CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CA0081957
TENTATIVE ORDER R5-2025-XXXX
WASTE DISCHARGE REQUIREMENTS
FOR SHASTA-SUSTAINABLE RESOURCE MANAGEMENT, INC., SHASTA COUNTY

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

Table 1. Discharger Information

Discharger:	Shasta-Sustainable Resource Management, Inc.
Name of Facility:	Shasta-Sustainable Resource Management, Inc.
Facility Street Address:	20811 Industry Road
Facility City, State, Zip:	Anderson, CA 96007
Facility County:	Shasta County

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Reverse osmosis reject water, boiler blow-down, cooling tower blowdown, equipment condensate, plant maintenance water, dust control water, storm water, and groundwater	40° 25’ 49”	122º 16’ 32”	Anderson Cottonwood Irrigation District Canal
004	Retention pond, fuel pile storm water pond, subsurface and underdrain systems, log and fuel deck areas, ash storage and handling, septic system and leachfield discharge, and storm water	--	--	Groundwater

Table 3. Administrative Information

This Order was Adopted on:	**19/20 June 2025**
This Order shall become effective on:	**1 August 2025**
This Order shall expire on:	**31 July 2030**
The Discharger shall file a Report of Waste Discharge (ROWD) as an application for reissuance of WDRs in accordance with title 23, California Code of Regulations (CCR), and an application for reissuance of a NPDES permit no later than:	**31 July 2029**
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 **20 June 2025**.

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PATRICK PULUPA, Executive Officer

WASTE DISCHARGE REQUIREMENTS
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TABLES

ATTACHMENTS

I. FACILITY INFORMATION

Information describing the Shasta-Sustainable Resource Management, Inc. (Facility) is summarized in Table 1 and in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the Facility's permit application.

II. FINDINGS

The California Regional Water Quality Control Board, Central Valley Region (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) (33 U.S.C. § 1251 et seq.) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as a National Pollutant Discharge Elimination System (NPDES) permit authorizing the Discharger to discharge into waters of the United States at the discharge location described in Table 2 subject to the WDRs in this Order.

B. California Environmental Quality Act (CEQA). Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA (Pub. Res. Code, § 21100 et seq.).

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

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

E. Monitoring and Reporting. 40 Code of Federal Regulations (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 R5-2019-0070, 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 bypass or overflow of wastes to surface waters is prohibited, except as allowed by Federal Standard Provisions I.G. and I.H. (Attachment D).

C. The treatment shall not create a nuisance as defined in section 13050 of the California Water Code.

D. Until the fuel pile stormwater pond is decommissioned, the discharge shall not contain more than five percent (5%) leachate (by volume) from the two processed fuel chip piles at any time.

E. The discharge of ash, bark, sawdust, wood, debris, or any other such wastes to surface water or surface water drainage courses is prohibited.

F. The direct discharge of hazardous or toxic substances, including water treatment chemicals, solvents, or petroleum products (i.e., oil, grease, gasoline, and diesel), to surface waters or groundwater is prohibited.

G. The direct discharge of domestic wastewater to the underdrain system is prohibited.

H. Discharge of waste classified as ‘hazardous’, as defined in the California Code of Regulations, title 22, section 66261.1 et seq., is prohibited.

I. **Flow.** Discharge exceeding an average flow of 1.0 million gallons per day (MGD) is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point 001

1. Final Effluent Limitations – Discharge Point 001

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001. Unless otherwise specified compliance shall be measured at Monitoring Location EFF-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 – Discharge Point 001

Parameters	Units	Average Monthly	Average Weekly	Maximum Daily
Alpha-BHC	micrograms per liter (µg/L)	0.0019	--	0.0039
Arsenic	µg/L	10	--	20
Chlorine, Total Residual	milligrams per liter (mg/L)	0.01	--	0.02
Electrical Conductivity @ 25°C	micromhos per centimeter (µmhos/cm)	700	--	--
Molybdenum	µg/L	20	40	--
Settleable Solids	milliliter per liter (ml/L)	0.1	--	0.2

b. **pH:**

i. 6.5 Standard Units (SU) as an instantaneous minimum.

ii. 9.0 SU as an instantaneous maximum.

c. **Manganese, Total.** Effective **1 August 2030**, total manganese concentrations in the effluent shall not exceed:

i. An AMEL of 80 µg/L; or.

ii. An AWEL of 180 µg/L.

2. Interim Effluent Limitations – Discharge Point 001

a. During the period beginning **1 August 2025** and ending on **31 July 2030,** the Discharger shall maintain compliance with the following limitations at

Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the attached MRP. These interim effluent limitations shall apply in lieu of the corresponding final effluent limitations specified for the same parameters during the time period indicated in this provision.

Table 5. Interim Effluent Limitations

Parameter	Units	Average Monthly	Average Weekly	Maximum Daily
Manganese, Total Recoverable	µg/L	620	940	--

B. Land Discharge Specifications

1. **Domestic Sewage.** The Discharger is required to properly operate, maintain, and monitor the domestic sewage collection, treatment, and disposal system.

C. Recycling Specifications – NOT APPLICABLE

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations - NONE

B. Groundwater Limitations

Release of waste constituents from any portion of the Facility shall not cause or contribute to groundwater containing constituent concentrations in excess of the concentrations specified below or in excess of natural background quality, whichever is greater:

1. Exceed a total coliform organism level of 2.2 MPN/100 mL over any seven-day period.

2. Contain constituents in concentrations that exceed either the Primary or Secondary MCLs, established in Title 22 of the California Code of Regulations.

3. Contain taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D.

2. The Discharger shall comply with the following provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply:

    a. 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.

    b. 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.

c. 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.

d. 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.

e. The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order which has a reasonable likelihood of adversely affecting human health or the environment.

f. 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.

g. 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 bypass, 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.

h. 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.

i. 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.

j. 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.

k. 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.

l. If the Discharger submits a timely and complete ROWD for permit reissuance, this permit shall continue in force and effect until the permit is reissued or the Regional Water Board rescinds the permit.

m. 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.

n. In the event the Discharger does not comply, or will be unable to comply for any reason, with any prohibition or effluent limitation of this Order, the Discharger shall notify the Central Valley Water Board by telephone (916) 464-3291 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Central Valley Water Board waives confirmation.

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. **Pollution Prevention.** This Order requires the Discharger prepare pollution prevention plans following Water Code section 13263.3(d)(2) for alpha-BHC. Based on a review of the pollution prevention plans, this Order may be reopened for addition and/or modification of effluent limitations and requirements for these constituents.

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 recoverable. 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/)

g. **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 or the Basin Plan's narrative toxicity objective, this Order may be reopened and effluent limitations added for acute and/or chronic toxicity. Additionally, if the Discharger submits data following completion of facility modifications and species sensitivity screening demonstrating that chronic toxicity is not present and is consistent with the requirements of the Statewide Toxicity Provisions to qualify for a reduction in effluent toxicity monitoring, this Order may be reopened to revise monitoring requirements.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. **Toxicity Reduction Evaluation (TRE) Requirements.**

i. **Chronic Whole Effluent Toxicity Median Monthly Effluent Target (MMET).** No more than one *Pimephales promelas* 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 *Pimephales promelas* 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 conduct a TRE, as detailed in the Monitoring and Reporting Program (Attachment E, Section V.G), when any combination of two or more MDET or MMET violations occur within a single toxicity calendar month or within two successive toxicity 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 MMET compliance test, the Executive Officer may require a TRE.

b. **Groundwater Information Report.**

i. The Discharger shall submit the Groundwater Information Report by the date on Table E-11 of the MRP (Technical Reports Table) Table and shall include the following information or provide updates to the following information, to the extent feasible from available information:

(a) Individual retention pond areas;
(b) Individual retention pond working liquid depths;
(c) Individual retention pond invert and berm elevations;
(d) Vertical separation distance between individual retention pond inverts and highest anticipated groundwater;
(e) Existing monitoring wells and supply wells, including at minimum, construction date, reference elevation, depth, screened interval, and boring logs.
(f) Subsurface cross-section(s) using boring logs from wells and other available information to demonstrate the presence of hardpan layer(s).
(g) Water balance calculations for the retention pond to estimate annual seepage losses
(h) Brief characterization of the retention pond setting, including surface water runoff, nearest surface water bodies, climate (annual precipitation for average and flood years and reference evaporation), onsite soils and description of stratigraphy (if possible, infiltration rates), regional groundwater gradient, groundwater depth under the Facility, and characterization of groundwater wells in the vicinity of the Facility.

(i) Assessor parcel number(s) covering the individual storage ponds, including the numbers, owner, and acreage.

(j) A scaled facility map that shows the Discharger's property line, prevalent groundwater flow direction, the receiving waters and any nearby tributaries, and all monitoring locations specified in this Order

c. **Annual Groundwater Assessment Report**. The Discharger shall submit an Annual Groundwater Assessment Report to determine if the Facility is impacting groundwater and contributing to groundwater degradation. The analysis shall assess whether the groundwater is in compliance with groundwater limitations and the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fifth Edition, February 2019 (Basin Plan), which requires that constituent concentrations in the groundwater do not exceed either the Basin Plan's groundwater water quality objectives or background groundwater concentrations, whichever is greater.

The report should also include groundwater gradients and flow direction and a summary of data collected during the term of the annual report. The data summary shall also include a comparison to previous groundwater data collected from monitoring wells, where available, and a comparison of current groundwater monitoring data to data collected from current monitoring well network. Copies of laboratory analytical report(s) for groundwater monitoring. The Discharger shall provide the Annual Groundwater Assessment Report to the Central Valley Water Board on the dates provided in the Technical Reports Table. The annual report shall cover the previous calendar year.

d. **Groundwater Monitoring Well Network Evaluation Report.** The Discharger shall conduct an assessment of the current groundwater monitoring well network and propose additional wells, where necessary, to characterize groundwater gradient and quality beneath and surrounding the Facility, and, if necessary, to better characterize background concentrations. The report shall include a project schedule not to exceed one year, include, if necessary, a closure plan for the decommissioning of existing wells, and satisfy the information requirements, as part of the Groundwater Monitoring Well Network Evaluation Report. The Discharger must submit the Groundwater Monitoring Well Network Evaluation Report to the Central Valley Water Board on the date provided in the Technical Reports Table of the MRP (Attachment E).

i. **Groundwater Monitoring Well Installation Work Plan (if necessary).** If the Discharger determines there is a need to install new groundwater monitoring wells, then the Discharger shall follow the requirements of Attachment I – Standard Requirements for Monitoring Well Installation Work Plans and Monitoring Well Installation Reports

and provide a Groundwater Monitoring Well Installation Work Plan to the Central Valley Water Board by the date provided in the Technical Reports Table of the MRP (Attachment E).

ii. **Groundwater Monitoring Well Installation Report (if necessary).** If the Discharger determines there is a need to install new groundwater monitoring wells, then the Discharger shall follow the requirements of Attachment I – Standard Requirements for Monitoring Well Installation Work Plans and Monitoring Well Installation Reports and provide a Groundwater Monitoring Well Installation Report to the Central Valley Water Board by the date provided in the Technical Reports Table of the MRP (Attachment E).

If the Discharger determines there is a need to install new groundwater monitoring wells, then the Discharger shall follow the monitoring requirements for groundwater monitoring wells in Attachment E – Monitoring and Reporting Program, section VIII.B.

3. Best Management Practices and Pollution Prevention

a. **Water Code section 13263.3(d)(2) Pollution Prevention Plans.** A pollution prevention plan for alpha-BHC is required in this Order per Water Code section 13263.3(d)(1)(C). The pollution prevention plans required in section VI.C.3.b. of this Order, shall, at a minimum, meet the requirements outlined in Water Code section 13263.3(d)(2). The minimum requirements for the pollution prevention plans include the following:

i. An analysis of one or more of the pollutants, as directed by the State Water Board, a Regional Water Board, or a POTW, that the Facility discharges into water or introduces into POTWs, a description of the sources of pollutants, and a comprehensive review of the processes used by the Discharger that result in the generation and discharge of the pollutants.

ii. An analysis of the potential for pollution prevention to reduce the generation of the pollutants, including the application of innovative and alternative technologies and any adverse environmental impacts resulting from the use of these methods.

iii. A detailed description of the tasks and time schedules required to investigate and implement various elements of pollution prevention techniques.

iv. A statement of the Discharger's pollution prevention goals and strategies, including priorities for short-term and long-term action.

v. A description of the Discharger's existing pollution prevention methods.

vi. A statement that the Discharger's existing and planned pollution prevention strategies do not constitute cross-media pollution transfers unless clear environmental benefits of such an approach are identified to the satisfaction of the State Water Board, the Central Valley Water Board, or the POTW, and information that supports that statement.

vii. Proof of compliance with the Hazardous Waste Source Reduction and Management Review Act of 1989 [Article 11.9 (commencing with section 25244.12) of Chapter 6.5 of Division 20 of the Health and Safety Code) if the Discharger is also subject to that act.

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

c. **Storm Water Pollution Controls**

i. Prior to 15 October of each year, the Discharger shall implement necessary erosion control measures and any necessary construction, maintenance, or repairs of drainage and erosion control facilities.

ii. The Discharger has prepared a Storm Water Pollution Prevention Plan (SWPPP) containing best management practices to reduce pollutants in the storm water discharges. The Discharger shall review and amend as appropriate the SWPPP whenever there are changes that may affect the discharge of significant quantities of pollutants to surface water, if there are violations of this permit, or if the general objective of controlling pollutants in the storm water discharges has not been achieved. The amended SWPPP shall be submitted prior to 15 October in the year in which it was prepared.

4. Construction, Operation and Maintenance Specifications

a. Objectionable odors originating at this Facility shall not be perceivable beyond the limits of the property owned by the Discharger.

b. 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 a violation of the Groundwater Limitations of this Order.

c. Wastewater treatment, storage, and disposal shall not cause pollution or a nuisance as defined by Water Code section 13050.

d. All conveyance, treatment, storage, and disposal systems shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

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

f. The discharge shall not cause degradation of any water supply.

g. Management of wood fuel stockpiles and ash stockpiles shall not adversely affect groundwater quality.

h. **Fire and Cooling Water Ponds Operating Requirements.**

i. The dissolved oxygen content of the East and West Fire Ponds shall not be less than 1.0 mg/L for 16 hours in any 24-hour period.

ii. Freeboard shall not be less than one foot (measured vertically to the lowest point of overflow).

5. Special Provisions for Publicly-Owned Treatment Works (POTWs) – NOT APPLICABLE

6. Other Special Provisions

a. **Sludge, Wood Waste, and/or Ash Storage.** Collected screenings, sludge, and other solids removed from liquid wastes, including pond sediments, shall be disposed of in a manner approved by the Executive Officer and consistent with the Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solids Waste, as set forth in Title 27, CCR, Division 2, Subdivision 1, Section 20005, et seq.

7. Compliance Schedules

a. **Compliance Schedules for Final Effluent Limitations for Manganese.** This Order requires compliance with the final effluent limitations for manganese in section IV.A.1.c. of this Order. The Discharger shall comply with the time schedule shown in the Technical Reports Table E-11 to ensure compliance with the final effluent limitations.

VII. COMPLIANCE DETERMINATION

A. Instantaneous Maximum Effluent Limitation for pH (section IV.A.1.a). The Discharger shall use U.S. EPA standard analytical techniques for analyzing pH with a maximum reporting level (RL) not to exceed the minimum levels listed in Appendix 4 of the State Implementation Policy (SIP) (Table 2d). If the analytical result of a single effluent sample is detected for pH and the result is greater than or equal to the minimum levels listed in Appendix 4 of the SIP, a violation will be flagged and the discharger will be considered out of compliance for that single sample.

B. Effluent Limitations. Compliance with effluent limitations shall be determined in accordance with section 2.4.5 of the SIP, as follows:

1. Dischargers shall be deemed out of compliance with an effluent limitation, if the concentration in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

2. Dischargers shall be required to conduct a Pollutant Minimization Program (PMP) in accordance with section 2.4.5.1 of the SIP when there is evidence that the priority pollutant is present in the effluent above an effluent limitation and either:

    a. sample result is reported as detected, but not quantified (DNQ) and the effluent limitation is less than the RL; or

    b. sample result is reported as non-detect (ND) and the effluent limitation is less than the method detection limit (MDL).

3. When determining compliance with an average monthly effluent limitation (AMEL), average weekly effluent limitations (AWEL), or maximum daily effluent limitation (MDEL), and more than one sample result is available in a month, week, or day, respectively, the discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of DNQ or ND. In those cases, the discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

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

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

4. If a sample result, or the arithmetic mean or median of multiple sample results, is below the RL, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the discharger conducts a PMP (as described in section 2.4.5.1), the discharger shall **not** be deemed out of compliance.

ATTACHMENT A – DEFINITIONS

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

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

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

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

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

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

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

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

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

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

Calendar Month(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 (e.g., from January 1 to March 31, from April 1 to June 30, or from October 1 to December 31).

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

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

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

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

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

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

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

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

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

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

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

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

Endpoint
An effect that is measured in a toxicity study. Endpoints in toxicity tests may include, but are not limited to survival, reproduction, and growth. 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
The Statewide Toxicity Provisions became effective on 25 April 2022 and include statewide numeric water quality objectives for both acute and chronic toxicity and a program of implementation to control toxicity.

Statistical Threshold Value (STV)
The STV for the bacteria water quality objective 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 toxicity calendar month.

