated future beneficial uses;
- iii. The discharger will employ Best Practicable Treatment or Control (BPTC) to minimize degradation; and
- iv. The degradation is consistent with the maximum benefit to the people of the state.

Some degradation of groundwater may be consistent with the State Antidegradation Policy provided that the Discharger is implementing best practicable treatment or control (BPTC) measures. This General Order includes groundwater monitoring, as specified in the Notice of Applicability. The Central Valley Water Board will determine whether the discharge has degraded groundwater quality by comparing the effluent and groundwater monitoring results to water quality objectives. Groundwater limitations have been included in this General Order equal to the greater of background levels or the water quality objective for protection of the beneficial use of groundwater. Dischargers issued a NOA under this General Order shall have treatment that constitutes best practicable treatment or control and complies with the State Antidegradation Policy.

5. Stringency of Requirements for Individual Pollutants

This General Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD₅, pH, and TSS. Restrictions on BOD₅, pH, and TSS are discussed in V.B.2. This General Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this General Order contains effluent limitations more stringent than the minimum, federal technology-based requirements that are necessary to meet water

quality standards. These requirements include some limitations that are more stringent than required by the CWA.

E. Interim Effluent Limitations

- 1. Interim Limits for Mercury.** 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 compliance schedules longer than one year. Interim effluent limitations must be based on current treatment plant performance or previous final permit limitations, whichever is more stringent. The interim effluent limitations for methylmercury are based on Facility performance and have been retained from the individual NPDES permits and Notices of Applicability for the applicable Dischargers.

Phase 1 of Delta Mercury Control Program required POTWs to limit their discharges of inorganic (total) mercury to Facility performance-based levels. The interim inorganic (total) mercury effluent mass limit is to be derived using current, representative data and shall not exceed the 99.9th percentile of the 12-month running effluent inorganic (total) mercury mass loads. Phase 1 of the Delta Mercury Control Program has been completed. On 20 October 2022, Phase 2 of the Delta Mercury Control Program began. The Central Valley Water Board is conducting a Phase 1 Delta Mercury Control Program Review that considers modification to the Delta Mercury Control Program. After the Phase 1 Delta Mercury Control Program Review, the interim inorganic (total) mercury mass limit will be re-evaluated and modified as appropriate. This General Order requires the continuation of interim limits established during Phase 1 and allocations will not be reduced as a result of early actions that result in reduced inorganic (total) mercury and/or methylmercury in discharges. The interim effluent limitations for total mercury are based on Facility performance and have been retained from the existing individual NPDES permits and Notices of Applicability.

The Central Valley Water Board finds that the Dischargers listed in the table below can undertake source control and treatment plant measures to maintain compliance with the interim limitations included in this General 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 effluent limitation can be achieved.

The following table summarizes the interim effluent limitations for mercury, total:

Table F-6. Interim Effluent Limitations for Mercury, Total

Discharger	Individual Order / NPDES Number	Interim Effluent Limitation (grams/year)
City of Lodi, White Slough Water Pollution Control Facility	R5-2013-0125-01 / CA0079243	23
City of Manteca and Dutra Farms, Inc., Wastewater Quality Control Facility	R5-2015-0026 / CA0081558	90

F. Land Discharge Specifications

1. This General Order does authorize the use of unlined ponds (e.g., treatment ponds, emergency storage, equalization, polishing) as part of the treatment system for which the specifications are provided in section VII.C.4.c, Pond Operating Specifications, of this General Order. For Dischargers enrolled under this General Order that discharge to land by means other than lined or unlined ponds that are part of the treatment system, spray fields, or to ponds that are part of the treatment system but are otherwise regulated under separate WDRs, site-specific discharges to land will be regulated through a separate WDRs.
2. This General Order also includes Land Discharge Specifications for spray fields for Donner Summit Public Utility District Wastewater Treatment Plant and Hammonton Gold Village Wastewater Treatment Plant, which are necessary to protect the beneficial uses of the groundwater.
3. This General Order includes numeric land discharge specifications for BOD₅ and total coliform organisms that were not included in General Order R5-2017-0085-02 for discharges to spray fields.
4. The Nitrate Control Program is a program for the control and permitting of nitrate discharges to groundwater in the Sacramento-San Joaquin River Basins and in the Tulare Lake Basin and applies to all groundwater basins that are designated with the municipal and domestic supply (MUN) beneficial use. New dischargers located in a groundwater basin/sub-basin (regardless of priority) or those with a material change to their operation that increases the level of nitrate discharged to groundwater must comply with the Nitrate Control Program and provide data and information as applicable. Donner Summit Public Utility District Wastewater Treatment Plant and Hammonton Gold Village Wastewater Treatment Plant are not new discharges and are not located in a prioritized groundwater basin/sub-basin of the Nitrate Control Program; therefore, they are not subject to Nitrate Control Program requirements unless directed by the Executive Officer. If either Discharger submits a Notice of Intent to address a material change to their operation that increases the level of nitrate discharged to groundwater, they must comply with the Nitrate Control Program and provide data and information as applicable.

G. Recycling Specifications

If recycled water production is not regulated by a separate permit, this General Order only regulates the production of recycled water, as specified in the NOA. Production of treated wastewater discharged for reclamation under this General Order shall be in accordance with the specifications included in section V.C and section VII.C.4 of this General Order and as specified in the NOA and must meet the requirements of CCR, Title 22. Treated wastewater discharged for reclamation shall be regulated under a separate Water Quality Order WQ 2016-0068-DDW, Water Reclamation Requirements for Recycled Water Use or subsequent Order that regulates the distribution and use of recycled water.

