

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

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**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CA0084069
ORDER R5-2023-00XX**

**TENTATIVE WASTE DISCHARGE REQUIREMENTS
FOR THE TEHAMA COUNTY SANITATION DISTRICT NO.1
MINERAL WASTEWATER TREATMENT PLANT
TEHAMA COUNTY**

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

Table 1. Discharger Information

Discharger:	Tehama County Sanitation District No. 1
Name of Facility:	Mineral Wastewater Treatment Plant
Facility Street Address:	37735 Highway 36E
Facility City, State, Zip:	Mineral, CA 96063
Facility County:	Tehama County

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Treated Wastewater	40° 20' 54" N	121° 37' 28" W	South Fork Battle Creek
002	Treated Wastewater	40° 20' 53" N	121° 37' 18" W	Percolation Pond 1
003	Treated Wastewater	40° 20' 54" N	121° 37' 23" W	Percolation Pond 2

Table 3. Administrative Information

This Order was Adopted on:	10 August 2023
This Order shall become effective on:	1 October 2023
This Order shall expire on:	30 September 2028
The Discharger shall file a Report of Waste Discharge (ROWD) as an application for reissuance of WDRs in accordance with title 23, California Code of Regulations, and an application for reissuance of a NPDES permit no later than:	30 September 2027
The United States Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, Central Valley Region have classified this discharge as follows:	Minor Discharge

I, Patrick Pulupa, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on **XX August 2023**.

PATRICK PULUPA, Executive Officer

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I. FACILITY INFORMATION

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

II. FINDINGS

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

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

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

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

THEREFORE, IT IS HEREBY ORDERED that this Order supersedes Order R5-2015-0073 except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the Central Valley Water Board from taking enforcement action for violations of the previous Order.

III. DISCHARGE PROHIBITIONS

- A.** Discharge of wastewater from the Facility, as the Facility is specifically described in the Fact Sheet in section II.B, in a manner different from that described in this Order is prohibited.
- B.** The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Federal Standard Provisions I.G. and I.H. (Attachment D).
- C.** Neither the discharge nor its treatment shall create a nuisance as defined in section 13050 of the Water Code.
- D.** Discharge of waste classified as 'hazardous', as defined in the California Code of Regulations, title 22, section 66261.1 et seq., is prohibited.
- E. Average Dry Weather Flow.** Discharges exceeding an average dry weather flow of 0.070 million gallons per day (MGD) are prohibited.
- F. Daily Peak Wet Weather Flow.** Discharges exceeding a maximum daily wet weather effluent flow of 0.75 MGD are prohibited.
- G.** The Discharge of effluent to surface waters from April 16 to November 14 and during periods when flow in South Fork Battle Creek, adjacent to the Facility, is less than 35 cfs, is prohibited, unless approved by the Central Valley Water Board in accordance with Provisions VI.C.6.b.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point D-001

1. Final Effluent Limitations – Discharge Point D-001

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

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

Table 4. Effluent Limitations

Parameters	Units	Average Monthly	Average Weekly	Maximum Daily
Biochemical Oxygen Demand (BOD5), 5-day @ 20°Celcius	milligrams per liter (mg/L)	10	15	--
Total Suspended Solids (TSS)	mg/L	30	45	--

- b. **pH:**
 - i. 6.0 Standard Units (SU) as an instantaneous minimum.
 - ii. 9.0 SU as an instantaneous maximum.
- c. **Percent Removal:** The average monthly percent removal of 5-day biochemical oxygen demand (BOD5) and total suspended solids (TSS) shall not be less than 85 percent.
- d. **Acute Whole Effluent Toxicity MDEL.** No *Oncorhynchus mykiss* (rainbow trout) acute aquatic toxicity test shall result in a “Fail” at the Instream Waste Concentration (IWC) for the survival endpoint AND a percent effect for the survival endpoint greater than or equal to 50 percent.
- e. **Acute Whole Effluent Toxicity MMEL.** No more than one *Oncorhynchus mykiss* (rainbow trout) acute aquatic toxicity test initiated in a calendar month shall result in a “Fail” at the IWC for the survival endpoint.
- f. **Total Residual Chlorine.** Effluent total residual chlorine shall not exceed:
 - i. 0.011 mg/L, as a 4-day average; and
 - ii. 0.019 mg/L, as a 1-hour average.

- g. **Total Coliform Organisms.** Effluent total coliform organisms shall not exceed the following with compliance measured at Monitoring Location EFF-001 as described in the MRP, Attachment E.
 - i. 23 most probable number per 100 milliliters (MPN/100 mL, as a 7-day median; and
 - ii. 240 MPN/100mL, more than once in any 30-day period.
- h. **Diazinon and Chlorpyrifos.** Effluent diazinon and chlorpyrifos concentrations shall not exceed the sum of one (1.0) as identified below:
 - i. Average Monthly Effluent Limitation (AMEL)
$$SAMEL = CD\ M\text{-avg}/0.079 + CC\ M\text{-avg}/0.012 \leq 1.0$$

CD M-AVG = average monthly diazinon effluent concentration in µg/L.
CC M-AVG = average monthly chlorpyrifos effluent concentration in µg/L
 - ii. Average Weekly Effluent Limitation (AWEL)
$$SAWEL = CD\ W\text{-avg}/0.14 + CC\ W\text{-avg}/0.021 \leq 1.0$$

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 – NOT APPLICABLE

B. Land Discharge Specifications – Discharge Point D-002 and D-003

- 1. No waste constituent shall be released, discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of the Groundwater Limitations (Section V.B.) of this Order.
- 2. Wastewater treatment, storage, and disposal shall not cause pollution or a nuisance as defined by Water Code section 13050.
- 3. The discharge shall remain within the permitted waste treatment/containment structures at all times.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

The discharge shall not cause the following in South Fork Battle Creek:

- 1. **Bacteria.** The six-week rolling geometric mean of Escherichia coli (E. coli) to exceed 100 colony forming units (cfu) per 100 milliliters (mL), calculated weekly,

and a statistical threshold value (STV) of 320 cfu/100 mL to be exceeded by more than 10 percent of the samples collected in a calendar month, calculated in a static manner.

2. **Biostimulatory Substances.** Water to contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.
3. **Chemical Constituents.** Chemical constituents to be present in concentrations that adversely affect beneficial uses.
4. **Color.** Discoloration that causes nuisance or adversely affects beneficial uses.
5. **Dissolved Oxygen:**
 - a. The monthly median of the mean daily dissolved oxygen concentration to fall below 85 percent of saturation in the main water mass
 - b. The 95-percentile dissolved oxygen concentration to fall below 75 percent of saturation; nor
 - c. The dissolved oxygen concentration to be reduced below 7.0 mg/L at any time.
6. **Floating Material.** Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.
7. **Oil and Grease.** Oils, greases, waxes, or other materials to be present in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.
8. **pH.** The pH to be depressed below 6.5 nor raised above 8.5.
9. **Pesticides:**
 - a. Pesticides to be present, individually or in combination, in concentrations that adversely affect beneficial uses;
 - b. Pesticides to be present in bottom sediments or aquatic life in concentrations that adversely affect beneficial uses;
 - c. Total identifiable persistent chlorinated hydrocarbon pesticides to be present in the water column at concentrations detectable within the accuracy of analytical methods approved by U.S. EPA or the Executive Officer;

- d. Pesticide concentrations to exceed those allowable by applicable antidegradation policies (see State Water Board Resolution No. 68-16 and 40 CFR section 131.12.);
- e. Pesticide concentrations to exceed the lowest levels technically and economically achievable;
- f. Pesticides to be present in concentration in excess of the maximum contaminant levels (MCLs) set forth in CCR, Title 22, division 4, chapter 15; nor;
- g. Thiobencarb to be present in excess of 1.0 µg/L.

10. Radioactivity:

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

11. Salinity. Electrical conductivity (at 25°C) shall not exceed 230 µmhos/cm (50th percentile) or 235 µmhos/cm (90th percentile) at Knights Landing above Colusa Basin Drain or 240 µmhos/cm (50th percentile) or 340 µmhos/cm(90th percentile) at I Street Bridge, based upon previous 10 years of record.

12. Suspended Sediments. The suspended sediment load and suspended sediment discharge rate of surface waters to be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

13. Settleable Substances. Substances to be present in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.

14. Suspended Material. Suspended material to be present in concentrations that cause nuisance or adversely affect beneficial uses.

15. Taste and Odors. Taste- or odor-producing substances to be present in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.

16. Temperature. The natural temperature to be increased by more than 5° Fahrenheit. Compliance to be determined based on the difference in temperature at Monitoring Locations RSW-001 and RSW-002.

17. **Toxicity.** Toxic substances to be present, individually or in combination, in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.

18. Turbidity.

- a. Shall not exceed 2 Nephelometric Turbidity Units (NTU) where natural turbidity is less than 1 NTU;
- b. Shall not increase more than 1 NTU where natural turbidity is between 1 and 5 NTUs;
- c. Shall not increase more than 20 percent where natural turbidity is between 5 and 50 NTUs;
- d. Shall not increase more than 10 NTU where natural turbidity is between 50 and 100 NTUs; nor
- e. Shall not increase more than 10 percent where natural turbidity is greater than 100 NTUs.

B. Groundwater Limitations

- 1. Release of waste constituents from any portion of the Facility shall not cause groundwater to:
 - a. Equal or exceed a total coliform organism level of 2.2 MPN/100 mL over any seven-day period.
 - b. Contain constituents in concentrations that exceed either the Primary or Secondary MCLs established in Title 22 of the California Code of Regulations, or natural background water quality, whichever is greater.
 - c. Contain taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.
 - d. Exhibit a pH of less than 6.5 or greater than 8.4 pH units.

VI. PROVISIONS

A. Standard Provisions

- 1. The Discharger shall comply with all Standard Provisions included in Attachment D.
- 2. The Discharger shall comply with the following provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply:

- a. If the Discharger's wastewater treatment plant is publicly owned or subject to regulation by California Public Utilities Commission, it shall be supervised and operated by persons possessing certificates of appropriate grade according to Title 23, CCR, division 3, chapter 26.
- b. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:
 - i. violation of any term or condition contained in this Order;
 - ii. obtaining this Order by misrepresentation or by failing to disclose fully all relevant facts;
 - iii. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; and
 - iv. a material change in the character, location, or volume of discharge.

The causes for modification include:

- i. New regulations. New regulations have been promulgated under section 405(d) of the CWA, or the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued.
- ii. Land application plans. When required by a permit condition to incorporate a land application plan for beneficial reuse of sewage sludge, to revise an existing land application plan, or to add a land application plan.
- iii. Change in sludge use or disposal practice. Under 40 CFR section 122.62(a)(1), a change in the Discharger's sludge use or disposal practice is a cause for modification of the permit. It is cause for revocation and reissuance if the Discharger requests or agrees.

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

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

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

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

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

- e. The provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.
- f. The Discharger shall take all reasonable steps to minimize any adverse effects to waters of the State or users of those waters resulting from any discharge or sludge use or disposal in violation of this Order. Reasonable steps shall include such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge or sludge use or disposal.
- g. The Discharger shall ensure compliance with any existing or future pretreatment standard promulgated by U.S. EPA under section 307 of the CWA, or amendment thereto, for any discharge to the municipal system.
- h. A copy of this Order shall be maintained at the discharge facility and be available at all times to operating personnel. Key operating personnel shall be familiar with its content.
- i. Safeguard to electric power failure:
 - i. The Discharger shall provide safeguards to assure that, should there be reduction, loss, or failure of electric power, the discharge shall comply with the terms and conditions of this Order.
 - ii. Upon written request by the Central Valley Water Board, the Discharger shall submit a written description of safeguards. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means. A description of the safeguards provided shall include an analysis of the frequency, duration, and impact of power failures experienced over the past 5 years on effluent quality and on the capability of the Discharger to

comply with the terms and conditions of the Order. The adequacy of the safeguards is subject to the approval of the Central Valley Water Board.

- iii. Should the treatment works not include safeguards against reduction, loss, or failure of electric power, or should the Central Valley Water Board not approve the existing safeguards, the Discharger shall, within 90 days of having been advised in writing by the Central Valley Water Board that the existing safeguards are inadequate, provide to the Central Valley Water Board and U.S. EPA a schedule of compliance for providing safeguards such that in the event of reduction, loss, or failure of electric power, the Discharger shall comply with the terms and conditions of this Order. The schedule of compliance shall, upon approval of the Central Valley Water Board, become a condition of this Order.
- j. The Discharger, upon written request of the Central Valley Water Board, shall file with the Board a technical report on its preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. This report may be combined with that required under the Central Valley Water Board Standard Provision contained in section VI.A.2.i of this Order.

The technical report shall:

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

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

- k. A publicly owned treatment works whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment and disposal facilities. The projections shall be made in January, based on the last 3 years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the

facilities may be exceeded in 4 years, the Discharger shall notify the Central Valley Water Board by 31 January. A copy of the notification shall be sent to appropriate local elected officials, local permitting agencies and the press. Within 120 days of the notification, the Discharger shall submit a technical report showing how it will prevent flow volumes from exceeding capacity or how it will increase capacity to handle the larger flows. The Central Valley Water Board may extend the time for submitting the report.

- i. The Discharger shall submit technical reports as directed by the Executive Officer. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code, sections 6735, 7835, and 7835.1. To demonstrate compliance with Title 16, CCR, sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.
- m. The Central Valley Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.
- n. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.
- o. This Order may be reopened to transfer ownership of control of this Order. The succeeding owner or operator must apply in writing requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Central Valley Water Board and a statement. The statement shall comply with the signatory and certification requirements in the federal Standard Provisions (Attachment D, section V.B) and state that the new owner or operator assumes full responsibility for compliance with this Order.
- p. If the Discharger submits a timely and complete Report of Waste Discharge for permit reissuance, this permit shall continue in force and effect until the permit is reissued or the Regional Water Board rescinds the permit.
- q. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this

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

- r. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, effluent limitation, or receiving water limitation of this Order, the Discharger shall notify the Central Valley Water Board by telephone (530) 224-4845 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Central Valley Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.

B. Monitoring and Reporting Program (MRP) Requirements

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

C. Special Provisions

1. Reopener Provisions

- a. Conditions that necessitate a major modification of a permit are described in 40 CFR section 122.62, including, but not limited to:
 - i. If new or amended applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA, or amendments thereto, this permit may be reopened and modified in accordance with the new or amended standards.
 - ii. When new information, that was not available at the time of permit issuance, would have justified different permit conditions at the time of issuance.
- b. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.

- c. **Mercury.** If mercury is found to be causing toxicity based on acute or chronic toxicity test results, or if a TMDL program is adopted, this Order shall be reopened, and the mass effluent limitation modified (higher or lower) or an effluent concentration limitation imposed. If the Central Valley Water Board determines that a mercury offset program is feasible for Dischargers subject to a NPDES permit, then this Order may be reopened to reevaluate the mercury mass loading limitation(s) and the need for a mercury offset program for the Discharger.
- d. **Whole Effluent Toxicity.** If after review of new data and information, it is determined that the discharge has reasonable potential to cause or contribute to an instream exceedance of the Statewide Toxicity Provisions numeric chronic aquatic toxicity objective and Basin Plan's narrative toxicity objective this Order may be reopened and effluent limitations added for chronic toxicity.
- e. **Water Effects Ratios (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating criteria for applicable inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total when developing effluent limitations for hardness dependent metals. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.
- f. **Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS).** On 17 January 2020, certain Basin Plan Amendments to incorporate new strategies for addressing ongoing salt and nitrate accumulation in the Central Valley became effective. Other provisions subject to U.S. EPA approval became effective on 2 November 2020, when approved by U.S. EPA. As the Central Valley Water Board moves forward to implement those provisions that are now in effect, this Order may be amended or modified to incorporate new or modified requirements necessary for implementation of the Basin Plan Amendments. More information regarding these Amendments can be found on the [Central Valley Salinity Alternatives for Long-Term Sustainability \(CV-SALTS\) web page](https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/):
(https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/)

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

- a. **Groundwater Monitoring Well Network Evaluation.** To determine compliance with the groundwater limitations contained in section V.B. of this Order, the Discharger is required to evaluate the adequacy of its groundwater monitoring network. This provision requires the Discharger to

evaluate its groundwater monitoring network to determine if the network is adequate to monitor both local and far-field impacts from the pond discharge, if any, and ensure that there is not/will not be a release of waste constituents to groundwater that cause an exceedance in groundwater objectives. In addition, a monitoring well evaluation will determine the groundwater gradient because the current well configuration may not be suitable for accurate gradient determination. The evaluation of the adequacy of the monitoring well network is due within **12 months following effective date of this Order**.

- b. **Groundwater Monitoring Well Installation Work Plan.** After evaluation of the monitoring well network and determination of the need for additional groundwater monitoring wells, the Discharger shall submit a Groundwater Monitoring Well Installation Work Plan within **15 months following effective date of this Order**. The Work Plan shall be prepared in accordance with, and include the items listed in, Attachment I, *“Requirements for Monitoring Well Installation Work Plans and Monitoring Well Installation Reports”*. All monitoring wells shall comply with the appropriate standards as described in California Well Standards Bulletin 74-90 (June 1991) and Water Well Standards: State of California Bulletin 74-81 (December 1981), and any more stringent standards adopted by the Discharger or County pursuant to Water Code section 13801. **Well installation shall be complete no later than 12 months following Work Plan approval by the Executive Officer.**
- c. **Groundwater Evaluation Report.** The Discharger shall install new groundwater monitoring wells, if necessary, collect monitoring data, and submit a report evaluating the underlying groundwater by **4 years from the effective date of this Order**. The report shall also include an evaluation of the unsaturated soil thickness between the bottom of the ponds and highest groundwater, groundwater gradient, and a review of potential impacts on sensitive receptors in the area (e.g., drinking water wells).
- d. **Toxicity Reduction Evaluation (TRE)**
 - i. **Chronic Whole Effluent Toxicity Median Monthly Effluent Target (MMET):** No more than one *Ceriodaphnia dubia* chronic aquatic toxicity test initiated in a calendar month, analyzed using the TST approach, shall result in a "fail" at the IWC for any endpoint.
 - ii. **Chronic Whole Effluent Toxicity Maximum Daily Effluent Target (MDET).** No *Ceriodaphnia dubia* chronic aquatic toxicity test 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.

- iii. **TRE:** The Discharger is required to initiate a TRE, as detailed in the Monitoring and Reporting Program (Attachment E, Section V.G), when any combination of two or more acute aquatic toxicity MDEL or MMEL violations occur within a single calendar month or within two successive calendar months. The Discharger is also required to initiate a TRE when any combination of two or more chronic aquatic toxicity MDET or MMET exceedances occur within a single calendar month or within two successive calendar months. In addition, if other information indicates toxicity (e.g., results of additional monitoring, results of monitoring at a higher concentration than the IWC, fish kills, intermittent recurring toxicity) or if there is no effluent available to complete a routine monitoring test or a MMET test, the Central Valley Water Board may require a TRE.

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

- a. **Salinity Evaluation and Minimization Plan (SEMP).** The Discharger shall prepare a SEMP to identify and address sources of salinity discharged from the Facility. The plan shall be completed and submitted to the Central Valley Water Board by the due date in the Technical Reports Table E-10 (Attachment E).

The Discharger submitted a Notice of Intent to comply with the Salt Control Program and selected the Alternative Permitting Approach. Accordingly, the Discharger shall participate in the CV-SALTS Prioritization and Optimization (P&O) Study. Furthermore, an evaluation of the effectiveness of the SEMP shall be submitted with the ROWD. The evaluation shall include, at minimum, the calendar annual average concentrations of effluent electrical conductivity during the term of the Order. If the average electrical conductivity concentration for any calendar year exceeds a performance-based **trigger of 471 µmhos/cm**, the Discharger shall evaluate possible sources of salinity contributing to the exceedance of the trigger and update the SEMP to include a plan of action to control salinity.

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

- a. **Effluent Filtration.** During periods of discharge to the receiving water, the filtration system shall be operated to the maximum extent practicable.
- b. **Pond Operating Requirements.**
 - i. The treatment facilities shall be designed, constructed, operated, and maintained to prevent inundation of washout due to floods with a 100-year return frequency.
 - ii. Public contact with wastewater shall be precluded through such means as fences, signs, and other acceptable alternatives.

- iii. Ponds shall be managed to prevent breeding of mosquitos. In particular,
 - (a) An erosion control program should assure that small coves and irregularities are not created around the perimeter of the water surface.
 - (b) Weeds shall be minimized.
 - (c) Dead algae, vegetation, and debris shall not accumulate on the water surface.
- iv. Freeboard shall never be less than 2 feet, as measured vertically to the lowest point of overflow, except if lesser freeboard in the emergency storage pond does not threaten the integrity of the pond, no overflow of the pond occurs, and lesser freeboard is due to direct precipitation or stormwater runoff occurring as a result of annual precipitation with a greater than a 100 year return frequency, or a storm event with an intensity greater than a 25 year, 24 hour storm event.
- v. Ponds shall have sufficient capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary inflow and infiltration during the non-irrigation season. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical precipitation patterns.
- vi. The discharge of waste classified as “hazardous” as defined in section 2521(a) of Title 23, California Code of Regulations (CCR), or “designated,” as defined in section 13173 of the CWC, to the storage ponds is prohibited.
- vii. Objectionable odors originating at the Facility shall not be perceivable beyond property owned by the Discharger.
- viii. Ponds shall not have a pH less than 6.5 or greater than 8.5.

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

- a. **Pretreatment Requirements – Not Applicable**
- b. **Sludge/Biosolids Treatment or Discharge Specifications.** Sludge in this document means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screening material generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment at the wastewater treatment plant. Biosolids refer to sludge that has been treated and tested and shown to be capable

of being beneficially and legally used pursuant to federal and state regulations as a soil amendment for agricultural, silvicultural, horticultural, and land reclamation activities as specified under 40 C.F.R. Part 503.