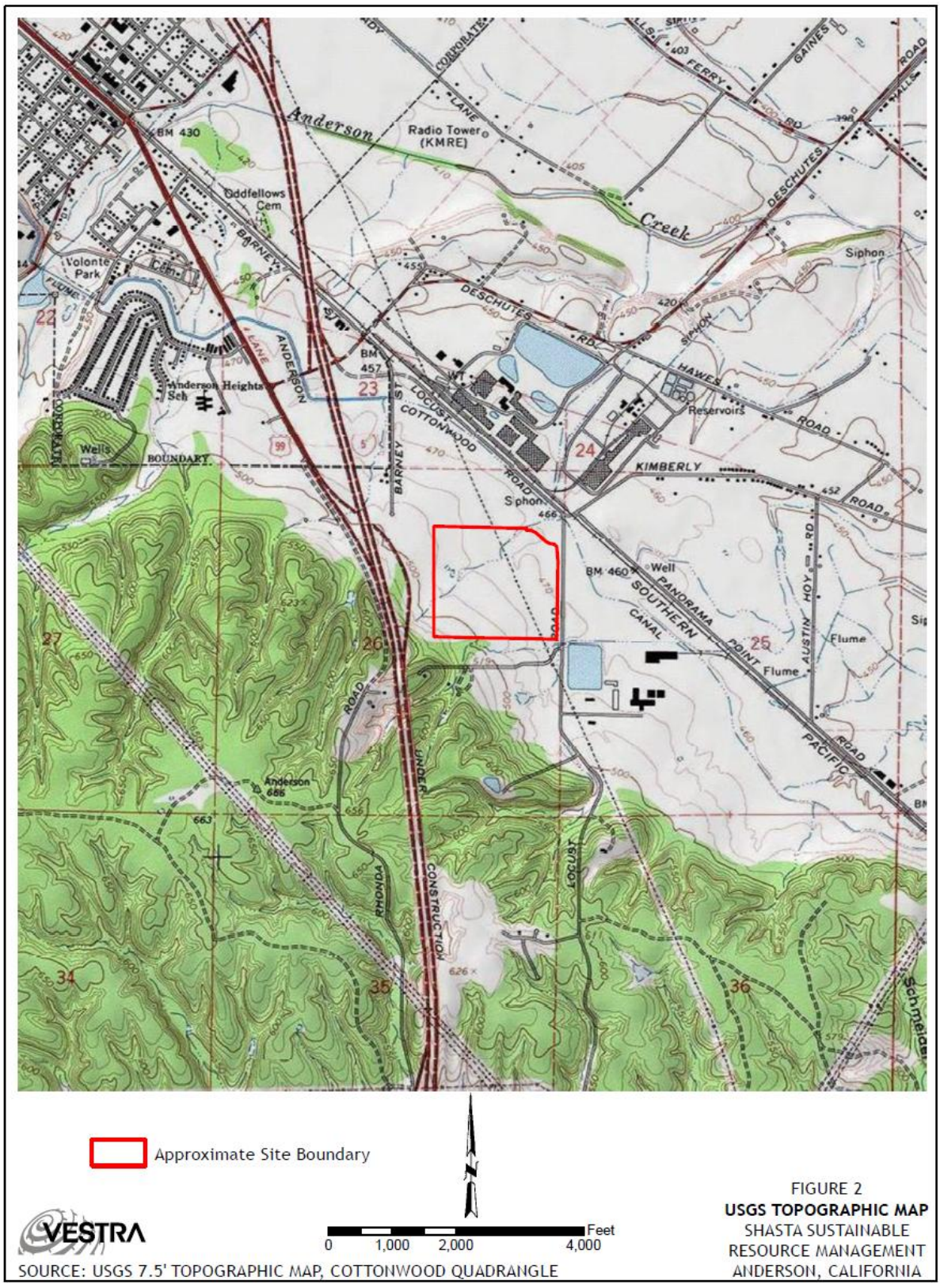
WET Maximum Daily Effluent Target (MDET)
For the purposes of chronic aquatic toxicity, an MDET is a target used to determine whether a Toxicity Reduction Evaluation (TRE) should be conducted. Not meeting the MDET is not a violation of an effluent limitation.

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

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

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

ATTACHMENT B – MAP



ATTACHMENT C – FLOW SCHEMATIC

Figure 1: Flow Schematic

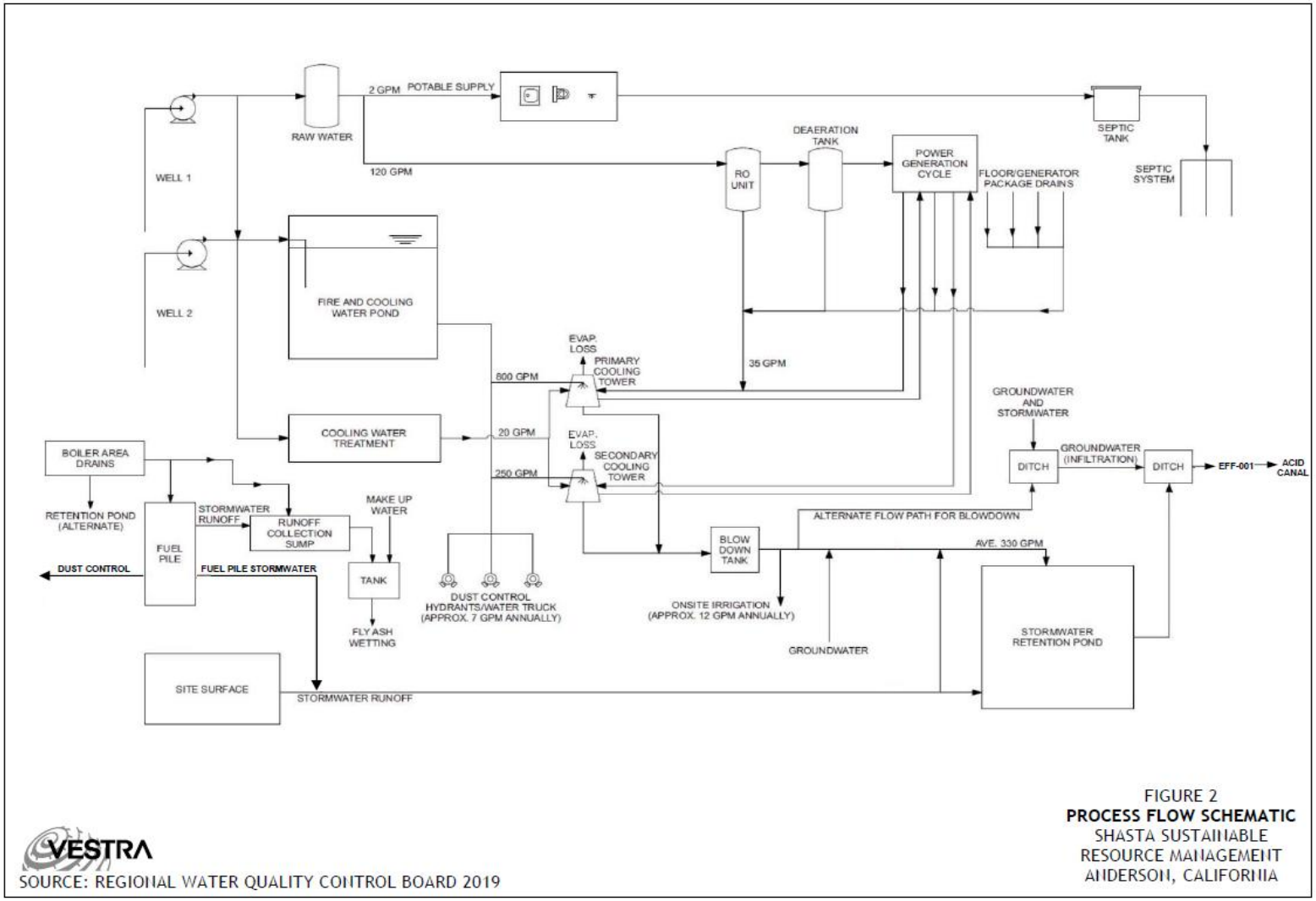
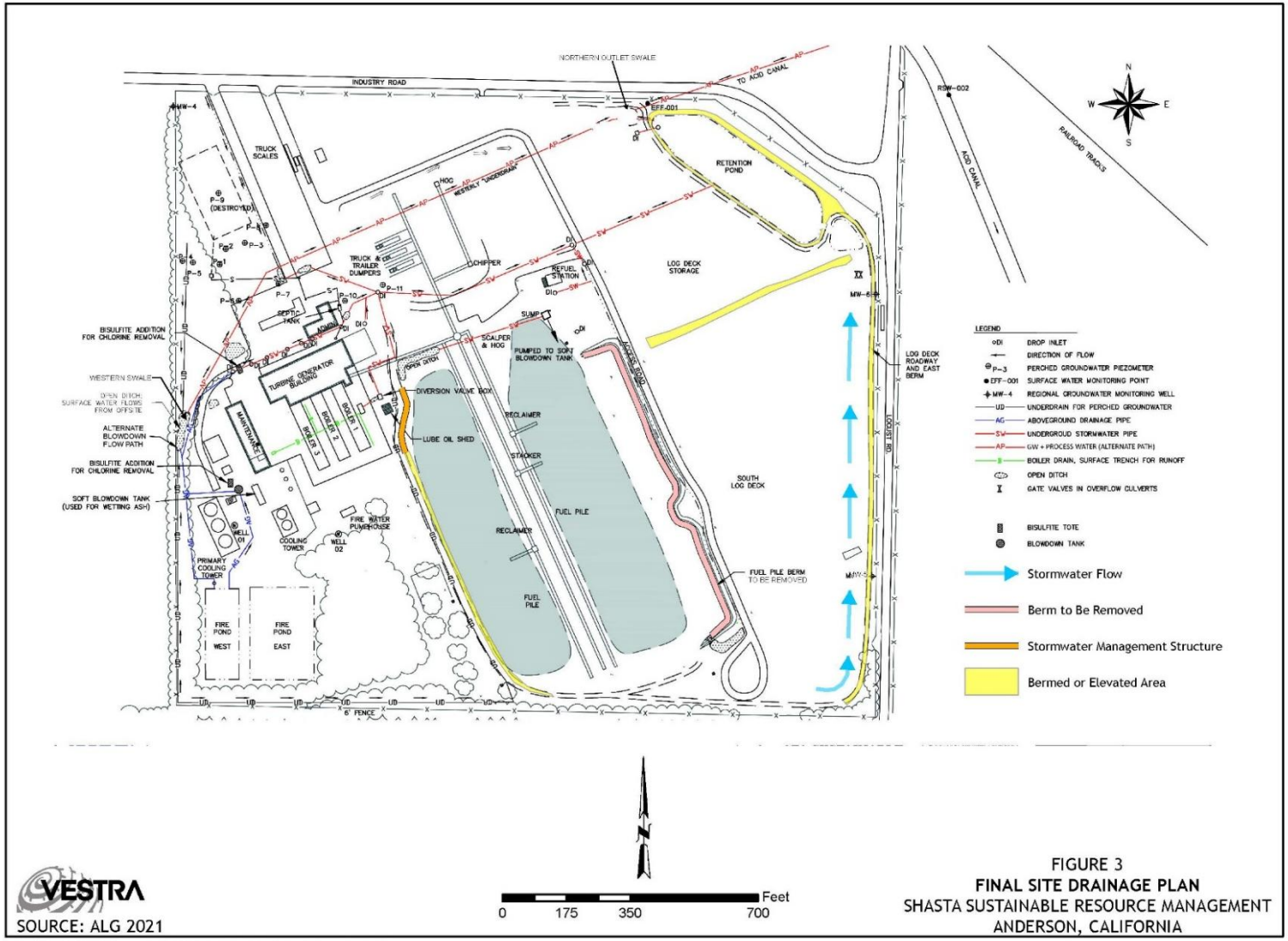


Figure 2: Site Drainage Plan



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ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply:

1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 C.F.R. section 122.41(a); Wat. Code, sections 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. section 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

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

E. Property Rights

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

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

F. Inspection and Entry

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

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (33 U.S.C section 1318(a)(4)(B)(ii); 40 C.F.R. section 122.41(i)(1); Wat. Code, sections 13267, 13383);

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. section 1318(a)(4)(B)(ii); 40 C.F.R. section 122.41(i)(2); Wat. Code, sections 13267, 13383);

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C section 1318(a)(4)(B)(ii); 40 C.F.R. section 122.41(i)(3); Wat. Code, section 13267, 13383); and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C section 1318(a)(4)(B); 40 C.F.R. section 122.41(i)(4); Wat. Code, sections 13267, 13383.)

G. Bypass

1. Definitions

   a. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. section 122.41(m)(1)(i).)

   b. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. section 122.41(m)(1)(ii).)

2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not

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

3. Prohibition of bypass. Bypass is prohibited, and the Central Valley Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. section 122.41(m)(4)(i)):

   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. section 122.41(m)(4)(i)(A));

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

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

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

5. **Notice**

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

   b. **Unanticipated bypass.** The Discharger shall submit a notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). The notice shall be sent to the Central Valley Water Board. As of 21 December 2023, all notices shall be submitted electronically to the initial recipient (State Water Board's California Integrated Water Quality System (CIWQS) Program website. (http://www.waterboards.ca.gov/water_issues/programs/ciwqs/), defined in Standard Provisions – Reporting V.J below. Notices shall comply with

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

H. Upset

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

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. section 122.41(n)(2).)

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

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

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

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

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

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

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

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

III. STANDARD PROVISIONS – MONITORING

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

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

1. The method minimum level (ML) is at or below the level of the most stringent effluent limitation established in the permit for the measured pollutant or pollutant parameter, and;

    a. The method ML is at or below the level of the most stringent applicable water quality criterion for the measured pollutant or pollutant parameter, or;

    b. The method ML is above the applicable water quality criterion but the amount of the pollutant or pollutant parameter in the facility's discharge is

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

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

IV. STANDARD PROVISIONS – RECORDS

A. 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. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural Dischargers shall notify the Central Valley Water Board as soon as they know or have reason to believe (40 C.F.R. section 122.42(a)):

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 C.F.R. section 122.42(a)(1)):

    a. 100 micrograms per liter (µg/L) (40 C.F.R. section 122.42(a)(1)(i));

    b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 C.F.R. section 122.42(a)(1)(ii));

    c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. section 122.42(a)(1)(iii)); or

    d. The level established by the Central Valley Water Board in accordance with section 122.44(f). (40 C.F.R. section 122.42(a)(1)(iv).)

2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following “notification levels" (40 C.F.R. section 122.42(a)(2)):

    a. 500 micrograms per liter (µg/L) (40 C.F.R. section 122.42(a)(2)(i));

    b. 1 milligram per liter (mg/L) for antimony (40 C.F.R. section 122.42(a)(2)(ii));

    c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. section 122.42(a)(2)(iii)); or

d. The level established by the Central Valley Water Board in accordance with section 122.44(f). (40 C.F.R. section 122.42(a)(2)(iv).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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Tables

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
001	EFF-001	A location where a representative sample of the total effluent from the Facility can be obtained. Latitude: 40° 25’ 49” N Longitude: 122° 16’ 32” W

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	RSW-001	In Anderson Cottonwood Irrigation District Canal, approximately 50 feet upstream from Discharge Point 001 unless this location is within the influence of the backwater condition, in which case samples shall be collected upstream of the discharge point at the first accessible location outside the influence of the backwater condition.
--	RSW-002	In Anderson Cottonwood Irrigation District Canal, approximately 50 feet downstream from Discharge Point 001.
--	MW-4, MW-5, and MW-6	Groundwater monitoring wells.
004	LND-001	A location where a representative sample of wastewater delivered to the landscape irrigation system from the blowdown tank can be obtained.
004	PND-001	Fire and Cooling Water Pond West.
004	PND-002	Fire and Cooling Water Pond East.

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 – NOT APPLICABLE

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. When discharging to Anderson Cottonwood Irrigation District Canal, the Discharger shall monitor effluent from the Facility at Monitoring Location EFF-001 in accordance with Table E-2 and the testing requirements described in section IV.A.2 below:

Table E-2. Effluent Monitoring – EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	MGD	Estimate	1/Day
pH	standard units	Grab	1/Week
Total Suspended Solids	mg/L	Grab	1/Year
Alpha-BHC	µg/L	Grab	1/Month
Arsenic, Total Recoverable	µg/L	Grab	1/Month
Chemical Oxygen Demand	mg/L	Grab	1/Year
Chlorine, Total Residual	mg/L	Grab	1/Week
Dissolved Organic Carbon	mg/L	Grab	1/Quarter
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Week
Hardness, Total (as $CaCO_3$)	mg/L	Grab	1/Quarter
Manganese, Total	µg/L	Grab	1/Month
Molybdenum	µg/L	Grab	1/Month
Settleable Solids	ml/L	Grab	1/Month
Sulfate	mg/L	Grab	1/Year
Tannins and Lignins	mg/L	Grab	1/Year
Temperature	°F	Grab	1/Week
Total Dissolved Solids	mg/L	Grab	1/Month
Turbidity	NTU	Grab	1/Week
Vanadium	µg/L	Grab	2/Year

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 Sample.** A grab sample is defined as an individual discrete sample collected over a period of time not exceeding 15 minutes. It can be taken manually, using a pump, scoop, vacuum, or other suitable device.

   c. **Handheld Field Meter.** A handheld field meter may be used for **temperature, turbidity** 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. **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.

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

f. **Vanadium** monitoring shall occur once between April and October when water is diverted into the Anderson Cottonwood Irrigation District Canal and once between November and March when there is any upstream flow in the Anderson Cottonwood Irrigation District Canal.

g. **Analytical Test Methods.** If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Toxicity Calendar Month, Quarter and Year.

1. **Toxicity Calendar Month.** The toxicity calendar month is defined as the period of time beginning on the day of the initiation of the routine toxicity 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 (i.e., from January 1 to January 31, from February 1 to February 28/29, from March 1 to March 31, etc.).

2. **Toxicity Calendar Quarter.** A toxicity calendar quarter is defined as **three consecutive toxicity calendar months.** For purposes of this Order, the toxicity calendar quarters **begin on January 1, April 1, July 1, and October 1** (i.e., from January 1 to March 31, from April 1 to June 30, from July 1 to September 30, etc.).

3. **Toxicity Calendar Year.** A toxicity calendar year is defined as **twelve consecutive toxicity calendar months.** For purposes of this Order, the toxicity calendar year **begins on January 1** (i.e., January 1 to December 31), in years in which there are at least 15 days of discharge in at least one calendar quarter.

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 **once per toxicity calendar quarter** in quarters in which there are at least 15 days of discharge. While the Discharger is conducting a toxicity reduction evaluation the routine monitoring may be reduced to two (2) tests per toxicity calendar year.

3. **Sample Types.** Effluent samples shall be grab samples when discharging to Discharge Point 001 and shall be representative of the volume and quality of the discharge.

4. **Chronic Toxicity MMET Testing.** If a routine chronic toxicity monitoring test results in a “fail” at the IWC, then the Discharger shall complete a chronic toxicity MMET test. If the first MMET test results in a “pass”, the Discharger shall complete a second chronic toxicity MMET test. All required chronic toxicity MMET tests shall be initiated within the same toxicity calendar month as the initiation of the routine chronic toxicity monitoring test. 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.** A TRE is required when there is any combination of two or more MDET or MMET exceedances within a single toxicity calendar month or within two successive toxicity calendar months. In order to determine if a TRE is necessary when there is only one MDET or MMET exceedance in a single toxicity month, an additional routine monitoring test is required in the successive toxicity month. This additional routine monitoring test is not required if the Discharger is already conducting a TRE. This additional routine monitoring test could result in the need to conduct MMET tests per section V.B.4 above.