VI. 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 General Order contains receiving surface water limitations based on the Basin Plan numerical and narrative water quality objectives for ammonia, bacteria, biostimulatory substances, color, chemical constituents, chronic toxicity, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, suspended sediment, settleable substances, suspended material, tastes and odors, temperature, toxicity, and turbidity.
 - a. **Bacteria.** On 7 August 2018 the State Water Board adopted Resolution No. 2018-0038 establishing Bacteria Provisions, which are specifically titled “Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California—Bacteria Provisions and a Water Quality Standards Variance Policy” and “Amendment to the Water Quality Control Plan for Ocean Waters of California—Bacteria Provisions and a Water Quality Standards Variance Policy.” The Bacteria Water Quality Objectives established in the Bacteria Provisions supersede any numeric water quality objective for bacteria for the REC-1 beneficial use contained in a water quality control plan before the effective date of the Bacteria Provisions.

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

The Bacteria Provisions provide that where a permit, waste discharge requirement (WDR), or waiver of WDR includes an effluent limitation or discharge

requirement that is derived from a water quality objective or other guidance to control bacteria (for any beneficial use) that is more stringent than the Bacteria Water Quality Objective, the Bacteria Water Quality Objective would not be implemented in the permit, WDR, or waiver of WDR. This General Order includes effluent limitations and discharge requirements equivalent to the DDW Title 22 disinfected tertiary reclamation criteria that are more stringent than the Statewide Bacteria Objectives. In addition, this General Order includes the Statewide Bacteria Objectives as a receiving water limitation for discharges that have not met this standard, as specified in the Notice of Applicability.

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

B. Groundwater

1. Groundwater limitations are required to protect the beneficial uses of the underlying groundwater.

VII. 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 General 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 General Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

- a. **Mercury.** The Delta Mercury Control Program was designed to proceed in two phases. Phase 1, which emphasizes studies and pilot projects to develop and

evaluate management practices to control methylmercury, has been completed. The Central Valley Water Board is conducting a Phase 1 Delta Mercury Control Program Review that considers: modification of methylmercury goals, objectives, allocations and/or the Final Compliance Date; implementation of management practices and schedules for methylmercury controls; and adoption of a mercury offset program for dischargers who cannot meet their load allocations and WLAs after implementing all reasonable load reduction strategies. The fish tissue objectives, the linkage analysis between objectives and sources, and the attainability of the allocations will be re-evaluated based on the findings of Phase 1 control studies and other information. The linkage analysis, fish tissue objectives, allocations, and time schedules may be adjusted at the end of the Phase 1 Delta Mercury Control Program Review or subsequent program reviews, as appropriate. Therefore, this General Order may be reopened to address changes to the Delta Mercury Control Program.

- 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, except for copper (United States Department of the Interior, National Park Service, Yosemite National Park, El Portal Wastewater Treatment Facility; United Auburn Indian Community, Thunder Valley Casino Wastewater Treatment Plant; City of Grass Valley, Wastewater Treatment Plant; City of Auburn, Wastewater Treatment Plant; City of Galt, Wastewater Treatment Plant and Reclamation Facility; Cutler-Orosi Joint Powers Wastewater Authority, Wastewater Treatment Facility; El Dorado Irrigation District, El Dorado Hills Wastewater Treatment Plant; El Dorado Irrigation District, Deer Creek Wastewater Treatment Plant; Donner Summit Public Utility District, Wastewater Treatment Plant; City of Clovis, Sewage Treatment and Water Reuse Facility; and City of Jackson, Wastewater Treatment Plant) and zinc (City of Grass Valley, Wastewater Treatment Plant; City of Placerville, Hangtown Creek Water Reclamation Facility; El Dorado Irrigation District, Deer Creek Wastewater Treatment Plant; and City of Clovis, Sewage Treatment and Water Reuse Facility). In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable when developing effluent limitations, except for copper and zinc (City of Grass Valley, Wastewater Treatment Plant).

If a Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this General Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

2. Special Studies and Additional Monitoring Requirements

- a. **Phase 2 Methylmercury Control Study (Reserved).**
- b. **Bis(2-ethylhexyl) Phthalate and/or Cyanide Constituent Study.** If there are indications that the discharge may contain bis(2-ethylhexyl) phthalate and/or cyanide at concentrations that have reasonable potential to cause or contribute to an exceedance of water quality objectives, the Discharger, as applicable, shall

complete a study of these constituents' potential effect in the receiving water. If after a review of the study results it is determined that the discharge has reasonable potential to cause or contribute to an exceedance of a water quality objective the NOA may be reopened and effluent limitations added for the subject constituents.