- i. Collected screenings, residual sludge, biosolids, and other solids removed from liquid wastes shall be disposed of in a manner consistent with Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste, as set forth in Title 27, CCR, division 2, subdivision 1, section 20005, et seq. Removal for further treatment, storage, disposal, or reuse at sites (e.g., landfill, composting sites, soil amendment sites) that are operated in accordance with valid waste discharge requirements issued by a Regional Water Board will satisfy these specifications.

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

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

- ii. The use, disposal, storage, and transportation of biosolids shall comply with existing federal and state laws and regulations, including permitting requirements and technical standards included in 40 C.F.R. Part 503. If the State Water Board and the Central Valley Water Board are given the authority to implement regulations contained in 40 C.F.R. Part 503, this Order may be reopened to incorporate appropriate time schedules and technical standards. The Discharger must comply with the standards and time schedules contained in 40 C.F.R. Part 503 whether or not they have been incorporated into this Order.
- iii. The Discharger shall comply with section IX.A. Biosolids of the Monitoring and Reporting Program, Attachment E.
- iv. The Discharger shall implement onsite sludge/biosolids treatment, processing, and storage for the Facility as described in the Fact Sheet (Attachment F, section II.A). This Order may be reopened to address any proposed change in the onsite treatment, processing, or storage of sludge/biosolids.

6. Other Special Provisions

- a. **Annual Operation of the Filter System.** The filter and chlorination/dechlorination system **must be operated annually** prior to the wet season to assure that the filter system, as well as the chlorination/dechlorination system is operating properly in the event discharge from the Facility to South Fork Battle Creek is necessary.
- b. **Prohibition Exception.** Exceptions to Prohibition section III.G, which prohibits discharge of effluent to South Fork Battle Creek from April 16 to November 14, and during periods when flow in South Fork Battle Creek (adjacent to the Facility) is less than 35 cfs, may be granted by the Central Valley Water Board provided all of the following conditions are satisfied:
 - i. The discharge is necessary due to circumstances that could not have reasonably been foreseen, such as an extended wet weather season;
 - ii. The Discharger demonstrates that the potential impacts of non-discharge would be greater than discharge, including any potential property damage, or interference with the wastewater treatment process. Impact of non-discharge to be analyzed must include as a minimum, damage to treatment processes or structures, and potential damage to nearby property, e.g. should a breach in any pond structure occur;
 - iii. The Discharger has previously taken all reasonable steps to prevent the discharge and all required maintenance has been performed in accordance with the manufacturer's recommendations and the Facility Operations and Maintenance Manual. Proof that all reasonable steps have been taken to prevent the discharge shall include a schedule for operation of the ponds that has been accepted by Central Valley Water Board staff;
 - iv. The discharge will not result in the exceedance of any water quality objective in South Fork Battle Creek.

7. Compliance Schedules – NOT APPLICABLE

VII. COMPLIANCE DETERMINATION

- A. **BOD₅ and TSS Effluent Limitations (Section IV.A.1.a).** Compliance with the final effluent limitations for BOD₅ and TSS required in Waste Discharge Requirements section IV.A.1.a shall be ascertained by 8-hour composite samples. Compliance with effluent limitations required in Waste Discharge Requirements section IV.A.1.c for percent removal shall be calculated using the arithmetic mean of BOD₅ and TSS in effluent samples collected over a monthly period as a percentage of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period.

- B. Average Dry Weather Flow Prohibition (Section III.E).** The average dry weather discharge flow represents the daily average flow when groundwater is at or near normal and runoff is not occurring. Compliance with the average dry weather flow discharge prohibition will be determined annually based on the average daily flow over three consecutive dry weather months (e.g., July, August, and September).
- C. Daily Peak Wet Weather Flow Prohibition (Section III.F).** The daily peak wet weather flow represents the maximum daily effluent flow permitted during the discharge season (e.g. November 15 – April 15).
- D. Total Coliform Organisms Effluent Limitations (Section IV.A.1.g).** For each day that an effluent sample is collected and analyzed for total coliform organisms, the 7-day median shall be determined by calculating the median concentration of total coliform bacteria in the effluent utilizing the bacteriological results of the last 7 days. For example, if a sample is collected on a Wednesday, the result from that sampling event and all results from the previous 6 days (i.e., Tuesday, Monday, Sunday, Saturday, Friday, and Thursday) are used to calculate the 7-day median. If the 7-day median of total coliform organisms exceeds a most probable number (MPN) of 23 per 100 milliliters, the Discharger will be considered out of compliance.
- E. Instantaneous Maximum Effluent Limitation for pH (Section IV.A.1.b).** If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitations for a parameter, the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of noncompliance with the instantaneous minimum effluent limitation). If pH is monitored continuously, the Discharger shall be in compliance with pH limitations provided that the total excursion time does not exceed 20 minutes within a calendar day. For the purpose of establishing a pH excursion, a 20-minute running average may be used (measured continuously at no greater than 5 second intervals).
- F. Total Residual Chlorine Effluent Limitations (Section IV.A.1.f).** 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).

- G. Priority Pollutant Effluent Limitations.** Compliance with effluent limitations for priority pollutants shall be determined in accordance with section 2.4.5 of the SIP, as follows:
1. Dischargers shall be deemed out of compliance with an effluent limitation, if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).
 2. Dischargers shall be required to conduct a Pollutant Minimization Program (PMP) in accordance with section 2.4.5.1 of the SIP when there is evidence that the priority pollutant is present in the effluent above an effluent limitation and either:
 - a. sample result is reported as detected, but not quantified (DNQ) and the effluent limitation is less than the RL; or
 - b. sample result is reported as non-detect (ND) and the effluent limitation is less than the method detection limit (MDL).
 3. When determining compliance with an average monthly effluent limitation (AMEL) and more than one sample result is available in a month, the discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of DNQ or ND. In those cases, the discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:
 - a. The data set shall be ranked from low to high, reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
 - b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.
 4. If a sample result, or the arithmetic mean or median of multiple sample results, is below the RL, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the discharger conducts a PMP (as

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

- H. Dissolved Oxygen Receiving Water Limitation (Section V.A.5.a-c).** Weekly receiving water monitoring is required in the Monitoring and Reporting Program (Attachment E) and is sufficient to evaluate the impacts of the discharge and compliance with this Order. Monthly receiving water monitoring data, measured at monitoring locations RSW-001 and RSW-002, will be used to determine compliance with part “c” of the dissolved oxygen receiving water limitation to ensure the discharge does not cause the dissolved oxygen concentrations in the South Fork Battle Creek to be reduced below 7.0 mg/L at any time. However, should more frequent dissolved oxygen and temperature receiving water monitoring be conducted, Central Valley Water Board staff may evaluate compliance with parts “a” and “b”.
- I. Whole Effluent Toxicity Effluent Limitations.** The discharge is subject to determination of “Pass” or “Fail” from acute and/or chronic whole effluent toxicity tests using the Test of Significant Toxicity (TST) statistical t-test approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010), Appendix A, Figure A-1 and Table A-1 (Chronic Freshwater and East Coast Methods) and Appendix B, Table B-1.

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

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

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

2. 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 MDEL (Section IV.A.1.d).** 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.

2. **Acute Whole Effluent Toxicity MMEL (Section IV.A.1.e).** If the result of 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 calendar month. If one of the additional MMEL compliance test results in a “Fail” at the IWC, the Discharger will be deemed out of compliance with the MMEL.

ATTACHMENT A – DEFINITIONS

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 (Ha)

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

Arithmetic Mean (μ)

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

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

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(s).

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

Calendar Quarter

A period of time defined as three consecutive calendar months.

Calendar Year

A period of time defined as twelve consecutive calendar months.

Chronic Aquatic Toxicity Test

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

Carcinogenic

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

Coefficient of Variation (CV)

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

Daily Discharge

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

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

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

Detected, but Not Quantified (DNQ)

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

Dilution Credit

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

Effluent Concentration Allowance (ECA)

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

Enclosed Bays

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

Endpoint

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

Estimated Chemical Concentration

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

Estuaries

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

Inland Surface Waters

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

Instantaneous Maximum Effluent Limitation

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

Instantaneous Minimum Effluent Limitation

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

Instream Waste Concentration (IWC)

The concentration of effluent in the receiving water after mixing.

Maximum Daily Effluent Limitation (MDEL)

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

expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Median

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

Method Detection Limit (MDL)

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

Minimum Level (ML)

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

Mixing Zone

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

Not Detected (ND)

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

Null Hypothesis

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

Ocean Waters

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

Percent Effect

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

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

Persistent Pollutants

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

Pollutant Minimization Program (PMP)

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

Pollution Prevention

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

Regulatory Management Decision (RMD)

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

Response

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

Satellite Collection System

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

Source of Drinking Water

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

Species Sensitivity Screening

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

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

Statistical Threshold Value (STV)

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

Test of Significant Toxicity (TST)

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

Toxicity Reduction Evaluation (TRE)

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

WET Maximum Daily Effluent Limitation (MDEL)

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

WET Median Monthly Effluent Limit (MMEL)

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

WET 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.

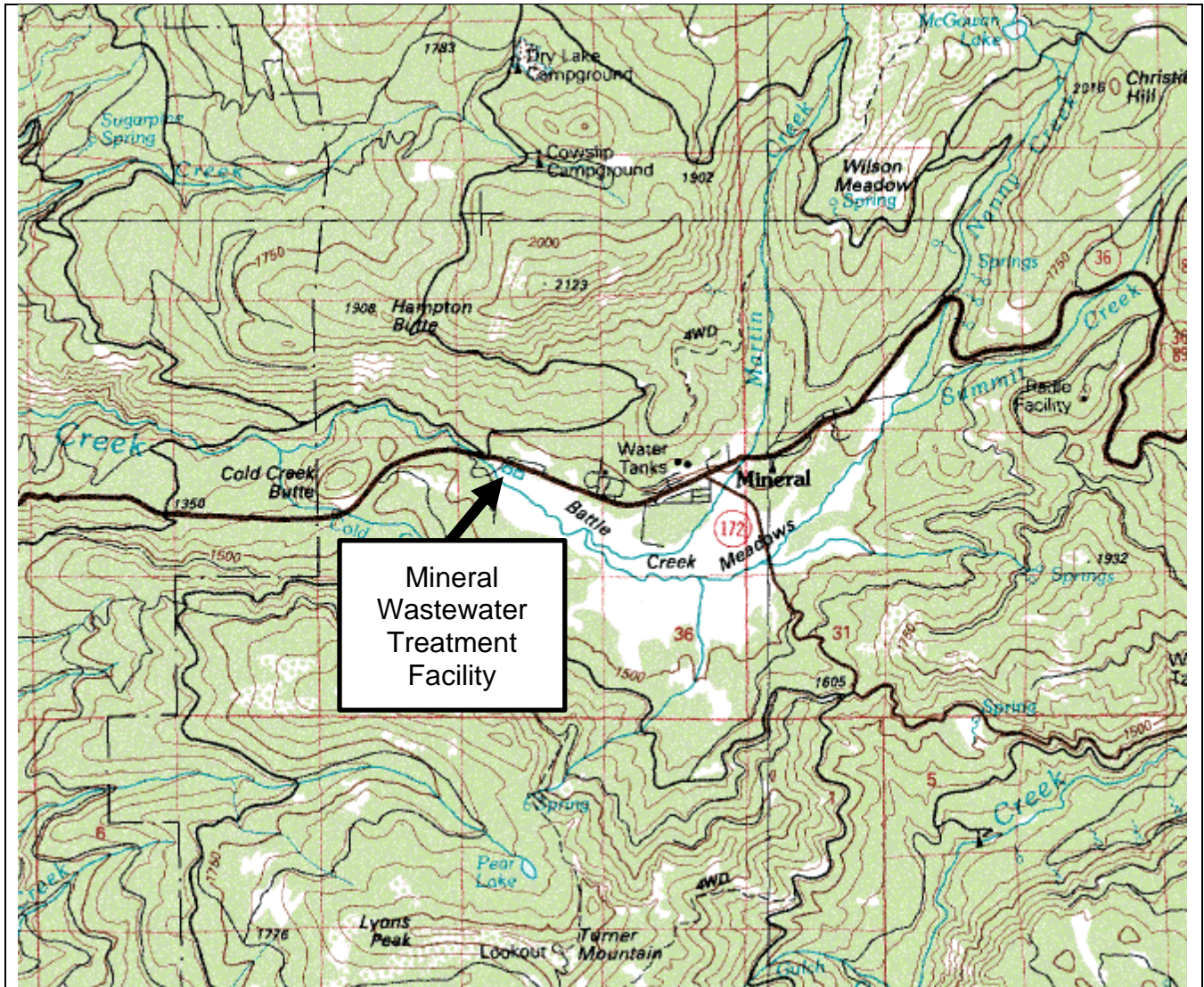
WET MMEL Compliance Tests

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

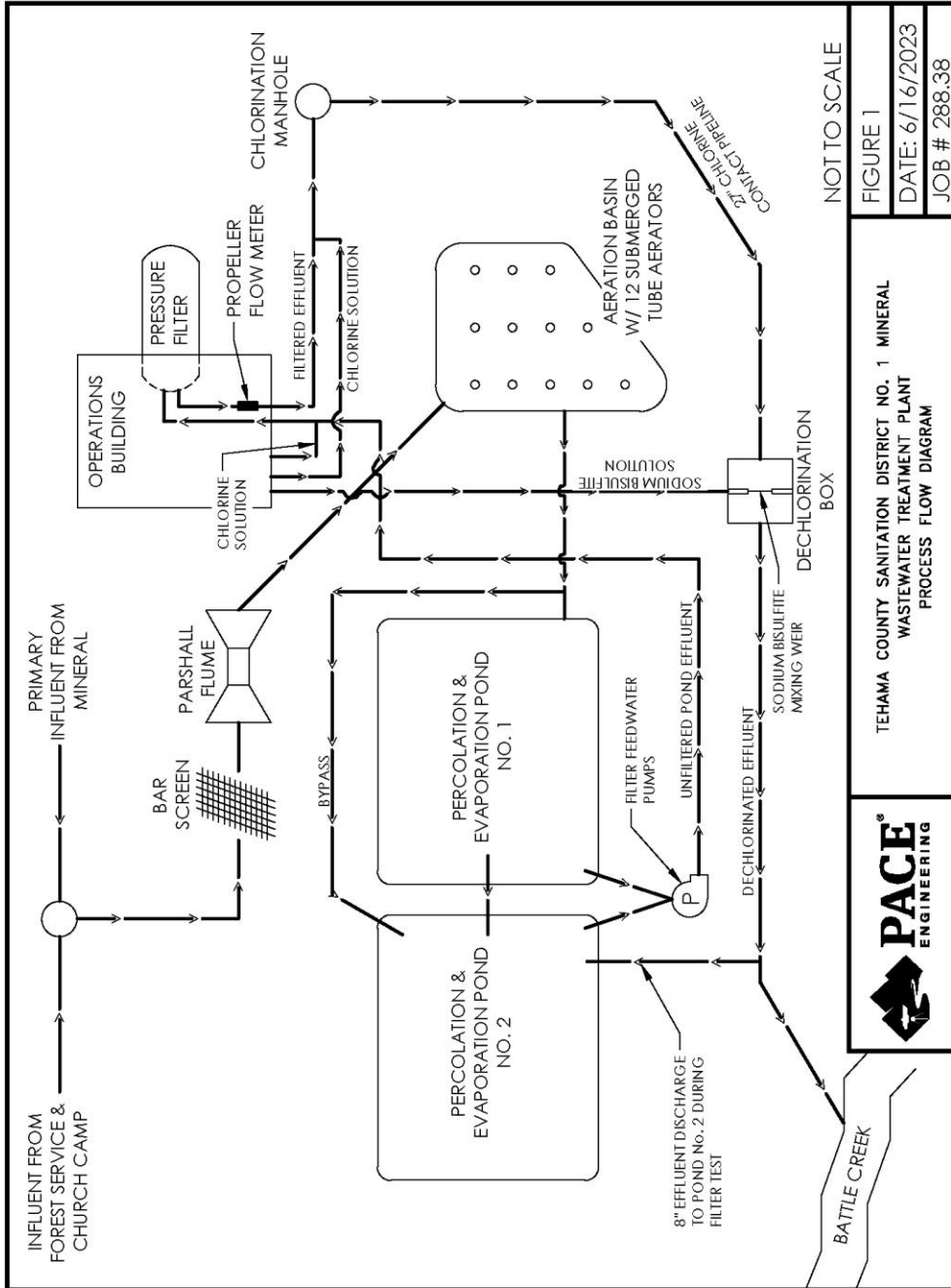


SITE LOCATION MAP

**TEHAMA COUNTY SANITATION DISTRICT NO. 1
MINERAL WASTEWATER TREATMENT PLANT
TEHAMA COUNTY**

Drawing Reference:
USGS TOPOGRAPHIC MAP
Mineral 7.5 Minute Quadrangle

ATTACHMENT C – FLOW SCHEMATIC



NOT TO SCALE

FIGURE 1

DATE: 6/16/2023

JOB # 288.38

TEHAMA COUNTY SANITATION DISTRICT NO. 1 MINERAL WASTEWATER TREATMENT PLANT PROCESS FLOW DIAGRAM

PACE ENGINEERING

Plot Date: June 16, 2023 - 8:34 am Logn Name: gflay
File Name: W:\Land Projects\0288.38 Mineral Wastewater Treatment Plant\DWG\WWTWP Schematic - Figure 1.dwg Layout: Fig 1

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.2.b below (24-hour notice) (40 C.F.R. section 122.41(n)(3)(iii)); and
 - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. section 122.41(n)(3)(iv).)
3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. section 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

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

III. STANDARD PROVISIONS – MONITORING

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

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

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

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

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

IV. STANDARD PROVISIONS – RECORDS

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

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

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

B. Signatory and Certification Requirements

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

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

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

C. Monitoring Reports

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

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

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

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

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

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

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

F. Planned Changes

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

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

G. Anticipated Noncompliance

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

H. Other Noncompliance

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

I. Other Information

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

J. Initial Recipient for Electronic Reporting Data

The owner, operator, or the duly authorized representative is required to electronically submit NPDES information specified in appendix A to 40 C.F.R. part 127 to the appropriate initial recipient, as determined by U.S. EPA, and as defined in

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

VI. STANDARD PROVISIONS – ENFORCEMENT

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

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

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

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

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

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

I. GENERAL MONITORING PROVISIONS

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

- E. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this Monitoring and Reporting Program.
- F. Laboratory analytical methods shall be sufficiently sensitive in accordance with the Sufficiently Sensitive Methods Rule (SSM Rule) specified under 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv). A U.S. EPA-approved analytical method is sufficiently sensitive for a pollutant/parameter where:
 1. The method minimum level (ML) is at or below the applicable water quality objective for the receiving water, or;
 2. The method ML is above the applicable water quality objective for the receiving water but the amount of the pollutant/parameter in the discharge is high enough that the method detects and quantifies the level of the pollutant/parameter, or;
 3. The method ML is above the applicable water quality objective for the receiving water, but the ML is the lowest of the 40 C.F.R. 136 U.S. EPA-approved analytical methods for the pollutant/parameter.
- G. The Discharger shall ensure that the results of the Discharge Monitoring Report-Quality Assurance (DMR-QA) Study or the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Resources Control Board at the following address or electronically via email to the DMR-QA Coordinator:

State Water Resources Control Board
 Quality Assurance Program Officer
 Office of Information Management and Analysis
 1001 I Street, Sacramento, CA 95814
- H. The Discharger shall file with the Central Valley Water Board technical reports on self-monitoring performed according to the detailed specifications contained in this Monitoring and Reporting Program.