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

7. **Test Species.** The testing shall be conducted using the most sensitive species. The Discharger shall conduct chronic toxicity tests **fathead minnow (*Pimephales promelas*)**, unless otherwise specified in writing by the Executive Officer.

8. **Test Methods.** Discharger shall conduct the chronic toxicity tests on effluent samples at the instream waste concentration for the discharge in accordance with species and test methods in Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA/821/R02/013, 2002; Table IA, 40 C.F.R. section 136).

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

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 a MMET 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 the MMET tests, as applicable, for the toxicity calendar month in which the toxicity test that was not completed was required to be initiated, even if the new toxicity test is initiated in a subsequent toxicity calendar month. The new toxicity test for routine monitoring or for the 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 or MDET are met for the toxicity calendar month in which the toxicity test that was not completed was required to be initiated. The new toxicity test and 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 .

    Scenarios could occur in which a test is not initiated by a Discharger within the required time period. When this is caused by circumstances outside of the Discharger's control, that were not preventable with the reasonable exercise of care, the Central Valley Water Board will not require the test to be initiated within the originally required time period, provided that the Discharger promptly initiates, and ultimately completes, a replacement test. In such cases, the Central Valley Water Board must determine that the circumstances were not preventable with the reasonable exercise of care.

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 a chronic toxicity test using the Test of Significant Toxicity (TST) statistical t-test approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010), Appendix A, Figure A-1 and Table A-1 (Chronic Freshwater and East Coast Methods) and Appendix B, Table B-1.

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

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

    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 differs from the control, the test result is "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 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) 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 by the lab conducting the toxicity test(s).

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. <u>If the effluent samples used in the last Species Sensitivity Screening is no longer representative of the effluent or if the species sensitivity screening has not been conducted at least once in the last fifteen years</u>, 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 for four consecutive calendar quarters, except for any quarter where there is expected to be less than 15 days of discharge, 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.

2. **Determination of Most Sensitive Species.** If a single test in the species sensitivity screening testing results in a "Fail" using the TST statistical approach, then the species used in that test shall be established as the most sensitive

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

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

G. Toxicity Reduction Evaluations (TRE)

1. **TRE Implementation.** The Discharger is required to conduct a TRE when there is any combination of two or more chronic toxicity MDET or MMET exceedances within a single toxicity calendar month or within two successive toxicity 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), the Central Valley Water Board may require a TRE. A TRE may also be required when there is no effluent available to complete a routine monitoring test or MMET test.

    a. **Preparation and Implementation of Detailed TRE Action Plan.** The Discharger shall conduct TREs in accordance with an approved TRE Work Plan. Within 30 days of the test result that triggered the TRE, the Discharger shall submit to the Executive Officer a TRE Action Plan, 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.

2. **TRE Work Plan.** The Discharger shall submit to the Central Valley Water Board a TRE Work Plan for approval by the Executive Officer by the due date in the Technical Reports Table E-11. 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. Domestic Waste Treatment System

1. The Discharger shall inspect the domestic waste treatment system quarterly and document the following items:

   a. Condition of water riser lids (e.g., presence or absence of leaks);

   b. Condition of septic tank inspected through water riser lids to look for abnormalities, leaks or issues;

   c. Last date of septic tank pumping and inspection by licensed septic pumper;

   d. Leachfield condition, including soil condition (e.g., saturated, dry, subsiding, etc.); and

   e. Any repairs that have occurred since the last inspection;

   Notes on domestic waste treatment system shall be summarized in the respective monitoring report.

B. Monitoring Location LND-001 (Landscape Irrigation System)

1. The Discharger shall monitor wastewater supplied to the landscape irrigation system from the blowdown tank at Monitoring Location LND-001 as follows:

Table E-3. Land Discharge Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	MGD	Cumulative	1/Day
Chloride	mg/L	Grab	1/Month
Dissolved Oxygen	mg/L	Grab	1/Month
pH	standard units	Grab	1/Month
Sulfate	mg/L	Grab	1/Month
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Month
General Minerals	mg/L	Grab	1/Year

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. **General Minerals** shall include: bicarbonate, carbonate, calcium, chloride, magnesium, nitrate (total as nitrogen), potassium, silica, sodium, and sulfate.

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

C. Monitoring Locations PND-001 and PND-002 (Fire and Cooling Water Ponds)

1. The Discharger shall monitor the Fire and Cooling Water Ponds at Monitoring Locations PND-001 and PND-002 as follows:

Table E-4. Fire and Cooling Water Ponds Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Freeboard Depth	feet, inches	Visual	1/Week
Dissolved Oxygen	mg/L	Grab	1/Month

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

VII. RECYCLING MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Monitoring Location RSW-001 and RSW-002

1. The Discharger shall monitor the Anderson Cottonwood Irrigation District Canal at Monitoring Locations RSW-001 and RSW-002. If the only flows at RSW-001 are due to backwater conditions (the discharge backing up), and there are no other upstream flows from other sources, monitoring at RSW-001 is not required.

Table E-5. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	MGD	Estimate	1/Month
pH	standard units	Grab	1/Month
Dissolved Oxygen	mg/L	Grab	1/Month
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Month
Hardness, Total (as $CaCO_3$)	mg/L	Grab	1/Quarter
Temperature	°F	Grab	1/Month
Total Dissolved Solids	mg/L	Grab	1/Quarter
Turbidity	NTU	Grab	1/Month

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

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

   b. **Total Dissolved Solids.** Monitoring of total dissolved solids shall occur Twice between April through October, when water is diverted into the Anderson Cottonwood Irrigation District Canal for irrigation and twice during November through March when there is upstream flow in the Anderson Cottonwood Irrigation District Canal that is not a result of irrigation water diversions.

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

2. In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by RSW-001 and RSW-002 when discharging to the Anderson Cottonwood Irrigation District Canal. 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. Groundwater Monitoring Wells MW-4, MW-5, and MW-6

1. 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 MW-4, MW-5, and MW-6) and shall be sampled and analyzed according to the schedule below. All samples shall be collected using approved EPA methods. Water table elevations shall be calculated to determine groundwater gradient and direction of flow.

2. Prior to sampling, the groundwater elevations shall be measured and the wells shall be purged of at least three well volumes until temperature, pH, and electrical conductivity have stabilized. Depth to groundwater shall be measured to the nearest 0.01 feet. Groundwater monitoring at MW-4, MW-5 and MW-6, and any new groundwater monitoring wells shall include, at a minimum, the following:

Table E-6. Groundwater Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Depth to Groundwater	±0.01 feet	Measurement	2/Year
Groundwater Elevation	±0.01 feet	Calculated	2/Year
Gradient	feet/feet	Calculated	2/Year
Gradient Direction	degrees	Calculated	2/Year
Alpha-BHC	µg/L	Grab	2/Year
Arsenic, Dissolved	µg/L	Grab	2/Year
Chloride	mg/L	Grab	2/Year
Total Chromium, Dissolved	µg/L	Grab	1/Year
Copper, Dissolved	µg/L	Grab	1/Year
Electrical Conductivity @ 25°C	µmhos/cm	Grab	2/Year
Molybdenum	µg/L	Grab	2/Year
Nitrate, Total (as N)	mg/L	Grab	1/Year
pH	standard units	Grab	2/Year
Sulfate	mg/L	Grab	1/Year
Tannins and Lignins	mg/L	Grab	1/Year
Temperature	°F	Grab	2/Year
Total Dissolved Solids	mg/L	Grab	1/Year
Turbidity	NTU	Grab	1/Year
Zinc, Dissolved	µg/L	Grab	1/Year
Standard Minerals	mg/L	Grab	2/Year
Organics	µg/L	Grab	1/5 Years

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

   b. **Applicable to all parameters.** Parameters shall be analyzed using the analytical methods described in 40 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.

   c. **Organics** include cresols and tetrachlorophenol.

   d. **Metal Samples** shall be filtered through a 0.45-µm filter prior to sample analyses.

e. **Standard minerals** shall include the following: boron, calcium, iron (total and dissolved), magnesium, potassium, sodium, manganese (total and dissolved), 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).

IX. OTHER MONITORING REQUIREMENTS

A. Precipitation Monitoring

1. Precipitation information shall be collected as follows and reported in the monthly SMR:

Table E-7. Precipitation Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Precipitation	inches (+/- 0.1)	Visual	1/Day

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. Reading shall be taken at approximately the same time each day.

B. Water Supply

1. The Discharger shall monitor the water supply wells at the Facility. Samples shall be collected, analyzed, and reported in accordance with the standards provided by the Shasta County Department of Resource Management, Environmental Health Division. A report of the water supply monitoring shall be submitted with the monthly monitoring report.

C. Aboveground Petroleum Storage Monitoring

1. The Discharger shall visually inspect the aboveground petroleum storage tanks at the Facility, as required by the Facility's Spill Prevention Control and Countermeasures Plan. A report of the inspection shall be submitted. In the event of a petroleum release, a report shall be submitted describing the corrective action that was taken to remediate and dispose of the contaminated soil. The results shall be submitted with the monthly SMR.

D. Ash Monitoring

1. Wood ash information shall be collected and reported in the SMRs in accordance with the table below.

Table E-8. Ash Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Ash Generated	Dry tons	Composite	1/Month	--
Ash Stored at Facility	Dry tons	Composite	1/Month	--
Ash Stored Off-site	Dry tons	Composite	1/Month	--
Ash Removed from Facility and from Off-site Storage Location	Dry tons	Composite	1/Month	--
Ash Liming Capacity	Equiv % $CaCO_3$	Composite	2/Year	UC Davis Method 440 or AOAC 955.01
Ash Total Phosphorus	mg/kg	Composite	2/Year	--
Moisture Content	% moisture	Composite	2/Year	--
pH	standard units	Composite	2/Year	--
CAM 17 Metals	mg/kg	Composite	2/Year	--
2,3,7,8-TCDD and congeners	pg/g	Composite	1/5 Years	U.S. EPA Method 1613

2. **Table E-8 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-8:

    a. **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. **Dry Tons.** Units may be reported in volume or weight measurement.

    c. **Ash Liming Capacity and Ash Total Phosphorus** twice per year (2/year) monitoring is only for ash used as an agricultural soil amendment.

    d. **UC Davis Method 440 or AOAC 955.01.** A&L Western Agricultural Laboratories “Neutralizing value of liming materials (or percent calcium carbonate equivalency-CCE).”

    e. **CAM 17 Metals.** California Administrative Manual (i.e., CCR) metals: antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper,

lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc.

f. **CAM 17 Metals Required Analytical Test Method.** In accordance with Title 22, CCR testing procedures.

g. **2,3,7,8-TCDD and Congeners.** Dioxin equivalents, also known as the TEQ, is a calculated value that reflects the combined effect of dioxin and furan compounds (congeners). Results for dioxin TEQ shall include all congeners.

2. The Discharger shall record the following information about wood ash removed from the Facility and submit in the monthly SMR:

   a. Disposal location or soil amendment application area (i.e., name and address);

   b. For agricultural soil amendment application, area of land where ash is applied (acres); and

   c. Volume and/or weight of ash for each location/area.

E. Effluent and Receiving Water Characterization

1. **Monitoring Frequency**

   a. **Effluent Sampling.** Samples shall be collected from the effluent (Monitoring Location EFF-001) **twice**, once between 1 January 2027 and 31 March 2027 and once between 1 July 2027 and 30 September 2027.

   b. **Receiving Water Sampling.** Samples shall be collected from the upstream receiving water (Monitoring Location RSW-001) **twice**, once between 1 January 2027 and 31 March 2027 and once between 1 July 2027 and 30 September 2027

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, if receiving water is sampled.

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-11.

4. The Discharger shall conduct effluent and receiving water characterization monitoring in accordance with Table E-9 and the testing requirements described in section IX. E-5 below.

Table E-9. Effluent and Receiving Water Characterization Monitoring

VOLATILE ORGANICS

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

CTR Number	Volatile Organic Parameters	CAS Number	Units	Effluent Sample Type
32	1,3-Dichloropropylene	542-75-6	µg/L	Grab
37	1,1,2,2-Tetrachloroethane	79-34-5	µg/L	Grab
101	1,2,4-Trichlorobenzene	120-82-1	µg/L	Grab
29	1,2-Dichloroethane	107-06-2	µg/L	Grab
75	1,2-Dichlorobenzene	95-50-1	µg/L	Grab
76	1,3-Dichlorobenzene	541-73-1	µg/L	Grab
77	1,4-Dichlorobenzene	106-46-7	µg/L	Grab

SEMI-VOLATILE ORGANICS

CTR Number	Semi-Organic Volatile Parameters	CAS Number	Units	Effluent Sample Type
60	Benzo(a)Anthracene	56-55-3	µg/L	Grab
85	1,2-Diphenylhydrazine	122-66-7	µg/L	Grab
45	2-Chlorophenol	95-57-8	µg/L	Grab
46	2,4-Dichlorophenol	120-83-2	µg/L	Grab
47	2,4-Dimethylphenol	105-67-9	µg/L	Grab
49	2,4-Dinitrophenol	51-28-5	µg/L	Grab
82	2,4-Dinitrotoluene	121-14-2	µg/L	Grab
55	2,4,6-Trichlorophenol	88-06-2	µg/L	Grab
83	2,6-Dinitrotoluene	606-20-2	µg/L	Grab
50	2-Nitrophenol	88-75-5	µg/L	Grab
71	2-Chloronaphthalene	91-58-7	µg/L	Grab
78	3,3-Dichlorobenzidine	91-94-1	µg/L	Grab
62	Benzo(b)Fluoranthene	205-99-2	µg/L	Grab
52	4-Chloro-3-methylphenol	59-50-7	µg/L	Grab
48	2-Methyl-4,6-Dinitrophenol	534-52-1	µg/L	Grab
51	4-Nitrophenol	100-02-7	µg/L	Grab
69	4-Bromophenyl Phenyl Ether	101-55-3	µg/L	Grab
72	4-Chlorophenyl Phenyl Ether	7005-72-3	µg/L	Grab
56	Acenaphthene	83-32-9	µg/L	Grab
57	Acenaphthylene	208-96-8	µg/L	Grab
58	Anthracene	120-12-7	µg/L	Grab
59	Benzidine	92-87-5	µg/L	Grab
61	Benzo(a)Pyrene	50-32-8	µg/L	Grab
63	Benzo(ghi)Perylene	191-24-2	µg/L	Grab
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

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

INORGANICS

CTR Number	Inorganic Parameters	CAS Number	Units	Effluent Sample Type
NL	Aluminum	7429-90-5	µg/L	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
5a	Chromium, Total	7440-47-3	µg/L	Grab
6	Copper, Total	7440-50-8	µg/L	Grab
NL	Iron, Total	7439-89-6	µg/L	Grab
7	Lead, Total	7439-92-1	µg/L	Grab
8	Mercury, Total	7439-97-6	µg/L	Grab
NL	Mercury, Methyl	22967-92-6	µg/L	Grab
NL	Manganese, Total	7439-96-5	µg/L	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
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

CTR Number	Conventional Parameters	CAS Number	Units	Effluent Sample Type
NL	Temperature	--	ºC	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
NL	Dissolved Organic Carbon (DOC)	DOC	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

OTHER CONSTITUENTS OF CONCERN

CTR Number	Other Constituents of Concern	CAS Number	Units	Effluent Sample Type
NL	1,2,3-Trichloropropane (TCP)	96-18-4	µg/L	Grab
NL	Trichlorofluoromethane	75-69-4	µg/L	Grab
NL	1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	µg/L	Grab
NL	Styrene	100-42-5	µg/L	Grab
NL	Xylenes	1330-20-7	µg/L	Grab
NL	Barium	7440-39-3	µg/L	Grab
NL	Fluoride	16984-48-8	mg/L	Grab
NL	Molybdenum	7439-98-7	µg/L	Grab
NL	Tributyltin	688-73-3	µg/L	Grab
NL	Alachlor	15972-60-8	µg/L	Grab
NL	Atrazine	1912-24-9	µg/L	Grab
NL	Bentazon	25057-89-0	µg/L	Grab
NL	Carbofuran	1563-66-2	µg/L	Grab
NL	2,4-D	94-75-7	µg/L	Grab
NL	Dalapon	75-99-0	µg/L	Grab
NL	1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	µg/L	Grab
NL	Di(2-ethylhexyl)adipate	103-23-1	µg/L	Grab
NL	Dinoseb	88-85-7	µg/L	Grab

CTR Number	Other Constituents of Concern	CAS Number	Units	Effluent Sample Type
NL	Diquat	85-00-7	µg/L	Grab
NL	Endothal	145-73-3	µg/L	Grab
NL	Ethylene Dibromide (EDB)	106-93-4	µg/L	Grab
NL	Methoxychlor	72-43-5	µg/L	Grab
NL	Molinate (Ordram)	2212-67-1	µg/L	Grab
NL	Oxamyl	23135-22-0	µg/L	Grab
NL	Picloram	1918-02-1	µg/L	Grab
NL	Simazine (Princep)	122-34-9	µg/L	Grab
NL	Thiobencarb	28249-77-6	µg/L	Grab
NL	2,4,5-TP (Silvex)	93-72-1	µg/L	Grab
NL	E. coli	NA	MPN/100 mL	Grab

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

    a. **Applicable to All Parameters.** 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. **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-2, with the exception of hardness which shall be sampled concurrently with the hardness-dependent metals (cadmium, chromium III, lead, nickel, silver, and zinc).

    d. **Concurrent Sampling.** Effluent and receiving water sampling shall be performed at approximately the same time, on the same date.

    e. **Sample Type.** All receiving water samples shall be taken as grab samples. Effluent samples shall be taken as described in Table E-9.

    f. **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.

    g. **Total Mercury and Methyl Mercury.** Unfiltered methyl mercury and total mercury samples shall be taken using clean hands/dirty hands procedures, as described in U.S. EPA method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels, for collection of equipment blanks (section 9.4.4.2). The analysis of methyl mercury and total mercury shall be by U.S. EPA method 1630 and1631 (Revision E), respectively, with a reporting limit of 0.05 ng/L for methyl mercury and 0.5 ng/L for total mercury.

h. **TCDD-Dioxin Congener Equivalents** shall include all 17 of the 2,3,7,8 TCDD dioxin congeners as listed in section 3 of the SIP.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

2. Upon written request of the Central Valley Water Board, the Discharger shall submit a summary monitoring report. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year(s).