3. Best Management Practices and Pollution Prevention

- a. **Water Code section 13263.3(d)(3) Pollution Prevention Plans.** A pollution prevention plan for mercury is required in this General Order for dischargers within the Sacramento-San Joaquin Delta per Water Code section 13263.3(d)(1)(C). The pollution prevention plans required in section VII.C.3.a of this General Order, shall, at a minimum, meet the requirements outlined in Water Code section 13263.3(d)(3). The minimum requirements for the pollution prevention plans include the following:
- i. An estimate of all sources of a pollutant contributing, or potentially contributing, to the loadings of a pollutant in the treatment plant influent.
 - ii. An analysis of the methods that could be used to prevent the discharge of the pollutants into the Facility, including application of local limits to industrial or commercial dischargers regarding pollution prevention techniques, public education and outreach, or other innovative and alternative approaches to reduce discharges of the pollutant to the Facility. The analysis also shall identify sources, or potential sources, not within the ability or authority of the Discharger to control, such as pollutants in the potable water supply, airborne pollutants, pharmaceuticals, or pesticides, and estimate the magnitude of those sources, to the extent feasible.
 - iii. An estimate of load reductions that may be attained through the methods identified in subparagraph ii.
 - iv. A plan for monitoring the results of the pollution prevention program.
 - v. A description of the tasks, cost, and time required to investigate and implement various elements in the pollution prevention plan.
 - vi. A statement of the Discharger's pollution prevention goals and strategies, including priorities for short-term and long-term action, and a description of the Discharger's intended pollution prevention activities for the immediate future.
 - vii. A description of the Discharger's existing pollution prevention programs.
 - viii. An analysis, to the extent feasible, of any adverse environmental impacts, including cross-media impacts or substitute chemicals that may result from the implementation of the pollution prevention program.

- ix. An analysis, to the extent feasible, of the costs and benefits that may be incurred to implement the pollution prevention program.
- b. **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.

Under the Alternative Salinity Permitting Approach, the Basin Plan requires that dischargers implement salinity minimization measures to maintain existing salinity levels and participate in the P&O Study. Dischargers under the Alternative Salinity Permitting Approach must demonstrate adequate participation in the P&O Study. This General Order also requires continued participation to meeting the requirements of the Alternative Salinity Permitting Approach, continued implementation of the Discharger's SEMP, and includes a performance-based salinity trigger and/or effluent limitation as specified in the NOA to ensure salinity levels do not increase. In accordance with the Basin Plan, salinity triggers and/or effluent limitations were developed based on existing facility performance and considers possible temporary increases that may occur due to water conservation and/or drought.

Dischargers that meet requirements of the Conservative Salinity Permitting Approach must obtain approval by the Executive Officer. Dischargers approved under the Conservative Salinity Permitting Approach are required to meet conservative salinity effluent limitations in accordance with the Salt Control Program and as specified in the NOA.

For Dischargers that are approved for exemption from compliance with the Salt Control Program by the Executive Officer, this General Order requires continued implementation of a SEMP, as specified in the NOA, to ensure salinity levels do not increase.

- c. **Pyrethroid Management Plan.** 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. Per the Basin Plan, Section 4.2.2.4.12, if concentrations of pyrethroids are found to exceed the acute and/or chronic pyrethroid triggers (Table 4-2 of the Basin Plan), the Discharger must submit a draft pyrethroid management plan for approval by the Executive Officer within one year from the date that an exceedance is identified by either the Discharger or Central Valley Water Board staff.

4. Construction, Operation, and Maintenance Specifications

- a. **Filtration System Operating Specifications.** For Dischargers of tertiary treated wastewater that meet the eligibility criteria in section I.B.4 of this General Order,

turbidity is included as an operational specification as an indicator of the effectiveness of the filtration system for providing adequate disinfection. The tertiary treatment process with granular media filtration is capable of reliably meeting a turbidity limitation of 2 NTU as a daily average. The tertiary treatment process with membrane filtration is capable of reliably meeting a turbidity limitation of 0.2 NTU more than 5 percent of the time within a 24-hour period, respectively. Failure of the treatment system such that virus removal is impaired would normally result in increased particles in the effluent, which result in higher effluent turbidity and could impact UV dosage. Turbidity has a major advantage for monitoring filter performance, allowing immediate detection of filter failure and rapid corrective action. For granular media filtration, the operational specification requires that turbidity prior to disinfection shall not exceed 2 NTU as a daily average; 5 NTU, more than 5 percent of the time within a 24-hour period, and an instantaneous maximum of 10 NTU. For membrane filtration, the operational specification requires that turbidity prior to disinfection shall not exceed 0.2 NTU, more than 5 percent of the time within a 24-hour period, and an instantaneous maximum of 0.5 NTU.

- b. **UV Disinfection System Operating Specifications.** Dischargers of tertiary treated wastewater that meet the eligibility criteria in section I.B.4 of this General Order must ensure that wastewater shall be oxidized, coagulated, filtered, and adequately disinfected pursuant to the DDW reclamation criteria, CCR, Title 22, division 4, chapter 3, (Title 22), or equivalent. To ensure that the UV disinfection system is operated to achieve the required pathogen removal, this General Order includes effluent limits for total coliform organisms, filtration system operating specifications, and UV disinfection system operating specifications. Compliance with total coliform effluent limits alone does not ensure that pathogens in the municipal wastewater have been deactivated by the UV disinfection system. Compliance with the effluent limits and the filtration system and UV disinfection operating specifications demonstrates compliance with the equivalency to Title 22 disinfection requirement.

The NWRI guidelines include UV operating specifications for compliance with Title 22. For water recycling in accordance with Title 22, the UV system shall be an approved system included in the Treatment Technology Report for Recycled Water, December 2009 (or a later version, as applicable) published by the DDW. The UV system shall also conform to all requirements and operating specifications of the NWRI guidelines. A memorandum dated 1 November 2004 issued by DDW to Regional Water Board executive offices recommended that provisions be included in permits for water recycling treatment plants employing UV disinfection requiring dischargers to establish fixed cleaning frequency of lamp sleeves, as well as, include provisions that specify minimum delivered UV dose that must be maintained (per the NWRI Guidelines).