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	INF-001	A location where a representative sample of the influent into the Facility can be collected prior to any plant return flows or treatment processes. Latitude: 40.34791° Longitude: -121.62079°

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
D-001	EFF-001	Effluent discharged through outfall to South Battle Creek Latitude: 40.3482° Longitude: -121.6245°
--	RSW-001	South Fork Battle Creek, approximately 50 feet upstream of Discharge Point EFF-001 Latitude: 40.3478° Longitude: -121.6249°
--	RSW-002	South Fork Battle Creek, Highway 36 bridge downstream of Discharge Point EFF-001 Latitude: 40.3483° Longitude: -121.6247°
D-002	LND-001	Land discharge monitoring location, a location where a representative sample of the effluent discharge to Pond 1 (Eastern Pond) can be collected. Latitude: 40.3480° Longitude: -121.6217°
D-003	LND-002	Land discharge monitoring location, a location where a representative sample of the effluent discharge to Pond 2 (Western Pond) can be collected. Latitude: 40.3484° Longitude: -121.6231°
--	PND-001	Evaporation/percolation Pond 1 (Eastern Pond) Latitude: 40.3480° Longitude: -121.6217°
--	PND-002	Evaporation/percolation Pond 2 (Western Pond) Latitude: 40.3484° Longitude: -121.6231°
--	BIO-001	Biosolids removed from the Facility
--	RGW-001	Up-gradient Monitoring Well
--	RGW-002	Monitoring Well between Evaporation Ponds 1 and 2
--	RGW-003	Down-gradient Monitoring Well

Table E-1 Note:

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

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

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

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	MGD	Meter	Continuous
pH	standard units	Grab	1/Week
Biochemical Oxygen Demand, 5-day @ 20°Celsius (BOD5)	mg/L	8-hour Composite	See testing requirements below

Parameter	Units	Sample Type	Minimum Sampling Frequency
Total Suspended Solids (TSS)	mg/L	8-hour Composite	See testing requirements below

2. **Table E-2 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-2:
 - a. **Applicable to all parameters.** Parameters shall be analyzed using the analytical methods described in 40 CFR part 136; or by methods approved by the Central Valley Water Board or the State Water Board. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 CFR part 136 allowed sample type.
 - b. **Grab Samples.** All grab samples shall not be collected at the same time each day to get a complete representation of variations in the influent.
 - c. **8-Hour Composite Samples.** All composite samples shall be collected from an 8-hour flow proportional composite.
 - d. **BOD5 and TSS.** Samples shall be collected weekly concurrent with effluent samples during periods of discharge to South Fork Battle Creek or annual filter test. During periods of discharge to the evaporation/percolation ponds samples shall be collected once per month.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Discharger shall monitor treated wastewater discharged to South Fork Battle Creek at Monitoring Location EFF-001 in accordance with Table E-3 and the testing requirements described in section IV.A.2 below:

Table E-3. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	MGD	Meter	Continuous
Chlorine, Total Residual	mg/L	Meter	4/day or continuous
Biochemical Oxygen Demand, 5-day @ 20°Celcius (BOD5)	mg/L	8-hour Composite	1/Week
Total Suspended Solids (TSS)	mg/L	8-hour Composite	1/Week
pH	standard units	Grab	1/Week
Temperature	°F	Grab	1/Week
Total Coliform Organisms	MPN/100 mL	Grab	1/Week
Electrical Conductivity @ 25°Celcius	µmhos/cm	Grab	1/Week
BOD5	% removal	Calculate	1/Month
TSS	% removal	Calculate	1/Month
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Month
Copper, Total Recoverable	µg/L	Grab	1/Month
Hardness, Total (as CaCO3)	mg/L	Grab	1/Month
Lead, Total Recoverable	µg/L	Grab	1/Month
Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Month
Nitrite Nitrogen, Total (as N)	mg/L	Grab	1/Month
Dissolved Oxygen	mg/L	Meter	1/Month
Dissolved Organic Carbon	mg/L	8-hour Composite	1/Quarter
Chlorpyrifos	µg/L	Grab	1/Year
Diazinon	µg/L	Grab	1/Year
Standard Minerals	mg/L	Grab	1/Year
Whole Effluent Toxicity	(see Section V)	(see Section V)	(see Section V)
Priority Pollutants and Other Constituents of Concern	(see Section IX.D)	(see Section IX.D)	(see Section IX.D)

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

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

- b. **8-hour composite samples** shall be collected from a 8-hour flow proportional composite. An 8-hour flow or time proportional composite sample is allowed during periods of discharge that are less than 8-hours.
- c. **Handheld Field Meter.** A handheld field meter may be used for **temperature** and **pH**, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
- d. **Temperature** and **pH** shall be recorded at the time of **ammonia** sample collection.
- e. **Whole Effluent Toxicity.** Ammonia samples shall be collected concurrently with whole effluent toxicity monitoring.
- f. **Total Residual Chlorine** must be monitored using an analytical method that is sufficiently sensitive to measure at the permitted level of 0.01 mg/L.
- g. **Standard Minerals** shall include: boron, calcium, iron, magnesium, potassium, sodium, chloride, manganese, phosphorus, total alkalinity (including alkalinity series: bicarbonate, carbonate and hydroxide), and hardness, and include verification that the analysis is complete (i.e., cation/anion balance). Iron and manganese samples shall be analyzed for total recoverable filtered using a 1.5-micron filter. Filtered samples shall be filtered prior to preservation and analysis using a 1.5-micron filter.
- h. **Hardness** samples shall be collected concurrently with metals samples.
- i. **Total Coliform Organisms.** Samples for total coliform organisms may be collected at any point following disinfection.
- j. **Priority Pollutants.** For all priority pollutant constituents listed in Table E-3, (copper and lead) 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).
- k. **Chlorpyrifos and Diazinon** shall be sampled using U.S. EPA Method 625-SIM, 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.
- l. **Dissolved Organic Carbon monitoring** shall be conducted concurrently with pH and hardness sampling.

m. **Whole Effluent Toxicity monitoring** shall be in accordance with section V of this MRP.

3. **Intermittent Discharge.** If the discharge is intermittent rather than continuous, then on the first day of each such intermittent discharge, the Discharger shall monitor and record for all of the constituents listed above, after which the frequencies of analysis given in the schedule shall apply for the duration of each such intermittent discharge. In no event shall the Discharger be required to monitor and record data more often than twice the frequencies listed in the schedule.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

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

1. **Instream Waste Concentration (IWC) for Acute Toxicity.** The acute toxicity IWC is 100 percent effluent.
2. **Routine Monitoring Frequency.** The Discharger shall perform routine acute toxicity testing once per calendar year in years in which there are at least 15 days of discharge in at least one calendar quarter, concurrent with effluent ammonia sampling.
3. **Calendar Month.** The calendar month is defined as the period of time beginning on the day of the initiation of the routine monitoring to the day before the corresponding day of the next month if the corresponding day exists, or if not to the last day of the next month (e.g., from January 1 to January 31, from June 15 to July 14, or from January 31 to February 28).
4. **Acute Toxicity MMEL Compliance Testing.** If a routine acute toxicity monitoring test results in a "fail" at the IWC, then a maximum of two additional acute toxicity MMEL compliance tests shall be completed. The acute toxicity MMEL compliance tests shall be initiated within the same calendar month that the routine monitoring acute toxicity test was initiated that resulted in the "fail" at the IWC. If the first acute toxicity MMEL compliance test results in a "fail" at the IWC, then the second acute toxicity MMEL compliance test is unnecessary and is waived.
5. **Sample Types.** The Discharger may use flow-through or static renewal testing. For static renewal testing, the samples shall be grab samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at Monitoring Location EFF-001.
6. **Test Species.** Test species shall be rainbow trout (*Oncorhynchus mykiss*).
7. **Methods.** The acute toxicity testing samples shall be analyzed using EPA-821-R-02-012, Fifth Edition or methods identified in the Code of Federal Regulations, title 40, part 136, or other U.S. EPA-approved methods. Temperature, total

residual chlorine, and pH shall be recorded at the time of sample collection. No pH adjustment may be made unless approved by the Executive Officer.

8. **Test Failure.** If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger must conduct a replacement test as soon as possible, as specified in subsection A.9, below.
9. **Replacement Test.** When a required toxicity test for routine monitoring or MMEL compliance test is not completed, a new toxicity test to replace the toxicity test that was not completed shall be initiated as soon as possible. The new toxicity test shall replace the routine monitoring or MMEL compliance test, as applicable, for the calendar month in which the toxicity test that was not completed was required to be initiated, even if the new toxicity test is initiated in a subsequent month. The new toxicity test for routine monitoring or MMEL compliance tests, as applicable, and any MMEL compliance tests required to be conducted due to the results of the new toxicity test shall be used to determine compliance with the effluent limitations for the calendar month in which the toxicity test that was not completed was required to be initiated. The new toxicity test and any MMEL compliance tests required to be conducted due to the results of the new toxicity test shall not be used to substitute for any other required toxicity tests.

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

10. **Additional Routine Monitoring Tests for TRE Determination.** In order to determine if a TRE is necessary an additional routine monitoring test is required when one acute toxicity MDEL or MMEL is not met, but not two in a single calendar month. The calendar month in which the MMET or MDET was not met and the calendar month of the additional routine monitoring shall be considered "successive calendar months" for purposes of determining whether a TRE is required.

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

1. **Instream Waste Concentration (IWC) for Chronic Toxicity.** The chronic toxicity IWC is 100 percent effluent.
2. **Routine Monitoring Frequency.** The Discharger shall perform routine chronic toxicity testing twice per calendar year in years in which there are at least 15 days of discharge in at least one calendar quarter, concurrent with effluent ammonia sampling.

3. **Calendar Month.** The calendar month is defined as the period of time beginning on the day of the initiation of the routine monitoring to the day before the corresponding day of the next month if the corresponding day exists, or if not to the last day of the next month (e.g., from January 1 to January 31, from June 15 to July 14, or from January 31 to February 28).
4. **Chronic Toxicity MMET Testing.** If a routine chronic toxicity monitoring test results in a “fail” at the IWC, then a maximum of two additional chronic toxicity MMET tests shall be completed. The chronic toxicity MMET tests shall be initiated within the same calendar month that the routine chronic toxicity monitoring test was initiated that resulted in the “fail” at the IWC. If the first chronic toxicity MMET test results in a “fail” at the IWC, then the second chronic toxicity MMET test is unnecessary and is waived.
5. **Additional Routine Monitoring Tests for TRE Determination.** In order to determine if a TRE is necessary an additional routine monitoring test is required when one chronic toxicity MDET or MMET is not met, but not two in a single calendar month. The calendar month in which the MMET or MDET was not met and the calendar month of the additional routine monitoring shall be considered “successive calendar months” for purposes of determining whether a TRE is required. This additional routine monitoring test could result in the need to conduct MMET tests per subsection B.4 above.
6. **Sample Volumes.** Adequate sample volumes shall be collected to provide renewal water to complete the test in the event that the discharge is intermittent.
7. **Test Species.** The testing shall be conducted using the most sensitive species. The Discharger shall conduct chronic toxicity tests with water flea (*Ceriodaphnia dubia*), unless otherwise specified in writing by the Executive Officer.
8. **Test Methods.** Discharger shall conduct the chronic toxicity tests on effluent samples at the instream waste concentration for the discharge in accordance with species and test methods in Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA/821/R02/013, 2002; Table IA, 40 C.F.R. part 136).
9. **Dilution and Control Water.** Dilution water and control water shall be laboratory water prepared and used as specified in the test methods manual. If dilution water and control water is different from test organism culture water, then a second control using culture water shall also be used.
10. **Test Failure.** If the effluent chronic toxicity test does not meet all test acceptability criteria (TAC) specified in the referenced test method in EPA/821-R-02-013, the Discharger must conduct a Replacement Test as soon as possible, as specified in subsection B.11, below.
11. **Replacement Test.** When a required toxicity test for routine monitoring or MMET 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 MMET 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 MMET tests, as applicable, and any MMET tests required to be conducted due to the results of the new toxicity test shall be used to determine if the MMET and the MDET are met 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 required to be conducted due to the results of the new toxicity test shall not be used to substitute for any other required toxicity tests.

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

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

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

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

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

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

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

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

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

statistical approach is an adaptation of Student's t-test and is used with two samples having unequal variances.

- D. WET Testing Notification Requirements.** The Discharger shall notify the Central Valley Water Board of test results exceeding the acute toxicity effluent limitation or chronic toxicity monitoring target as soon as the Discharger learns of the exceedance, but no later than 24-hours after receipt of the monitoring results.
- E. WET Testing Reporting Requirements.** The Discharger shall submit the full laboratory report for all toxicity testing as an attachment to CIWQS for the reporting period (e.g., monthly, quarterly, semi-annually or annually) and provide the data (i.e., Pass/Fail and Percent Effect) in the PET tool for uploading into CIWQS. The laboratory report shall include:
1. The valid toxicity test results for the TST statistical approach, reported as "Pass" or "Fail" and "Percent Effect" at the IWC for the discharge, the dates of sample collection and initiation of each toxicity test, all results for effluent parameters monitored concurrently with the toxicity test(s); and progress reports on TRE investigations.
 2. The statistical analysis used in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010) Appendix A, Figure A-1 and Table A-1, and Appendix B, Table B-1.
 3. Statistical program (e.g., TST calculator, CETIS, etc.) output results, including graphical plots, for each toxicity test.
- F. Most Sensitive Species Screening.** The Discharger shall perform subsequent species sensitivity screening to re-evaluate the most sensitive species. The species sensitivity screening shall be conducted as follows and the **results submitted with the Report of Waste Discharge.**
1. **Frequency of Testing for Species Sensitivity Screening.** Species sensitivity screening for chronic toxicity shall include, at a minimum, chronic WET testing conducted quarterly for 1-year in each quarter in which there is at least 15 days of discharge using the water flea (*Ceriodaphnia dubia*), fathead minnow (*Pimephales promelas*), and green alga (*Pseudokirchneriella subcapitata*). If the discharge occurs in one quarter for the year, two sets of testing shall be conducted within the same quarter. The tests shall be performed at an IWC of no less than 100 percent effluent. For non-continuous dischargers, testing for a specific species in a sensitivity screening can be conducted using effluent that is not discharged into surface waters (e.g., effluent discharged onto land because of summer prohibition on discharges into surface waters, etc.) as long as the effluent is representative of the effluent that will be discharged to surface waters.
 2. **Determination of Most Sensitive Species.** If a single test in the species sensitivity screening testing results in a "Fail" using the TST statistical approach, then the species used in that test shall be established as the most sensitive

species. If there is more than a single test that results in a “Fail,” then of the species with results of a “Fail”, the species that exhibits the highest percent effect shall be established as the most sensitive species. If none of the tests in the species sensitivity screening results in a “Fail”, but at least one of the species exhibits a percent effect greater than **10** percent, then the single species that exhibits the highest percent effect shall be established as the most sensitive species. In all other circumstances, the Executive Officer shall have discretion to determine which single species is the most sensitive considering the test results from the species sensitivity screening.

G. Toxicity Reduction Evaluations (TRE)

1. TRE Targets.

- a. **Chronic Whole Effluent Toxicity Median Monthly Effluent Target (MMET).** No more than one *Ceriodaphnia dubia* chronic aquatic toxicity test initiated in a calendar month shall result in a “Fail” at the IWC for any endpoint.
- b. **Chronic Whole Effluent Toxicity Maximum Daily Effluent Target (MDET).** No *Ceriodaphnia dubia* chronic aquatic toxicity test 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. **TRE Implementation.** The Discharger is required to initiate a TRE, as detailed in the Monitoring and Reporting Program (Attachment E, Section V.G), when any combination of two or more acute aquatic toxicity MDEL or MMEL violations occur within a single calendar month or within two successive calendar months. The Discharger is also required to initiate a TRE when any combination of two or more chronic aquatic toxicity MDET or MMET exceedances occur within a single calendar month or within two successive calendar months. In addition, if other information indicates toxicity (e.g., results of additional monitoring, results of monitoring at a higher concentration than the IWC, fish kills, intermittent recurring toxicity) or if there is no effluent available to complete a routine monitoring test or a MMET test, the Executive Officer may require a TRE.

- 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, which per the Discharger’s approved TRE Work Plan. The TRE Action Plan shall include the following information, and comply with additional conditions set by the Executive Officer:
 - i. Specific actions the Discharger will take to investigate and identify the cause(s) of toxicity, including a TRE WET monitoring schedule;

- ii. Specific actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and
 - iii. A schedule for these actions, progress reports, and the final report.
 - 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.** The Discharger shall submit to the Central Valley Water Board a TRE Work Plan for approval by the Executive Officer by the due date in the Technical Reports Table E-10 (**Within 90 days of Order effective date**). 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 and LND-002

1. The Discharger shall monitor the discharge to Pond 1 at LND-001 and the discharge to Pond 2 at LND-002 in accordance with Table E-4 and the testing requirements described in section VI.A.2 below. LND-001 and LND-002 are the same monitoring location for chemical constituents and the sample collected at this location is representative of discharge to either pond (Pond 1 or Pond 2).

Table E-4. Land Discharge Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	MGD	Meter	Continuous
pH	Standard Units	Grab	1/Month
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	Grab	1/Month
Total Suspended Solids	mg/L	Grab	1/Month
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Month
Nitrate (as N)	mg/L	Grab	1/Quarter
Total Nitrogen	mg/L	Grab	1/Quarter
Ammonia (as N)	mg/L	Grab	1/Quarter
Standard Minerals	mg/L	Grab	1/Year

2. **Table E-4 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-4:
 - a. **Applicable to all parameters.** Parameters shall be analyzed using the analytical methods described in 40 CFR part 136 or by methods approved by the Central Valley Water Board or the State Water Board. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 CFR part 136 allowed sample type.
 - b. **Handheld Field Meter.** A handheld field meter may be used for **temperature** and **pH**, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
 - c. **Temperature** and **pH** shall be recorded at the time of **ammonia** sample collection.

- d. **Standard Minerals** shall include: boron, calcium, iron, magnesium, potassium, sodium, chloride, manganese, phosphorus, total alkalinity (including alkalinity series: bicarbonate, carbonate and hydroxide), and hardness, and include verification that the analysis is complete (i.e., cation/anion balance). Iron and manganese samples shall be analyzed for total recoverable filtered using a 1.5-micron filter. Filtered samples shall be filtered prior to preservation and analysis using a 1.5-micron filter.
- e. **Flow.** Influent flow meter may be utilized for flow measurement; however, flow meter shall adequately represent discharge to the Facility ponds.
- f. LND-001 and LND-002 are the same monitoring location; except for flow, monitoring data reported as either LND-001 or LND-002 is considered representative of the discharge to either Pond 1 or Pond 2.

VII. RECYCLING MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Monitoring Location RSW-001 and RSW-002

- 1. The Discharger shall monitor South Fork Battle Creek at Monitoring Location RSW-001 and RSW-002 in accordance with Table E-5 and the testing requirements described in section VIII.A.2 below:

Table E-5. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	cfs	Staff gauge	1/Day
Dissolved Oxygen	mg/L	Grab	1/Week
pH	SU	Grab	1/Week
Temperature	°C	Grab	1/Week
Turbidity	NTU	Grab	1/Week
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Month
Escherichia coli (E.Coli)	CFU/100 mL	Grab	1/Quarter
Iron, Total Recoverable	mg/L	Grab	1/Quarter (see note)
Manganese, Total Recoverable	mg/L	Grab	1/Quarter (see note)
Standard Minerals	mg/L	Grab	1/Year (see note)
Priority Pollutants and Other Constituents of Concern	(see Section IX.D)	(see Section IX.D)	(see Section IX.D)

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

- a. **Flow and Standard Minerals** to be measured at RSW-001 only.

- b. **Monitoring frequencies** for flow, dissolved oxygen, pH, temperature, and turbidity shall apply during discharge to South Fork Battle Creek, the remaining parameters shall be monitored year-round regardless of discharge status.
 - c. **Applicable to all parameters.** Parameters shall be analyzed using the analytical methods described in 40 CFR Part 136 or by methods approved by the Central Valley Water Board or the State Water Board.
 - d. **Handheld Field Meter.** A handheld field meter may be used for **turbidity, temperature** and **pH**, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
 - e. **pH** and **temperature** shall be recorded at the time of **ammonia** sample collection.
 - f. **Standard minerals** shall include the following: boron, calcium, iron, magnesium, potassium, sodium, chloride, manganese, phosphorus, total alkalinity (including alkalinity series), and hardness, and include verification that the analysis is complete (i.e., cation/anion balance). Annual standard minerals sampling required in **Year 2 and Year 3** only.
 - g. **Iron and Manganese.** Quarterly iron and manganese sampling required in **Year 2 and Year 3 only**. Samples shall be analyzed for total recoverable filtered using a 1.5-micron filter. Filtered samples shall be filtered prior to preservation and analysis using a 1.5-micron filter
3. In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by RSW-001 and RSW-002 when discharging to South Fork Battle Creek. Attention shall be given to the presence of:
- a. Floating or suspended matter;
 - b. Discoloration;
 - c. Bottom deposits;
 - d. Aquatic life;
 - e. Visible films, sheens, or coatings;
 - f. Fungi, slimes, or objectionable growths; and
 - g. Potential nuisance conditions.

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

B. Monitoring Location RGW-001, RGW-002 and RGW-003

1. The Discharger shall conduct groundwater monitoring at RGW-001, RGW-002, RGW-003 and any new groundwater monitoring wells in accordance with Table E-6 and the testing requirements described in section VIII.B.2 below:

Table E-6. Groundwater Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Depth to Groundwater	±0.01 feet	Measurement	1/Quarter
Groundwater Elevation	±0.01 feet	Calculated	1/Quarter
Gradient	feet/feet	Calculated	1/Quarter
Gradient Direction	degrees	Calculated	1/Quarter
Specific Conductance	µmhos/cm	Grab	1/Quarter
Total Dissolved Solids	mg/L	Grab	1/Quarter
Fixed Dissolved Solids	mg/L	Grab	1/Quarter
Biochemical Oxygen Demand	mg/L	Grab	1/Quarter
Oxidation Reduction Potential	millivolts	Grab	1/Quarter
Dissolved Oxygen	mg/L	Grab	1/Quarter
pH	standard units	Grab	1/Quarter
Total Coliform Organisms	MPN/100 mL	Grab	1/Quarter
Fecal Coliform Organisms	MPN/100 mL	Grab	1/Quarter
Total Kjeldahl Nitrogen	mg/L	Grab	1/Quarter
Total Nitrogen	mg/L	Grab	1/Quarter
Nitrate (as N)	mg/L	Grab	1/Quarter
Ammonia (as NH4)	mg/L	Grab	1/Quarter
Metals, Dissolved	µg/L	Grab	1/Quarter
General Minerals	mg/L or µg/L	Grab	1/Quarter

2. **Table E-6 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-6:
 - a. **Prior to construction and/or beginning a sampling program** of any new groundwater monitoring wells, the Discharger shall submit plans and specifications to the Central Valley Water Board for approval. Once installed, all new wells shall be added to the monitoring network (which currently consists of Monitoring Wells RGW-001, RGW-002 and RGW-003 and shall be sampled and analyzed according to the schedule below. All samples shall be collected using approved U.S. EPA methods.
 - b. **Prior to sampling,** Prior to purging or sampling, the groundwater depth shall be measured in each well to the nearest 0.01 feet. Groundwater

elevations shall then be calculated to determine groundwater gradient and flow direction.

Low or no-purge sampling methods are acceptable, if described in an approved Sampling and Analysis Plan. Otherwise, each monitoring well shall be purged of at least 3 to 5 casing volumes until pH, electrical conductivity and turbidity have stabilized prior to sampling.