3. **Compliance Time Schedules.** For compliance time schedules included in the Order, the Discharger shall submit to the Central Valley Water Board, on or before each compliance due date, the specified document or a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board by letter when it returns to compliance with the compliance time schedule.

4. The Discharger shall report to the Central Valley Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act" of 1986.

B. Self-Monitoring Reports (SMRs)

1. The Discharger shall electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Program website (http://www.waterboards.ca.gov/water_issues/programs/ciwqs/). The CIWQS website will provide additional information for SMR submittal in the event there will be a planned service interruption for electronic submittal.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit 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-10. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On	Monitoring Period	SMR Due Date
1/Day	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with monthly SMR
1/Week	Permit effective date	Sunday through Saturday	Submit with monthly SMR
1/Month	Permit effective date	1st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
1/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
Twice per year (2/Year)	Permit effective date	1 January through 30 June 1 July through 31 December	Submit monthly SMR in which sample was collected
1/Year	Permit effective date	1 January through 31 December	Submit with Annual Report
1/Year (Annual Report)	Permit effective date	1 January through 31 December	1 February of the following year
Once per 5 Years (1/5 Years)	Permit effective date	Permit effective date through permit expiration date	Submit with Annual Report

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

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

   a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

   b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be

reported.

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

c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

d. Dischargers are to instruct laboratories to establish calibration standards so that the Minimum Level (ML) value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

5. **Multiple Sample Data.** When determining compliance with an AMEL, 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. **Dissolved Oxygen Receiving Water Concentrations.** 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).

b. **Turbidity Receiving Water Calculations.** The Discharger shall calculate and report the turbidity increase in the receiving water applicable to the natural turbidity condition.

c. **Temperature Receiving Water Calculations.** 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.

d. **Groundwater Monitoring Reports.** The reports shall be prepared by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities, and shall bear the professional's signature and stamp. Each semi-annual report shall contain:

i. Results of the monitoring of the groundwater in tabular format;

ii. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the groundwater monitoring. The narrative shall be sufficiently detailed to verify compliance with this Order. The narrative shall be supported by field logs for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of casing volume; and total volume of water purged;

iii. Calculation of groundwater elevations, determination of groundwater flow direction and gradient on the date of measurement, comparison of previous flow direction and gradient data, and discussion of seasonal trends if any;

iv. Summary data tables of historical and current groundwater elevations;

v. Copies of laboratory analytical report(s) for groundwater monitoring.

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/) is available on the Internet.

D. Other Reports

1. **Analytical Methods Report.** The Discharger shall complete and submit an Analytical Methods Report, electronically via CIWQS submittal, by the due date shown in the Technical Reports Table E-11. The Analytical Methods Report shall include the following for each constituent to be monitored in accordance with this Order: 1) applicable water quality objective, 2) reporting level (RL), 3) method detection limit (MDL), and 4) analytical method. The analytical methods shall be sufficiently sensitive with RLs consistent with the SSM Rule per 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv), and with the Minimum Levels (MLs) in the SIP, Appendix 4. The “Reporting Level or RL” is synonymous with the “Method Minimum Level” described in the SSM Rule. If an RL is not less than or equal to the applicable water quality objective for a constituent, the Discharger shall explain how the proposed analytical method complies with the SSM Rule as outlined above in Attachment E, section I.F. Central Valley Water Board staff will provide a tool with the permit’s Notice of Adoption to assist the Discharger in completing this requirement. The tool will include the constituents and associated applicable water quality objectives to be included in the Analytical Methods Report.

2. **Annual Operations Report.** The Discharger shall submit a written report to the Central Valley Water Board, electronically via CIWQS submittal, containing the following by the due date in the Technical Reports Table E-11:

   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. **Report of Waste Discharge (ROWD).** For the 5-year permit renewal, the Discharger shall submit a written report to the Central Valley Water Board, electronically via CIWQS submittal, containing, at minimum, the following by the due date in the Technical Reports Table E-11:

   a. Report of Waste Discharge (Form 200);

   b. NPDES Form 1;

   c. NPDES Form 2E;

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

   e. **Most Sensitive Species Screening.** The Discharger shall perform subsequent species sensitivity screening to re-evaluate the most sensitive species for chronic whole effluent toxicity testing in accordance with MRP section V.E and results submitted with the ROWD.

4. **Technical Report Submittals.** This Order includes requirements to submit a ROWD, special study technical reports, progress reports, and other reports identified in the MRP (hereafter referred to collectively as “technical reports”). The Technical Reports Table E-11 and subsequent table notes below summarize all technical reports required by this Order and the due dates for submittal. All technical reports shall be submitted electronically via CIWQS submittal. Technical reports should be uploaded as a PDF, Microsoft Word, or Microsoft Excel file attachment.

Table E-11. Technical Reports

Report Number	Technical Report	Due Date	CIWQS Report Name
1	Report of Waste Discharge	31 July 2029	ROWD
2	Analytical Methods Report	1 October 2025	MRP X.D.2
3	Analytical Methods Report Certification	1 October 2026	MRP IX.E.2.
4	Annual Operations Report	1 February 2026	MRP X.D.3
5	Annual Operations Report	1 February 2027	MRP X.D.3
6	Annual Operations Report	1 February 2028	MRP X.D.3
7	Annual Operations Report	1 February 2029	MRP X.D.3
8	Annual Operations Report	1 February 2030	MRP X.D.3
9	Toxicity Reduction Evaluation (TRE) Workplan	1 November 2025	WDR VI.C.2.a.i
10	Groundwater Information Report	1 April 2026	WDR VI.C.2.b
11	Annual Groundwater Assessment Report	1 February 2026	WDR VI.C.2.c
12	Annual Groundwater Assessment Report	1 February 2027	WDR VI.C.2.c
13	Annual Groundwater Assessment Report	1 February 2028	WDR VI.C.2.c
14	Annual Groundwater Assessment Report	1 February 2029	WDR VI.C.2.c
15	Annual Groundwater Assessment Report	1 February 2030	WDR VI.C.2.c
16	Groundwater Monitoring Well Network Study	1 February 2026	WDR VI.C.2.d
17	Groundwater Monitoring Well Installation Work Plan (if necessary)	1 August 2026	WDR VI.C.2.d.i
18	Groundwater Monitoring Well Installation Report (if necessary)	1 August 2027	WDR VI.C.2.d.ii
19	**Alpha-BHC Pollution Prevention Plan (PPP).** Submit and Implement PPP for alpha-BHC in accordance with Water Code section 13263.3(d)(3). The PPP shall be prepared and implemented in accordance with Waste Discharge Requirements, section VI.C.3.a of the permit.	1 August 2026	WDR VI.C.3.a
20	Salinity Evaluation and Minimization Plan	31 July 2029	WDR VI.C.3.b
21	Amended Storm Water Pollution Prevention Plan	15 October 2029 (if necessary)	WDR VI.C.3.c.ii
22	**Manganese Annual Progress Report.** The progress reports shall detail what steps have	1 February 2026	WDR VI.C.7.a.i

Report Number	Technical Report	Due Date	CIWQS Report Name
	been implemented towards achieving compliance with waste discharge requirements, including studies, construction progress, evaluation of measures implemented, and recommendations for additional measures as necessary to achieve full compliance by the final compliance date.		
23	Manganese Annual Progress Report.	1 February 2027	WDR VI.C.7.a.i
24	Manganese Annual Progress Report.	1 February 2028	WDR VI.C.7.a.i
25	Manganese Annual Progress Report.	1 February 2029	WDR VI.C.7.a.i
26	Manganese Annual Progress Report.	1 February 2030	WDR VI.C.7.a.i
27	**Fuel Pile Berm Removal.** Submit documentation of removal of the Fuel Pile Stormwater Pond berm and rerouting of stormwater to the Retention Pond has been completed (can be combined with alpha-BHC equivalent documentation).	31 October 2025	WDR VI.C.7.a.ii
28	**Fuel Pile Berm Removal Report.** Submit report documentation findings from manganese sampling post Fuel Pile Stormwater Pond berm removal and stormwater rerouting (can be combined with alpha-BHC equivalent report).	30 June 2026	WDR VI.C.7.a.iii
29	**Phase I Control Measures Work Plan.** If necessary, submit work plan for Phase I installation of swales or similar control measures to reduce manganese concentrations in Facility effluent (can be combined with alpha-BHC equivalent work plan).	31 October 2026, if necessary	WDR VI.C.7.a.iv
30	**Phase I Control Measures Report.** If necessary, submit report documenting findings from manganese sampling post Phase I swales or similar control measure installation (can be combined with alpha-BHC equivalent report).	30 June 2028, if necessary	WDR VI.C.7.a.v
31	**Phase II Control Measures Work Plan.** If necessary, submit work plan for Phase II installation of swales or similar control measures to reduce manganese concentrations in Facility effluent (can be combined with alpha-BHC equivalent work plan).	31 October 2028, if necessary	WDR VI.C.7.a.vi
32	**Phase II Control Measures Report.** If necessary, submit report documenting findings from manganese sampling post Phase I swales	30 June 2029, if necessary	WDR VI.C.7.a.vii

Report Number	Technical Report	Due Date	CIWQS Report Name
	or similar control measure installation (can be combined with alpha-BHC equivalent report).		
33	**Additional Control Measures Work Plan.** If necessary, submit work plan for additional installation of control measures to reduce manganese concentrations in Facility effluent (can be combined with alpha-BHC equivalent work plan).	31 October 2029, if necessary	WDR VI.C.7.a.viii
34	**Final Manganese Limitations Compliance Report.** Submit documentation of compliance with effluent limitations for alpha-BHC.	31 July 2030	WDR VI.C.7.a.ix

ATTACHMENT F – FACT SHEET

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Tables

ATTACHMENT F – FACT SHEET

As described in section II.C of this Order, the Central Valley Water Board incorporates this Fact Sheet as findings 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:	5A452033001
CIWQS Facility Place ID:	272395
Discharger:	Shasta-Sustainable Resource Management, Inc.
Name of Facility:	Shasta-Sustainable Resource Management, Inc.
Facility Address:	20811 Industry Road
Facility City, State Zip:	Anderson, CA 96007
Facility County:	Shasta County
Facility Contact, Title and Phone Number:	Bryan Booth, Plant Manager, (530) 339-7600
Authorized Person to Sign and Submit Reports:	Bryan Booth, Plant Manager
Mailing Address:	Same as Facility Address
Billing Address:	Same as Facility Address
Type of Facility:	Standard Industrial Classification (SIC) Code 4911 – Electrical Services
Major or Minor Facility:	Minor
Threat to Water Quality:	2
Complexity:	B
Pretreatment Program:	Not Applicable
Recycling Requirements:	Not Applicable
Facility Permitted Flow:	1.0 million gallons per day (MGD)
Facility Design Flow:	Not Applicable
Watershed:	Cottonwood Creek Hydrologic Unit (524.3)

Receiving Water:	Anderson Cottonwood Irrigation District Canal
Receiving Water Type:	Inland surface water

A. Shasta-Sustainable Resource Management, Inc. (Discharger) is the owner and operator of Shasta-Sustainable Resource Management, Inc. (Facility), an electrical power generation facility.

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

B. The Facility discharges wastewater to the Anderson Cottonwood Irrigation District Canal, a water of the United States, tributary to Sacramento River via Crowley Creek, Schneider Gulch, Hooker Creek, Patterson Creek, and Cottonwood Creek within the Cottonwood Creek Hydrologic Unit (524.3) watershed. The Discharger was previously regulated by Order R5-2019-0070 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0081957 adopted on 11 October 2019 and expired on 30 November 2024. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

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

D. The Discharger filed a Report of Waste Discharge (ROWD) and submitted an application for reissuance of its waste discharge requirements (WDRs) and NPDES permit on 30 November 2023. The application was deemed complete on 23 December 2023.

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

II. FACILITY DESCRIPTION

The Facility is a 54-megawatt biomass electrical generation facility located on approximately 75 acres south of the City of Anderson. The Facility consists of biomass storage areas, two truck scales, three platform truck dumpers, a hammer hog with scalpers and conveyors, fuel dumping and metering bins, infeed/offload conveyors, a 50-foot high stacker, and two processed fuel piles. The east and west processed fuel piles are fed by the stacker, and fuel is collected from these piles by reclaimers. The facility also has an unprocessed biomass fuel pile near the north hog, an area for staging shells and pits, and woody yard waste storage. In addition, logs are staged on the log deck. The Facility contains three boilers, each producing 190,000 lb/hr of steam, as well as three ash reinjection systems, three multicyclone collectors, three electrostatic precipitators, and three ammonia injection nitrogen-oxide (NO_X) control systems. The facility operates four turbine generators for power production. The site includes two multi-cell evaporator cooling towers, an electrical switchyard, secondary containment areas for aboveground petroleum and hazardous materials storage, water treatment chemical storage, equipment fueling and maintenance areas, paved and unpaved roadways, two water supply wells, a laboratory, and a maintenance shop with storage buildings and offices. There are two processed fuel piles that are the source of fuel for the boilers. These are contained within the fuel pile stormwater berm, which will be removed as part of the Discharger's compliance project for alpha-BHC and manganese. The facility's wastewater system includes an unlined, 2.8-acre retention pond, which receives wastewater from cooling tower blowdown, boiler blowdown, RO reject, plant maintenance, and condensate. The Fuel Pile Stormwater (FPSW) pond captures stormwater runoff from the fuel piles, which is blended at a 1:20 ratio with cooling tower blowdown before discharge at EFF-001. A proposal is in place to remove the FPSW pond berm and implement bioswales for improved stormwater management and reduced contaminant concentrations in the effluent. The domestic wastewater system consists of a septic tank leachfield system, including a lift station, septic tank, pump station, forced main to a distribution tank, and a leachfield north of the office building.

A. Description of Wastewater and Biosolids Treatment and Controls

The Facility's wastes include cooling tower blowdown, boiler blowdown, reject water from the two reverse osmosis (RO) treatment units, condensate (compressor, air receivers, and air conditioning units), fly ash, bottom ash, waste petroleum products, universal wastes, miscellaneous hazardous wastes (such as paint), sewage, groundwater from the underdrain systems, and stormwater runoff.

The Discharger has two supply wells at the Facility. The water is pumped from the wells into one of two fire and cooling water ponds (Fire Pond East and Fire Pond West) or to a raw water tank. The raw water tank supplies the high-purity water system, plant water for facility maintenance, and potable water. The high-purity water system consists of two RO treatment units that treat groundwater for use in the boilers. Reject water from the RO treatment units is directed to the primary and secondary cooling towers. Treated water is directed to the feedwater storage tank before being used as boiler make-up water.

Blowdown from the boilers discharges to the turbine hall sump, where it combines with pumped groundwater before entering the primary cooling tower. Wastewater from the primary and secondary cooling towers is directed to the blowdown tank, where it is dechlorinated using sodium bisulfite before being discharged to the retention pond.

Effluent from the Facility continuously discharges to the ACID Canal via either the westerly underdrain or the 2.8-acre unlined retention pond. An average of 433,000 gallons per day (GPD) of wastewater is discharged from the facility from the blowdown tank, wastewater from plant maintenance, and condensate. Additionally, an internal underdrain system removes shallow groundwater from within the Facility and discharges it to the retention pond. The retention pond and the underdrain flow through the outlet swale and leave the property at Discharge Point EFF-001. It then flows through a 60-inch concrete pipe under the adjacent property to a collection sump, and from there, it flows through 12-inch discharge pipes into the ACID Canal.

All stormwater runoff from industrial areas and non-industrial areas are directed to the retention pond and is discharged at EFF-001. Fuel pile stormwater is no longer recirculated to the Log Deck Spray Area (LND-002).

Fly ash is loaded directly into trailers and transported offsite for use as soil amendment. Bottom ash is used for onsite and offsite road base, trench filling, grading, and alternate daily cover at regulated landfills. Bottom ash may be staged onsite south of the boilers before final disposal.

Domestic wastewater from the Facility discharges to a septic system consisting of a lift station, septic tank, pump station, forced main to a distribution tank, and a leachfield north of the office building. Approximately 1,600 gpd of domestic sewage is pumped to the septic tank on the east side of the administration building.

B. Discharge Points and Receiving Waters

1. The Facility is located in Section 26, T30N, R4W, MDB&M, as shown in Attachment B of this Order.

2. Reverse osmosis reject water, boiler blow-down, cooling tower blowdown, equipment condensate, plant maintenance water, dust control water, storm water, and groundwater from the westerly under drain system is discharged at Discharge Point 001 to Anderson Cottonwood Irrigation District Canal, a water of the United States and a tributary to Cotton Creek via Crowley Creek, Schneider Gulch, Hooker Creek, Patterson Creek at a point latitude 40° 25’ 49” N and longitude 122° 16’ 32” W.

3. Groundwater from the internal underdrain system is currently discharged at Discharge Point 003, which will be comingled with EFF-001 going forward, to the Anderson-Cottonwood Irrigation District Canal, a water of the United States and a tributary to Cottonwood Creek via Crowley Creek, Gotcha Creek, Hooker

Creek, and Patterson Creek at a point latitude 40° 25' 49" N and longitude 122° 16' 32" W.

4. Groundwater discharges from Discharge Point 004 include the unlined retention pond, fuel pile stormwater pond (FPSW pond) until it is decommissioned, subsurface drains and underdrain systems, unpaved log and fuel deck areas, ash storage and handling, septic system and leachfield, stormwater runoff from unpaved industrial areas, and stormwater.

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

Effluent limitations contained in Order R5-2019-0070 for discharges from Discharge Point 001 (Monitoring Location EFF-001) and representative monitoring data from the term of Order R5-2019-0070 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
Chlorine, Total Residual	mg/L	AMEL 0.01 MDEL 0.02	0.00525	--	0.009
pH	standard units	Instantaneous Max 9.0 Instantaneous Min 6.5	--	--	Instantaneous Max 8.7 Instantaneous Min 7.0
Settleable Solids	ml/L	AMEL 0.1 MDEL 0.2	0.1	--	0.3
Electrical Conductivity @ 25°C	µmhos/ cm	AAEL 635	530 (annual average)		675
Acute Toxicity	% Survival	MDEL 70/90	--	--	100
Flow	MGD	MDEL 4.5	--	--	0.597

D. Compliance Summary

Since the adoption of Order R5-2019-0070 the Discharger has not received Mandatory Minimum Penalties (MMPs).