For granular media filtration, the NWRI Guidelines recommend a minimum hourly average UV dose of 100 mJ/cm². Therefore, this Order includes UV operating specifications requiring a minimum hourly average UV dose of 100 mJ/cm² and a minimum hourly average UV transmittance of 55% for granular media filtration

systems, per the NWRI Guidelines. For membrane filtration, the NWRI Guidelines recommend a minimum hourly average UV dose of 80 mJ/cm². Therefore, this Order includes UV operating specifications requiring a minimum hourly average UV dose of 80 mJ/cm² and a minimum hourly average UV transmittance of 65% for membrane filtration systems, per the NWRI Guidelines. If a Discharger conducts a site-specific UV engineering study that demonstrates a lower UV dose meets a Title 22 equivalent virus removal, the NOA may include alternative UV operating specifications based on the engineering study.

- c. **Pond Operating Specifications.** The pond operating specifications are necessary to protect the public and the beneficial uses of the groundwater, and to prevent nuisance conditions.

5. Special Provisions for POTWs

a. Pretreatment Requirements.

- i. As specified in the NOA, Dischargers with a total design flow greater than 5 MGD and receiving from industrial users pollutants which pass through or interfere with the operation of the POTW or are otherwise subject to pretreatment standards shall comply with the following pretreatment requirements. The NOA may also require compliance with the following requirements for POTWs with a design flow of 5 MGD or less if the nature or volume of the industrial influent, treatment process upsets, violations of POTW effluent limitations, contamination of municipal sludge, or other circumstances warrant in order to prevent interference with the POTW or pass through.
- ii. 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.
- iii. If specified in the NOA, the Discharger shall implement and enforce its approved pretreatment program and is an enforceable condition of this General 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).

Managers of POTWs increasingly are considering the addition of organic material such as food waste, fats, oils and grease (FOG) into their anaerobic digesters for co-digestion. Benefits of accepting these materials include increasing the volume of methane and other biogases available for energy production and ensuring

such materials are disposed of at the POTW instead of discharged into the collection system potentially causing 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.

If a 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. The requirements of the SOPs are discussed in Section VII.C.5.c.

- c. **Sludge/Biosolids Treatment or Discharge Specifications.** Sludge in this General 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 General 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 General 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

- a. **Disinfection Requirements.** For Dischargers of tertiary treated wastewater that meet the eligibility criteria in section I.B.4 of this General Order, this General Order requires wastewater to be oxidized, coagulated, filtered, and adequately disinfected consistent with DDW reclamation criteria, CCR, Title 22, division 4, chapter 3 (Title 22), or equivalent. The disinfection requirements are discussed in

detail above in Section IV.C.3, Determining the Need for WQBELs (see Pathogens).

7. Compliance Schedules

In general, a 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 Total Maximum Daily Load (TMDL). All compliance schedules must be as short as possible, and may not exceed ten 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.

- a. **Methylmercury for the City of Lodi, White Slough Water Pollution Control Facility; and City of Manteca and Dutra Farms, Inc., Wastewater Quality Control Facility.** The effluent limitations for methylmercury for Dischargers in the Sacramento-San Joaquin Delta (i.e., City of Lodi, White Slough Water Pollution Control Facility; and City of Manteca and Dutra Farms, Inc., Wastewater Quality Control Facility, etc.) are more stringent than effluent limitations previously imposed. These limitations are based on the Basin Plans' Delta Mercury Control Program that became effective on 20 October 2011. The Dischargers have complied with the application requirements in paragraph 4 of the State Water Board's Compliance Schedule Policy, and the Dischargers' applications demonstrate the need for additional time to implement actions to comply with the new limitations, as described below. Therefore, a compliance schedule for compliance with the effluent limitations for methylmercury has been maintained in this General Order from the previous General Order and individual Orders for the respective Dischargers.

A compliance schedule, as specified in the NOA, is necessary because the Dischargers must implement actions, including a Phase 2 Implementation of Methylmercury Control Programs and possible facility upgrades to comply with the final effluent limitations. The Dischargers have made diligent efforts to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream. The City of Manteca and Dutra Farms, Inc., Wastewater Quality Control Facility collected monthly monitoring for mercury and methylmercury during the term of Order R5-2009-0095 and has also developed and continues to implement a PPP for mercury, as required by Order R5-2009-0095. The City of Lodi, White Slough Water Pollution Control Facility is currently implementing a

pollution prevention plan for mercury that was submitted to the Central Valley Water Board on 9 September 2010.

The compliance schedules are as short as possible. The Central Valley Water Board has completed the Phase 1 Delta Mercury Control Program Review and is in the process of evaluating control measures. Therefore, at this time it is uncertain what measures must be taken to consistently comply with the waste load allocation for methylmercury. The interim effluent limits and final compliance date may be modified after evaluation of compliance activities.

Interim performance-based limitations are included in this General Order. The interim limitations were determined as described in section V.E.1 of this Fact Sheet, and are in effect until the final limitations take effect. The interim numeric effluent limitations and source control measures will result in the highest discharge quality that can reasonably be achieved until final compliance is attained.

VIII. 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 General Order and the NOA establish 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. Dischargers are required to comply with these requirements, which are necessary to determine compliance with this General Order and the NOA. The following provides additional rationale for the monitoring and reporting requirements contained in the MRP for discharges of treated municipal wastewater to surface water.