- c. **Groundwater elevation** shall be determined based on depth-to-water measurements from a surveyed measuring point elevation on the well. The groundwater elevation shall be used to calculate the direction and gradient of groundwater flow, which must be reported.
- d. **Dissolved Metals** Samples for metals shall be filtered prior to preservation and digestion using a 0.45-micron filter. Metals shall include, at a minimum, the following: Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium (Total and Hexavalent), Cobalt, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, and Zinc.
- e. **General Minerals** General minerals shall include, at a minimum, the following elements/compounds: Total Alkalinity (including Alkalinity series), Boron, Calcium, Chloride, Hardness, Iron, Magnesium, Manganese, Nitrate-Nitrogen, Potassium, Sodium, and Sulfate and include verification that the analysis is complete (i.e., cation/anion balance).

IX. OTHER MONITORING REQUIREMENTS

A. Biosolids

- 1. Monitoring Location BIO-001 – Not Applicable

B. Pond Monitoring

- 1. **Monitoring Location PND-001 and PND-002.** The Discharger shall monitor the evaporation/percolation ponds at Monitoring Locations PND-001 and PND-002 in accordance with Table E-7 and the testing requirements described in section IX.B.2 below:

Table E-7. Pond Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Dissolved Oxygen	mg/L	Grab	1/Week
pH	SU	Grab	1/Week
EC	µmhos/cm	Grab	1/Month
Freeboard and Liquid Depth	Feet	Visual	1/Month

Parameter	Units	Sample Type	Minimum Sampling Frequency
Observations	--	--	1/Month

2. **Table E-7 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-7:
 - a. **Applicable to all parameters.** Parameters shall be analyzed using the analytical methods described in 40 CFR part 136; or by methods approved by the Central Valley Water Board or the State Water Board. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 CFR part 136 allowed sample type.
 - b. **Freeboard** shall be monitored to the nearest tenth of a foot.
 - c. **Handheld Field Meter.** A handheld field meter may be used for **dissolved oxygen** and **pH**, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
 - d. **Observations** include: a) seepage through the dikes; b) excessive odors or other nuisances; and c) excessive weed growth in ponds.

C. Effluent and Receiving Water Characterization

1. Monitoring Frequency

- a. **Effluent Sampling.** Samples shall be collected from the effluent (Monitoring Location EFF-001) twice per permit term. Characterization sampling Event No. 1 shall be conducted prior to the end of the third year of the permit and characterization sampling Event No. 2 shall be conducted prior to the end of the fourth year of the permit. The Discharger may simulate a discharge and return treated wastewater to the ponds if no discharge to surface water is anticipated, and adequate pond volume is present to simulate a discharge event.
 - b. **Receiving Water Sampling.** Samples shall be collected from the upstream receiving water (Monitoring Location RSW-001) twice per permit term, concurrently with effluent characterization monitoring.
2. **Analytical Methods.** Constituents shall be collected and analyzed consistent with the Discharger's Analytical Methods Report (MRP, X.D.2) using sufficiently sensitive analytical methods and Reporting Levels (RLs) per the SSM Rule specified in 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv). The "Reporting Level" is synonymous with the "Method Minimum Level" described in the SSM Rule. The

results of the monitoring shall be submitted to the Central Valley Water Board with the quarterly self-monitoring reports. Each individual monitoring event shall provide representative sample results for the effluent and upstream receiving water.

3. **Analytical Methods Report Certification.** Prior to beginning the Effluent and Receiving Water Characterization monitoring, the Discharger shall provide a certification acknowledging the scheduled start date of the Effluent and Receiving Water Characterization monitoring and confirming that samples will be collected and analyzed as described in the previously submitted Analytical Methods Report. If there are changes to the previously submitted Analytical Methods Report, the Discharger shall outline those changes. A one-page certification form will be provided by Central Valley Water Board staff with the permit's Notice of Adoption that the Discharger can use to satisfy this requirement. The certification form shall be submitted electronically via CIWQS submittal by the due date in the Technical Reports Table E-10.
4. The Discharger shall conduct effluent and receiving water characterization monitoring in accordance with Table E-8 and the testing requirements described in section IX.C.5 below.

Table E-8. 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

CTR Number	Volatile Organic Parameters	CAS Number	Units	Effluent Sample Type
43	Trichloroethylene (TCE)	79-01-6	µg/L	Grab
44	Vinyl Chloride	75-01-4	µg/L	Grab
21	Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	Grab
41	1,1,1-Trichloroethane	71-55-6	µg/L	Grab
42	1,1,2-Trichloroethane	79-00-5	µg/L	Grab
28	1,1-Dichloroethane	75-34-3	µg/L	Grab
30	1,1-Dichloroethylene (DCE)	75-35-4	µg/L	Grab
31	1,2-Dichloropropane	78-87-5	µg/L	Grab
32	1,3-Dichloropropylene	542-75-6	µg/L	Grab
37	1,1,2,2-Tetrachloroethane	79-34-5	µg/L	Grab
101	1,2,4-Trichlorobenzene	120-82-1	µg/L	Grab
29	1,2-Dichloroethane	107-06-2	µg/L	Grab
75	1,2-Dichlorobenzene	95-50-1	µg/L	Grab
76	1,3-Dichlorobenzene	541-73-1	µg/L	Grab
77	1,4-Dichlorobenzene	106-46-7	µg/L	Grab

SEMI-VOLATILE ORGANICS

CTR Number	Semi-Organic Volatile Parameters	CAS Number	Units	Effluent Sample Type
60	Benzo(a)Anthracene	56-55-3	µg/L	Grab
85	1,2-Diphenylhydrazine	122-66-7	µg/L	Grab
45	2-Chlorophenol	95-57-8	µg/L	Grab
46	2,4-Dichlorophenol	120-83-2	µg/L	Grab
47	2,4-Dimethylphenol	105-67-9	µg/L	Grab
49	2,4-Dinitrophenol	51-28-5	µg/L	Grab
82	2,4-Dinitrotoluene	121-14-2	µg/L	Grab
55	2,4,6-Trichlorophenol	88-06-2	µg/L	Grab
83	2,6-Dinitrotoluene	606-20-2	µg/L	Grab
50	2-Nitrophenol	88-75-5	µg/L	Grab
71	2-Chloronaphthalene	91-58-7	µg/L	Grab
78	3,3-Dichlorobenzidine	91-94-1	µg/L	Grab
62	Benzo(b)Fluoranthene	205-99-2	µg/L	Grab
52	4-Chloro-3-methylphenol	59-50-7	µg/L	Grab
48	2-Methyl-4,6-Dinitrophenol	534-52-1	µg/L	Grab
51	4-Nitrophenol	100-02-7	µg/L	Grab
69	4-Bromophenyl Phenyl Ether	101-55-3	µg/L	Grab
72	4-Chlorophenyl Phenyl Ether	7005-72-3	µg/L	Grab
56	Acenaphthene	83-32-9	µg/L	Grab
57	Acenaphthylene	208-96-8	µg/L	Grab
58	Anthracene	120-12-7	µg/L	Grab
59	Benzidine	92-87-5	µg/L	Grab
61	Benzo(a)Pyrene	50-32-8	µg/L	Grab

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

INORGANICS

CTR Number	Inorganic Parameters	CAS Number	Units	Effluent Sample Type
NL	Aluminum, Total Recoverable	7429-90-5	µg/L	Grab
1	Antimony, Total	7440-36-0	µg/L	Grab
2	Arsenic, Total	7440-38-2	µg/L	Grab
15	Asbestos	1332-21-4	µg/L	Grab
3	Beryllium, Total	7440-41-7	µg/L	Grab
4	Cadmium, Total	7440-43-9	µg/L	Grab
5	Chromium, Total	7440-47-3	µg/L	Grab
6	Copper, Total	7440-50-8	µg/L	Grab
NL	Iron, Total Recoverable	7439-89-6	µg/L	Grab
7	Lead, Total	7439-92-1	µg/L	Grab

CTR Number	Inorganic Parameters	CAS Number	Units	Effluent Sample Type
8	Mercury, Total	7439-97-6	µg/L	Grab
NL	Mercury, Methyl	22967-92-6	µg/L	Grab
NL	Manganese, Total Recoverable	7439-96-5	µg/L	Grab
9	Nickel, Total	7440-02-0	µg/L	Grab
10	Selenium, Total	7782-49-2	µg/L	Grab
11	Silver, Total	7440-22-4	µg/L	Grab
12	Thallium, Total	7440-28-0	µg/L	Grab
13	Zinc, Total	7440-66-6	µg/L	Grab

NON-METALS/MINERALS

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

PESTICIDES/PCBs/DIOXINS

CTR Number	Pesticide/PCB/Dioxin Parameters	CAS Number	Units	Effluent Sample Type
110	4,4-DDD	72-54-8	µg/L	Grab
109	4,4-DDE	72-55-9	µg/L	Grab
108	4,4-DDT	50-29-3	µg/L	Grab
112	alpha-Endosulfan	959-98-8	µg/L	Grab
103	alpha-BHC (Benzene hexachloride)	319-84-6	µg/L	Grab
102	Aldrin	309-00-2	µg/L	Grab
113	beta-Endosulfan	33213-65-9	µg/L	Grab
104	beta-BHC (Benzene hexachloride)	319-85-7	µg/L	Grab
107	Chlordane	57-74-9	µg/L	Grab
106	delta-BHC (Benzene hexachloride)	319-86-8	µg/L	Grab
111	Dieldrin	60-57-1	µg/L	Grab
114	Endosulfan Sulfate	1031-07-8	µg/L	Grab
115	Endrin	72-20-8	µg/L	Grab
116	Endrin Aldehyde	7421-93-4	µg/L	Grab
117	Heptachlor	76-44-8	µg/L	Grab
118	Heptachlor Epoxide	1024-57-3	µg/L	Grab
105	gamma-BHC (Benzene hexachloride or Lindane)	58-89-9	µg/L	Grab
119	Polychlorinated Biphenyl (PCB) 1016	12674-11-2	µg/L	Grab
120	PCB 1221	11104-28-2	µg/L	Grab
121	PCB 1232	11141-16-5	µg/L	Grab

CTR Number	Pesticide/PCB/Dioxin Parameters	CAS Number	Units	Effluent Sample Type
122	PCB 1242	53469-21-9	µg/L	Grab
123	PCB 1248	12672-29-6	µg/L	Grab
124	PCB 1254	11097-69-1	µg/L	Grab
125	PCB 1260	11096-82-5	µg/L	Grab
126	Toxaphene	8001-35-2	µg/L	Grab
16	2,3,7,8-TCDD (Dioxin)	1746-01-6	mg/L	Grab

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	Grab
NL	Hardness (as CaCO3)	471-34-1	mg/L	Grab
NL	Specific Conductance (Electrical Conductivity or EC)	EC	µmhos /cm	Grab
NL	Total Dissolved Solids (TDS)	TDS	mg/L	Grab

NUTRIENTS

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

5. **Table E-8 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-8:
 - a. **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. **Aluminum, Iron, and Manganese** samples shall be analyzed for total recoverable filtered using a 1.5-micron filter. Filtered samples shall be filtered prior to preservation and analysis using a 1.5-micron filter.
- d. **Redundant Sampling.** The Discharger is not required to conduct effluent monitoring for constituents that have already been sampled in a given month, as required in Table E-3, with the exception of hardness which shall be sampled concurrently with the hardness-dependent metals (cadmium, chromium III, lead, nickel, silver, and zinc).
- e. **Concurrent Sampling.** Effluent and receiving water sampling shall be performed at approximately the same time, on the same date.
- f. **Sample Type.** All receiving water samples shall be taken as grab samples. Effluent samples shall be taken as described in Table E-8 above.
- g. **Bis (2-ethylhexyl) phthalate.** In order to verify if bis (2-ethylhexyl) phthalate is truly present, the Discharger shall take steps to assure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected contaminant.
- h. **Total Mercury and Methyl Mercury.** Unfiltered methyl mercury and total mercury samples shall be taken using **clean hands/dirty hands procedures**, as described in U.S. EPA method 1669: Sampling Ambient Water for Trace Metals at U.S. EPA Water Quality Criteria Levels, for collection of equipment blanks (section 9.4.4.2). The analysis of methyl mercury and total mercury shall be by U.S. EPA method 1630 and 1631 (Revision E), respectively, with a **reporting limit of 0.05 ng/L for methyl mercury and 0.5 ng/L for total mercury.**

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. Upon written request of the Central Valley Water Board, the Discharger shall submit a summary monitoring report. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year(s).
3. The Discharger shall report to the Central Valley Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act" of 1986.

B. Self-Monitoring Reports (SMRs)

1. The Discharger shall electronically submit SMRs using the State Water Board's [California Integrated Water Quality System \(CIWQS\) Program website](http://www.waterboards.ca.gov/water_issues/programs/ciwqs/) (http://www.waterboards.ca.gov/water_issues/programs/ciwqs/). The CIWQS

website will provide additional information for SMR submittal in the event there will be a planned service interruption for electronic submittal.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit monthly, quarterly, semi-annual, and annual SMRs including the results of all required monitoring using U.S. EPA-approved test methods or other test methods specified in this Order. SMRs are to include all new monitoring results obtained since the last SMR was submitted. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR. Monthly SMRs are required even if there is no discharge. If no discharge occurs during the month, the monitoring report must be submitted stating that there has been no discharge.
3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-9. Monitoring Periods and Reporting Schedule

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

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

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

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

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

- c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.
 - d. Dischargers are to instruct laboratories to establish calibration standards so that the Minimum Level (ML) value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.
5. **Multiple Sample Data.** When determining compliance with an AMEL, AWEL, or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:
- a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

- b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.
6. **The Discharger shall submit SMRs** in accordance with the following requirements:
 - a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.
 - b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the waste discharge requirements; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.
 - c. The Discharger shall attach all final laboratory reports from all contracted commercial laboratories, including quality assurance/quality control information, with all its SMRs for which sample analyses were performed.
7. The Discharger shall submit in the SMRs calculations and reports in accordance with the following requirements:
 - a. **Calendar Annual Average Limitations.** For constituents with effluent limitations specified as “calendar annual average” (electrical conductivity) the Discharger shall report the calendar annual average in the December SMR. The annual average shall be calculated as the average of the samples gathered for the calendar year.
 - b. **Removal Efficiency (BOD₅ and TSS).** The Discharger shall calculate and report the percent removal of BOD₅ and TSS in the SMRs. The percent removal shall be calculated as specified in section VII.A. of the Waste Discharge Requirements.
 - c. **Total Coliform Organisms Effluent Limitations.** The Discharger shall calculate and report the 7-day median of total coliform organisms for the

effluent. The 7-day median of total coliform organisms shall be calculated as specified in section VII.D of the Waste Discharge Requirements.

- d. **Dissolved Oxygen Receiving Water Limitations.** The Discharger shall report monthly in the self-monitoring report the dissolved oxygen concentrations in the effluent (EFF-001) and the receiving water RSW-001 and RSW-002.
- e. **Turbidity Receiving Water Limitations.** The Discharger shall calculate and report the turbidity increase in the receiving water applicable to the natural turbidity condition specified in section V.A.18.a-e. of the Waste Discharge Requirements.
- f. **Temperature Receiving Water Limitations.** The Discharger shall calculate and report the temperature increase in the receiving water based on the difference in temperature at Monitoring Locations RSW-001 and RSW-002.

C. Discharge Monitoring Reports (DMRs)

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

D. Other Reports

1. **Analytical Methods Report.** The Discharger shall complete and submit an Analytical Methods Report, electronically via CIWQS submittal, by the due date shown in the Technical Reports Table (Table E-10). The Analytical Methods Report shall include the following for each constituent to be monitored in accordance with this Order: 1) applicable water quality objective, 2) reporting level (RL), 3) method detection limit (MDL), and 4) analytical method. The analytical methods shall be sufficiently sensitive with RLs consistent with the SSM Rule per 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv), and with the Minimum Levels (MLs) in the SIP, Appendix 4. The "Reporting Level or RL" is synonymous with the "Method Minimum Level" described in the SSM Rule. If an RL is not less than or equal to the applicable water quality objective for a constituent, the Discharger shall explain how the proposed analytical method complies with the SSM Rule as outlined above in Attachment E, Section I.F. Central Valley Water Board staff will provide a tool with the permit's Notice of Adoption to assist the Discharger in completing this requirement. The tool will include the constituents and associated applicable water quality objectives to be included in the Analytical Methods Report.

2. **Annual Operations Report.** The Discharger shall submit a written report to the Central Valley Water Board, electronically via CIWQS submittal, containing the following by the due date in the Technical Reports Table (Table E-10):
 - a. The names, certificate grades, and general responsibilities of all persons employed at the Facility.
 - b. The names and telephone numbers of persons to contact regarding the plant for emergency and routine situations.
 - c. A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration.
 - d. A statement certifying whether the current operation and maintenance manual, and contingency plan, reflect the wastewater treatment plant as currently constructed and operated, and the dates when these documents were last revised and last reviewed for adequacy.
 - e. The Discharger may also be requested to submit an annual report to the Central Valley Water Board with both tabular and graphical summaries of the monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss the compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.

3. **Recycled Water Policy Annual Reports.** In accordance with Section 3 of the Water Quality Control Policy for Recycled Water (Recycled Water Policy), the Discharger shall electronically submit an annual report of monthly data to the State Water Board by 30 April annually covering the previous calendar year using the State Water Board's [GeoTracker website](https://geotracker.waterboards.ca.gov/) (<https://geotracker.waterboards.ca.gov/>). Information for setting up and using the GeoTracker system can be found in the *ESI Guide for Responsible Parties* document on the State Water Board's website for [Electronic Submittal of Information](https://www.waterboards.ca.gov/ust/electronic_submittal/index.html) (https://www.waterboards.ca.gov/ust/electronic_submittal/index.html).

The annual report to GeoTracker must include volumetric reporting of the items listed in Section 3.2 of the [Recycled Water Policy](https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2018/121118_7_final_amendment_oal.pdf) (https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2018/121118_7_final_amendment_oal.pdf). A pdf of the upload confirmation from GeoTracker for the Recycled Water Policy Annual Report shall be uploaded into CIWQS annually as a technical report per Table E-10, to demonstrate compliance with this reporting requirement.

4. **Report of Waste Discharge (ROWD).** For the 5-year permit renewal, the Discharger shall submit a written report to the Central Valley Water Board,

electronically via CIWQS submittal, containing, at minimum, the following by the due date in the Technical Reports Table (Table E-10):

- a. Report of Waste Discharge (Form 200);
- b. NPDES Form 1 (not needed if submitting Form 2A);
- c. NPDES Form 2S;

5. **Technical Report Submittals.** This Order includes requirements to submit a ROWD, special study technical reports, progress reports, and other reports identified in the MRP (hereafter referred to collectively as “technical reports”). The Technical Reports Table (Table E-10) below summarize all technical reports required by this Order and the due dates for submittal. All technical reports shall be submitted electronically via CIWQS submittal. Technical reports should be uploaded as a PDF, Microsoft Word, or Microsoft Excel file attachment.

Table E-10. Technical Reports

Report #	Technical Report	Due Date	CIWQS Report Name
Intentionally left blank	Standard Reporting Requirements	Intentionally left blank	Intentionally left blank
1	Report of Waste Discharge	1 Year Prior To Permit Expiration Date	ROWD
2	Analytical Methods Report	Within 60 Days of Permit Effective Date	MRP X.D.1
3	Analytical Methods Report Certification	3 Months Prior To Start of Characterization Monitoring	MRP IX.C.3
4	Annual Operations Report	1 February 2024	MRP X.D.2
5	Annual Operations Report	1 February 2025	MRP X.D.2
6	Annual Operations Report	1 February 2026	MRP X.D.2
7	Annual Operations Report	1 February 2027	MRP X.D.2
8	Annual Operations Report	1 February 2028	MRP X.D.2
9	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2024	MRP X.D.3
10	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2025	MRP X.D.3

Report #	Technical Report	Due Date	CIWQS Report Name
11	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2026	MRP X.D.3
12	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2027	MRP X.D.3
13	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2028	MRP X.D.3
14	Salinity Evaluation and Minimization Plan	With ROWD	WDR VI.C.3.a
15	Groundwater Monitoring Well Network Evaluation	Within 12 Months of Permit Effective Date	WDR VI.C.2.a
16	Groundwater Monitoring Well Installation, Work Plan	Within 15 Months of Permit Effective Date	WDR VI.C.2.b
17	Groundwater Evaluation Final Report	4 Years from Permit Effective Date	WDR VI.C.2.c
19	Most Sensitive Species Screening	With ROWD	MRP V.F
20	Toxicity Reduction Evaluation (TRE) Workplan	Within 90 Days of Permit Effective Date	MRP V.G.3

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

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

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

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

Waste Discharge ID:	5A520102001
CIWQS Facility Place ID:	240864
Discharger:	Tehama County Sanitation District No. 1
Name of Facility:	Mineral Wastewater Treatment Plant
Facility Address:	37735 Highway 36E
Facility City, State Zip:	Mineral, CA 96063
Facility County:	Tehama County
Facility Contact, Title and Phone Number:	James Simon, Director of Public Works, (530) 385-1462 Justin Jenson, Chief Plant Operator, (530) 595-3320
Authorized Person to Sign and Submit Reports:	James Simon
Mailing Address:	9380 San Benito Ave. Gerber, CA 96035
Billing Address:	SAME
Type of Facility:	POTW
Major or Minor Facility:	Minor
Threat to Water Quality:	2
Complexity:	B
Pretreatment Program:	No
Recycling Requirements:	No
Facility Permitted Flow:	0.070 mgd (ADWF), 0.75 mgd (PWWF)
Facility Design Flow:	0.070 mgd (ADWF), 0.75 mgd (PWWF)
Watershed:	Battle Creek

Receiving Water:	South Fork Battle Creek
Receiving Water Type:	Inland surface water

- A. Tehama County Sanitation District No. 1 (hereinafter Discharger) is the owner and operator of Mineral Wastewater Treatment Plant (hereinafter Facility), a Publicly-Owned Treatment Works (POTW).