E. Planned Changes

The Discharger is proposing to improve stormwater management and reduce contaminant concentrations at the site with several Facility upgrades. First, the FPSW pond berm will be removed, and the site will be graded to ensure that stormwater flows from north to south into new conveyance structures. Bioswales will

be added to filter stormwater, and rock check dams will be installed in some of these bioswales to trap solids and slow water flow.

In the area near the boilers, berms will be built to keep stormwater out of the fuel pile area. The drainage system near the boilers will also be redesigned to direct water away from the fuel piles. Stormwater will then flow to the bioswale headworks through a combination of pipes and open ditches. To reduce debris like chips and fines from collecting in the ditches and to lower maintenance needs, the use of open ditches around the plant will be minimized.

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) (33 U.S.C. § 1251 et seq.) 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 (Pub. Res. Code, § 21100 et seq.).

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

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

    a. **Basin Plan.** The Central Valley Water Board adopted a Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (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 at Section 2.1 for water bodies in the Sac/SJ Basin 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 Anderson Cottonwood Irrigation District Canal, but does identify present and potential uses for Cottonwood Creek, to which the Anderson Cottonwood Irrigation District, via Crowley Creek, Schneider Gulch, Hooker Creek, Patterson Creek, is hydraulically

connected. 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 Anderson Cottonwood Irrigation District Canal are as follows:

Table F-3 Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	**Anderson Cottonwood Irrigation District Canal**	**Existing:** Municipal and domestic supply (MUN); agricultural supply, including irrigation and stock watering (AGR); water contact recreation, including canoeing and rafting (REC-1); non-contact water recreation (REC-2); warm freshwater habitat (WARM); cold freshwater habitat (COLD); cold migration of aquatic organisms (MIGR); warm and cold spawning, reproduction, and/or early development (SWPN); and wildlife habitat (WILD). **Potential:** Industrial process supply (PRO); industrial service supply (IND); and hydropower generation (POW).
004	**Groundwater**	**Existing:** Municipal and domestic supply (MUN); agricultural supply (AGR); industrial service supply (IND); and industrial process supply (PRO).

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 Antidegradation Policy). The State Antidegradation Policy is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. The State Antidegradation Policy requires that existing water quality be maintained unless degradation is justified based on specific findings. The Central Valley Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 C.F.R. section 131.12 and the State Antidegradation Policy. 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 & G. Code, §§ 2050-2097) or the Federal Endangered Species Act (16 U.S.C.A. §§ 1531-1544). This Order requires compliance with effluent 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. **Storm Water Requirements.** U.S. EPA promulgated federal regulations for storm water on 16 November 1990 in 40 C.F.R. sections 122, 123, and 124. The

NPDES Industrial Storm Water Program regulates storm water discharges from steam electric power generating facilities, which includes any facility that generates steam for electric power through the combustion of coal, oil, wood, etc. Steam electric power generating facilities are applicable industries under the storm water program and are obligated to comply with the federal regulations.

The discharge of industrial storm water from the Facility could be regulated under the General Industrial Storm Water Permit. However, due to the complexity of the Facility operations and unique threats to water quality, the Central Valley Water Board has elected to regulate these discharges with an individual NPDES permit. Therefore, discharges of industrial storm water from the Facility are not covered under the General Industrial Storm Water Permit and are covered under this Order.

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

   Consistent with Water Code section 13149.2, the Central Valley Water Board has taken into account environmental justice, tribal impact, and racial equity considerations in issuing this Order. The discharges regulated by this Order may impact one or more disadvantaged communities or tribal communities. The Facility regulated by this Order discharges treated process and stormwater to the Anderson Cottonwood Irrigation District Canal and is subject to discharge limitations given potential to cause or contribute to exceedances of water quality objectives for alpha-BHC, molybdenum, and manganese. This Order addresses potential adverse impacts to water quality from the Facility's discharge by setting prohibitions and limits on the discharge of wastewater, requiring ongoing monitoring and reporting of the discharged wastewater and receiving water, and imposing other specifications on the Facility's operations.

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

1. Under section 303(d) of the 1972 CWA, states, territories, and authorized tribes are required to develop lists of water quality limited segments. The waters on these lists do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control

technology. On 6 April 2018, U.S. EPA gave final approval to California's 2014 – 2016 section 303(d) List of Water Quality Limited Segments. The Basin Plan references this list of Water Quality Limited Segments (WQLSs), which are defined as "…those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate limitations for point sources (40 C.F.R. § 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 Anderson Cottonwood Irrigation District Canal, Crowley Creek, Schneider Gulch, Hooker Creek, Patterson Creek, and Cottonwood Creek are not listed as impaired waterbodies on the 2010 303(d) list.

2. Total Maximum Daily Loads (TMDLs). At the time of this permit renewal, there are no approved TMDL's with wasteload allocations that apply to this Facility.

E. Other Plans, Polices and Regulations

1. **Title 27.** Title 27 of the California Code of Regulations (hereafter Title 27) contains regulatory requirements for the treatment, storage, processing, and disposal of solid waste. Discharges of wastewater to land, including, but not limited to, evaporation ponds or percolation ponds, may be exempt from the requirements of Title 27 pursuant to Title 27 section 20090. The Facility includes a retention pond and two fire/cooling water ponds, all of which may be exempt from Title 27 pursuant to section 20090(b), which exempts discharges of wastewater to land, including but not limited to evaporation ponds, percolation ponds, or subsurface leachfields, if the Central Valley Water Board has issued or waived issuance of WDRs, the discharge is in compliance with the applicable water quality control plan, and the wastewater does not need to be managed as a hazardous waste.

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. part 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. part 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 40 C.F.R. section122.41(m)(4)).** As stated in section I.G of Attachment D, Standard Provisions, this Order prohibits bypass from any portion of the treatment facility. Federal regulations define “bypass” as the intentional diversion of waste streams from any portion of a treatment facility (see 40 C.F.R. § 122.41(m)(1)(i)). 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 Central Valley 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 implements Water Code section 13263, subdivision (a), which requires that WDRs take into consideration, among other things, “the need to prevent nuisance,” as that term is defined in Water Code section 13050.

4. **Prohibition III.D (The discharge shall not contain more than 5% leachate (by volume) from one of the two processed fuel chip piles at any time).** Until the fuel pile stormwater pond is decommissioned, this Order prohibits the discharge from containing more than 5 percent (by volume) leachate from the two processed fuel chip piles. Currently, when practicable, leachate from the fuel pile is pumped into the soft blowdown tank and is then used to wet fly ash prior to shipment or for general dust control. When excess leachate is generated, it is discharged at a 1:20 ratio with other process wastewater consistent with this prohibition.

5. **Prohibition III.E (No discharge of ash, bark, sawdust, wood, debris, or any other such wastes to surface water or surface water drainage courses).** Consistent with Order R5-2019-0070, this Order prohibits discharges of ash, bark, sawdust, wood, debris, or any other such wastes to surface water or surface water drainage courses.

6. **Prohibition III.F (No discharge of hazardous or toxic substances to surface waters or groundwater).** Consistent with Order R5-2019-0070, this Order prohibits discharges of hazardous or toxic substances, including water treatment chemicals, solvents, or petroleum products (i.e., oil, grease, gasoline, and diesel) to surface waters or groundwater.

7. **Prohibition III.G (No direct discharge of domestic wastewater to the under drain system).** Consistent with Order R5-2019-0070, this Order prohibits direct discharge of domestic wastewater to the under drain system. The under drain system, which consists of the westerly under drain and internal under drain, discharges to the Anderson Cottonwood Irrigation District Canal.

8. **Prohibition III.H (No discharge of hazardous waste)**. This prohibition is based on CCR, title 22, section 66261.1 et seq, which prohibits discharge of hazardous waste to the environment.

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

a. Best practicable treatment control technology (BPT) represents the average of the best existing performance by well-operated facilities within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.

b. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.

c. Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD_5, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering a two-part reasonableness test. The first test compares the relationship between the costs of attaining a reduction in effluent discharge and the resulting benefits. The second test examines the cost and level of reduction of pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources. Effluent limitations must be reasonable under both tests.

d. New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS

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

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

2. Applicable Technology-Based Effluent Limitations

a. **Steam Electric Power Generating Point Source Category.** U.S. EPA developed ELG's for the Steam Electric Power Generating Point Source Category at 40 C.F.R. part 423, which are applicable to "*discharges resulting from the operation of a generating unit by an establishment primarily engaged in the generation of electricity for distribution and sale which results primarily from a process utilizing fossil-type fuel (coal, oil, or gas) or nuclear fuel in conjunction with a thermal cycle employing the steam water system as the thermodynamic medium*." The Facility utilizes biomass fuel for power generation. Therefore, the ELGs at 40 C.F.R. part 423 are not applicable to the Facility.

b. **Wet Decking.** U.S. EPA developed ELGs for the Wet Storage Subcategory of the Timber Products Point Source Category at 40 C.F.R. part 429, subpart I, which are applicable to "*discharges to waters of the United States and to the introduction of process wastewater pollutants into publicly owned treatment works from the storage of unprocessed wood, i.e., the storage of logs or roundwood before or after removal of bark in self-contained bodies of water (mill ponds or log ponds) or the storage of logs or roundwood on land during which water is sprayed or deposited intentionally on the logs (wet decking)*." The Discharger does not spray water on the logs contained on the fuel pile at the Facility. Therefore, the ELGs at 40 C.F.R. part 429 are not applicable to the Facility.

c. **Best Management Practices (BMPs).** In the absence of applicable ELGs for discharges from the Facility and pursuant to 40 C.F.R. section 122.44(k), this Order requires the Discharger to implement a Storm Water Pollution Prevention Plan (SWPPP), which contains BMPs to reduce pollutants in storm water discharges from the Facility. The SWPPP will serve as the equivalent of technology-based effluent limitations, in order to carry out the purposes and intent of the CWA.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

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

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

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

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

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

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

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

The federal CWA section 101(a)(2), states: "it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water

be achieved by July 1, 1983." Federal Regulations, developed to implement the requirements of the CWA, create a rebuttable presumption that all waters be designated as fishable and swimmable. Federal Regulations, 40 CFR sections 131.2 and 131.10, require that all waters of the State regulated to protect the beneficial uses of public water supply, protection and propagation of fish, shellfish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. 40 C.F.R. section 131.3(e) defines existing beneficial uses as those uses actually attained after 28 November 1975, whether or not they are included in the water quality standards. Federal Regulation, 40 C.F.R. section 131.10 requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States.

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

b. **Effluent and Ambient Background Data.** The reasonable potential analysis (RPA), as described in section IV.C.3 of this Fact Sheet, was based on data from December 2020 through December 2023, which includes effluent and ambient background data submitted in SMRs.

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, including cadmium, chromium III, chromium VI, copper, lead, nickel, silver, and zinc. Furthermore, a conservative dissolved-to-total metal translator of 1 has been used when developing effluent limitations for cadmium, chromium III, chromium VI, copper, lead, nickel, silver, and zinc. Per the Reopener Provisions of this Order, if the Discharger performs studies to determine site-specific dissolved-to-total metal translators this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

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

   The ambient hardness for the Anderson Cottonwood Irrigation District ranges from 42 mg/L to 135 mg/L based on collected ambient data from

December 2020 through December 2023. Given the high variability in ambient hardness values, there is no single hardness value that describes the ambient receiving water for all possible scenarios (e.g., minimum, maximum). Because of this variability, staff has determined that based on the ambient hardness concentrations measured in the receiving water, the Central Valley Water Board has discretion to select ambient hardness values within the range of 42 mg/L (minimum) up to 135 mg/L (maximum).

The Central Valley Water Board finds that the use of the ambient hardness values and associated acute and chronic criteria shown in Table F-4 to conduct the reasonable potential analysis (RPA) and calculate WQBELs, protect beneficial uses under all ambient receiving water conditions and comply with the SIP, CTR, and Basin Plan.

Table F-4. 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	50	2.1	1.4
Chromium III	50	985	117
Cadmium	42 (acute) 50 (chronic)	7.3	5.2
Lead	42	34	1.3
Nickel	50	261	29
Silver	42	1.2	--
Zinc	50	67	67

Table F-4 Notes:

1. **Criteria (µg/L total).** Acute and chronic criteria were rounded to two significant figures in accordance with the CTR (40 C.F.R. section 131.38(b)(2)).
2. **Ambient hardness (mg/L).** Values in Table F-4 represent actual observed receiving water hardness measurements.

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.

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).

   At the time of this permit renewal, there are no approved TMDLs with waste load allocations (WLAs) that apply to this Facility.

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

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

i. **Salinity**

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

Table F-5 Salinity Water Quality Criteria/Objectives

Parameters	Secondary MCL Recommended Level.	Secondary MCL Upper Level	Secondary MCL Short-term Maximum	U.S. EPA NAWQC	Maximum Calendar Annual Average Effluent Concentration	Maximum Daily Effluent Concentration
EC (µmhos/cm) or TDS (mg/L)	EC 900 or TDS 500	EC 1,600 or TDS 1,000	EC 2,200 or TDS 1,500	N/A	533	650
Sulfate (mg/L)	250	500	600	N/A	14	22
Chloride (mg/L)	250	500	600	860 1-hour / 230 4-day	42	65

Table F-5 Notes:

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

(b) **RPA Results.**

(1) **Chloride.** Chloride concentrations in the effluent ranged from 12 mg/L to 65 mg/L, with an average of 38 mg/L. These levels do not exceed the Secondary MCL or the NAWQC chronic criterion. Upstream receiving water data for chloride are not available.

(2) **Electrical Conductivity or Total Dissolved Solids.** A review of the Discharger's monitoring reports shows an average effluent EC of 513 µmhos/cm, with a range from 138 µmhos/cm to 650 µmhos/cm. These levels do not exceed the Secondary MCL. The background receiving water EC averaged 258 µmhos/cm. The average TDS effluent concentration was 385 mg/L with concentrations ranging from 256 mg/L to 452 mg/L. These levels do not exceed the Secondary MCL. The background receiving water TDS ranged from 50 mg/L to 385 mg/L, with an average of 153 mg/L.

(3) **Sulfate.** Sulfate concentrations in the effluent ranged from 6.3 mg/L to 22 mg/L, with an average of 12.7 mg/L. These

levels do not exceed the Secondary MCL. Upstream receiving water data for sulfate are not available.

(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 (P&O) Study rather than the application of conservative discharge limits.

The Discharger submitted a Notice of Intent for the Salinity Control Program indicating its intent to meet the Conservative Salinity Permitting Approach. This Order requires implementation of a Salinity Evaluation and Minimization Plan and includes conservative salinity limit for EC of 700 µmhos/cm, consistent with the Conservative Salinity Permitting Approach.

(d) **Plant Performance and Attainability.** Analysis of the effluent data shows that the monthly MEC of 640 µmhos/cm is less than the applicable WQBELs. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

c. **Constituents with Reasonable Potential.** The Central Valley Water Board finds that the discharge has a reasonable potential to cause or contribute to an instream excursion above a water quality standard for alpha-BHC, manganese, and molybdenum. 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. **Alpha-Hexachlorocyclohexane (BHC)**

(a) **WQO.** The CTR includes maximum 1-hour average and 4-day average criteria of 0.0039 µg/L, for alpha-BHC for the protection of freshwater aquatic life.

(b) **RPA Results.** The maximum effluent concentration (MEC) for alpha-BHC was 0.28 µg/L while the maximum observed upstream receiving water concentration was less than 0.001 µg/L. Therefore, alpha-BHC in the discharge has a reasonable potential to cause or contribute to an instream excursion above the CTR criteria for the protection of freshwater aquatic life.

(c) **WQBELs.** This Order contains a final average monthly effluent limitation (AMEL) and maximum daily effluent limitation (MDEL) for alpha-BHC of 0.0019 µg/L and 0.0039 µg/L, respectively, based on the CTR criteria for the protection of freshwater aquatic life, calculated using the reasonable worst-case downstream ambient hardness as discussed in section IV.C.2.e of this Fact Sheet.

(d) **Plant Performance and Attainability.** Analysis of the effluent data shows that the MEC of 0.28 µg/L is greater than applicable WQBELs. Based on the sample results for the effluent, the limitations appear to put the Discharger in immediate non-compliance. New or modified control measures may be necessary in order to comply with the effluent limitations, and the new or modified control measures cannot be designed, installed and put into operation within 30 calendar days. Furthermore, the effluent limitations for alpha-BHC are a new regulatory requirement within this permit, which becomes applicable to the waste discharge with the adoption of this Order, which was adopted after 1 July 2000. Therefore, a compliance time schedule for compliance with the alpha-BHC effluent limitations is established in TSO R5-2025-XXXX in accordance with Water Code section 13300, that requires preparation and implementation of a pollution prevention plan in compliance with Water Code section 13263.3, which is included in this Order.

ii. **Manganese**

(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 manganese is 50 µg/L for protection of the MUN beneficial use. The Basin Plan requires compliance with Secondary MCLs on an annual average basis.

(b) **RPA Results.** The maximum annual average effluent concentration for manganese was 138 µg/L based on 15 samples collected between December 2020 and December 2023. The maximum annual average effluent manganese concentration exceeds the Secondary MCL. Therefore, the Central Valley Water Board finds the discharge has reasonable potential to cause or contribute to an exceedance of the Secondary MCL in the receiving water and WQBELs are required.

(c) **WQBELs.** Due to no assimilative capacity, dilution credits are not allowed for development of the WQBELs for manganese. This Order contains a final average monthly effluent limitation (AMEL) and weekly effluent limitation (AWEL) for manganese of 80 µg/L and 180 µg/L, respectively, based on the Basin Plan's narrative chemical constituents objective for protection of the MUN beneficial use.

(d) **Plant Performance and Attainability.** Analysis of the effluent data shows that the MEC of 254 µg/L is greater than applicable WQBELs. Based on the sample results for the effluent, the limitations appear to put the Discharger in immediate non-compliance. The Discharger submitted an infeasibility analysis on 19 March 2025. As discussed in section IV.E of this Fact Sheet, a compliance schedule has been included in this Order.

iii. **Molybdenum**

(a) **WQO.** An Agricultural Water Quality Goal for molybdenum of 10 µg/L may be used as a threshold to interpret the narrative chemical constituents Basin Plan objective and ensure protection of the agricultural beneficial use, which is applicable to Cottonwood Creek.

(b) **RPA Results.** Federal regulations at 40 C.F.R. section 122.44(d)(1)(i) require that, *"Limitations must control all pollutants or pollutant parameters (either conventional, non-conventional, 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.