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 constituents specified in the NOA (40 C.F.R. section 136.3(e), Table II). Dischargers may maintain an ELAP accredited laboratory on-site and conduct analysis within the required hold times. However, if an accredited lab cannot conduct the analysis within the required holding time due to the location of the

Facility, it is both legally and factually impossible for the Discharger to comply with section 13176 for constituents with short holding times.

A. Influent Monitoring

1. Influent monitoring is required to collect data on the characteristics of the wastewater and to assess compliance with effluent limitations (e.g., BOD₅ and TSS reduction requirements). This General Order establishes baseline influent monitoring frequencies for major and minor Dischargers, which were determined through evaluation of monitoring requirements in existing enrollees and individual NPDES permits for Dischargers that are potentially eligible for coverage under this General Order. The Central Valley Water Board finds that these frequencies will be sufficient to characterize the influent. The Executive Officer may specify more or less frequent monitoring frequencies in the NOA considering the site-specific conditions of the discharge.

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 General Order establishes baseline effluent monitoring frequencies for major and minor Dischargers, which were determined through evaluation of monitoring requirements for existing enrollees and individual NPDES permits for Dischargers that are potentially eligible for coverage under this General Order. The Central Valley Water Board finds that these frequencies will be sufficient to characterize the effluent and determine compliance with effluent limitations, where applicable. The Executive Officer may specify more frequent monitoring in the NOA considering the site-specific conditions of the discharge.
3. The NOA will identify the specific constituents to be monitored and the associated monitoring frequencies. At a minimum, all Dischargers will be required to monitor for flow, BOD₅, pH, TSS, ammonia, dissolved oxygen, electrical conductivity, hardness, nitrate plus nitrite, temperature, total coliform organisms, and for any constituents subject to effluent limitations as identified in the NOA.
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 for dischargers discharging at

least 1 MGD to evaluate the potential impacts of discharges of pyrethroid pesticides to receiving waters.

C. Receiving Water Monitoring

1. Surface Water

- a. Receiving water monitoring is necessary to assess compliance with receiving water limitations and to assess the impacts of the discharge on the receiving stream. This General Order establishes baseline receiving water monitoring frequencies for major and minor Dischargers, which were determined through evaluation of monitoring requirements in individual NPDES permits for Dischargers that are potentially eligible for coverage under this General Order. The Central Valley Water Board finds that these frequencies will be sufficient to characterize the receiving water and determine compliance with receiving water limitations, where applicable. The Executive Officer may specify more frequent monitoring in the NOA, considering the site-specific conditions of the discharge.

The Calaveras County Water District, Copper Cove Wastewater Reclamation Facility is not required to monitor Littlejohns Creek due to the de minimis amount of reclaimed water expected in overflows from the wetlands to Littlejohns Creek and because the effluent limitations must be met at the point of discharge to Pond NC-2D. The Nevada County Sanitation District No. 1, Cascade Shores Wastewater Treatment Plant is not required to monitor Gas Canyon Creek because access to Gas Canyon Creek is limited and unsafe most of the year.

- b. **Delta Regional Monitoring Program.** The Central Valley Water Board requires individual dischargers and discharger groups to conduct monitoring of Delta waters and Delta tributary waters in the vicinity of their discharge, known as ambient (or receiving) water quality monitoring. This monitoring provides information on the impacts of waste discharges on Delta waters, and on the extant condition of the Delta waters. However, the equivalent funds spent on current monitoring efforts could be used more efficiently and productively, and provide a better understanding of geographic and temporal distributions of contaminants and physical conditions in the Delta, and of other Delta water quality issues, if those funds were used for a coordinated ambient monitoring effort, rather than continue to be used in individual, uncoordinated ambient water quality monitoring programs. The Delta Regional Monitoring Program will provide data to better inform management and policy decisions regarding the Delta.

This General Order allows Dischargers in and outside the Delta in the Delta to elect to participate in the Delta Regional Monitoring Program in lieu of conducting all or part of the individual receiving water monitoring required in the Monitoring and Reporting Program. If the Discharger elects to cease individual receiving water monitoring and participate in the Delta Regional Monitoring Program, the Discharger shall submit a letter signed by an authorized representative to the Executive Officer informing the Central Valley Water Board that the Discharger will participate in the Delta Regional Monitoring Program and the date on which

individual receiving water monitoring under Attachment E, Sections VIII.A.1 through VIII.A.3, will cease or be modified. Approval by the Executive Officer is required, and contingent on Delta Regional Monitoring Program Steering Committee action on the forthcoming Regional Monitoring Program monitoring plan.

Delta Regional Monitoring Program data are not intended to be used directly to represent either upstream or downstream water quality for purposes of determining compliance with this Permit. Delta Regional Monitoring Program monitoring stations are established generally as “integrator sites” to evaluate the combined impacts on water quality of multiple discharges into the Delta; Delta Regional Monitoring Program monitoring stations would not normally be able to identify the source of any specific constituent, but would be used to identify water quality issues needing further evaluation. Delta Regional Monitoring Program monitoring data may be used to help establish background receiving water quality for an RPA in an NPDES permit after evaluation of the applicability of the data for that purpose. In general, monitoring data from samples collected in the immediate vicinity of the discharge will be given greater weight in permitting decisions than receiving water monitoring data collected at greater distances from the discharge point. Delta Regional Monitoring Program data, as with all environmental monitoring data, can provide an assessment of water quality at a specific place and time that can be used in conjunction with other information, such as other receiving water monitoring data, spatial and temporal distribution and trends of receiving water data, effluent data from the Discharger’s discharge and other point and non-point source discharges, receiving water flow volume, speed and direction, and other information to determine the likely source or sources of a constituent that resulted in exceedance of a receiving water quality objective.