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

- B. The Facility discharges wastewater to South Fork Battle Creek, a water of the United States, tributary to Battle Creek. The Discharger was previously regulated by Order R5-2015-0073 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0084069 adopted on 5 June 2015 and expired on 31 July 2020. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.
- C. When applicable, state law requires dischargers to file a petition with the State Water Board, Division of Water Rights and receive approval for any change in the point of discharge, place of use, or purpose of use of treated wastewater that decreases the flow in any portion of a watercourse. The State Water Board retains separate jurisdictional authority to enforce any applicable requirements under Water Code section 1211. This is not an NPDES permit requirement.
- D. Order R5-2015-0073 expired on 31 July 2020. The Discharger filed a report of waste discharge (ROWD) and submitted an application for reissuance of its waste discharge requirements (WDRs) and NPDES permit on 24 June 2021. However, the ROWD was deemed incomplete on 2 September 2021. The Discharger submitted a second incomplete ROWD on 14 October 2021. On 27 October 2021, the Discharger submitted a complete ROWD.
- E. Regulations at 40 C.F.R. section 122.46 limit the duration of NPDES permits to a fixed term not to exceed five years. Accordingly, Table 3 of this Order limits the duration of the discharge authorization. Under 40 C.F.R. section 122.6(d), States authorized to administer the NPDES program may administratively continue State-issued permits beyond their expiration dates until the effective date of the new permits, if State law allows it. Pursuant to California Code of Regulations, title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Discharger complies with all federal NPDES requirements for continuation of expired permits.

II. FACILITY DESCRIPTION

The facility is located on the south side of Highway 36 about one mile west of Mineral, an unincorporated rural community located southwest of Lassen National Park at an

elevation of 4,800 feet above sea level. The Discharger provides sewerage service to 190 active wastewater service connections. The Mineral residential and commercial area consists of approximately 179 residences, the Mineral Lodge complex, and the Volcano Country RV Park. The Discharger also provides wastewater service to Lassen National Park Service (NPS) Headquarters, State of California Department of Transportation Mineral Maintenance Facility, a U.S. Forest Service (USFS) campground, and a church camp. The campground and the church are seasonal and are closed during the winter months. In addition, many dwellings are only occupied six months out of the year as a result of seasonal use. The Discharger serves approximately 250 household equivalents (HE) during peak summer months. There are no industrial users and wastewater flowing to the Facility is primarily domestic.

The design daily average flow capacity of the Facility is 0.070 million gallons per day (MGD) and the peak wet weather flow capacity is 0.75 MGD. Discharge to surface water is restricted to November 15 through April 15 when flow in the receiving water is at least 35 cfs. This ensures a minimum 30 to 1 dilution of receiving water to effluent flow at all times. During the remainder of the year, effluent is discharged to evaporation/percolation ponds.

The Discharger did not discharge to South Fork Battle Creek during the term of the previous Order (except during two discharge simulation events), as infiltration and inflow had been decreased due to drought conditions and collection system improvements. The Discharger reports that the Facility has only needed to discharge to South Fork Battle Creek one time since 2002; in December 2005. Typically, large snowmelt runoff storms in the spring are associated with discharge to surface water events. Currently, the Discharger operates the Facility in a manner that maximizes land discharge year-round rather than discharging to surface water during the wet season when an effluent discharge is permissible.

A. Description of Wastewater and Biosolids Treatment and Controls

The treatment system at the Facility consists of preliminary influent bar screening with a Parshall flume and ultrasonic level sensor, an aeration basin divided into two equally sized cells, two 2.5-acre evaporation/percolation ponds, a filter supply pump station, a horizontal pressure filter, and chlorine disinfection (with liquid sodium hypochlorite) and dechlorination (with liquid sodium bisulfite). The design average dry weather flow capacity is 0.070 mgd and the wet weather hydraulic design treatment capacity is 0.75 mgd. The design filter loading rate is 0.576 mgd (400 gallons per minute). No chemicals are added to aid filtration. The multi-media filtration, chlorination, and dechlorination units only operate during periods of discharge to the South Fork of Battle Creek.

Aeration Basin: The aeration basin is clay lined with air blown mortar (ABM) slope protection at the normal water level depth of 11.5 feet. The 1.52-million-gallon (MG) basin is divided into two equally sized cells by a vinyl-coated polyester baffle curtain. The hydraulic detention time in each cell at design ADWF is approximately ten days.

Evaporation/Percolation Ponds: Two 2.5-acre evaporation and percolation ponds are provided to receive effluent from the aeration basin. The ponds serve as settling basins for solids from the aeration process, as effluent disposal through evaporation and percolation, and as regulating storage for filtered discharge to South Fork Battle Creek. At least 2 feet of freeboard is maintained in both ponds at all times. Pond 1 will overflow into Pond 2 at the 2-foot freeboard level. In recent years, operations have been to send effluent from the aeration basin into Pond 2 as it has a faster percolation rate than Pond 1. As Pond 2 begins to get full, effluent is diverted to Pond 1. Pond 1 and Pond 2 percolation rates range from 40,000 to 60,000 gpd and 60,000 to 80,000 gpd, respectively. When Pond 1 is full, it contains approximately 3.14 million gallons before reaching 2 feet freeboard; Pond 2 has a capacity of 5.38 million gallons before reaching the 2-foot free board requirement. Total capacity for the two ponds is 8.5 million gallons. During seasonal discharge to South Fork Battle Creek, withdrawal from each pond is controlled by valves on the suction piping at the Filter Supply Pump Station.

Biosolids Handling: Currently solids captured by screens at the headworks are the only solids removed from the plant on a regular basis. The headworks screenings are washed and left to dewater and dry on the screened top access to the bar screens and material is hauled offsite for disposal. Aeration cells No. 1 and No. 2 were measured for sludge depth in 2016 and again in 2021. The measurement showed there was an insignificant amount of sludge in the ponds and that no removal necessary.

Stormwater Management: The Discharger constructed a concrete lined storm water interceptor channel around the Facility in 1998 which intercepts offsite storm water from Highway 36 and contributing areas. The channel directs storm water around the Facility and has been effective in reducing discharge events by preventing storm water runoff from entering the evaporation/percolation ponds. The only basin with substantial area and impervious area is the Operations Building Basin, of which there is approximately 100-150 feet of soil and vegetated buffer area that stormwater passes through before leaving the site.

B. Discharge Points and Receiving Waters

1. The Facility is located in Section 26, T28N, R3E, MDB&M, as shown in Attachment B, a part of this Order.
2. Treated municipal wastewater is discharged at Discharge Point No. 001 to South Fork Battle Creek, a water of the United States, a tributary to Battle Creek at a point latitude 40° 20' 54" N and longitude 121° 37' 28" W. Between November 15 and April 15, treated wastewater may be discharged to South Fork Battle Creek when the receiving water flow is at least 35 cfs. Additionally, discharge to South Fork Battle Creek is prohibited from April 16 to November 14, unless approved by the Central Valley Water Board in accordance with Provisions VI.C.6.b.

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

Effluent limitations and Discharge Specifications contained in Order R5-2015-0073 for discharges from Discharge Point No. 001 (Monitoring Location EFF-001) and effluent monitoring data from the term of Order R5-2015-0073 are as follows:

Table F-2. Historic Effluent Limitations

Parameter	Units	Historic Effluent Limitations	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Average Dry Weather Effluent Flow	MGD	AMEL: 0.070	(0.15)	(0.24)	(0.27)
Daily Peak Wet Weather Effluent Flow	MGD	MDEL: 0.75	(0.33)	(0.39)	(0.43)
pH	Standard Units	Instantaneous Max: 9.0 Instantaneous Min: 6.0	8.48 (2019)	8.48 (2019)	8.48 (2019) 7.06 (2017)
Biochemical Oxygen Demand 5-day @ 20°C (BOD ₅)	mg/L	AMEL: 10 AWEL: 15 MDEL: 30	4.0 (2019)	4.0 (2019)	4.0 (2019)
BOD ₅	lbs/day	AMEL: 63 AWEL: 94 MDEL: 188	No Data	No Data	No Data
Total Suspended Solids (TSS)	mg/L	AMEL: 30 AWEL: 45 MDEL: 90	11 (2017)	11 (2017)	11 (2017)
TSS	lbs/day	AMEL: 188 AWEL: 281 MDEL: 563	No Data	No Data	No Data
Acute Whole Effluent	% Survival	Any one test: 70 Three consecutive tests: 90	100 (2017) 100 (2019)	--	--
Total Residual Chlorine	mg/L	1-hour average 0.019 4-day average 0.011	ND (2019)	ND (2019)	ND (2019)
Total Coliform Organisms	MPN	7-day median: 23 30-day period: 240	ND <2.0 (2019)	ND <2.0 (2019)	ND <2.0 (2019)
Diazinon and Chlorpyrifos	µg/L	AMEL ≤1.0 MDEL ≤1.0	ND (2019)	ND (2019)	ND (2019)

Table Notes:

1. Samples collected during the 2017 and 2019 simulated discharge events; effluent discharge to receiving water occurred during the simulated discharge events.
2. Influent flow data was used to estimate the Average Dry Weather Effluent Flow and the Daily Peak Wet Weather Effluent Flow, since there was no non-simulated effluent discharge to surface water during the permit term (5 June 2015 through 31 July 2020). The Dry season data was limited to 1 June to 31 August for the permitted term.

D. Compliance Summary

Since the effective date of the permit, five violations were reported in the California Integrated Water Quality System (CIWQS) database. The Discharger did not monitor depth to groundwater in the monitoring wells (RGW-001, RGW-002, and RGW-003) in December 2017, and failed to submit pond observations on seepage through the dikes, excessive odors or other nuisances, and excessive weed growth) in November 2016. In April 2018, the pH in pond one was 9.8 for two weeks. The Discharger did not have effluent violations during the term of R5-2015-0073 (the Facility never discharged to surface water during the term of the previous Order except for the two simulated discharge events).

E. Planned Changes

State Water Resource Control Board Clean Water State Revolving Fund (CWSRF) Planning Grant funds were utilized to complete a Wastewater Master Plan (WWMP) in 2019. The WWMP included preliminary plans and cost estimates for major capital improvements recommended immediately and over the next 20 years. A Rate Study was also completed, which recommended wastewater rates over the next five years to fund improvements recommended in the WWMP in addition to system operation and maintenance and other budgetary components. Identified improvements were aimed to enhance the Discharger's collection and treatment processes and ultimately improve effluent quality if/when discharge to South Fork Battle Creek occurs in the future.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

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

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA, (commencing with section 21100) of Division 13 of the Public Resources Code.

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

1. **Water Quality Control Plans.** Requirements of this Order specifically implement the applicable Water Quality Control Plans.

- a. Basin Plan. The Central Valley Water Board adopted a Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fifth Edition, February 2019 (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this Order implement the Basin Plan.

The Basin Plan states that the beneficial uses of any specifically identified water body generally apply to its tributary streams. The Basin Plan in Table 2-1, section 2, does not specifically identify beneficial uses for South Fork Battle Creek, but does identify present and potential uses for the Sacramento River, to which South Fork Battle Creek is tributary via Battle Creek. In addition, the Basin Plan implements State Water Board Resolution 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Thus, beneficial uses applicable to South Fork Battle Creek are as follows:

Table F-3 Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
D-001 (EFF-001)	South Fork Battle Creek (Tributary to Sacramento River via Battle Creek)	Municipal and domestic supply (MUN); Agricultural supply, including irrigation and stock watering (AGR); Hydropower generation (POW); Water contact recreation, including canoeing and rafting (REC-1); Non-contact water recreation (REC-2); Warm freshwater habitat (WARM); Cold freshwater habitat (COLD); Migration of aquatic organisms, cold (MIGR); Spawning, reproduction, and/or early development, warm and cold (SPWN); Wildlife habitat (WILD)

Discharge Point	Receiving Water Name	Beneficial Use(s)
D-002 D-003	Underlying Groundwater	Municipal and domestic water supply (MUN), Industrial service supply (IND), Industrial process supply (PRO), and Agricultural supply (AGR)

- b. **Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California.** The Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (ISWEBE Plan) was adopted by the State Water Resources Control Board (State Water Board) on 1 December 2020, under authority provided by Water Code sections 13140 and 13170. Except as otherwise indicated, this ISWEBE Plan establishes provisions for toxicity, water quality and sediment quality that apply to all inland surface waters, enclosed bays, and estuaries and coastal lagoons of the state, including both waters of the United States and surface waters of the state. The State Water Board rescinded the ISWEBE Plan on 5 October 2021 in Resolution No. 2021-0044. The portions of the ISWEBE Plan, including the Toxicity Provisions, remain in effect.
- 2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** U.S. EPA adopted the NTR on 22 December 1992, and later amended it on 4 May 1995 and 9 November 1999. About forty criteria in the NTR applied in California. On 18 May 2000, U.S. EPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on 13 February 2001. These rules contain federal water quality criteria for priority pollutants.
- 3. **State Implementation Policy.** On 2 March 2000, the State Water Board adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). The SIP became effective on 28 April 2000, with respect to the priority pollutant criteria promulgated for California by the U.S. EPA through the NTR and to the priority pollutant objectives established by the Central Valley Water Board in the Basin Plan. The SIP became effective on 18 May 2000, with respect to the priority pollutant criteria promulgated by the U.S. EPA through the CTR. The State Water Board adopted amendments to the SIP on 24 February 2005, that became effective on 13 July 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.
- 4. **Antidegradation Policy.** Federal regulation 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's

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

5. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.
6. **Domestic Water Quality.** In compliance with Water Code section 106.3, it is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order promotes that policy by requiring discharges to meet maximum contaminant levels (MCLs) designed to protect human health and ensure that water is safe for domestic use.
7. **Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.
8. **Emergency Planning and Community Right to Know Act.** Section 13263.6(a) of the Water Code, requires that "the Regional Water Board shall prescribe effluent limitations as part of the waste discharge requirements of a POTW for all substances that the most recent toxic chemical release data reported to the state emergency response commission pursuant to section 313 of the Emergency Planning and Community Right to Know Act of 1986 (42 U.S.C. Sec. 11023) (EPCRA) indicate as discharged into the POTW, for which the State Water Board or the Regional Water Board has established numeric water quality objectives, and has determined that the discharge is or may be discharged at a level which

will cause, have the reasonable potential to cause, or contribute to, an excursion above any numeric water quality objective”.

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

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

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

The Discharger is subject to the requirements of, and must comply with, State Water Board Order 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, as amended by State Water Board Order WQ 2013-0058-EXEC, and renewed by State Water Board Order 2022-0103-DWQ, and any subsequent order.

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

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

1. Under section 303(d) of the 1972 CWA, states, territories and authorized tribes are required to develop lists of water quality limited segments. The waters on these lists do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. On 6 April 2018 U.S. EPA gave final approval to California's 2014 – 2016 section 303(d) List of Water Quality Limited Segments. The Basin Plan references this list of Water Quality Limited Segments (WQLSs), which are defined as “...those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate limitations for point sources (40 C.F.R. part 130, et seq.)” The Basin Plan also states, “Additional treatment beyond minimum federal standards will be imposed on dischargers to [WQLSs]. Dischargers will be assigned or allocated a maximum allowable load of critical pollutants so that water quality objectives can be met in the segment.” The listing for the South Fork Battle Creek include: pH
2. Total Maximum Daily Loads (TMDLs). Table F-4, below, identifies the 303(d) listings and any applicable TMDLs.

Table F-4. 303 (d) List for South Fork Battle Creek

Pollutant	Potential Sources	TMDL Status
pH	Source Unknown	2035

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

E. Other Plans, Polices and Regulations

1. **Title 27.** The discharge authorized herein and the treatment and storage facilities associated with the discharge of treated municipal wastewater, except for discharges of residual sludge and solid waste, are exempt from the requirements of Title 27, California Code of Regulations (CCR), section 20005 et seq (hereafter Title 27). The exemption, pursuant to Title 27 CCR section 20090(a), is based on the following:
 - a. The waste consists primarily of domestic sewage and treated effluent;

- b. The waste discharge requirements are consistent with water quality objectives; and
- c. The treatment and storage facilities described herein are associated with a municipal wastewater treatment plant.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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

A. Discharge Prohibitions

1. **Prohibition III.A (No discharge or application of waste other than that described in this Order).** This prohibition is based on Water Code section 13260 that requires filing of a ROWD before discharges can occur. The Discharger submitted a ROWD for the discharges described in this Order; therefore, discharges not described in this Order are prohibited.
2. **Prohibition III.B (No bypasses or overflow of untreated wastewater, except under the conditions at CFR section 122.41(m)(4)).** As stated in section I.G of Attachment D, Standard Provisions, this Order prohibits bypass from any portion of the treatment facility. Federal regulations, 40 C.F.R. section 122.41(m), define “bypass” as the intentional diversion of waste streams from any portion of a treatment facility. This section of the federal regulations, 40 C.F.R. section 122.41(m)(4), prohibits bypass unless it is unavoidable to prevent loss of life, personal injury, or severe property damage. In considering the Regional Water Board’s prohibition of bypasses, the State Water Board adopted a precedential decision, Order No. WQO 2002-0015, which cites the federal regulations, 40 C.F.R. section 122.41(m), as allowing bypass only for essential maintenance to assure efficient operation.
3. **Prohibition III.C (No controllable condition shall create a nuisance).** This prohibition is based on Water Code section 13050 that requires water quality objectives established for the prevention of nuisance within a specific area. The Basin Plan prohibits conditions that create a nuisance.
4. **Prohibition III.D (No discharge of hazardous waste).** This prohibition is based on California Code of Regulations, title 22, section 66261.1 et seq, that prohibits discharge of hazardous waste.

5. **Prohibition III.E (Average Dry Weather Flow)** This Order contains an average dry weather influent flow limit of 0.07 MGD. The Facility was designed to provide a secondary level of treatment for up to a design influent flow of 0.07 MGD.
6. **Prohibition III.F (Daily Peak Wet Weather Flow)** This Order contains a daily peak wet weather discharge effluent flow limit of 0.75 MGD, as the Facility's peak wet weather flow design capacity is 0.75 MGD. (The filter system is designed for a maximum filter loading rate of 400 gpm (0.576 MGD)).
7. **Prohibition III.G.** No discharge of wastewater to South Fork Battle Creek from April 16 through November 14 nor during periods when flow in South Fork Battle Creek, adjacent to the facility, is less than 35 cfs. Order No. R5-2015-0073 included the discharge prohibition of no discharge during the recreation season (April 16 through November 14) and when flow in South Fork Battle Creek is less than 35 cfs. The minimum receiving water flow requirement ensures a minimum receiving water to effluent flow ratio of 30:1.

B. Technology-Based Effluent Limitations

1. Scope and Authority

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

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

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

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

2. Applicable Technology-Based Effluent Limitations

- a. **BOD₅ and TSS.** Federal regulations at 40 C.F.R. part 133, establish the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for BOD₅ and TSS. In addition, 40 C.F.R. section 133.102, in describing the minimum level of effluent quality attainable by secondary treatment, states that the 30-day average percent removal shall not be less than 85 percent. This Order contains a limitation requiring an average of 85 percent removal of BOD₅ and TSS over each calendar month.
- b. **pH.** The secondary treatment regulations at 40 C.F.R. part 133 also require that pH be maintained between 6 and 9 standard units. This Order, however, requires more stringent WQBELs for pH to comply with the Basin Plan’s water quality objectives for pH.

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

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

Parameter	Units	Effluent Limitations
Biochemical Oxygen Demand (BOD ₅), 5-day @ 20° Celsius	mg/L	AMEL: 30 AWEL: 45
BOD ₅ Percent Removal	%	85
Total Suspended Solids (TSS)	mg/L	AMEL: 30 AWEL: 45
TSS Percent Removal	%	85
pH	Standard Units	Instantaneous Minimum: 6.0 Instantaneous Maximum: 9.0

Table F-5 Notes:

- 1. Note that more stringent WQBELs for BOD₅, TSS, and pH are applicable and are established as final effluent limitations in this Order (see section IV.C.3.d of this Fact Sheet).

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

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

This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements that are necessary to meet applicable water quality standards. The rationale for these requirements, which consist of tertiary treatment or equivalent requirements or other provisions, is discussed in section IV.C.3 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.

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

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

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

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

The federal CWA section 101(a)(2), states: "it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water be achieved by July 1, 1983." Federal Regulations, developed to implement the

requirements of the CWA, create a rebuttable presumption that all waters be designated as fishable and swimmable. Federal Regulations, 40 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.** Refer to III.C.1. above for a complete description of the receiving water and beneficial uses.

Prior to 2018, South Fork Battle Creek flow measurements were based on the depth of flow above and below the top of the concrete ford immediately downstream of the point of discharge. However, on 8 January 2018, United States Geological Survey (USGS) staff installed a staff gage on the downstream right bank of the creek at the Highway 36 crossing. Additionally, the Discharger installed a second staff gage just downstream of the concrete ford adjacent to the Facility on 17 July 2018. The new gage will allow correlation between the USGS staff gage readings and flows measured at the Facility concrete ford (which is more easily accessible from the Facility than the USGS gage) and will help the Discharger ensure the minimum 35 cfs condition is met in the receiving water during discharge to surface water events. The Discharger's *Wastewater Collection and Treatment Improvement Project – Project Report for Tehama County Sanitation District No. 1 Mineral, December 2019* contains South Fork Battle Creek USGS Gaging Station measurements from 2018 and a provisional rating curve. The rating curve indicates a river stage of 13.93 feet at the Highway 36 river crossing correlates to a receiving water flow of 35 cfs.