Molybdenum 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.

Based on monitoring data collected from December 2020 through December 2023, the maximum observed effluent molybdenum concentration was 14.7 µg/L. Therefore, the Central Valley Water Board finds the discharge reasonable potential to cause or contribute to an in-stream excursion above the Agricultural Water Quality Goal.

(c) **WQBELs.** This Order includes an average monthly effluent limitation (AMEL) and maximum daily effluent limitation (MDEL) of 20 mg/L and 40 mg/L, respectively, based on the Agricultural Water Quality Goal, which implements the Basin Plan's objective for protection of agricultural beneficial use.

(d) **Plant Performance and Attainability.** Analysis of the molybdenum effluent data shows that immediate compliance with these effluent limitations is feasible.

4. WQBEL Calculations

a. This Order includes WQBELs for alpha-BHC, manganese, and molybdenum. The general methodology for calculating WQBELs based on the different criteria/objectives is described in subsections IV.C.5.b through e, below. See Attachment H for the WQBEL calculations.

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

ECA = C + D(C – B) where C>B, and
ECA = C where C≤B

where:

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

According to the SIP, the ambient background concentration (B) in the equation above shall be the observed maximum with the exception that an ECA calculated from a priority pollutant criterion/objective that is intended

to protect human health from carcinogenic effects shall use the arithmetic mean concentration of the ambient background samples.

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

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

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

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

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

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

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

where:

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

Summary of Water Quality-Based Effluent Limitations
Discharge Point No. 001

Table F-6 Summary of Water Quality-Based Effluent Limitations

Parameter	Units	Average Monthly Effluent Limitations	Average Weekly Effluent Limitations	Maximum Daily Effluent Limitations
Alpha-BHC	µg/L	0.0019	--	0.0039
Manganese	µg/L	80	180	--
Molybdenum	µg/L	20	40	--

5. Whole Effluent Toxicity (WET)

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

a. **Chronic Toxicity.** The table below is chronic WET testing performed by the Discharger from December 2020 through December 2023.

Table F-7 Chronic Whole Effluent Toxicity Testing Results – Test of Significant Toxicity at the IWC (100 Percent Effluent)

Date	Fathead Minnow (*Pimephales promelas)* Survival		Fathead Minnow (*Pimephales promelas)* Growth		Water Flea (*Ceriodaphnia dubia)* Survival		Water Flea (*Ceriodaphnia dubia)* Reproduction		Green Algae (*Selenastrum capricornutum)* Growth	
	Pass/ Fail	Percent Effect	Pass/ Fail	Percent Effect	Pass/ Fail	Percent Effect	Pass/ Fail	Percent Effect	Pass/ Fail	Percent Effect
05/02/2022	Pass	0%	Pass	1.2%	Pass	0%	Pass	-25.8%	Pass	-58.1%
06/07/2021	Pass	-3.6%	Pass	-13.2%	Pass	0%	Pass	-12.8%	Pass	-29.5%

i. **RPA.** No dilution has been granted for chronic whole effluent toxicity. Therefore, chronic toxicity testing has been conducted at an instream waste concentration (IWC) of 100 percent effluent. A test result that fails the Test of Significant Toxicity (TST) or has a percent effect of 10 percent or greater at the IWC demonstrates the discharge has a

reasonable potential to cause or contribute to an exceedance of the Statewide Toxicity Provisions aquatic toxicity numeric objectives and Basin Plan's narrative toxicity objective. Based on chronic toxicity testing conducted between December 2020 through December 2023 there were no fails of the TST and the percent effect was less than 10 percent, therefore, the discharge does not have 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.

D. Final Effluent Limitation Considerations

1. Mass-based Effluent Limitations – NOT APPLICABLE

2. Averaging Periods for Effluent Limitations

40 C.F.R. section 122.45 (d) requires maximum daily and average monthly discharge limitations for all dischargers other than POTWs unless impracticable. For pH and chlorine residual, AMELs and MDELs have been replaced or supplemented with effluent limitations utilizing shorter averaging periods. The rationale for using alternative averaging periods pH and settleable solids is discussed in section IV.C.3 of this Fact Sheet.

3. Satisfaction of Anti-Backsliding Requirements

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

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

4. Antidegradation Policies

a. **2023 Antidegradation Reevaluation.** The Discharger's *Anti-Degradation Reevaluation* report provided a comprehensive analysis of potential water quality impacts associated with the discharge of process water, stormwater, and groundwater into the Anderson Cottonwood Irrigation District canal and subsurface infiltration to groundwater. The reevaluation demonstrates that, with the exception of specific instances of elevated manganese, molybdenum, and alpha-BHC concentrations, the facility's discharges are compliant with surface water effluent limits and applicable water quality objectives. Statistical analyses and concentration limit evaluations, confirm that blending stormwater from the fuel pile with process water has not caused degradation of surface water quality. Dilution effects during blending events may result in reduced

concentrations of some constituents. Groundwater data indicate some increasing trends in chloride, sulfate, and other parameters in downgradient wells; however, similar trends in upgradient wells suggest these changes are influenced by regional groundwater conditions rather than site-specific operations.

Elevated manganese concentrations were identified as an issue due to stormwater infiltration from the Fuel Pile Stormwater Pond (FPSW). The proposed mitigation measures including the discontinuation of stormwater blending, removal of the FPSW pond, and implementation of BMPs are expected to significantly reduce manganese levels and prevent further impacts to water quality. Additionally, the proposal to expand surface water and groundwater monitoring for manganese and alpha-BHC addresses potential concerns and maintaining compliance with the State Water Board's Resolution 68-16. Based on the findings of the *Anti-Degradation Reevaluation*, Central Valley Water Board concurs with the conclusions and proposed mitigation measures.

b. **Surface Water.** 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.

Accordingly, the Discharger developed a report titled *Anti-Degradation Reevaluation*, that provides an antidegradation analysis following the guidance provided by State Water Board APU 90-004. Any change in water quality that is expected to occur as a result of the issuance of this order will be consistent with the maximum benefit to the people of the state and will not unreasonably affect present and anticipated beneficial uses. Furthermore, compliance with these requirements in this order will result in the use of BPTC of the discharge.

c. **Groundwater.** The Discharger uses an unlined retention pond to contain process wastewater comingled with stormwater and groundwater prior to discharge. Percolation from the unlined retention pond may therefore result in limited degradation of the underlying groundwater. The State Antidegradation Policy generally prohibits the Central Valley Water Board from authorizing activities that will result in the degradation of high-quality waters unless it has been shown that:

i. The degradation will not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives;

ii. The degradation will not unreasonably affect present and anticipated future beneficial uses;

iii. The discharger will employ Best Practicable Treatment or Control (BPTC) to minimize degradation; and

iv. The degradation is consistent with the maximum benefit to the people of the state.

Though the pond is unlined, the Central Valley Water Board considers the use of unlined ponds to store and treat process water to be an industry-standard practice that is an appropriate component of an effective suite of best management practices. This Order, specifically the Best Management Practices and Pollution Prevention measures required in section VI.D.3, will require the Discharger to implement BPTC. In addition, the Central Valley Water Board finds, based on existing information, that the limited groundwater degradation that may occur under this Order will not result in exceedances of any applicable groundwater water quality objectives or in any impacts to beneficial uses. Therefore, pollution or nuisance will not occur. Lastly, the limited degradation that may occur under this Order inheres to the maximum benefit of the people of the State because it will occur due to the operation of a biomass power generation facility that 1) is an important economic driver to the region, 2) helps utilities meet State-mandated requirements for energy production from a renewable resource, and 3) is an important receptor of waste from forest thinning and fuels reduction programs throughout the State.

This Order does not authorize an increase in flow or mass of pollutants to groundwater beyond the levels authorized in Order R5-2019-0070. As discussed in section III.E.1 of the Fact Sheet, existing groundwater monitoring results do not indicate degradation of groundwater quality when compared to background; however, the well monitoring network was not designed to monitor the groundwater discharges from the unlined retention pond. Therefore, until the Discharger is able to complete the Groundwater Monitoring Well Network Evaluation Report and collected additional data from any newly constructed wells to determine compliance for the discharges from the unlined retention pond, a determination on whether or not degradation is occurring in the groundwater beneath these discharge points cannot be determined. Electrical conductivity

meets all applicable water quality objectives for salinity in the existing groundwater monitoring well network.

5. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of a requirement to implement BMPs as part of the Discharger's SWPPP. The requirement to implement BMPs as part of the Discharger's SWPPP are discussed in section IV.B.2. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

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

Summary of Final Effluent Limitations
Discharge Point 001

Table F-8 Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations	Basis
Arsenic	µg/L	AMEL 10 MDEL 20	MCL
Alpha-BHC	µg/L	AMEL MDEL	CTR
Manganese	µg/L	AMEL 80 AWEL 180	Secondary MCL
Molybdenum	µg/L	AMEL 20 AWEL 40	BP
Chlorine, Total Residual	mg/L	AMEL 0.01 MDEL 0.02	NAWQC
Settleable Solids	ml/L	AMEL 0.1 MDEL 0.2	BP
pH	Standard units	Instantaneous Max 9.0 Instantaneous Min 6.5	BP
Electrical Conductivity	µmhos/cm	AMEL 700	BP

Table F-8 Notes:

1. **BP** – Based on water quality objectives contained in the Basin Plan.
   CTR – California Toxics Rule
   NAWQC – Based on U.S. EPA's National Ambient Water Quality Criteria for the protection of freshwater aquatic life.
   MCL – Based on the Primary Maximum Contaminant Level.

E. Interim Effluent Limitations

1. **Interim Limits for Manganese.** The Compliance Schedule Policy requires the Central Valley Water Board to establish interim requirements and dates for their achievement in the NPDES permit. Interim numeric effluent limitations are required for compliance schedules longer than one year. Interim effluent limitations must be based on current treatment plant performance or previous final permit limitations, whichever is more stringent.

   The interim limitations for manganese in this Order are based on the current treatment plant performance. In developing the interim limitation, where there are 10 sampling data points or more, sampling and laboratory variability is accounted for by establishing interim limits that are based on normally distributed data where 99.9% of the data points will lie within 3.3 standard deviations of the mean (Basic Statistical Methods for Engineers and Scientists, Kennedy and Neville, Harper and Row). Therefore, the interim AMELs in this Order are established as the mean plus 3.3 standard deviations of the available data.

   When there are less than 10 sampling data points available, the U.S. EPA Technical Support Document for Water Quality-based Toxics Control ((EPA/505/2-90-001), TSD) recommends a CV of 0.6 be utilized as representative of wastewater effluent sampling. The TSD recognizes that a minimum of 10 data points is necessary to conduct a valid statistical analysis, and recommends setting the CV to 0.6 because for small datasets the uncertainty is too large to calculate a standard deviation and mean with statistical confidence. In developing effluent limitations, the U.S. EPA has developed a statistical approach in which the estimated maximum effluent concentration is calculated as the upper bound of the log normal distribution of effluent concentrations at a high confidence level. Table 3-1, *Reasonable Potential Multiplying Factors: 99% Confidence Level and 99% Probability Basis*, in U.S. EPA's TSD, contain multiplying factors used for estimating expected concentrations of a pollutant based on sample results. When there are less than 10 sampling data points available, the interim performance based AMELs in this Order are established by multiplying the maximum effluent concentration by the multiplying factors from Table 3-1 of the TSD, based on the number of samples and a CV of 0.6. The interim maximum daily effluent limitations (AWELs) were calculated using the AWEL/AMEL multipliers.

   The Central Valley Water Board finds that the Discharger can undertake source control and treatment plant measures to maintain compliance with the interim

limitations included in this Order. Interim limitations are established when compliance with final effluent limitations cannot be achieved by the existing discharge. Discharge of constituents in concentrations in excess of the final effluent limitations, but in compliance with the interim effluent limitations, can significantly degrade water quality and adversely affect the beneficial uses of the receiving stream on a long-term basis. The interim limitations, however, establish an enforceable ceiling concentration until compliance with the effluent limitation can be achieved.

The following table summarizes the calculations of the interim effluent limitations for manganese:

Table F-9 Interim Effluent Limitation Calculation Summary

Parameter	Units	Maximum Effluent Concentration	Mean	Standard Deviation	Number of Samples	Interim AMEL	Interim AWEL
Manganese	µg/L	254	85	62	25	620	940

F. Land Discharge Specifications

1. **Domestic Sewage.** Consistent with Order R5-2019-0070, this Order requires the Discharger to properly operate, maintain, and monitor the domestic sewage collection, treatment, and disposal system.

G. Recycling Specifications – NOT APPLICALBE

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

1. On 4 March 2025, the U.S. Supreme Court issued a decision in the case of the *City and County of San Francisco vs. U.S. Environmental Protection Agency* (2025) 145 U.S. 704, which challenged some of the limits in NPDES permits. The Court ruled that “end result” provisions (e.g. receiving water limitations) are not allowed by the federal Clean Water Act and that NPDES permits must have specific requirements to meet water quality objectives and protect beneficial uses. Based on this ruling, no receiving water limitations are included in this Order. The Central Valley Water Board developed a technical memorandum, *A Review of Receiving Water Limitations in Six National Pollutant Discharge Elimination System (NPDES) Tentative Permits* (dated 6 May 2025) which describes both the existing permit provisions and additional updates to this Order that ensure the protection of beneficial uses in the receiving water.

B. Groundwater

1. **Groundwater Data Summary**. Groundwater limits are based on the greater of the water quality objectives in the Basin Plan or background concentrations, with

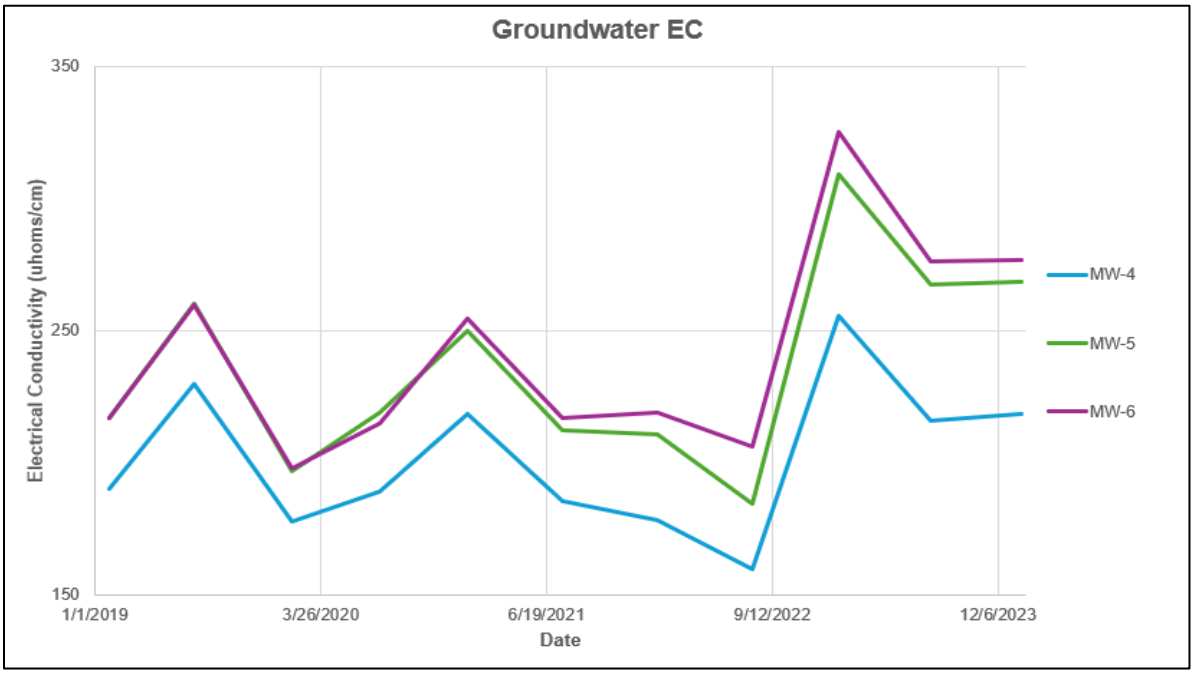
some constituents exceeding the Primary or Secondary MCLs outlined in Title 22 of the California Code of Regulations. The Facility's groundwater monitoring network consists of three wells: one upgradient well (MW-4) and two downgradient wells (MW-5 and MW-6). Recent groundwater data confirm that there are no ongoing concerns related to hexavalent chromium, pentachlorophenol, or total phenols, as sufficient background and downgradient well data indicate that concentrations remain below applicable water quality objectives. While nitrate and EC exhibit increasing trends above background levels, downgradient well concentrations remain below applicable water quality objectives, indicating that existing groundwater quality is within acceptable limits despite these observed increases.