If the Discharger begins to participate in the Delta Regional Monitoring Program in lieu of individual receiving water monitoring, the Discharger shall continue to participate in the Delta Regional Monitoring Program until such time as the Discharger informs the Board that participation in the Delta Regional Monitoring Program will cease and individual monitoring is reinstated. Receiving water monitoring under Attachment E, Sections VIII.A.1 through VIII.A.3, is not required under this Order so long as the Discharger adequately supports the Delta Regional Monitoring Program. Participation in the Delta Regional Monitoring Program by a Discharger shall consist of providing funds and/or in-kind services to the Delta Regional Monitoring Program at least equivalent to discontinued individual monitoring and study efforts. If a Discharger or discharger group fails to maintain adequate participation in the Delta Regional Monitoring Program, as determined through criteria to be developed by the Delta Regional Monitoring Program Steering Committee, the Steering Committee will recommend to the Central Valley Water Board that an individual monitoring program be reinstated for that discharger or discharger group.

If the Discharger is participating in the Delta Regional Monitoring Program as described in Attachment E, Section VIII, the receiving water portion of the

required Characterization Monitoring need not be conducted by the Discharger. Instead, data from the Delta Regional Monitoring Program will be utilized to characterize the receiving water in the permit renewal. The Discharger may, however, conduct any site-specific receiving water monitoring deemed appropriate by the Discharger and submit that monitoring data with this Characterization Monitoring. In general, monitoring data from samples collected in the immediate vicinity of the discharge will be given greater weight in permitting decisions than receiving water monitoring data collected at greater distances from the discharge point. Historic receiving water monitoring data taken by the Discharger and from other sources may also be evaluated to determine whether or not that data are representative of current receiving water conditions. If found to be representative of current conditions, then that historic data may be used in characterizing receiving water quality for the purposes of the RPA.

2. Groundwater

Not all Dischargers enrolled in this General Order will be required to comply with the groundwater monitoring requirements in the General Order. If applicable, the specific groundwater monitoring requirements will be contained in the Discharger's NOA. Furthermore, if Discharger's groundwater monitoring is regulated under a different Order, groundwater monitoring is not needed in the Discharger's NOA.

- 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 General Order, the Monitoring and Reporting Program, and as specified in the NOA, are necessary to ensure compliance with these waste discharge requirements. Dischargers issued a Notice of Applicability under this General Order are responsible for discharges of waste at the facility subject to this General Order, as specified in the NOA.
- b. As specified in the NOA, 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 Antidegradation 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, an individual NPDES Permit may be required. This General Order also 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.
- c. This General Order establishes groundwater monitoring and includes a regular schedule of groundwater monitoring in Attachment E (Monitoring and Reporting Program), as specified in the NOA. The groundwater monitoring reports, as specified in the NOA, 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 Antidegradation Policy. Effluent data included in the NOA may indicate the presence of constituents that can potentially degrade groundwater and surface water.
 - d. Groundwater monitoring frequencies and sample types shall be specified in the Notice of Applicability.

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.

1. **Acute Toxicity.** 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 General Order, aquatic toxicity testing, as specified in the NOA, 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). 96-hour bioassay testing is required to demonstrate compliance with the effluent limitation for acute toxicity, as specified in the NOA. The frequency of testing shall be specified in the NOA from the Executive Officer.
2. **Chronic Toxicity.** Chronic whole effluent toxicity testing is required to demonstrate compliance with the MDEL, MMEL, or MMET, as specified in the NOA. The frequency of testing shall be specified in the NOA from the Executive Officer.

3. **Sensitive Species Screening.** The most sensitive species to be used for chronic toxicity testing shall be determined in accordance with the process outlined in MRP, section V.F.1.
 - a. Discharger shall perform rescreening to re-evaluate the most sensitive species if the effluent used in the species sensitivity screening is no longer representative of the effluent, a species sensitivity screening has not been performed in the last 15 years, or if issuance or reissuance is to address toxicity.

For rescreening, if the first two species sensitivity re-screening events result in no change in the most sensitive species, the Discharger may cease the species sensitive re-screening testing and the most sensitive species will remain unchanged.

4. **Toxicity Reduction Evaluation (TRE).** The Monitoring and Reporting Program of this Order requires acute and chronic WET testing to demonstrate compliance with numeric toxicity effluent limitations, as specified in the NOA. The Discharger is required to initiate a TRE as outlined in Attachment E, section V.G. In addition, if other information indicates toxicity (e.g., results of additional monitoring, fish kills, intermittent recurring toxicity), the Central Valley Water Board may require a TRE. A TRE may also be required when there is no effluent available to complete a routine monitoring test, MMET test, or MMEL compliance test, as applicable.

E. Other Monitoring Requirements

1. Biosolids Monitoring

Biosolids monitoring is required, as specified in the NOA, to ensure compliance with the pretreatment requirements contained in 40 C.F.R. part 403 and implemented in section VII.C.5.a. of this General Order and as specified in the Notice of Applicability. 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 General 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) (<https://www.epa.gov/biosolids/compliance-and-annual-reporting-guidance-about-clean-water-act-laws>)

2. Water Supply Monitoring

Water supply monitoring is required, as specified in the NOA, to evaluate the source of constituents in the wastewater.