- b. **Effluent and Ambient Background Data.** The reasonable potential analysis (RPA), as described in section IV.C.3 of this Fact Sheet, was based on data from two sampling dates, 14 February 2017 and 9 April 2019, which includes effluent and ambient background data submitted in SMRs and the ROWD. The Discharger did not discharge to surface water during the term of the previous Order; the data collected on 14 February 2017 and 9 April 2019 are from simulated discharge events where the Facility ran the treatment components required of a surface water discharge (filters, disinfection, etc.) and collected samples prior to returning the effluent to the facility ponds for land disposal.

Although the simulated discharge events occurred during the seasonal timeframe that the Facility is allowed to discharge to surface water, the simulated discharge did not necessarily occur under the conditions that the Facility would typically discharge to surface water. As noted in Fact Sheet section II, Facility Description, the Discharger operates the Facility in a manner that maximizes land discharge year-round rather than discharging to surface water during the wet season. Further, the Discharger has stated that an effluent discharge to surface water is more likely to occur during rain-on-snow events or when the ponds fill with snow. Under such conditions, the effluent would likely be diluted due to the additional water in the ponds and/or elevated inflow and infiltration in the collection system. On a similar note, the receiving water flow and water quality characteristics during a discharge to surface water event may differ significantly from the conditions present on the day of the simulated discharge event. As a result, the simulated discharge data from 2017 and 2019 may not be fully representative of the characteristics of an effluent discharge (and the receiving water) when an actual discharge to surface water event may be necessary. However, the simulated discharge data is useful for preliminary screening and assessment.

- c. **Assimilative Capacity/Mixing Zone - Not Applicable**
- d. **Conversion Factors.** The default U.S. EPA conversion factors contained in Appendix 3 of the SIP were used to convert the applicable dissolved criteria to total criteria when developing effluent limitations for CTR metals. Furthermore, a conservative dissolved-to-total metal translator of 1 has been used when developing effluent limitations for CTR metals. If the Discharger performs studies to determine site-specific dissolved-to-total metal translators this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.
- e. **Hardness-Dependent CTR Metals Criteria.** The CTR and the NTR contain water quality criteria for seven metals that vary as a function of hardness. The lower the hardness the lower the water quality criteria. The metals with hardness-dependent criteria include: cadmium, copper, chromium III, lead, nickel, silver, and zinc. For South Fork Battle Creek, the Basin Plan contains hardness-dependent site-specific objectives for cadmium, copper, and zinc that apply in lieu of the CTR acute criteria for these metals. This Order has established the criteria for hardness-dependent metals based on the hardness of the simulated effluent. Typically, receiving water hardness (actual ambient hardness), as required by the SIP and the CTR, is utilized for determining criteria. However, when effluent hardness is observed to be lower than receiving water hardness for a non-effluent dominated condition, it is protective to use the lowest effluent hardness rather than the receiving water hardness, because using

a higher ambient hardness per the CTR may not comply with the Narrative Toxicity Objective.

The hardness for South Fork Battle Creek was collected on two sampling events during the term of the Order. On 14 February 2017 the receiving water hardness was measured at 17 mg/L as CaCO₃ and on 9 April 2019 the receiving water hardness was measured at 18 mg/L as CaCO₃. Effluent hardness collected on 14 February 2017 and 9 April 2019, was 13 mg/L as CaCO₃ and 17 mg/L as CaCO₃, respectively. Effluent hardness (at 13 mg/L as CaCO₃) was used to calculate hardness dependent metals criteria due the nature of the non-effluent dominated discharge condition and the effluent hardness being lower than the observed receiving water hardness.

The Central Valley Water Board finds that the use of the ambient hardness values and associated acute and chronic criteria shown in Table F-6, below, to conduct the reasonable potential analysis (RPA) and calculate WQBELs, protect beneficial uses and comply with the SIP, CTR, and the Basin Plan.

Table F-6. Summary of Criteria for CTR Hardness-dependent Metals

CTR Metals	Ambient Hardness (mg/L)	Acute Criteria (µg/L, total)	Chronic Criteria (µg/L, total)
Copper	13	2.0	1.6
Chromium III	13	330	39
Cadmium	13	0.45	0.5
Lead	13	6.1	0.24
Nickel	13	83	9.3
Silver	13	0.12	--
Zinc	13	6.4	21

Table F-6 Notes:

- Criteria (ug/L total).** Acute and chronic criteria were rounded to two significant figures in accordance with the CTR (40 C.F.R. section 131.38(b)(2)).
- Ambient hardness (mg/L).** Values in Table F-6 represent observed effluent hardness measurements because the effluent hardness is lower than receiving water hardness. For non-effluent dominated condition, the lowest effluent hardness should be used, because using a higher ambient hardness per the CTR may not comply with the Narrative Toxicity Objective.
- Acute Criteria.** The acute criteria for cadmium, copper, and zinc are based on site-specific objectives provided in the Basin Plan.

3. Determining the Need for WQBELs

Clean Water Act section 301(b)(1)(C) requires effluent limitations necessary to meet water quality standards, and 40 C.F.R. section 122.44(d) requires NPDES

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

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

a. **Constituents with Total Maximum Daily Load (TMDL).**

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

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

i. **Diazinon and Chlorpyrifos.**

- (a) **WQO.** The Central Valley Water Board completed a TMDL for diazinon and chlorpyrifos for the Sacramento River and San Joaquin River Basins and amended the Basin Plan to include diazinon and chlorpyrifos waste load allocations and water quality objectives. The Basin Plan Amendment for the Sacramento River and San Joaquin River Basins for Control of Diazinon and Chlorpyrifos Discharges was adopted by the Central Valley Water Board on 28 March 2014 and became effective on 16 August 2017.

The amendment modified Basin Plan Chapter 3 (Water Quality Objectives) to establish site-specific numeric objectives for diazinon and chlorpyrifos for waters with COLD and/or WARM beneficial uses below major dams and identified the requirements to meet the additive formula already in Basin Plan Chapter 4 (Implementation) for the additive toxicity of diazinon and chlorpyrifos:

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

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

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 WLAs apply to waterbodies that are downstream of the major dams in Table 3-5 of the Basin Plan, which includes Keswick Dam on the Sacramento River. The Facility discharges to the South Fork Battle Creek, which is tributary to the Sacramento River downstream of Keswick Dam via Battle Creek.

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

Average Monthly Effluent Limitation (AMEL)

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

Where:

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

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

Average Weekly Effluent Limitation (AWEL)

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

Where:

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

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

- (c) **Plant Performance and Attainability.** Chlorpyrifos and diazinon were not detected in the effluent sampling events conducted on January 2017 and April 2019. Furthermore, since these pesticides have been banned for public use, they are not expected to be present in the influent to the Facility. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.
- b. **Constituents with No Reasonable Potential.** Central Valley Water Board staff conducted reasonable potential analyses for nearly 200 constituents, including the 126 U.S. EPA priority toxic pollutants. All reasonable potential analyses are included in the administrative record and a summary of the constituents of concern is provided in Attachment G. WQBELs are not included in this Order for constituents that do not demonstrate reasonable potential to cause or contribute to an instream excursion of an applicable water quality objective; however, monitoring for those pollutants is established in this Order as required by the SIP. If the results of effluent monitoring demonstrate reasonable potential, this Order may be reopened and modified by adding an appropriate effluent limitation.

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

i. **Salinity**

- (a) **WQO.** The Basin Plan contains a chemical constituent objective that incorporates state MCLs, contains a narrative objective, and contains numeric water quality objectives for certain specified water bodies for electrical conductivity, total dissolved solids, sulfate, and chloride. The U.S. EPA Ambient Water Quality Criteria for Chloride recommends acute and chronic criteria for the protection of aquatic life. There are no U.S. EPA water quality criteria for the protection of aquatic life for electrical conductivity, total dissolved solids, and sulfate. Additionally, there are no U.S. EPA numeric water quality criteria for the protection of agricultural, livestock, and industrial uses. Numeric values for the protection of these uses are typically based on site specific conditions and evaluations to determine the appropriate constituent threshold necessary to interpret the narrative chemical constituent Basin Plan objective. The Central Valley Water Board must determine the applicable numeric limit to implement the narrative objective for the protection of agricultural supply. Table F-7, below, contains

various recommended levels for EC or TDS, sulfate, and chloride.

Table F-7. Salinity Water Quality Criteria/Objectives

Parameters	Secondary MCL Recommended Level	Secondary MCL Upper Level	Secondary MCL Short-term Maximum	U.S. EPA NAWQC	Maximum Calendar Annual Average Effluent Concentration	Maximum Daily Effluent Concentration
EC (µmhos/cm) or TDS (mg/L)	EC 900	EC 1,600	EC 2,200	N/A	No Data	45
Sulfate (mg/L)	250	500	600	N/A	No Data	1.5
Chloride (mg/L)	250	500	600	860 1-hour / 230 4-day	0.72	4.5

Table F-7 Notes:

1. **Agricultural Water Quality Objectives.** Applicable agricultural water quality objectives vary. Narrative chemical constituent objective of the Basin Plan. Procedures for establishing the applicable numeric limitation to implement the narrative objective can be found in the Policy for Application of Water Quality Objectives, section 4.2.2.1.9 of the Basin Plan. However, the Basin Plan does not require improvement over naturally occurring background concentrations. In cases where the natural background concentration 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. **Electrical Conductivity or Total Dissolved Solids.** The Secondary MCL for EC is 900 µmhos/cm as a recommended level, 1600 µmhos/cm as an upper level, and 2200 µmhos/cm as a short-term maximum, or when expressed as TDS is 500 mg/L as a recommended level, 1000 mg/L as an upper level, and 1500 mg/L as a short-term maximum. The Basin Plan contains a site-specific receiving water electrical conductivity limit not to exceed 230 µmhos/cm (50 percentile) or 235 µmhos/cm (90 percentile) in the Sacramento River (at Knights Landing above Colusa Basin Drain), based upon the previous 10 years of record.

(b) **RPA Results.**

- (1) **Chloride.** Chloride concentrations in the effluent ranged were 0.72 mg/L (2017) and 4.5 mg/L (2019). These levels do not exceed the Secondary MCL. Background chloride

concentrations in South Fork Battle Creek were 0.69 mg/L (2017) and 0.44 mg/L DNQ (RL 0.5 mg/L) (2019).

- (2) **Electrical Conductivity or Total Dissolved Solids.** A review of the Discharger's monitoring reports shows an average effluent EC of 64.5 µmhos/cm, based on two samples from 2017 and 2019. These levels do not exceed the Secondary MCL. The background receiving water EC averaged 41 µmhos/cm based on the 2017 and 2019 samples. The average TDS effluent concentration was 34.5 mg/L, based on both the 2017 and 2019 samples. These levels do not exceed the Secondary MCL. The background receiving water TDS averaged 44 mg/L based on the 2017 and 2019 samples.
- (3) **Sulfate.** Sulfate was only sampled for during the 14 February 2017 sampling event, resulting in a 1.5 mg/L concentration. These levels do not exceed the Secondary MCL. Background concentrations were not sampled for in the South Fork Battle Creek.

(c) **WQBELs.**

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

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

The Discharger submitted a Notice of Intent for the Salinity Control Program on 13 July 2021 indicating its intent to meet the Alternative Salinity Permitting Approach. This Order requires implementation of a Salinity Evaluation and Minimization Plan, participation in the Salinity P&O Study, and includes a performance-based trigger for EC consistent with the Alternative Salinity Permitting Approach.

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

i. **Aluminum**

- (a) **WQO.** The State Water Board Division of Drinking Water (DDW) has established Secondary Maximum Contaminant Levels (MCLs) to assist public drinking water systems in managing their drinking water for public welfare considerations, such as taste, color, and odor. The Secondary MCL for aluminum is 200 µg/L for protection of the MUN beneficial use. The Basin Plan requires compliance with Secondary MCLs on an annual average basis.

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

A CMC of 1100 µg/L and CCC of 479 µg/L were calculated considering pH, hardness, and DOC representative of the receiving water and effluent conditions. Effluent and receiving water sampling results for pH and hardness collected on 14 February 2017 and 9 April 2019 were used in the evaluation. In the absence of DOC data, the criteria were calculated

considering a conservative assumption of DOC for the receiving water and effluent of 1 mg/L and 5 mg/L, respectively.

- (b) **RPA Results.** The Discharger reported total aluminum results for samples taken on 14 February 2017 of 388 µg/L in the effluent and 288 µg/L in the upstream receiving water. For samples taken on 4 April 2019, the Discharger reported effluent total aluminum results of 126 µg/L and 364 µg/L in the upstream receiving water. The aluminum samples exceeded the secondary MCL of 200 µg/L for protection of MUN beneficial use. However, no 1.5-micron filtered samples are available to compare with the Basin Plan objective.

Therefore, the data is inappropriate and insufficient to determine reasonable potential.

The Central Valley Water Board can require additional monitoring for a pollutant in place of an effluent limitation if data are unavailable or insufficient. Instead of effluent limitations, monitoring for aluminum in the effluent and receiving water is required as part of the effluent and receiving water characterization study described in section IX.C of the MRP, Attachment E. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard, this Order may be reopened and modified by adding an appropriate effluent limitation (Reopener Provision VI.C.1.a.ii).

ii. Ammonia

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

The Central Valley Clean Water Association (CVCWA) organized a coordinated effort for POTWs within the Central Valley Region, the Freshwater Mussel Collaborative Study for Wastewater Treatment Plants, to determine how the latest

scientific knowledge on the toxicity of ammonia reflected in the 2013 Criteria could be implemented in the Central Valley Region. Through this effort a Criteria Recalculation Report was developed in January 2020 using toxicity studies for the freshwater mussel species present in Central Valley Region waters.

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

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

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

The acute (1-hour average) criterion or CMC was calculated using paired effluent pH and temperature data, collected during the simulated discharge events on 14 February 2017 and 9 April 2019. The most stringent CMC of 2.14 mg/L (ammonia as N) calculated has been implemented in this Order.

The chronic (30-day average) criterion or CCC was calculated using paired downstream receiving water pH and temperature data, collected during the 14 February 2017 and 9 April 2019 simulated discharge events. The most stringent 30-day rolling average CCC of 4.94 mg/L (ammonia as N) has been implemented in this Order.

The chronic (4-day average) concentration is derived in accordance with the U.S. EPA criterion as 2.5 times the 30-day CCC. Based on the 30-day CCC of 4.94 mg/L (ammonia as N), the 4-day average concentration that should not be exceeded is 12.36 mg/L (ammonia as N).

- (b) **RPA Results.** The effluent and receiving water ammonia results were all non-detects with a method detection limit above the criteria. However, the effluent and receiving water samples were collected during the simulated discharge events. Therefore, the data is inappropriate and insufficient to determine reasonable potential.

The Central Valley Water Board can require additional monitoring for a pollutant in place of an effluent limitation if data are unavailable or insufficient. Instead of effluent limitations, monitoring for ammonia in the effluent and receiving water is required as part of the routine effluent monitoring (Table E-3 of the MRP section IV.A) and the effluent and receiving water characterization study described in section IX.C of the MRP, Attachment E. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard, this Order may be reopened and modified by adding an appropriate effluent limitation (Reopener Provision VI.C.1.a.ii).

iii. Nitrate and Nitrite

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

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

(b) **RPA Results.**

In the simulated discharge on 14 February 2017, the effluent nitrate concentration was 0.12 mg/L and the nitrite concentration was 0.004 mg/L (DNQ). For the simulated discharge on 9 April 2019, nitrate and nitrite were not detected (< 0.02 mg/L and <0.003 mg/L, respectively) in the effluent. These nitrate and nitrite levels do not exceed their respective Primary MCLs. Background concentrations were not sampled for in the South Fork Battle Creek. As discussed in section IV.C.2.b of this Fact Sheet, the simulated discharge may not be representative of the conditions during an actual surface water discharge event. Therefore, the nitrate and nitrite data are inappropriate and insufficient to determine reasonable potential.

The Central Valley Water Board can require additional monitoring for a pollutant in place of an effluent limitation if data are unavailable or insufficient. Instead of effluent limitations, monitoring for nitrate (as N) and nitrite (as N) in the effluent and receiving water is required as part of the routine effluent monitoring (Table E-3 of the MRP section IV.A) and the effluent and receiving water characterization study described in section IX.C of the MRP, Attachment E. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard, this Order may be reopened and modified by adding an appropriate effluent limitation (Reopener Provision VI.C.1.a.ii)..

iv. **Copper**

- (a) **WQO.** The CTR and Basin Plan include hardness-dependent criteria for the protection of freshwater aquatic life for copper. These criteria for copper are presented in dissolved concentrations, as 1-hour acute criteria and 4-day chronic criteria. Default U.S. EPA translators were used to translate dissolved concentrations to total concentrations.
- (b) **RPA Results.** The maximum effluent concentration for copper was 2.6 µg/L, based on the two samples collected during the simulated discharge events. The maximum observed upstream receiving water copper concentration was 0.5 µg/L, based on two samples collected during the simulated discharge events. The RPA was conducted using the upstream receiving water hardness to calculate the criteria for comparison to the maximum ambient background concentration, and the lowest

effluent hardness was used to calculate the criteria for comparison to the maximum effluent concentration, as shown in Section IV.C.2.e of this Fact Sheet. The table below shows the specific criteria used for the RPA.

Table F-8. Copper RPA Criteria

Water Type	CTR Chronic Criterion (Total)	Maximum Concentration (Total)	Criteria Exceeded? (Y/N)
Receiving Water	2.1 µg/L	0.5 µg/L	No
Effluent	1.6 µg/L	2.6 µg/L	Yes

Table F-8 Notes:

1. **Receiving Water.** The CTR Chronic Criterion (Total) for the receiving water is based on lowest observed upstream hardness of 17 mg/L (as CaCO₃).
2. **Effluent.** The CTR Chronic Criterion (Total) for the effluent is based on the lowest observed effluent hardness of 13 mg/L (as CaCO₃).

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.*” The reported effluent and receiving water data was collected during a simulated discharge event and as discussed in the section IV.C.2.b of this Fact Sheet, may not be representative of the discharge and the receiving water under an actual discharge to surface water event. Therefore, the data is inappropriate and insufficient to determine reasonable potential.

The Central Valley Water Board can require additional monitoring for a pollutant in place of an effluent limitation if data are unavailable or insufficient. Instead of effluent limitations, monitoring for copper in the effluent and receiving water is required as part of the routine effluent monitoring (Table E-3 of the MRP section IV.A) and the effluent and receiving water characterization study described in section IX.C of the MRP, Attachment E. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard, this Order may be reopened and modified by adding an appropriate effluent limitation (Reopener Provision VI.C.1.a.ii).

v. **Lead**

- (a) **WQO.** The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for lead. These criteria for lead are presented in dissolved concentrations, as 1-hour acute criteria and 4-day chronic criteria. Default U.S. EPA translators were used to translate dissolved concentrations to total concentrations. The RPA was conducted using the upstream receiving water hardness to calculate the criteria for comparison to the maximum ambient background concentration, and the lowest effluent hardness was used to calculate the criteria for comparison to the maximum effluent concentration, as shown in Section IV.C.2.e of this Fact Sheet. The table below shows the specific criteria used for the RPA.
- (b) **RPA Results.** The maximum effluent concentration for lead was 0.3 µg/L, based on two samples collected during the simulate discharge events. The maximum observed upstream receiving water lead concentration was 0.18 µg/L, based on two samples collected during the 2017 and 2019 simulated discharge events.

Table F-9. Lead RPA Criteria

Water Type	CTR Chronic Criterion (Total)	Maximum Concentration (Total)	Criteria Exceeded? (Y/N)
Receiving Water	0.33 µg/L	0.18 µg/L	No
Effluent	0.24 µg/L	0.30 µg/L	Yes

Table F-9 Notes:

- Receiving Water.** The CTR Chronic Criterion (Total) for the receiving water is based on lowest observed upstream hardness of 17 mg/L (as CaCO₃).
- Effluent.** The CTR Chronic Criterion (Total) for the effluent is based on the lowest observed effluent hardness of 13 mg/L (as CaCO₃).

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.*” The reported effluent and receiving water data was collected during a simulated discharge event and as discussed in the section IV.C.2.b of this Fact Sheet, may not be representative of the discharge and the receiving water under an actual discharge to surface water event. Therefore, the data is inappropriate and insufficient to determine reasonable potential.

The Central Valley Water Board can require additional monitoring for a pollutant in place of an effluent limitation if data are unavailable or insufficient. Instead of effluent limitations, monitoring for lead in the effluent and receiving water is required as part of the routine effluent monitoring (Table E-3 of the MRP section IV.A) and the effluent and receiving water characterization study described in section IX.C of the MRP, Attachment E. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard, this Order may be reopened and modified by adding an appropriate effluent limitation (Reopener Provision VI.C.1.a.ii).

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

i. **Pathogens**

- (a) **WQO.** In a letter to the Central Valley Water Board dated 8 April 1999, DPH indicated it would consider wastewater discharged to water bodies with identified beneficial uses of irrigation or contact recreation and where the wastewater receives dilution of more than 20:1 to be adequately disinfected if the effluent coliform concentration does not exceed 23 MPN/100 mL as a 7-day median and if the effluent coliform concentration does not exceed 240 MPN/100 mL more than once in any 30 day period.
- (b) **RPA Results.** Municipal and domestic supply, agricultural irrigation, and body contact water recreation are beneficial uses of South Fork Battle Creek. Discharge to South Fork Battle Creek is prohibited during the recreation season (April 16 to November 14). In addition, this Order prohibits discharge to South Fork Battle Creek when the receiving water flow is less than 35 cfs, therefore the wastewater receives dilution of more than 20:1 at all times. Discharge during the wet season would only be necessary during periods of prolonged heavy rainfall or snow melt when the corresponding receiving water flow would also be high. The Facility did not discharge during the term of the previous Order No. R5-2015-0073.