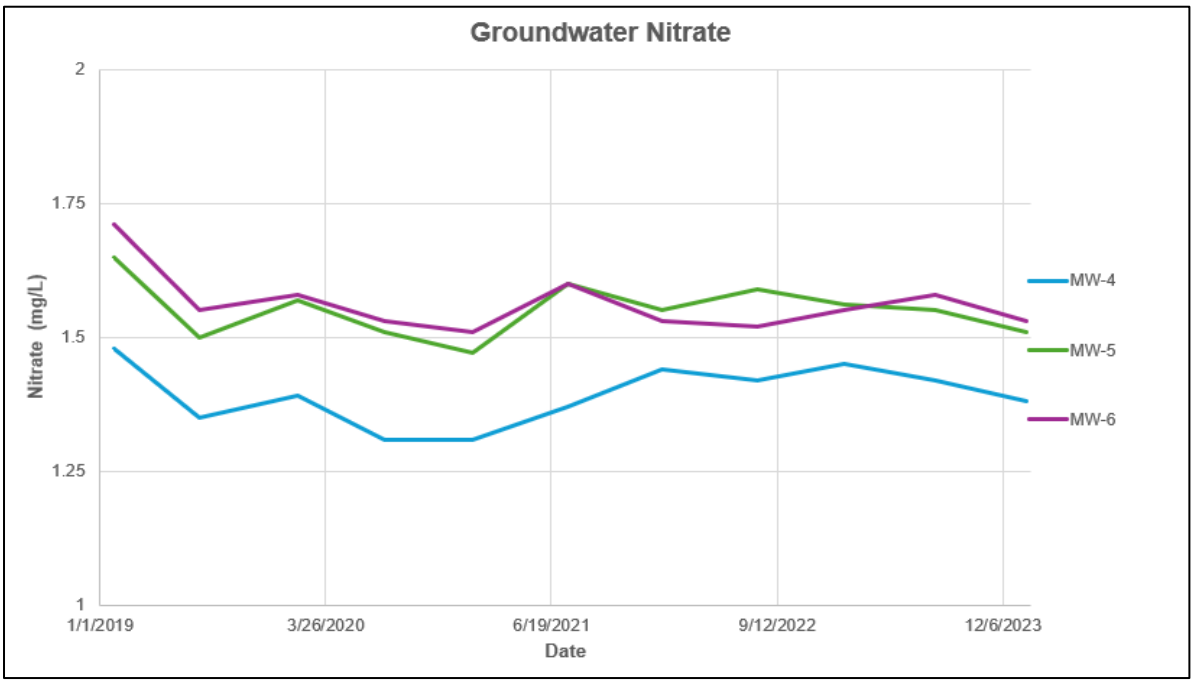
Table F-10 Groundwater Data Summary October 2003 to January 2023

MW-4 (Upgradient)					
Constituent	**Units**	**Samples**	**Detections**	**Mean**	**Max**
Electrical Conductivity	µmhos/cm	44	44	194	525
Chloride	mg/L	43	43	3.9	5.3
Sulfate	mg/L	43	43	5.7	7.2
Nitrate	mg/L	43	43	1.23	1.56
Total Dissolved Solids	mg/L	43	43	144	176
Tannins and Lignins	mg/L	43	0	<0.10	<0.5
Calcium	mg/L	12	12	11.8	14.9
Magnesium	mg/L	12	12	9.5	12.2
Potassium	mg/L	12	10	0.9	1.6
Sodium	mg/L	12	12	12.9	15.1
Arsenic	µg/L	13	6	2.5	2.7
Total Chromium	µg/L	13	8	2.3	<10
Hexavalent Chromium	µg/L	17	5	3	<10
Copper	µg/L	12	2	2.1	<10
Iron	µg/L	3	0	<2.0	<7
Manganese	µg/L	12	6	1.8	7.68
Zinc	µg/L	12	11	26	100
Total Phenols	µg/L	10	0	<0.2	<0.2
Pentachlorophenol	µg/L	3	0	<0.24	<0.24
MW-5 (Downgradient)					
Constituent	**Units**	**Samples**	**Detections**	**Mean**	**Max**
Electrical Conductivity	µmhos/cm	43	43	204	209
Chloride	mg/L	43	43	6.1	15.7
Sulfate	mg/L	43	43	5.95	8.71

MW-4 (Upgradient)					
Constituent	**Units**	**Samples**	**Detections**	**Mean**	**Max**
Nitrate	mg/L	43	43	1.35	1.74
Total Dissolved Solids	mg/L	43	43	150	245
Tannins and Lignins	mg/L	43	1	<0.10	0.77
Calcium	mg/L	12	12	11.9	18.6
Magnesium	mg/L	12	12	9.6	16
Potassium	mg/L	12	9	0.85	1.5
Sodium	mg/L	12	12	12.3	17
Arsenic	µg/L	12	4	1.1	<4
Total Chromium	µg/L	13	9	3.6	5
Hexavalent Chromium	µg/L	17	8	3.6	<20
Copper	µg/L	11	3	2.2	<10
Iron	µg/L	3	0	<2.0	<7.5
Manganese	µg/L	12	12	6.4	23
Zinc	µg/L	12	11	12.3	33
Total Phenols	µg/L	10	0	<0.2	<0.2
Pentachlorophenol	µg/L	3	0	<0.24	<0.24
MW-6 (Downgradient)					
Constituent	**Units**	**Samples**	**Detections**	**Mean**	**Max**
Electrical Conductivity	µmhos/cm	44	44	210	325
Chloride	mg/L	43	43	6.6	18.1
Sulfate	mg/L	43	43	6.98	8.7
Nitrate	mg/L	43	43	1.44	1.85
Total Dissolved Solids	mg/L	42	42	156	214
Tannins and Lignins	mg/L	43	1	<0.10	0.77
Calcium	mg/L	12	12	14.6	16.6
Magnesium	mg/L	12	12	11.3	13.5
Potassium	mg/L	12	9	0.83	1.3
Sodium	mg/L	12	12	13.4	15
Arsenic	µg/L	12	5	3.4	<4
Total Chromium	µg/L	13	3	2.5	9
Hexavalent Chromium	µg/L	17	4	2.9	<20
Copper	µg/L	12	3	2.1	<10
Iron	µg/L	3	0	<2.0	<7.5
Manganese	µg/L	12	10	6.3	16
Zinc	µg/L	12	10	18.9	120
Total Phenols	µg/L	10	0	<0.2	<0.2

MW-4 (Upgradient)					
Constituent	**Units**	**Samples**	**Detections**	**Mean**	**Max**
Pentachlorophenol	µg/L	3	0	<0.24	<0.24





2. **Beneficial Uses.** The beneficial uses of the underlying groundwater are municipal and domestic supply, industrial service supply, industrial process supply, and agricultural supply.

3. **Basin Plan** water quality objectives include narrative objectives for chemical constituents, tastes and odors, and toxicity of groundwater. The toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants, animals, or aquatic life. The chemical constituent objective states groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use. The tastes and odors objective prohibits taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan also establishes numerical water quality objectives for chemical constituents and radioactivity in groundwaters designated as municipal supply. These include, at a minimum, compliance with MCLs in Title 22 of the CCR. The bacteria objective prohibits coliform organisms at or above 2.2 MPN/100 mL. The Basin Plan requires the application of the most stringent objective necessary to ensure that waters do not contain chemical constituents, toxic substances, radionuclides, taste- or odor-producing substances, or bacteria in concentrations that adversely affect municipal or domestic supply, agricultural supply, industrial supply or some other beneficial use.

4. **Limitations.** 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. **Pollution Prevention.** This Order requires the Discharger prepare pollution prevention plans following Water Code section 13263.3(d)(2) for alpha-BHC. This reopener provision allows the Central Valley Water Board to reopen this Order for addition and/or modification of effluent limitations and requirements for these constituents based on a review of the pollution prevention plans.

c. **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/)

d. **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 recoverable. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

e. **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 or the Basin Plan's narrative toxicity objective, this Order may be reopened and effluent limitations added for acute and/or chronic toxicity. Additionally, if the Discharger

submits data following completion of facility modifications and species sensitivity screening demonstrating that chronic toxicity is not present and is consistent with the requirements of the Statewide Toxicity Provisions to qualify for a reduction in effluent toxicity monitoring, this Order may be reopened to revise monitoring requirements.

2. Special Studies and Additional Monitoring Requirements

a. **Groundwater Information Report.** The Groundwater Information Report evaluates the Facility's ponds and provides information on the existing monitoring well network to better understand the groundwater in the area.

b. **Annual Groundwater Assessment Report.** This annual report will provide information on if the Facility is impacting groundwater and contributing to groundwater degradation per the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fifth Edition, February 2019 (Basin Plan). This report also provides the annual groundwater data summary for the previous years.

c. **Groundwater Monitoring Well Network Evaluation Report.** The study is to assess the monitoring well network and propose additional wells or replacement wells that would better assess compliance with groundwater limitations and determining groundwater gradients below and surrounding the Facility.

3. Best Management Practices and Pollution Prevention

a. **Water Code section 13263.3(d)(2) Pollution Prevention Plans.** A pollution prevention plan for alpha-BHC is required in this Order per Water Code section 13263.3(d)(1)(C). The pollution prevention plans required in section VI.C.3. and in section VI.C.7. of this Order, shall, at a minimum, meet the requirements outlined in Water Code section 13263.3(d)(2). The minimum requirements for the pollution prevention plans include the following:

i. An analysis of one or more of the pollutants, as directed by the State Water Board, a Regional Water Board, or a POTW, that the Facility discharges into water or introduces into POTWs, a description of the sources of pollutants, and a comprehensive review of the processes used by the Discharger that result in the generation and discharge of the pollutants.

ii. An analysis of the potential for pollution prevention to reduce the generation of the pollutants, including the application of innovative and alternative technologies and any adverse environmental impacts resulting from the use of these methods.

iii. A detailed description of the tasks and time schedules required to investigate and implement various elements of pollution prevention techniques.

iv. A statement of the Discharger's pollution prevention goals and strategies, including priorities for short-term and long-term action.

v. A description of the Discharger's existing pollution prevention methods.

vi. A statement that the Discharger's existing and planned pollution prevention strategies do not constitute cross-media pollution transfers unless clear environmental benefits of such an approach are identified to the satisfaction of the State Water Board, the Central Valley Water Board, or the POTW, and information that supports that statement.

vii. Proof of compliance with the Hazardous Waste Source Reduction and Management Review Act of 1989 [Article 11.9 (commencing with section 25244.12) of Chapter 6.5 of Division 20 of the Health and Safety Code) if the Discharger is also subject to that act.

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

The Discharger submitted a notice to intent for the Salt Control Program on 30 March 2021 indicating its intent to meet the Conservative Salinity Permitting Approach. This Order requires continued implementation of the Discharger's SEMP and includes conservative salinity effluent limitations in accordance with the Salinity Control Program.

c. **Storm Water Pollution Controls.** Due to the complexity of the Facility operations and unique threats to water quality, the Central Valley Water Board has elected to regulate these discharges with an individual NPDES permit. Therefore, discharges of industrial stormwater from the Facility are not covered under the General Industrial Storm Water Permit and are covered under this Order.

This Order requires the Discharger to implement BMPs, including treatment controls where necessary, in order to support attainment of water quality standards. The use of BMPs to control or abate the discharge of pollutants is allowed by 40 C.F.R. section 122.44(k)(3)

because effluent limitations are infeasible and BMPs are reasonably necessary to achieve effluent limitations and are standards or to carry out the purposes and intent of the CWA. (40 CFR 122.44(k)(4).)

This Order requires the Discharger to develop and implement a site-specific SWPPP for the Facility. The SWPPP is necessary to identify potential sources of pollutants that may come in contact with storm water and to control or abate the discharge of pollutants to surface water or groundwater.

In order to maintain an accurate and useful SWPPP, the SWPPP must be revised when whenever there is a change in construction, site operation, or maintenance, which may affect the discharge of significant quantities of pollutants to surface water or groundwater. The SWPPP must also be amended if there are violations of this Order, or the Discharger has not achieved the general objectives of controlling pollutants in the storm water discharges.

4. Construction, Operation, and Maintenance Specifications

a. **Storm Water, Retention, and Fire/Cooling Water Ponds Operating Requirements.** The operation and maintenance specifications are necessary to ensure proper operation of the ponds and minimize the potential for impacts to groundwater quality, to protect the beneficial uses of the groundwater, and to prevent nuisance conditions. In addition, reporting requirements related to use of the ponds are included to monitor the use of the ponds and the potential impact on groundwater.

5. Special Provisions for POTWs – NOT APPLICABLE

6. Other Special Provisions

a. **Sludge, Wood Waste, and/or Ash Storage.** Sludge disposal provisions are necessary to ensure proper disposal of collected screening, sludges, wood ash, wood waste, and other solids removed from liquid wastes, ponds, or other sources in a manner that is consistent with Title 27, California Code of Regulations (CCR), Division 2, Subdivision 1, Section 20005, et seq, and approved by the Executive Officer.

7. Compliance Schedules

In general, an NPDES permit must include final effluent limitations that are consistent with CWA section 301 and with 40 C.F.R. section 122.44(d). There are exceptions to this general rule. The State Water Board's Resolution 2008-0025 "Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits" (Compliance Schedule Policy) allows compliance schedules for new, revised, or newly interpreted water quality objectives or criteria, or in accordance with a Total Maximum Daily Load (TMDL). All

compliance schedules must be as short as possible, and may not exceed ten years from the effective date of the adoption, revision, or new interpretation of the applicable water quality objective or criterion, unless a TMDL allows a longer schedule. Where a compliance schedule for a final effluent limitation exceeds one year, the Order must include interim numeric effluent limitations for that constituent or parameter, interim requirements and dates toward achieving compliance, and compliance reporting within 14 days after each interim date. The Order may also include interim requirements to control the pollutant, such as pollutant minimization and source control measures.

The permit limitations for manganese are more stringent than the limitations previously implemented. The Discharger has complied with the application requirements in paragraph 4 of the Compliance Schedule Policy, and the Discharger's application demonstrates the need for additional time to implement actions to comply with the new limitations. Therefore, a compliance schedule for compliance with final effluent limitations for manganese is established in this Order.

To address elevated manganese concentrations in the discharge from Monitoring Location EFF-001, the Discharger has proposed a series of source control and site modification measures. The Facility identified that the blending of fuel pile leachate with cooling tower blowdown, a practice initiated in 2019, is the likely source of increased manganese. This leachate is known to carry manganese due to its presence in wood materials, and its introduction to the retention pond has resulted in concentrations frequently exceeding the Water Quality Objective of 50 µg/L for manganese.

As a primary corrective measure, the Discharger plans to remove the berm surrounding the Fuel Pile Stormwater (FPSW) Pond and redirect stormwater runoff through constructed grassy swales before it reaches the retention pond. These grassy swales will serve as a natural filtration and flow-control mechanism, reducing the transport of manganese leachate to the discharge point. The initial phase of this project, including berm removal and basic redirection of runoff, is scheduled for implementation in the summer of 2025.

Further modifications and improvements to the swale system will be made iteratively, depending on performance outcomes and ongoing monitoring results. The Discharger will monitor total manganese levels at EFF-001 monthly for at least one year after the initial phase is completed. Based on those results, the Facility may adjust swale design, routing, and revegetation practices to improve pollutant control.

The Discharger has made diligent efforts to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream, and has documented the results of those efforts. The compliance schedule is as short

as possible and the compliance schedule for manganese is included in the Technical Reports Table E-11.

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.

A. Influent Monitoring – NOT APPLICABLE

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. **Monitoring Location EFF-001.** Effluent monitoring frequencies and sample types have been retained from Order R5-2019-0070, except as noted in Table F-11, below:

Table F-11: Revised Effluent Monitoring

Parameter	Units	Previous Sample Frequency	Revised Sample Frequency	Reason for Change
Oil and Grease	mg/L	2/Year	Discontinue	Note 1
Total Suspended Solids	mg/L	2/Year	1/Year	Note 2
Butyl Benzyl Phthalate	µg/L	1/Quarter	Discontinue	Note 3
Cyanide, Total	µg/L	1/Quarter	Discontinue	Note 4
Boron	mg/L	1/Quarter	Discontinue	Note 5
Chemical Oxygen Demand	mg/L	2/Year	1/Year	Note 6
Chloride	mg/L	1/Month	Discontinue	Note 7
Hardness, Total (as $CaCO_3$)	mg/L	1/Month	1/Quarter	Note 8
Settleable Solids	ml/L	1/Week	1/Month	Note 9

Parameter	Units	Previous Sample Frequency	Revised Sample Frequency	Reason for Change
Sulfate	mg/L	1/Month	1/Year	Note 10
Sulfite	mg/L	1/Quarter	Discontinue	Note 11
Tannins and Lignins	mg/L	2/Year	1/Year	Note 12
Alpha-BHC	µg/L	--	1/Month	Note 13
Manganese	µg/L	--	1/Month	Note 13
Molybdenum	µg/L	--	1/Month	Note 13

Table F-11 Notes:

1. **Oil and Grease.** Historical monitoring data has consistently shown non-detect or low concentrations well below objectives.
2. **Total Suspended Solids.** Long-term monitoring demonstrates stable levels with no significant variability, supporting reduced monitoring frequency while ensuring compliance with discharge limits.
3. **Butyl Benzyl Phthalate.** This constituent has not been detected at levels of concern, and given the absence of known sources at the facility, routine monitoring is unnecessary.
4. **Cyanide, Total.** Monitoring has shown no exceedances or upward trends, and there is no reasonable pathway for cyanide contamination in the effluent, justifying its removal.
5. **Boron.** Historical data confirms boron concentrations are consistently within acceptable limits, and there are no industrial processes or groundwater sources contributing to elevated levels.
6. **Chemical Oxygen Demand.** Effluent COD levels have remained stable with no exceedances, and reductions in organic loadings further support a lower monitoring frequency.
7. **Chloride.** No significant changes or increasing trends have been observed in chloride concentrations, ensuring compliance with discharge limits that does not warrant frequent monitoring.
8. **Hardness, Total.** Groundwater and effluent data show consistent hardness levels without exceedance, allowing for reduced monitoring.
9. **Settleable Solids.** Previous monitoring results indicate low levels of settleable solids, reducing the need for frequent sampling.
10. **Sulfate.** Sulfate levels have remained within compliance, and there is no industrial process contributing to elevated concentrations, justifying reduced monitoring.
11. **Sulfite.** There is no source of sulfite within the facility's processes, and past monitoring has shown non-detect or minimal levels, supporting removing of this parameter.
12. **Tannins and Lignins.** Monitoring has demonstrated no significant impact from tannins and lignins, and there is no indication of process changes that would increase their presence in the effluent.

13. **Alpha-BHC, Manganese, and Molybdenum.** Monitoring data collected during the term of Order R5-2019-0070 indicates that alpha-BHC and manganese have reasonable potential to cause or contribute to an in-stream excursion above their respective Basin Plan objectives. Therefore, this Order establishes monthly monitoring for alpha-BHC and manganese. Monitoring data collected during the term of Order R5-2019-0070 indicates that molybdenum has a reasonable potential to cause or contribute to an in-stream excursion above the Agricultural Water Quality Goal. Therefore, this Order establishes monthly monitoring for molybdenum.

3. **Monitoring Location EFF-003.** Monitoring at Discharge Point EFF-003 has been removed as the discharge is now combined with EFF-001 to align with revised monitoring requirements and ensure a more comprehensive assessment of total facility discharge. This change ensures that effluent characterization remains representative of overall facility operations.

4. 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 §§ 13370, subd. (c), 13372, 13377.) Section 13176 is inapplicable to NPDES permits to the extent it is inconsistent with CWA requirements. (Wat. Code § 13372, subd. (a).) The holding time requirements are 15 minutes for chlorine residual, dissolved oxygen, and pH, and immediate analysis is required for temperature. (40 C.F.R. § 136.3(e), Table II) Due to the location of the Facility, it is both legally and factually impossible for the Discharger to comply with section 13176 for constituents with short holding times.