3. Filtration System Monitoring

Filtration system monitoring for turbidity is required for Dischargers of tertiary treated wastewater that meet the eligibility criteria in section I.B.4 of this General Order to determine compliance with the filtration system operating specifications in section VII.C.4.a of this General Order.

4. UV Disinfection System Monitoring

UV system monitoring and reporting are required for Dischargers that utilize UV disinfection to ensure that the UV system is operated to adequately inactivate pathogens in the wastewater. UV disinfection system monitoring is imposed to achieve equivalency to requirements established by the DDW, and the NWRI, Guidelines.

5. Pond Monitoring

Treatment pond monitoring, as specified in the NOA, is required to ensure proper operation of the storage pond.

6. Land Discharge Monitoring

Land discharge monitoring, as specified in the NOA, is required to ensure that the discharge to the land disposal area complies with the Storage Pond and Land Disposal Operating Requirements in section IV.B and VI.C.4.c of this Order.

7. Title 22 Recycled Water Monitoring

Title 22 disinfected tertiary recycled water production monitoring and reporting are required to ensure compliance with the Recycling Specifications in Section V.C of this General Order and the accepted Title 22 Engineering report, as specified in the NOA.

8. 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 General Order and as specified in the NOA 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.

9. 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 major 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.

10. Recycled Water Policy Annual Reports

On 11 December 2018, the State Water Board adopted Resolution 2018-0057, which amends the Recycled Water Policy, section 3, to require wastewater and recycled water dischargers to annually report monthly volumes of influent, wastewater produced, and effluent, including treatment level and discharge type. Therefore, to incorporate monitoring and reporting required by the Recycled Water Policy, this General Order requires annual reporting of wastewater and recycled water use into Geotracker, as specified in the NOA.

IX. PUBLIC PARTICIPATION

The Central Valley Water Board has considered the issuance of general WDRs that will serve as an NPDES permit for discharges of treated municipal wastewater to surface waters of the United States. 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. After adoption of these WDRs, a copy of each Notice of Applicability will be made available prior to issuance by the Executive Officer, to the Discharger, U.S. EPA, and interested persons.

A. Notification of Interested Persons

The Central Valley Water Board notified existing enrollees, municipal wastewater Dischargers with existing individual NPDES permits, and interested agencies and persons of its intent to prescribe general WDRs for municipal wastewater Dischargers that meet objectives/criteria at the point of discharge to surface water and provided an opportunity to submit written comments and recommendations. Notification was provided through posting on the Central Valley Water Board's [Tentative Orders](#) webpage

(https://www.waterboards.ca.gov/centralvalley/board_decisions/tentative_orders/) on **8 March 2023**.

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/)

1. Assembly Bill 2108 Findings

- a. This General Order regulates municipal wastewater treatment facilities that meet water quality objectives/criteria at the point of discharge to surface waters of the United States that may impact disadvantaged and/or tribal communities.

- b. Consistent with Water Code section 189.7, the Central Valley Water Board has conducted outreach in disadvantaged and tribal communities that may be affected by the updates to this General Order.c. Pursuant to Water Code section 13149.2, the Central Valley Water Board reviewed readily available information and information raised to the Board by interested persons concerning anticipated water quality impacts in disadvantaged or tribal communities resulting from adoption of this General Order. The Central Valley Water Board also considered environmental justice concerns within the Board's authority and raised by interested persons regarding those impacts.
- d. The Central Valley Water Board anticipates that the issuance of this General Order will result in insignificant water quality impacts and environmental justice concerns within the scope of the Central Valley Water Board's authority. Dischargers below the respective water quality objectives for salinity under this General Order and enrolling in the Conservative Pathway of the Salt Control Program may produce minor effects in the receiving water, which will not result in significant reduction of water quality as these discharges consistently meet water quality objectives for salinity.
- e. The Central Valley Water Board has adopted effluent limitations, minimum monitoring frequencies, and best management practices in this General Order to be implemented in Notices of Applicability to address the impacts of the permitted Dischargers to impacted communities.

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 **7 April 2023**.

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: 22 June 2023
Time: 9:00 a.m.
Location: Online AND Regional Water Quality Control Board, Central Valley Region
Rancho Cordova, CA

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.s.html)

(http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.s.html) 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 this General Order or any enrollee should contact the Central Valley Water Board, reference this General Order and the NOA, and provide a name, address, and phone number.

G. Additional Information

For additional information or questions regarding this General Order, please find the appropriate contact for your county from the list under [“NPDES Permitting Contacts”](#).

ATTACHMENT G – CALCULATION OF WQBELS

The Central Valley Water Board calculated water quality-based effluent limitations (WQBELS) as described in section V.C.4 of the Fact Sheet (Attachment F). This General Order includes WQBELS calculated for various coefficients of variation (CVs) ranging from 0.1 to 4.0 and the default CV of 0.6; however, the summary tables below only show calculations for a CV of 0.6. In the summary tables below, a default translator of 1 was used for calculating the example effluent limitations for metals. For parameters with both human health and aquatic life objectives/criteria, the final effluent limitations established in this General Order are based on the lower of the effluent limitations based on the aquatic life objectives/criteria and human health objectives/criteria.