- (c) **WQBELs.** Pursuant to guidance from DDW, this Order includes effluent limitations for total coliform organisms of 23 MPN/100 mL as a 7-day median and 240 MPN/100 mL, not to be exceeded more than once in a 30-day period. These total coliform organisms limits are imposed to protect the beneficial uses of the receiving water, including public health through contact recreation, agricultural supply, and drinking water pathways.

The tertiary treatment standards for BOD5 and TSS are indicators of the effectiveness of the tertiary treatment process. One of the principal design parameters for wastewater treatment plants is the daily BOD5 and TSS loading rate 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 secondary standards currently prescribed. Final WQBELs for BOD5 are based on the technical capability of the tertiary treatment process, which is necessary to protect the beneficial uses of the receiving water. However, because the Facility is a pond system and higher concentrations of TSS are expected in the effluent, final WQBELs for maximum daily TSS are based on best professional judgment and interpretation of the secondary treatment standards found in 40 CFR 133.102.

Therefore, this Order requires an AMEL for BOD5 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 daily maximum effluent limitation for BOD5 is included in the Order to ensure that the treatment works are not organically overloaded and operate in accordance with design capabilities.

- (d) **Plant Performance and Attainability.** The Facility is designed with chlorine disinfection to remove pathogens. In addition, the Discharger has not discharged to South Fork Battle Creek during the term of the previous Order (except for simulated discharge events). If discharge is necessary, it would occur during periods when runoff and flow in South Fork Battle Creek would provide for greater than 20:1 dilution. Therefore, the Central Valley Water Board concludes that immediate compliance with these effluent limitations is feasible.

ii. pH

- (a) **WQO.** The Basin Plan includes a water quality objective for surface waters (except for Goose Lake) that the “pH shall not be depressed below 6.5 nor raised above 8.5
- (b) **RPA Results.** Raw domestic wastewater inherently has variable pH. Additionally, some wastewater treatment processes can increase or decrease wastewater pH which if not properly controlled, would violate the Basin Plan’s numeric objective for pH in the receiving water. Therefore, reasonable potential exists for pH and WQBELs are required.

Federal regulations at 40 C.F.R. §122.44(d)(1)(i) requires that, “Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.” For priority pollutants, the SIP dictates the procedures for conducting the RPA. pH is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent.

USEPA’s September 2010 NPDES Permit Writer’s Manual, page 6-30, states, “State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available...A permitting authority might also determine that WQBELs are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBELs for pathogens in all permits for POTWs discharging to contact recreational waters).” USEPA’s TSD also recommends that factors other than effluent data should be considered in the RPA, “When determining whether or not a discharge causes, has the reasonable potential to cause, or contributes to an excursion of a numeric or narrative water quality criterion for individual toxicants or for toxicity, the regulatory authority can use a variety of factors and information where facility-specific effluent monitoring data are unavailable. These factors also should be considered with available effluent

monitoring data.” (TSD, p. 50)

The Facility is a POTW that treats domestic wastewater. Because the Facility did not discharge during the previous permit term except during two simulated discharge events, limited pH data is available. The pH for the Facility’s influent varies due to the nature of municipal sewage, which provides the basis for the discharge to have a reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan’s numeric objective for pH in the receiving water. Therefore, WQBELs for pH are required in this Order.

- (c) **WQBELs.** Effluent limitations for pH of 6.0 as an instantaneous minimum and 9.0 as an instantaneous maximum are included in this Order, as significant dilution is available in the receiving water as a result of Discharge Prohibition III.E, which results in protection of the Basin Plan objectives for pH.
- (d) **Plant Performance and Attainability.** Based upon typical plant performances, the treatment plant is likely capable of meeting effluent limitations for pH.

iii. Chlorine Residual

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

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

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

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

- (d) **Plant Performance and Attainability.** The Discharger uses sodium bisulfite to dechlorinate the effluent prior to discharge to South Fork Battle Creek. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

4. WQBEL Calculations

- a. This Order includes WQBELs for total chlorine residual, BOD, and pH. The general methodology for calculating WQBELs based on the different criteria/objectives is described in subsections IV.C.4.b through e, below. See Attachment H for the WQBEL calculations.
- b. **Effluent Concentration Allowance.** For each water quality criterion/objective, the ECA is calculated using the following steady-state mass balance equation from section 1.4 of the SIP:

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

where:

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

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

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

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

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

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

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

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

where:

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

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

Table F-10. Summary of Water Quality-Based Effluent Limitations

Parameter	Units	Average Monthly Effluent Limitation	Average Weekly Effluent Limitation	Maximum Daily Effluent Limitation
BOD5	mg/L	10	15	--
TSS	mg/L	30	45	--
Chlorine, Total Residual	mg/L	--	0.019	0.011
pH	Standard Units	--	--	6.0 – 9.0
Total Coliform Organisms	MPN/100 mL	240	23	--
Diazinon and Chlorpyrifos	µg/L	See table notes	See table note	--

Table F-10 Notes:

- Chlorine, Total Residual – Average Weekly Effluent Limitation.** Applied as a 4-day average effluent limitation.
- Chlorine, Total Residual – Maximum Daily Effluent Limitation.** Applied as a 1-hour average effluent limitation.
- Diazinon and Chlorpyrifos – Average Monthly Effluent Limitation.**

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

- Diazinon and Chlorpyrifos – Average Weekly Effluent Limitation.**

$$S_{avg} = \frac{C_{D\ avg}}{0.14} + \frac{C_{C\ avg}}{0.021} \leq 1.0$$

- pH – Maximum Daily Effluent Limitations** – Applied as a range from instantaneous minimum to instantaneous maximum.
- Total Coliform Organisms – Average Weekly Effluent Limitation.** Applied as a 7-day median.
- Total Coliform Organisms – Average Monthly Effluent Limitation.** Applied as: Not to exceed more than once in any 30-day period.

5. Whole Effluent Toxicity (WET)

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

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

a. Chronic Toxicity.

- i. **WQO.** The chronic aquatic toxicity water quality objective is expressed as a null hypothesis and an alternative hypothesis with a regulatory management decision (RMD) of 0.75, where the following null hypothesis, H_0 , shall be used

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

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

H_a : Mean response (ambient water) $> 0.75 \cdot$ mean response (control)

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

- ii. **RPA.** Discharge to the South Fork Battle Creek is infrequent. As stated in the previous Order, between 1997 and 2007, the Facility discharged a total of 11 days (10 days between 1997 and 2002, and one day between 2002 and 2006). Since 2007, the Facility has not had a direct discharge to surface water, outside a few simulated discharge events, for wastewater characterization purposes.

The current Order (R5-2015-0073) required three simulated discharge events for wastewater characterization purposes. Two out of the three simulated discharges were completed in 2017 and 2019 (one day each). The facility did not receive enough inflow for the required third simulated discharge due to drought conditions and collection system improvements which resulted in a reduction of historical inflow and infiltration rates. The two simulated discharges in 2017 and 2019 lasted approximately eight hours each and no samples were collected for chronic WET analysis. As a result, there are no chronic WET tests results to analyze to conduct a reasonable potential analysis.

The Facility is permitted to discharge to surface water continuously during the wet weather season, however, the discharge has always been intermittent and infrequent, if any. Furthermore, the infrequent discharge events have been one to two-day events, and records do not indicate that there have been any discharges to surface waters that exceeded 15 days in duration. The infrequent nature of the discharge may allow consideration for the Facility discharge to be considered insignificant, however, because the Facility is permitted to discharge continuously through the wet season, it is reasonable to perform a RPA if data become available as a result of an extended discharge event (e.g., 15 days of discharge) or through a most sensitive species screening.

This Order requires the Discharger to continue to monitor for chronic WET in the effluent. When additional data become available, further analysis will be conducted to determine whether to add chronic WET effluent limitations. This Order also includes a reopener provision to allow for the establishment of a chronic WET effluent limitation if data demonstrate the need.

- iii. **Chronic WET Target.** Due to insufficient data, RP cannot be determined at this time. In lieu of limits, chronic WET targets have been established. The chronic WET targets are used to determine whether a Toxicity Reduction Evaluation (TRE) should be conducted.
- b. **Acute Toxicity.**
 - i. **WQO.** The acute aquatic toxicity water quality objective is expressed as a null hypothesis and an alternative hypothesis with a regulatory management decision (RMD) of 0.80, where the following null hypothesis, H_0 , shall be used:

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

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

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

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

- ii. **RPA.** The table below is acute WET testing performed by the Discharger on 14 February 2017 and 9 April 2019.

Table F-11 Acute Whole Effluent Toxicity Testing Results

Date	Rainbow Trout (<i>Oncorhynchus mykiss</i>)
	Percent Survival
14 February 2017	100
9 April 2019	100

No dilution has been granted for acute whole effluent toxicity. Therefore, acute toxicity testing has been conducted at an instream waste concentration (IWC) of 100 percent effluent. A test result that fails the Test of Significant Toxicity (TST) demonstrates the discharge has a reasonable potential to cause or contribute to an exceedance of the Statewide Toxicity Provisions aquatic toxicity numeric objectives and the Basin Plan’s narrative toxicity objective. Based on acute toxicity testing conducted on 14 February 2017 and 9 April 2019, 100 percent survival of the test species was observed, and effluent limits for acute toxicity were not exceeded during the term of the previous Order. However, the acute WET test results could not be analyzed with a TST because only two replicates for the species were analyzed in each of the sampling events.

For priority pollutants, the SIP dictates the procedures for conducting the RPA. Acute toxicity is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA. U.S. EPA’s September 2010 NPDES Permit Writer’s Manual, page 6-30, states, “State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available...A permitting

authority might also determine that WQBELs are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBELs for pathogens in all permits for POTWs discharging to contact recreational waters).” The Facility is a POTW that treats domestic wastewater containing ammonia and other toxic pollutants. In addition, due to the infrequent nature of the discharge and short length of time (typically one day) of a discharge to surface water event, chronic WET data is unavailable for this Facility and may be unattainable for use in assessing whole effluent toxicity during the term of the Order. The discharge and operational characteristics of the discharge support the determination that the discharge has a reasonable potential to cause or contribute to an instream exceedance of the Statewide Toxicity Provisions aquatic toxicity numeric objectives and Basin Plan’s narrative toxicity objective and water quality-based effluent limits for acute toxicity are required.

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

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

Acute Whole Effluent Toxicity MMEL. No more than one acute aquatic toxicity tests initiated in a calendar month shall result in a “Fail” at the Instream Waste Concentration (IWC).

D. Final Effluent Limitation Considerations

1. 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 pH, chlorine residual, and total coliform, weekly average effluent limitations have been replaced or supplemented with effluent limitations utilizing shorter averaging periods. The rationale for using shorter averaging periods for constituents is discussed in section IV.C.3 of this Fact Sheet.

2. 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).

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

3. Antidegradation Policies

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

This Order also removes MDELs and mass-based effluent limitations for BOD₅ and TSS based on 40 CFR parts 122.45 (d) and (f). The removal of the MDELs 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 Order are equivalent to mass-based effluent limitations, which were redundant limits contained in previous Orders by multiplying the concentration-based effluent limits and permitted average dry weather flow by a conversion factor to determine the mass-based effluent limitations. The Central Valley Water Board finds that the removal of the MDELs and mass-based effluent limits for BOD₅ and TSS does not result in an allowed increase in pollutants or any additional degradation of the receiving water. Thus, the removal of the MDELs and mass-based effluent limits for BOD₅ and TSS is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and the State Antidegradation Policy.

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

- b. **Groundwater.**

The Discharger utilizes a clay-lined aeration basin and two evaporation/percolation ponds. Domestic wastewater contains

constituents such as total dissolved solids (TDS), specific conductivity, pathogens, nitrates, organics, metals and oxygen demanding substances (BOD). Percolation from the ponds may result in an increase in the concentration of these constituents in groundwater. The increase in the concentration of these constituents in groundwater must be consistent with State Water Board Resolution No. 68-16. Some degradation of groundwater by the Discharger is consistent with Resolution No. 68-16 provided that:

- i. the degradation is limited in extent;
- ii. the degradation after effective source control, treatment, and control is limited to waste constituents typically encountered in municipal wastewater as specified in the groundwater limitations in this Order;
- iii. the Discharger minimizes the degradation by fully implementing, regularly maintaining, and optimally operating best practicable treatment and control (BPTC) measures; and
- iv. the degradation does not result in water quality less than that prescribed in the Basin Plan.

Compliance with this Order will result in the use of best practicable treatment or control to prevent impacts to groundwater. Groundwater limitations have been included in this Order for protection of the MUN beneficial use of groundwater. Additionally, this Order includes land application requirements, monitoring and reporting requirements, pond operating specifications, sludge and biosolid specifications, and compliance with the CV-SALTS Basin Plan Amendment. Finally, this Order requires evaluation of the groundwater monitoring network; implementation of a groundwater monitoring well installation work plan, if necessary. Any increase in pollutant concentrations in groundwater, despite these controls, is consistent with maximum benefit to the people of the State given the necessity of wastewater utility service to accommodate housing and economic expansion in the area. Accordingly, the permitted discharge is consistent with Resolution No. 68-16.

4. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD5, TSS, and pH. Restrictions on these pollutants are discussed in section IV.B.2. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations more stringent than the minimum, federal technology-based requirements that are necessary to meet water quality standards. For BOD5, TSS, and pH, both technology-

based effluent limitations and water quality-based effluent limitations are applicable. The more stringent of these effluent limitations are implemented by this Order.

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

Table F-11 Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations	Basis ¹
Biochemical Oxygen Demand (BOD5), 5-day @ 20°C	mg/L	AMEL 10 AWEL 15	TTC
BOD5	% Removal	AMEL 85	CFR
Total Suspended Solids	mg/L	AMEL 30 AWEL 45	BPJ/CFR
Total Suspended Solids	% Removal	AMEL 85	CFR
Chlorine, Total Residual	mg/L	4-day average 0.011 1-hour average 0.019	NAWQC
Diazinon and Chlorpyrifos	µg/L	See table notes	TMDL
Total Coliform Organisms	MPN/100 mL	23 as a 7-day median, 240 more than once in a 30-day period	Title 22
pH	Standard Units	Instantaneous Max 9.0 Instantaneous Min 6.0	BP, BPJ, CFR
Acute Toxicity	Pass/Fail	MDEL: Pass MMEL: Pass	TOX

Table F-11 Notes:

BPJ – Best Professional Judgement.

TTC – Based on tertiary treatment capability. These effluent limitations reflect the capability of a properly operated tertiary treatment plant.

CFR – Based on secondary treatment standards contained in 40 CFR part 133.

BP – Based on water quality objectives contained in the Basin Plan.

NAWQC – Based on U.S. EPA’s National Ambient Water Quality Criteria for the protection of freshwater aquatic life.

TOX – Based on Statewide Toxicity Provisions.

TMDL – Based on the TMDL for diazinon and chlorpyrifos for the Sacramento River and San Joaquin River Basins.

Title 22 – Based on State Water Board Division of Drinking Water Reclamation Criteria, CCR, Division 4, Chapter 3 (Title 22).

Diazinon and Chlorpyrifos – Average Monthly Effluent Limitation:

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

Diazinon and Chlorpyrifos – Average Weekly Effluent Limitation:

$$S_{avg} = \frac{C_{D\ avg}}{0.14} + \frac{C_{C\ avg}}{0.021} \leq 1.0$$

E. Interim Effluent Limitations – NOT APPLICABLE

F. Land Discharge Specifications

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

G. Recycling Specifications – Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

1. CWA section 303(a-c), requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The Central Valley Water Board adopted water quality criteria as water quality objectives in the Basin Plan. The Basin Plan states that “[t]he numerical and narrative water quality objectives define the least stringent standards that the Regional Water Board will apply to regional waters in order to protect the beneficial uses.” The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies. This Order contains receiving surface water limitations based on the Basin Plan numerical and narrative water quality objectives for ammonia, bacteria, biostimulatory substances, color, chemical constituents, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, suspended sediment, settleable substances, suspended material, tastes and odors, temperature, toxicity, and turbidity.

- a. **Bacteria.** On 7 August 2018 the State Water Board adopted Resolution No. 2018-0038 establishing Bacteria Provisions, which are specifically titled “Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California – Bacteria Provisions and a Water Quality Standards Variance Policy” and “Amendment to the Water Quality Control Plan for Ocean Waters of California – Bacteria Provisions and a Water Quality Standards Variance Policy.” The Bacteria Water Quality Objectives established in the Bacteria Provisions supersede any numeric water quality objective for bacteria for the REC-1 beneficial use contained in a water quality control plan before the effective date of the Bacteria Provisions.

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

The Bacteria Provisions provide that where a permit, waste discharge requirement (WDR), or waiver of WDR includes an effluent limitation or discharge requirement that is derived from a water quality objective or other guidance to control bacteria (for any beneficial use) that is more stringent than the Bacteria Water Quality Objective, the Bacteria Water Quality Objective would not be implemented in the permit, WDR, or waiver of WDR. This standard has not been met in this Order, therefore, the Bacteria Water Quality Objective has been implemented as a receiving water limitation.

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

B. Groundwater

1. The beneficial uses of the underlying groundwater are municipal and domestic supply, industrial service supply, industrial process supply, and agricultural supply.
2. Basin Plan water quality objectives include narrative objectives for chemical constituents, tastes and odors, and toxicity of groundwater. The toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants, animals, or aquatic life. The chemical constituent objective states groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use. The tastes and odors objective prohibit taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan also establishes numerical water quality objectives for chemical constituents and radioactivity in groundwaters designated as municipal supply. These include, at a minimum, compliance with MCLs in Title 22 of the CCR. The bacteria objective prohibits coliform organisms at or above 2.2 MPN/100 mL. The Basin Plan requires the application of the most stringent objective necessary to ensure that waters do not contain chemical constituents, toxic substances, radionuclides, taste- or odor-producing substances, or bacteria in concentrations that adversely affect municipal or domestic supply, agricultural supply, industrial supply or some other beneficial use.
3. **Total Dissolved Solids.** Groundwater concentrations sampled quarterly from February 2016 to September 2022 ranged from 116 mg/L to a max concentration of 318 mg/L (8 November 2016) at well RGW-002, the monitoring well between the evaporation ponds. The maximum downgradient (at well RGW-003) TDS

concentration was 175 mg/L, sampled on 9 August 2016. TDS concentration values in the wastewater and in the groundwater are well below the secondary drinking water standards recommended range (500 mg/L) and upper range (1000 mg/L).

4. **Nitrate.** Groundwater concentrations sampled quarterly from February 2016 to November 2019 ranged from non-detect (<0.02 mg/L) to a max concentration of 0.52 mg/L (8 November 2016) at well RGW-002, the monitoring well between the evaporation ponds. The maximum downgradient nitrate concentration was 0.05 mg/L, sampled on 14 February 2017. Nitrate concentrations at PND-001 and PND-002 ranged from non-detect to a maximum concentration at PND-001 of 1.96 mg/L, based on 38 samples collected between February 2016 to November 2019. The maximum observed concentration occurred on 4 October 2016.

The Chemical Constituents objective prohibits concentrations of chemical constituents in excess of California MCLs in groundwater that is designated as municipal or domestic supply. The California primary MCL for nitrate is equivalent to 10 mg/L as nitrogen, and groundwater beneath the facility is designated as municipal or domestic supply. It is therefore appropriate to adopt a numerical groundwater limitation of 10 mg/L for nitrate as nitrogen to implement the Chemical Constituents objective to protect the municipal and domestic use of groundwater.

5. **pH.** Background pH in groundwater ranged from 5.89 SU. (12 September 2017) to 6.7 SU. (14 February 2017) based on 22 samples collected between February 2016 through September 2022. Groundwater pH sampled quarterly from February 2016 through September 2022 ranged from minimum pH of 6.17 SU (9 August 2016) to a maximum pH of 7.16 SU (11 September 2019) at well RGW-002, the monitoring well between the evaporation ponds. The minimum downgradient pH was 6.09 SU (9 August 2016) and the maximum downgradient pH was 7.08 (18 June 2019) measured at RGW-003. pH concentrations at PND-001 ranged from a minimum pH of 6.43 SU to a maximum pH of 9.82 SU based on 32 samples, pH concentrations at PND-002 ranged from a minimum pH of 6.5 SU to a maximum pH of 10.32 SU based on 28 samples.
6. **Ammonia.** Groundwater ammonia concentrations sampled quarterly from February 2016 to September 2022 ranged from non-detect (<0.017 mg/L) to a max concentration of 0.214 mg/L at well RGW-002, the monitoring well between evaporation ponds. The max downgradient (at RGW-003) ammonia concentration was 0.208 mg/L.
7. **Groundwater limitations** are required to protect the beneficial uses of the underlying groundwater.