C. Receiving Water Monitoring

1. Surface Water

a. Receiving water monitoring is necessary to assess the impacts of the discharge on the receiving stream. Receiving surface water monitoring frequencies and sample types have been retained from Order R5-2019-0070.

b. **Monitoring Locations RSW-001 and RSW-002**

i. Receiving water monitoring frequencies and sample types for flow (monthly), pH (monthly), electrical conductivity (monthly), temperature

(monthly), total dissolved solids (quarterly), and turbidity (monthly) have been retained from Order R5-2019-0070 to determine impacts and characterize the receiving water for these parameters.

ii. 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 upstream receiving water monitoring for priority pollutants and other pollutants of concern at Monitoring Location RSW-001 quarterly during the second year of the permit term, concurrent with effluent monitoring, in order to collect data to conduct an RPA for the next permit renewal. See section IX.D of the MRP (Attachment E) for more detailed requirements related to performing priority pollutant monitoring.

c. **Monitoring Location RSW-003**

i. Previous Order R5-2019-0070 allowed the Discharger to determine compliance with the receiving water limitation for temperature at RSW-001 and either RSW-002 or RSW-003. If the temperature reading at the RSW-002 monitoring location indicated an exceedance of the receiving water limitation for temperature, Order R5-2019-0070 required the Discharger to collect a temperature reading at the RSW-003 monitoring location to determine compliance. However, as there is no longer a source of warm water or residual effluent mixing from the former Lassen plant, a mixing zone is no longer required, and monitoring at RSW-003 has been removed. This Order reflects the removal of the RSW-003 monitoring requirement.

2. Groundwater

a. Water Code section 13267 states, in part, “(a) A Regional Water Board, in establishing waste discharge requirements may investigate the quality of any waters of the state within its region” and “(b)(1) In conducting an investigation, the Regional Water Board may require that any person who discharges waste that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the Regional Water Board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports.” The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, a Regional Water Board shall provide the person with a written explanation with regard to the need for the reports and shall identify the evidence that supports requiring that person to provide the reports. The Monitoring and Reporting Program is issued pursuant to Water Code section 13267. The groundwater monitoring and reporting

program required by this Order and the Monitoring and Reporting Program are necessary to assure compliance with these waste discharge requirements. The Discharger is responsible for the discharges of waste at the facility subject to this Order.

b. Monitoring of the groundwater must be conducted to determine if the discharge has caused an increase in constituent concentrations, when compared to background. The monitoring must, at a minimum, require a complete assessment of groundwater impacts including the vertical and lateral extent of degradation, an assessment of all wastewater-related constituents which may have migrated to groundwater, an analysis of whether additional or different methods of treatment or control of the discharge are necessary to provide BPTC to comply with the State Anti-Degradation Policy. Economic analysis is only one of many factors considered in determining BPTC. If monitoring indicates that the discharge has incrementally increased constituent concentrations in groundwater above background, this permit may be reopened and modified. Until groundwater monitoring is sufficient, this Order contains Groundwater Limitations that allow groundwater quality to be degraded for certain constituents when compared to background groundwater quality, but not to exceed water quality objectives. If groundwater quality has been degraded by the discharge, the incremental change in pollutant concentration (when compared with background) may not be increased. If groundwater quality has been or may be degraded by the discharge, this Order may be reopened, and specific numeric limitations established consistent with the State Anti-Degradation Policy and the Basin Plan.

c. This Order requires the Discharger to continue groundwater monitoring and includes a regular schedule of groundwater monitoring in the attached Monitoring and Reporting Program. The groundwater monitoring reports are necessary to evaluate impacts to waters of the State to assure protection of beneficial uses and compliance with Central Valley Water Board plans and policies, including the State Anti-Degradation Policy. Evidence in the record includes effluent monitoring data that indicates the presence of constituents that may degrade groundwater and surface water.

d. Groundwater monitoring frequencies and sample types have been retained from Order R5-2019-0070, except as noted in Table F-12, below:

Table F-12: Revised Groundwater Monitoring

Parameter	Units	Previous Sample Frequency	Revised Sample Frequency	Reason for Change
Total Chromium, Dissolved	µg/L	2/Year	1/Year	Note 1
Copper, Dissolved	µg/L	2/Year	1/Year	Note 2
Nitrate, Total (as N)	mg/L	2/Year	1/Year	Note 3

Parameter	Units	Previous Sample Frequency	Revised Sample Frequency	Reason for Change
Sulfate	mg/L	2/Year	1/Year	Note 4
Tannins and Lignins	mg/L	2/Year	1/Year	Note 5
Total Dissolved Solids	mg/L	2/Year	1/Year	Note 6
Turbidity	NTU	2/Year	1/Year	Note 7
Zinc, Dissolved	µg/L	2/Year	1/Year	Note 8

Table F-12 Notes:

1. **Total Chromium, Dissolved.** Long-term monitoring has shown stable concentrations with no exceedances of applicable water quality objectives, allowing for a reduction in monitoring frequency.
2. **Copper, Dissolved.** Historical data indicates that copper levels remain consistently below limits, and there is no identified source within the facility contributing to elevated concentrations.
3. **Nitrate, Total (as N).** Nitrate concentrations have remained stable and within compliance, with no indication of increasing trends that would require continued semi-annual monitoring.
4. **Sulfate.** Monitoring results demonstrate that sulfate levels are within acceptable limits, with no evidence of seasonal or operational fluctuations requiring more frequent sampling.
5. **Tannins and Lignins.** Concentrations have remained below detection levels with the exception of one sample out of 43 for each well, supporting a reduction in monitoring frequency.
6. **Total Dissolved Solids.** Consistently low and stable TDS concentrations confirm that there is no ongoing impact to groundwater, supporting a reduction in monitoring frequency.
7. **Turbidity.** Turbidity levels have remained within background conditions, and previous sampling has not indicated variability that necessitates frequent monitoring.
8. **Zinc, Dissolved.** Historical data supports that zinc concentrations are well below applicable water quality criteria, with no increasing trends requiring continued semi-annual monitoring.

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) Quarterly chronic whole effluent toxicity testing is required to demonstrate compliance with the chronic toxicity effluent limitations/targets.

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

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

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

   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 differs from the control, the test result is “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. **Species Sensitivity Screening.** The Discharger shall conduct an initial species sensitivity screening to evaluate the most sensitive species.

   Under the Toxicity Provisions, the Discharger shall perform subsequent species sensitivity screening to re-evaluate the most sensitive species if the effluent used in the initial 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 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 algae (*Pseudokirchneriella subcapitata*). The tests shall be performed at an IWC of no less than 100 percent effluent and one control. For subsequent species sensitivity screening, if the first two species sensitivity screening events result in no change in the most sensitive species, the Discharger may cease the subsequent species sensitivity screening and the most sensitive species will remain unchanged.

The most sensitive species to be used for chronic toxicity testing was determined in accordance with the process outlined in the MRP section V.F. Based on the Discharger's last 3 years of chronic toxicity data, there were no results of "Fail" at the IWC using the TST statistical approach. The species that exhibited the highest percent effect was the fathead minnow (*Pimephales promelas*), with a percent effect of 1.2 percent. Consequently, fathead minnow (*Pimephales promelas*) has been established as the most sensitive species for chronic WET testing.

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

E. Other Monitoring Requirements

1. Domestic Waste Treatment System Monitoring

Pursuant to previous Central Valley Water Board requirements, the Discharger installed a new septic system and piezometers to monitor groundwater levels beneath the leachfield due to concerns that coliform in the facility's discharge were caused by its septic system. Monitoring of depth to water in the piezometers has been conducted to ensure that the soil profile beneath the leachfield does not become saturated with wastewater, in accordance with site-specific conditions that include a shallow seasonal perched water zone.

In early 2002, eight piezometers were installed to assess groundwater levels and evaluate whether the leachfield was the source of E. coli bacteria detected at surface-water sampling locations in the retention pond. Three additional piezometers were previously installed within the leachfield itself. In July 2009, the Discharger implemented a chlorination/dechlorination system to further address potential coliform issues.

Subsequent investigations, including a comprehensive study, determined that the detected coliform was from an avian source and unrelated to the septic system. As a result, continued monitoring for coliform and the use of chlorine treatment was not required any further. On 7 May 2012, the Central Valley Water Board approved the Discharger's request to discontinue fecal coliform monitoring at discharge point D-001 (retention pond), the receiving water, and the underdrain system. Consistent with this approval, monitoring for total and fecal coliform organisms, as well as chlorine residual monitoring, was discontinued as the Discharger ceased the use of its chlorination/dechlorination system for the domestic waste treatment system and chlorine monitoring was subsequently discontinued.

Given that the leachfield has not been shown to impact water quality that quarterly piezometer monitoring for over a decade has shown the leachfield to maintain percolation rates high enough to not saturate the area surrounding the leachfield, and the Discharger's ongoing compliance with applicable requirements, the continued use of piezometers for groundwater monitoring is no longer necessary and has been replaced with quarterly inspections of the septic tank and leachfield area.

2. **Landscape Irrigation System Monitoring**

   Consistent with Order R5-2019-0070, this Order requires monitoring of wastewater supplied to the landscape irrigation system.

3. **Log Deck Spray Area Monitoring**

   Monitoring at the log deck spray area has been removed as there is no longer a discrete discharge requiring separate monitoring. Operational changes have eliminated the potential for stormwater runoff from this area to impact water quality, and any remaining flows are managed within the Facility.

4. **Fire and Cooling Water Ponds Monitoring**

   Fire and cooling water pond monitoring is retained from Order R5-2019-0070 to ensure proper operation of the ponds. Weekly monitoring for freeboard and monthly monitoring for pH has been retained from Order R5-2019-0070.

5. **Precipitation Monitoring**

   Precipitation monitoring is necessary to assess the amount of rainfall that falls on the Facility.

6. **Ash Monitoring**

   The annual report is necessary to determine the quantity of ash generated at the Facility and to ensure the proper handling of such material.

7. **Discharge Monitoring Report-Quality Assurance (DMR-QA) Study Program – Not Applicable**

VIII. PUBLIC PARTICIPATION

The Central Valley Water Board has considered the issuance of WDRs that will serve as an NPDES permit for the Shasta-Sustainable Resource Management Facility. As a step in the WDR adoption process, the Central Valley Water Board staff has developed tentative WDRs and has encouraged public participation in the WDR adoption process.

A. Notification of Interested Persons

The Central Valley Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided an opportunity to submit written comments and recommendations. Additionally, consistent with Water Code section 189.7, the Central Valley Water Board conducted outreach to potentially affected disadvantaged and/or tribal communities concerning tentative WDRs. Notification was provided through posting on the Central Valley Water Board's website on 7 April 2025 and through posting by the Discharger at City of Anderson City Hall and the Facility entrance on 8 April 2025. The public had access to the agenda and any changes in dates and locations through the Central Valley Water Board's website (http://www.waterboards.ca.gov/centralvalley/board_info/meetings/).

B. Written Comments

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

To be fully responded to by staff and considered by the Central Valley Water Board, the written comments were due at the Central Valley Water Board office by 5:00 p.m. on **2 May 2025**.

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: **20 June 2025**
Time: **8:30 a.m.**
Location: Online and
Regional Water Quality Control Board, Central Valley Region

11020 Sun Center Dr., Suite #200
Rancho Cordova, CA 95670

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

D. Reconsideration of Waste Discharge Requirements

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

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

Or by email at waterqualitypetitions@waterboards.ca.gov

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

E. Information and Copying

The Report of Waste Discharge, other supporting documents, and comments received are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Central Valley Water Board by calling (916) 464-3291.

F. Register of Interested Persons

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

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Michael Collins at (530) 224-4785, or Michael.Collins@waterboards.ca.gov.

ATTACHMENT G – SUMMARY OF REASONABLE POTENTIAL ANALYSIS

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential
Arsenic	µg/L	10.1	1.5	10	340	150	--	--	--	10	Yes
Alpha-BHC	µg/L	0.28	<0.002	0.0039	--	--	0.0039	0.013	ND	--	Yes
Chloride	mg/L	65	--	106	860	230	--	--	--	250	No
Electrical Conductivity @ 25°C	µmhos/ cm	650	250	1600	--	--	--	--	--	1600	No
Manganese	µg/L	138	2.4	50	--	--	--	100	200	50	Yes
Molybdenum	µg/L	14.7	0.4	10	--	--	--	--	10	--	Yes
Sulfate	mg/L	22	<1	250	--	--	--	--	--	250	No
Total Dissolved Solids	mg/L	452	385	450	--	--	--	--	450	500	No

Attachment G Table Notes:

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

Abbreviations used in this table:

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

ATTACHMENT H – CALCULATION OF WQBELS

HUMAN HEALTH WQBELS CALCULATIONS

Parameter	Units	Criteria	Mean Background Concentration	Effluent CV	Dilution Factor	MDEL/AMEL Multiplier	AMEL Multiplier	AMEL	MDEL	AWEL
Alpha-BHC	µg/L	0.0039	<0.001	0.60	0	2.1	1.5	0.0019	0.0039	--
Manganese	µg/L	50	2.4	0.74	0	2.2	1.7	80	--	180
Molybdenum	µg/L	10	0.4	0.84	0	2.4	1.8	20	--	40

Attachment H-1 Table Notes:

1. 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 I – MONITORING WELL INSTALLATION STANDARD REQUIREMENTS

Prior to installation of groundwater monitoring wells, the Discharger shall submit a work plan information listed in Section I, below. Upon installation, the Discharger shall submit a well installation report that includes the information contained in Section II, below. All work plans and reports must be prepared under the direction of, and certified by, a California registered geologist or California registered civil engineer.

I. MONITORING WELL INSTALLATION WORK PLAN

The monitoring well installation work plan shall contain, at a minimum, the following information:

A. General Information

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

B. Drilling Details

1. On-site supervision of drilling and well installation activities.
2. Description of drilling equipment and techniques.
3. Equipment decontamination procedures.
4. Cutting disposal methods.
5. Soil sampling intervals (if appropriate); logging methods; number and location of soil samples and rationale; and sample collection, preservation, and analytical methods.

C. Monitoring Well Design (in graphic form with rationale provided in narrative form)

1. Borehole diameter.
2. Casing and screen material, diameter, and centralizer spacing (if needed).
3. Type of well caps (bottom cap either screw on or secured with stainless steel screws).
4. Anticipated depth of well, length of well casing, and length and position of perforated interval.
5. Thickness, position and composition of surface seal, sanitary seal, and sand pack.
6. Anticipated screen slot size and filter pack.

D. Well Development (not to be performed until at least 48 hours after sanitary seal placement)

1. Method of development to be used (i.e., surge, bail, pump, etc.).
2. Parameters to be monitored using development and record keeping technique.
3. Method of determining when development is complete.
4. Disposal method of development water.

E. Well Survey (precision of vertical survey data shall be at least 0.01 foot)

1. Identify the Licensed Land Surveyor or Licensed Civil Engineer that will perform the survey.
2. Datum for survey measurements.
3. 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, a guidance document that is referred to by individuals responsible for conducting groundwater monitoring and sampling activities, shall contain, at a minimum, a detailed written description of standard operating procedure for:

1. Equipment to be used during sampling.
2. Equipment decontamination procedures.
3. Water level measurement procedures.
4. Well purging (include a discussion of procedures to follow if three casing volumes cannot be purged).
5. Monitoring and record keeping during water level measurement and well purging (including copies of record keeping logs to be used).
6. Purge water disposal.
7. Analytical methods and required reporting limits.
8. Sample containers and preservatives.
9. Sampling:

a. General sampling techniques

b. Record keeping during sampling (include copies of record keeping logs to be used)

c. QA/QC samples

10. Chain of Custody.

11. Sample handling and transport.

II. MONITORING WELL INSTALLATION REPORT

The monitoring well installation report shall contain the information listed below. In addition, the report shall also clearly identify, describe, and justify any deviations from the approved work plan.

A. General Information

1. Purpose of the well installation project.
2. Number of monitoring wells installed and identifying label(s) for each.
3. Brief description of geologic and hydrogeologic conditions encountered during well installation.
4. Topographic map showing facility location, roads, surface water bodies.
5. Large-scale site map showing all previously existing wells, newly installed wells, surface water bodies and drainage courses, buildings, waste handling facilities, utilities, and other major physical and man-made features.

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

1. On-site supervision of drilling and well installation activities.
2. Drilling contractor and driller's name.
3. Description of drilling equipment and techniques.
4. Equipment decontamination procedures.
5. Well boring log (provide for each well):

a. Well boring number and date drilled.

b. Borehole diameter and total depth.

c. Total depth of open hole (i.e., total depth drilled if no caving or back-grouting occurs).

d. Depth to first encountered groundwater and stabilized groundwater depth.

e. Detailed description of soils encountered, using the Unified Soil Classification System.

C. Well Construction Diagram (required for each well)

1. Monitoring well number and date constructed.
2. Casing and screen material, diameter, and centralizer spacing (if needed).
3. Length of well casing.
4. Length and position of slotted casing and size of perforations.
5. Thickness, position and composition of surface seal, sanitary seal, and sand pack.

6. Type of well caps (bottom cap either screw on or secured with stainless steel screws).

D. Well Development (required for each well)

1. Date(s) and method of development.
2. How well development completion was determined.
3. Volume of water purged from well and method of development water disposal.

E. Well Survey (required for each well)

1. Present the well survey report data in a table.
2. Reference elevation at the top rim of the well casing with the cap removed (feet above mean sea level to within 0.01 foot).
3. Ground surface elevation (feet above mean sea level to within 0.01 foot).
4. Horizontal geodetic location, where the point of beginning shall be described by the California State Plane Coordinate System, 1983 datum, or acceptable alternative (provide rationale).

F. Water Sampling

1. Present water sampling data in a table.
2. Date(s) of sampling.
3. Sample identification.
4. How well was purged.
5. How many well volumes purged.
6. Levels of temperature, EC, and pH at stabilization.
7. Sample collection, handling, and preservation methods.
8. Analytical methods used.
9. Laboratory analytical data sheets.
10. Water level elevation(s).
11. Groundwater contour map.

G. Soil sampling (if applicable)

1. Present soil sampling data in a table.
2. Date(s) of sampling.
3. Sample collection, handling, and preservation methods.
4. Sample identification.
5. Analytical methods used.
6. Laboratory analytical data sheets.

H. Well Completion Report(s)

As defined in California Water Code section 13751. Blank forms are available from the California Department of Water Resources' website. Section shall be submitted under separate cover.

I. Appendix

Shall include at a minimum, copies of the following:

1. County-issued well construction permits.
2. Registered engineer or license surveyor's report and field notes.
3. Field notes from well development.