Table G-1 HUMAN HEALTH WQBELS CALCULATIONS – MUN USE

Parameter	Units	Criteria	MDEL/AMEL Multiplier	AMEL Multiplier	AWEL/AMEL Multiplier	AMEL	AWEL	MDEL
Arsenic, Total	µg/L	10	2.01	1.55	1.73	10	--	20
Bis (2-ethylhexyl) phthalate	µg/L	1.8	2.01	1.55	1.73	1.8	--	3.6
Chlorodibromomethane	µg/L	0.41	2.01	1.55	1.73	0.41	--	0.82
Copper, Total	µg/L	1,300	2.01	1.55	1.73	1,300	--	2,600
Cyanide, Total (as CN)	µg/L	150	2.01	1.55	1.73	150	--	300
Dichlorobromomethane	µg/L	0.56	2.01	1.55	1.73	0.56	--	1.1
Lead, Total	µg/L	15	2.01	1.55	1.73	15	--	30
Tetrachloroethylene	µg/L	0.8	2.01	1.55	1.73	0.80	--	1.6
Thallium, Total	µg/L	1.7	2.01	1.55	1.73	1.7	--	3.4
Zinc, Total	µg/L	5,000	2.01	1.55	1.73	5,000	--	10,000
Aluminum, Total	µg/L	200	2.01	1.55	1.73	310	540	--
Fluoride, Total	mg/L	2.0	2.01	1.55	1.73	3.1	6.2	--
Foaming Agents (MBAS)	mg/L	0.5	2.01	1.55	1.73	0.78	1.6	--
Manganese, Total	µg/L	50	2.01	1.55	1.73	78	130	--

Parameter	Units	Criteria	MDEL/AMEL Multiplier	AMEL Multiplier	AWEL/AMEL Multiplier	AMEL	AWEL	MDEL
Nitrate Plus Nitrite (as N)	mg/L	10	2.01	1.55	1.73	10	17	--
Nitrite, Nitrogen (as N)	mg/L	1	2.01	1.55	1.73	1	1.7	--

Table G-1 Notes:

- Aluminum, Fluoride, Foaming Agents (MBAS), Manganese, Nitrate Plus Nitrite; Nitrite, Nitrogen.** AWELs are calculated by multiplying the AMEL by the AWEL/AMEL multiplier. CV was established according to section 1.4 of the SIP.

Abbreviations used in this table:

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

Table G-2 HUMAN HEALTH WQBELS CALCULATIONS – NO MUN USE

Parameter	Units	Criteria	MDEL/AMEL Multiplier	AMEL Multiplier	AWEL/AMEL Multiplier	AMEL	AWEL	MDEL
Bis (2-ethylhexyl) phthalate	µg/L	5.9	2.01	1.55	1.73	5.9	--	12
Chlorodibromomethane	µg/L	34	2.01	1.55	1.73	34	--	68
Cyanide, Total (as CN)	µg/L	220,000	2.01	1.55	1.73	220,000	--	440,000
Dichlorobromomethane	µg/L	46	2.01	1.55	1.73	46	--	92
Tetrachloroethylene	µg/L	8.85	2.01	1.55	1.73	8.9	--	18

Abbreviations used in this table:

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

Table G-3. AQUATIC LIFE WQBELS CALCULATIONS

Parameter	Units	CMC Criteria	CCC Criteria	ECA Multiplier acute	LTA _{acute}	ECA Multiplier chronic	LTA _{chronic}	AMEL Multiplier ₉₅	AWEL Multiplier	MDEL Multiplier ₉₉	AMEL	AWEL	MDEL
Arsenic, Total	µg/L	340	150	0.32	110	0.53	79	1.55	2.68	3.11	120	--	250
Copper, Total	µg/L	3.1	2.4	0.32	0.98	0.53	1.2	1.55	2.68	3.11	1.5	--	3.1
Cyanide, Total (as CN)	µg/L	22	5.2	0.32	7.1	0.53	2.7	1.55	2.68	3.11	4.3	--	8.5
Lead, Total	µg/L	11	0.41	0.32	3.4	0.53	0.22	1.55	2.68	3.11	0.34	--	0.67
Selenium, Total	µg/L	20	5	0.32	6.4	0.53	2.6	1.55	2.68	3.11	4.1	--	8.2
Zinc, Total	µg/L	31	31	0.32	9.8	0.53	16	1.55	2.68	3.11	15	--	31
Aluminum, Total	µg/L	380	230	0.32	122	0.53	121	1.55	2.68	3.11	190	320	--
Ammonia Nitrogen, Total (as N)	mg/L	5.62	0.5	0.32	1.8	0.78	0.39	1.2	2.68	3.11	0.46	1.0	--

Table G-3 Notes:

1. Average Monthly Effluent Limitations are calculated according to Section 1.4 of the SIP using a 95th percentile occurrence probability.
2. Average Weekly Effluent Limitations are calculated according to Section 1.4 of the SIP using a 98th percentile occurrence probability.
3. Maximum Daily Effluent Limitations are calculated according to Section 1.4 of the SIP using a 99th percentile occurrence probability.
4. **Copper, Lead, and Zinc.** CMC and CCC will be calculated based on the receiving water hardness. Example CMC and CCC calculated based on a hardness of 20 mg/L CaCO₃.
5. **Aluminum.** CMC and CCC will be calculated based on the effluent DOC, hardness, and pH. Example CCC and CMC calculated based on DOC of 1 mg/L, hardness of 25 mg/L, and pH of 7.0.
6. **Ammonia.** CMC will be calculated based on the maximum permitted pH or on the maximum observed effluent pH, whichever is lower, and paired temperature. Example CMC calculated based on a pH of 8.0 and temperature of 23°C. CCC will be calculated based on the downstream receiving water pH and temperature. Example WQBEL calculations shown for a CCC of 0.5 mg/L.

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