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

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

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

B. Special Provisions

1. Reopener Provisions

- a. **Mercury.** This provision allows the Central Valley Water Board to reopen this Order in the event mercury is found to be causing toxicity based on acute or chronic toxicity test results, or if a TMDL program is adopted. In addition, this Order may be reopened if the Central Valley Water Board determines that a mercury offset program is feasible for dischargers subject to NPDES permits.
- b. **Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS).** On 17 January 2020, certain Basin Plan Amendments to incorporate new strategies for addressing ongoing salt and nitrate accumulation in the Central Valley became effective. Other provisions subject to U.S. EPA approval became effective on 2 November 2020, when approved by U.S. EPA. As the Central Valley Water Board moves forward to implement those provisions that are now in effect, this Order may be amended or modified to incorporate new or modified requirements necessary for implementation of the Basin Plan Amendments. More information regarding these Amendments can be found on the [Central Valley Salinity Alternatives for Long-Term Sustainability \(CV-SALTS\) web page](https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/):
(https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/)

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

2. Special Studies and Additional Monitoring Requirements

- a. **Groundwater Monitoring.** To determine compliance with the groundwater limitations contained in section V.B. of this Order, the Discharger is required to evaluate the adequacy of its groundwater monitoring network **due within 12 months following effective date of this Order**. This provision requires the Discharger to evaluate its groundwater monitoring network to ensure there are one or more background monitoring wells and a sufficient number of designated monitoring wells downgradient of every treatment, storage, and disposal unit that does or may release waste constituents to groundwater. The Discharger must install new groundwater monitoring wells, if necessary, collect monitoring data, and submit a report evaluating the underlying groundwater by **4 years from the effective date of this Order** If the monitoring shows that any constituent concentrations are increased above background water quality.
- b. **Toxicity Reduction Evaluation (TRE).** As explained in Fact Sheet section IV.C.5.a.iii, chronic aquatic toxicity targets (MMET and MDET) using *Ceriodaphnia dubia* as the most sensitive species have been included pursuant to the Toxicity Provisions. Pursuant to the Toxicity Provisions, the Discharger is required to initiate a TRE when any combination of two or more acute aquatic toxicity MDEL or MMEL violations occur within a single calendar month or within two successive calendar months. The Discharger is also required to initiate a TRE when any combination of two or more chronic aquatic toxicity MDET or MMET exceedances occur within a single calendar month or within two successive calendar months. In addition, if other information indicates toxicity (e.g., results of additional monitoring, results of monitoring at a higher concentration than the IWC, fish kills, intermittent recurring toxicity) or if there is no effluent available to complete a routine monitoring test or a MMET test, the Central Valley Water Board may require a TRE.

3. Best Management Practices and Pollution Prevention

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

The Discharger submitted a notice to intent for the Salt Control Program on 13 July 2021 indicating its intent to meet the Alternative Salinity Permitting Approach. Under the Alternative Permitting Approach the Basin Plan requires dischargers implement salinity minimization measures to maintain existing salinity levels, and participate in the P&O Study. The Discharger's NOI demonstrated adequate participation in the P&O and this Order requires continued participation to meeting the requirements of the Alternative Salinity Permitting Approach. This Order also requires continued implementation of the Discharger's Salinity Evaluation and Minimization Plan and includes a performance-based salinity trigger to ensure salinity levels do not increase. In accordance with the Basin Plan, the salinity trigger was developed based on existing facility performance and considers possible temporary increases that may occur due to water conservation and/or drought. Due to the limited salinity data obtained during the simulated discharge events, salinity data collected from the effluent discharge to the ponds was analyzed for the purpose of establishing performance-based salinity trigger.

4. Construction, Operation, and Maintenance Specifications

- a. **Pond Operating Requirements.** The operation and maintenance specifications for the treatment pond and evaporation/percolation ponds are necessary to protect the beneficial uses of the groundwater. The specifications included in this Order are retained from Order No. R5-2015-0073. In addition, reporting requirements related to use of the evaporation/percolation ponds are required to monitor their use and the potential impact on groundwater.
- b. **Filtration System Operating Specifications.** The pressure sand filters have a hydraulic capacity of 400 gpm (0.576 MGD) whereas the hydraulic design flow of the Facility is 0.75 MGD. Therefore, when the pressure sand filters are being used to the maximum extent practicable, additional flow which bypasses the sand filters (to increase total flow to 0.75 MGD) will not be considered a violation of prohibition III.B. Additionally, in order

to allow for complete effluent filtration of solids and to minimize solids loading to the receiving water and to satisfy antidegradation policies, the effluent filtration system shall be operated during periods of discharge to the maximum extent practicable.

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

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

6. Other Special Provisions

- a. **Annual Operation of the Filter System.** Due to the historic infrequency of effluent discharge to surface water the filter and chlorination/dechlorination systems are rarely utilized. The filter and chlorination/dechlorination system must be operated annually prior to the wet season to assure that the filter system, as well as the chlorination/dechlorination system is operating properly in the event discharge from the Facility to South Fork Battle Creek is necessary. The operation of the filter and chlorination/dechlorination shall recycle the discharge back to the ponds and not result in a discharge to the receiving water.
- b. **Prohibition Exception.** Prohibition III.G prohibits discharge of effluent to South Fork Battle Creek from April 16 to November 14. Exceptions may be granted by the Central Valley Water Board provided (a) the discharge is necessary due to circumstances that could not have reasonably been foreseen; (b) the Discharger demonstrates that the potential impacts of non-discharge would be greater than discharge; (c) the Discharger has previously taken all reasonable steps to prevent the discharge and all required maintenance has been performed; and (d) the discharge will not result will not result in the exceedance of any water quality objective in South Fork Battle Creek.

7. Compliance Schedules – NOT APPLICABLE

VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

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

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

Section 13176 cannot be interpreted in a manner that would violate federal holding time requirements that apply to NPDES permits pursuant to the CWA. (Wat. Code sections 13370, subd. (c), 13372, 13377.). Section 13176 is inapplicable to NPDES permits to the extent it is inconsistent with CWA requirements. (Wat. Code section 13372, subd. (a).) Lab accreditation is not required for field tests such as tests for color, odor, turbidity, pH, temperature, dissolved oxygen, electrical conductivity, and disinfectant residual. The holding time requirements are 15 minutes for these constituents (40 C.F.R. section 136.3(e), Table II). The Discharger maintains an ELAP accredited laboratory on-site and conducts analysis within the required hold times.

A. Influent Monitoring

1. Influent monitoring is required to collect data on the characteristics of the wastewater and to assess compliance with effluent limitations (e.g., BOD₅ and TSS reduction requirements). The monitoring frequencies and sample types have been retained from Order No. R5-2015-0073, except as noted in Table F-12, below.

B. Effluent Monitoring

1. Pursuant to the requirements of 40 C.F.R. section 122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations, assess the

effectiveness of the treatment process, and to assess the impacts of the discharge on the receiving stream and groundwater.

2. Effluent monitoring frequencies and sample types have been retained from Order No. R5-2015-0073, except as noted in Table F-12. In addition to the specific parameters listed in Table F-12, monitoring for certain non-CTR parameters were removed due to sufficient monitoring data available from previous water characterization monitoring.

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. Receiving surface water monitoring frequencies and sample types have been retained from Order No. R5-2015-0073, except as noted in Table F-12, below.

2. Groundwater

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

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

- c. This Order requires the Discharger to continue groundwater monitoring and includes a regular schedule of groundwater monitoring in the attached Monitoring and Reporting Program. The groundwater monitoring reports are necessary to evaluate impacts to waters of the State to assure protection of beneficial uses and compliance with Central Valley Water Board plans and policies, including the State Anti-Degradation Policy. Evidence in the record includes effluent monitoring data that indicates the presence of constituents that may degrade groundwater and surface water.
- d. Groundwater monitoring frequencies and parameters have been retained from Order No. R5-2015-0073, except as noted in Table F-12, below.

Table F-12 Summary of Monitoring Changes

Parameter, Units	Type of Monitoring	Prior Sample Frequency	Revised Sample Frequency	Reason for Change
Copper, Total Recoverable	Effluent	None	1/Month	Insufficient data
Lead, Total Recoverable	Effluent	None	1/Month	Insufficient data
Dissolved Oxygen	Effluent	None	1/Month	Insufficient data
Dissolved Organic Carbon	Effluent	None	1/Quarter	Criteria development
Chloride	Effluent	1/Month	None	Sampled with Standard Minerals 1/Year
Sulfate	Effluent	1/Month	None	Effluent Characterization
Total Dissolved Solids	Effluent	1/Month	None	Effluent Characterization

Parameter, Units	Type of Monitoring	Prior Sample Frequency	Revised Sample Frequency	Reason for Change
Total Dissolved Solids	Receiving Water	1/Month	None	Receiving Water Characterization
Ammonia (as N)	Receiving Water	1/Month	None	Receiving Water Characterization
Hardness	Receiving Water	1/Month	None	Receiving Water Characterization
E.Coli	Receiving Water	None	1/Month	Compliance determination
Iron, Total Recoverable	Receiving Water	1/Year	1/Quarter	Compliance determination
Manganese, Total Recoverable	Receiving Water	1/Year	1/Quarter	Compliance determination
Fixed Dissolved Solids	Groundwater	None	1/Quarter	Groundwater Characterization
BOD5	Groundwater	None	1/Quarter	Groundwater Characterization
Oxidation Reduction Potential	Groundwater	None	1/Quarter	Groundwater Characterization
Dissolved Oxygen	Groundwater	None	1/Quarter	Groundwater Characterization
Dissolved Metals	Groundwater	None	1/Quarter	Groundwater Characterization

D. Whole Effluent Toxicity Testing Requirements

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

Annual acute whole effluent toxicity testing is required to demonstrate compliance with the toxicity receiving water limitation and acute toxicity effluent limitation. Twice per calendar year in years with at least 15 days of discharge in one calendar quarter

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

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

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

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

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

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

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

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

4. **Sensitive Species Screening.** Ceriodaphnia dubia has been established as the most sensitive species for chronic WET testing.

Under the Toxicity Provisions, Dischargers shall perform subsequent species sensitivity screening to re-evaluate the most sensitive species if the effluent used in the species sensitivity screening is no longer representative of the effluent or if a species sensitivity screening has not been performed in the last fifteen years. Subsequent species sensitivity screening may also be required prior to every order issuance, renewal, or reopening, if reopening to address aquatic toxicity. Pursuant to Section V.F of the MRP, the Discharger is required to perform species sensitivity screening at least once every fifteen years or if the effluent used in the last species sensitivity screening is no longer representative of the effluent and submit the results with the Report of Waste Discharge.

Species sensitivity screening for chronic toxicity shall include, at a minimum, chronic WET testing four consecutive calendar quarters using the water flea

(Ceriodaphnia dubia), fathead minnow (Pimephales promelas), and green alga (Pseudokirchneriella subcapitata). The tests shall be performed at an IWC of no less than 100 percent effluent and one control.

5. **Toxicity Reduction Evaluation (TRE).** The Toxicity Provisions require dischargers to conduct a TRE in accordance with a TRE Work Plan, as approved by the Board. The Monitoring and Reporting Program of this Order requires preparation and implementation of a TRE Action Plan in accordance with the Discharger's 2007 approved TRE Work Plan. Within 30 days of the requirement to initiate a TRE, the Discharger shall submit to the Executive Officer a TRE Action Plan including the components identified in Section V.G of the Monitoring and Reporting Program

E. Other Monitoring Requirements

1. Biosolids Monitoring

The Discharger does not have a pretreatment program. Biosolids monitoring is not applicable for this Order.

2. Pond Monitoring

Pond monitoring is required to ensure proper operation of the evaporation/evaporation ponds. Dissolved oxygen (weekly), pH (weekly), electrical conductivity (monthly), freeboard and liquid depth (monthly), observations (monthly) have been prescribed in this Order.

3. Land Discharge Monitoring

Land discharge monitoring is required to ensure that the discharge to the land disposal area complies with the Land Discharge Specifications (section VI.B of this Order) and Pond Operating Requirements (section VI.C.4 of this Order). Monitoring frequencies and sample types for flow (continuous), pH (monthly), total suspended solids (monthly), biochemical oxygen demand 5-day (monthly), electrical conductivity (monthly), ammonia (quarterly), nitrate (as N) (quarterly), total nitrogen (quarterly) and standard minerals have been prescribed in this Order. Monitoring for total suspended solids, biochemical oxygen demand 5-day, and nitrate (as N) was previously conducted at monitoring location PND-001 and PND-002 under Order No. R5-2015-0073.

4. Effluent and Receiving Water Characterization Monitoring

In accordance with section 1.3 of the SIP, periodic monitoring is required for priority pollutants for which criteria or objectives apply and for which no effluent limitations have been established. This Order requires effluent and receiving water characterization monitoring twice per permit term, for priority pollutant

constituents located in Appendix A to 40 C.F.R. part 423 during the term of the permit, in order to collect data to conduct an RPA for the next permit renewal.

5. Municipal Water Supply Monitoring

Water supply monitoring location and monitoring requirements have been removed because this information is no longer applicable for the purpose of the WDRs.

VIII. PUBLIC PARTICIPATION

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

A. Notification of Interested Persons

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

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/) (http://www.waterboards.ca.gov/centralvalley/board_info/meetings/)

B. Written Comments

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

To be fully responded to by staff and considered by the Central Valley Water Board, the written comments were due at the Central Valley Water Board office by 5:00 p.m. on **21 July 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: **10/11 August 2023**
Time: **9:00 a.m.**

Location: Regional Water Quality Control Board, Central Valley Region>
11020 Sun Center Dr., Suite #200
Rancho Cordova, CA 95670
AND Online

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 California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., within 30 calendar days of the date of adoption of this Order at the following address, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day:

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

Or by email at waterqualitypetitions@waterboards.ca.gov

[Instructions on how to file a petition for review](#)

(http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instructions.shtml) are available on the Internet.

E. Information and Copying

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

F. Register of Interested Persons

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

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Marisol Gonzalez at 530-224-4204, or Marisol.Gonzalez@waterboards.ca.gov .

ATTACHMENT G – SUMMARY OF REASONABLE POTENTIAL ANALYSIS

Constituent	Units	MEC	B	C	CTR CMC	CTR CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential
Aluminum	µg/L	288	388	200	1100	479	N/A	N/A	N/A	200	Insufficient data
Ammonia	µg/L	ND <0.01	ND <0.025		2.14	4.94					Insufficient data
Copper, total MEC>C	µg/L	2.6	0.5	1.6	2.0	1.6	1300	N/A	2.1	2000	Insufficient data
Copper, total B>C			0.5	2.1	2.6	2.1			2.7		Insufficient data
Lead	µg/L	0.3	0.18	0.24	6.1	0.24	N/A	N/A	--	15	Insufficient data
Zinc, total MEC>C	µg/L	5.9	0.9	6.4	21	21	7400	26000	6.4	5000	No
Zinc, total B>C	µg/L		0.9	8.0	27	27			8.0		No
Iron	µg/L	217	242	300	N/A	N/A	N/A	N/A	300	300	No
Manganese	µg/L	3.8	8.02	50	N/A	N/A	N/A	100	50	50	No
EC		71	42	900	N/A	N/A	N/A	N/A	N/A	900	No
TDS	mg/L	45	37	500	N/A	N/A	N/A	N/A	N/A	500	No
Sulfate		1.5	No data	250	N/A	N/A	N/A	N/A	N/A	250	No
Chloride	mg/L	4.54	0.44	250	N/A	N/A	N/A	N/A	N/A	250	No
Diazinon	µg/L	ND<0 .006	No data	0.1	0.08	0.05	N/A	N/A	0.1	N/A	Yes, TMDL
Chlorpyrifos	µg/L	ND <0.00 6	No data	0.015	0.02	0.014	N/A	N/A	0.015	N/A	Yes, TMDL
Mercury	µg/L	ND <0.05	ND <0.05	50	1400	770	50	51			No
Nitrate+Nitrite	µg/L	0.12	No data	10	N/A	N/A	N/A	N/A	N/A	10	Insufficient data

Attachment G Table Notes:

1. All inorganic concentrations are given as a total concentration, unless otherwise specified. Hardness-dependent criteria (copper and lead) is based on an effluent hardness of 13 mg/L of calcium carbonate for MEC>C comparison. Hardness-dependent criteria (copper and lead) is based on an receiving water hardness of 17 mg/L of calcium carbonate for B>C comparison.
2. Data used for the reasonable potential analysis collected during simulated discharge events on 14 January 2017 and 9 April 2019.

Abbreviations used in this table:

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

ATTACHMENT H-1 – CALCULATION OF HUMAN HEALTH WQBELS

HUMAN HEALTH WQBELS CALCULATIONS

Parameter	Units	Criteria	Mean Background Concentration	Effluent CV	Dilution Factor	MDEL/AMEL Multiplier	AMEL Multiplier	AMEL	MDEL	AWEL
N/A	--	--	--	--	--	--	--	--	--	--

Attachment H-1 Table Notes:

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

Abbreviations used in this table:

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

ATTACHMENT H-2 – CALCULATION OF AQUATIC LIFE WQBELS

AQUATIC LIFE WQBELS CALCULATIONS

Parameter	Units	CMC Criteria	CCC Criteria	B	Effluent CV	CMC Dilution Factor	CCC Dilution Factor	ECA Multiplier _{acute}	LTA _{acute}	ECA Multiplier _{chronic}	LTA _{chronic}	AMEL Multiplier ₉₅	AWEL Multiplier	MDEL Multiplier ₉₉	AMEL	AWEL	MDEL
N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Attachment H-2 Table Notes:

1. AMEL calculated according to section 1.4 of the SIP using a 95th percentile occurrence probability.
2. AWEL calculated according to section 1.4 of the SIP using a 98th percentile occurrence probability.
3. MDEL calculated according to section 1.4 of the SIP using a 99th percentile occurrence probability.

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

**ATTACHMENT I - REQUIREMENTS FOR MONITORING WELL INSTALLATION
WORKPLANS AND MONITORING WELL INSTALLATION REPORTS**

Prior to installation of groundwater monitoring wells, the Discharger shall submit a workplan containing, at a minimum, the information listed in Section 1, below. Wells may be installed after staff approves the workplan. Upon installation of the monitoring wells, the Discharger shall submit a well installation report which includes the information contained in Section 2, below. All workplans and reports must be prepared under the direction of, and signed by, a registered geologist or civil engineer licensed by the State of California.

**SECTION 1 - MONITORING WELL INSTALLATION WORKPLAN AND
GROUNDWATER SAMPLING AND ANALYSIS PLAN**

The monitoring well installation workplan shall contain the following minimum information:

A. General Information:

- Purpose of the well installation project
- Brief description of local geologic and hydrogeologic conditions
- Proposed monitoring well locations and rationale for well locations
- Topographic map showing facility location, roads, and surface water bodies
- Large scaled site map showing all existing on-site wells, proposed wells, surface drainage courses, surface water bodies, buildings, waste handling facilities, utilities, and major physical and man-made features

B. Drilling Details:

- On-site supervision of drilling and well installation activities
- Description of drilling equipment and techniques
- Equipment decontamination procedures
- Soil sampling intervals (if appropriate) and logging methods

C. Monitoring Well Design (in narrative and/or graphic form):

Diagram of proposed well construction details

- Borehole diameter
- Casing and screen material, diameter, and centralizer spacing (if needed)
- Type of well caps (bottom cap either screw on or secured with stainless steel screws)
- Anticipated depth of well, length of well casing, and length and position of perforated interval

- Thickness, position and composition of surface seal, sanitary seal, and sand pack
 - Anticipated screen slot size and filter pack
- D. Well Development (not to be performed until at least 48 hours after sanitary seal placement):
- Method of development to be used (i.e., surge, bail, pump, etc.)
 - Parameters to be monitored during development and record keeping technique
 - Method of determining when development is complete
 - Disposal of development water
- E. Well Survey (precision of vertical survey data shall be at least 0.01 foot):
- Identify the Licensed Land Surveyor or Civil Engineer that will perform the survey
 - Datum for survey measurements
 - List well features to be surveyed (i.e. top of casing, horizontal and vertical coordinates, etc.)
- F. Schedule for Completion of Work
- G. Appendix: Groundwater Sampling and Analysis Plan (SAP)

The Groundwater SAP shall be included as an appendix to the workplan, and shall be utilized as a guidance document that is referred to by individuals responsible for conducting groundwater monitoring and sampling activities.

Provide a detailed written description of standard operating procedures for the following:

- Equipment to be used during sampling
- Equipment decontamination procedures
- Water level measurement procedures
- Well purging (include a discussion of procedures to follow if three casing volumes cannot be purged)
- Monitoring and record keeping during water level measurement and well purging (include copies of record keeping logs to be used)
- Purge water disposal
- Analytical methods and required reporting limits
- Sample containers and preservatives
- Sampling

- General sampling techniques
- Record keeping during sampling (include copies of record keeping logs to be used)
- QA/QC samples
- Chain of Custody
- Sample handling and transport

SECTION 2 - MONITORING WELL INSTALLATION REPORT

The monitoring well installation report must provide the information listed below. In addition, the report must also clearly identify, describe, and justify any deviations from the approved workplan.

A. General Information:

- Purpose of the well installation project
- Brief description of local geologic and hydrogeologic conditions encountered during installation of the wells
- Number of monitoring wells installed and copies of County Well Construction Permits
- Topographic map showing facility location, roads, surface water bodies
- Scaled site map showing all previously existing wells, newly installed wells, surface water bodies, buildings, waste handling facilities, utilities, and other major physical and man-made features.

B. Drilling Details (in narrative and/or graphic form):

- On-site supervision of drilling and well installation activities
- Drilling contractor and driller's name
- Description of drilling equipment and techniques
- Equipment decontamination procedures
- Soil sampling intervals and logging methods
- Well boring log (including the following):
 - Well boring number and date drilled
 - Borehole diameter and total depth
 - Total depth of open hole (same as total depth drilled if no caving or back-grouting occurs)
 - Depth to first encountered groundwater and stabilized groundwater depth
 - Detailed description of soils encountered, using the Unified Soil Classification System

C. Well Construction Details (in narrative and/or graphic form).

- Well construction diagram, including:
 - o Monitoring well number and date constructed
 - o Casing and screen material, diameter, and centralizer spacing (if needed)
 - o Length of well casing, and length and position of perforated interval
 - o Thickness, position and composition of surface seal, sanitary seal, and sand pack
 - o Type of well caps (bottom cap either screw on or secured with stainless steel screws)

E. Well Development:

- Date(s) and method of development
- How well development completion was determined
- Volume of water purged from well and method of development water disposal
- Field notes from well development should be included in report

F. Well Survey (survey the top rim of the well casing with the cap removed):

- Identify the coordinate system and datum for survey measurements
- Describe the measuring points (i.e. ground surface, top of casing, etc.)
- Present the well survey report data in a table
- Include the Registered Engineer or Licensed Surveyor's report and field notes in appendix.